

Customer access, competitive certainty and interactions: performance effects in two strategy contexts

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ABSTRACT

This paper focuses on performance effects of expansion barriers in different strategy contexts of industrial firms. Effects of obstacles to customer access, and competitor certainty are studied. The study explores patterns using perceptual data from subsidiaries of Swedish manufacturing firms in Germany, the UK, and the USA. For units with a narrow product/market scope, the direct performance effects of customer access obstacles and competitive certainty are negative. On the contrary, in this context competitive certainty moderates the relationship between customer access obstacles and performance, and this implicates a positive effect. There are no significant effects in the context of broad product/market scopes. Performance effects of barriers are more complicated than previously thought, and we need to consider perceived competitive certainty and the strategy context.

KEYWORDS: business strategy; entry barriers; expansion barriers; competitive uncertainty; perception; performance.

INTRODUCTION

Research on competitive aspects of business strategies of industrial firms traditionally has addressed the treatment of barriers that make it difficult to successfully access customers (Marsh, 1998; Robinson and McDougall, 2001). Both market incumbents and new entrants to some extent face obstacles to customer access and accompanying difficulties in expanding on industrial markets. Although there are different views on barriers and performance effects (Han *et al.*, 2001), previous research has not enough acknowledged the fact that competitors constitute a primary source of barriers. Competitors are crucial here as they demonstrate certain business strategies, and thereby create customer loyalties and accompanying barriers (Porter, 1980).

However, managerial assessments of the state of competitors' business strategies and the way the competitors approach their customers involve varying degrees of certainty (e.g., Sutcliffe and Zaheer, 1998), where an ability to assess the business strategy of a competitor manifests state certainty (Milliken, 1987). Therefore, we need to go beyond previous knowledge of performance effects of competitive certainty (e.g., Sutcliffe and Zaheer, 1998; Pehrsson, 1990) and explore both direct effects of competitive certainty, and the moderation of the relationship regarding customer access obstacles and performance.

Furthermore, we know that strategy problems to a large extent are contingent on the context (Ginsberg and Venkatraman, 1985; Hambrick and Lei, 1985; Han *et al.*, 2001; Hill, 1988; Miller, 1987; Pehrsson, 1993). For example, it has been found that competitors are more easily assessed by a business unit with a narrow product/market scope comprising a limited number of competitors, compared to a unit with a broad scope (Pehrsson, 1993). A major reason of the difference is that bounded rationality force firms to focus their attention on a few nearby competitors and develop biased estimates (Johnson and Hoopes, 2003). But we

need to know more about the impact of customer access obstacles and competitive certainty in narrow vs. broad strategy contexts.

The study presented here tries to extend our understanding of the performance effects of expansion barriers on industrial markets, and pays attention to competitive certainty and the impact of the product/market scope. The study explores: (1) the direct performance effects of customer access obstacles and certainty of competitors' business strategies experienced by incumbents with narrow and broad product/market scopes, and (2) the moderation of competitive certainty as regards the relationship between customer access obstacles and performance in narrow and broad product/markets scopes. The study mainly uses perceptual data from subsidiaries in three countries (Germany, the United Kingdom, and the United States), where the units belong to Swedish manufacturing firms. The study also controls for relevant effects.

Understanding performance effects of expansion barriers in international markets is particularly important and customer access is central to establishments in foreign markets. A major reason for this concern is that the performance of an international firm as a whole is strongly linked to the performance of the firm's business units in their foreign markets (Golden, 1992; Ruefli and Wiggins, 2003), where a business unit is a subsidiary or another unit intended to deliver products to foreign customers.

The article is organized in this way: In Section 2, I review the theory and formulate hypotheses; in Sections 3 and 4, I present the methods of the study and the hypotheses tests; discussion of the findings, limitations, conclusions, implications, and suggestions for future research follow in Section 5.

THEORY AND HYPOTHESES

It is hypothesized that customer access obstacles affect performance in a negative way if the business unit has a narrow or broad product/market scope (Fig. 1, H₁). Furthermore, it is expected that competitive certainty has positive effects in a narrow scope only (H₂), and that this is also valid for the moderation of the customer access obstacles/performance relationship (H₃).

Insert Figure 1 about here

Two business strategy contexts

It has been suggested that strategy problems, such as difficulties in accessing customers due to competition, are contingent on the context (e.g., Ginsberg and Venkatraman, 1985). The breadth of the product/market scope of a business unit is a relevant context as regards managerial assessments of competitors' business strategies. More precisely, it is logical to assume that a narrow scope in general comprises fewer competitors than a broad scope. We also know that bounded rationality force firms to focus their attention on nearby competitors and, therefore, biased estimates are developed (Johnson and Hoopes, 2003). Accordingly, it has been found that competitors are more easily assessed in a narrow product/market scope with relatively few competitors, compared to assessments in a broad scope (Pehrsson, 1993).

Effects of customer access obstacles

Subsequent researchers (e.g., Bain, 1956; Caves, 1972; Makadok, 1998; Marsh, 1998; McFarlan, 1984; Porter, 1980; Schmalensee, 1983) have identified classes of entry barriers

such as capital requirement, scale effects, product differentiation that creates loyalties among suppliers and customers, switching costs of customers, availability of distribution channels, costs independent of scale, and government policies and regulations.

In this study of incumbent manufacturing firms facing expansion barriers, previous loyalties, switching costs, channel availability, and a need to customize products to fit customers constitute possible obstacles to customer access, where product customization creates costs independent of scale. It has been found (e.g., Hoyt and Sherman, 2004; Johansson and Elg, 2002; Pehrsson, 2004b; Sabourin, 1999; Schmalensee, 1983; Sharma, 1998) that the chosen barriers are relevant to manufacturing firms wishing to expand in foreign markets.

By definition, expansion barriers add to the cost of expanding on a product market (Han *et al.*, 2001). Therefore, it was expected in this study that customer access obstacles yield negative performance effects no matter what product/market scope of the industrial business unit:

H₁: Customer access obstacles have negative effects on performance of an industrial business unit, if the unit has a narrow or a product/market scope.

Effects of certainty of competitors' business strategies

Strategic managers select, interpret, and discuss information relevant to customer access, and this relies on managerial perceptions of business strategies of competitors (Porter, 1980). The ambiguity of competitor assessments is to a large extent due to the fact that environmental uncertainty plays a dominant role in the perceptions (Thompson, 1967). In fact, Lawrence and Lorsch (1967) introduced the study of perceptions of environmental uncertainty as opposed to the study of objective environments. Perceived environments have since become a popular

topic among scholars (e.g., Boyd *et al.*, 1993; Downey *et al.*, 1975; Downey and Slocum, 1982; Duncan, 1972; Gerloff *et al.*, 1991; Simon, 2005; Waddock and Isabella, 1989).

In this study, the view is that managerial assessment of a competitor's business strategy includes some degree of competitive certainty, where lack of information or difficulties in the interpretation of available information yields uncertainty (Galbraith, 1973; Lawrence and Lorsch, 1967). However, while there is generally a high degree of endogenous uncertainty (Santoro and McGill, 2005), it seems that the degree of confidence increases over time as managers learn about competition. This study, however, focuses only on certainty about the state of competition (Milliken, 1987).

Furthermore, the business strategy is specified by the competitor's product/market scope and product differentiation. These are major concerns of industrial managers as the scope and differentiation of competitors restrict the freedom of action (Hrebiniak and Snow, 1980; Pehrsson, 1990), and limits customer accessibility. The scope includes the conventional attributes of product range, customer scope and geographical scope. Moreover, product differentiation includes the competitor's pricing policy, product development, and customization of products to fit individual customers. These attributes coincide with applications in similar studies (DeSarbo *et al.*, 2005; Geroski, 1995; Pehrsson, 1990; Simon, 2005).

Previous research (Downey and Slocum, 1982; Gerloff *et al.*, 1991; Simon, 2005; Waddock and Isabella, 1989) suggests that competitive certainty and performance are positively linked. We also know, however, that bounded rationality means that managers focus on assessments of nearby competitors and (Johnson and Hoopes, 2003), and it has been found that competitors are relatively easy to assess in a narrow product/market scope (Pehrsson, 1993). For these reasons, it is hypothesized that certainty of competitors' business strategies has positive effects only for an industrial business unit with a narrow product/market scope:

H₂: Certainty of competitors' business strategies has positive effects on performance of an industrial business unit only if the unit has a narrow product/market scope.

Moderation effect

It is assumed in this study that competitive certainty moderates the relationship between customer access obstacles and performance in the strategy context of a narrow product/market scope. The rationale is that extensive certainty of business strategies of nearby competitors, and the way they approach their customers, facilitates the treatment of customer access problems of an industrial business unit. Therefore, relevant knowledge of competitors balances the negative effects of access obstacles. More specifically, extensive competitive certainty and accumulated experience is expected to increase the odds of an incumbent to be able to overcome expansion barriers and demonstrate positive performance. Again, it is hypothesized that the moderation effect is only valid for the narrow product/market scope:

H₃: Certainty of competitors' business strategies moderates the relationship between customer access obstacles and performance of an industrial business unit only if the unit has a narrow product/market scope, and the moderation results in a positive performance effect.

METHOD

The application of statistical techniques to survey data enabled the exploration of empirical patterns. Here, the sample and data collection, the measures, and the analysis procedure are presented.

Sample and data collection

The sample comprised all 303 subsidiaries in Germany, the United Kingdom, and the United States wholly owned by Swedish manufacturing firms in 2004 according to the *Swedish Export Directory*. An investigation of firms of a single country of origin implies that management values can be expected to be relatively homogeneous. Moreover, by focusing on the three countries I was able to study the dominant export markets of Swedish industry and secure management attention to the subject of the survey.

Given the number of subsidiaries in the sample, it seemed suitable to collect data by mail or telephone. As the intention was to approach general managers who would be able to answer the questions, and as these managers were generally very busy, telephone interviews were chosen. Two research assistants (with German and English as their first language, respectively) were, thus, trained to conduct the interviews. The assistants and this researcher met during the data collection in order to ensure that managers interpreted the questions properly at the interviews and to secure data validity.

As regards performance data, the alternative of collecting data from annual reports was considered, but as it was generally not possible to access performance data valid for foreign subsidiaries, managers in the study were asked to report performance data as well. This meant that only corporate statistics were collected from annual reports.

Of the original 303 units (105 in Germany, 108 in the United Kingdom, and 90 in the United States) representatives of 57 firms (40, 9, and 8 respectively) were too busy or did not want to participate in the study. Furthermore, it was not possible to reach representatives of 55 other units (5, 25, and 25 respectively) after four phone calls. The outcome was 191 completed questionnaires, a response rate of 63%. The response rates in Germany, the United Kingdom, and the United States were 57%, 69%, and 63% respectively.

The mean corporate sales of the responding firms in 2004 were \$US208 million. Further, the mean number of countries penetrated by sole operations of the firms was 16, while the mean value of sales in a foreign market in 2004 was around \$US7 million. A comparison of the mean values for responding and non-responding firms showed no significant ANOVA F-values. Given the response rate and analysis of non-responses, the responding firms were considered representative of the sample and appeared to provide reliable information. However, the variance in data access, and the problem of missing units, together with the impossibility of afterwards collecting information from those unit managers, limits the generalizability of the findings in the study.

Measures

The hypothesized model (Figure 1) indicates a business strategy context, a dependent variable, hypothesized variables, and control variables. These measurements are presented here.

Business strategy context. In order to capture the business strategy context of the subsidiaries, survey respondents were asked to rate two items on 5-point Likert scales (see Appendix). The items (the degree of difference of the customers as regards size, and the degree of difference of the delivered products) were summed into a score for *product/market scope*. Very small, small or medium differences meant a narrow scope (n=118), and different or very different customers and products meant a broad scope (n=73). As self-reported measures are generally acceptable, provided that item reliability is examined (Boyd *et al.*, 1993; Dess and Robinson, 1984), reliability was tested using Cronbach's alpha. The alpha-value for scope was 0.77. This is above the lowest acceptable value of 0.60 for exploratory studies (DeVillis, 1991), and a large part of the measures are thus free of random errors.

Dependent variable. As all subsidiaries in the study were responsible for at least sales, performance in terms of return on sales in 2004 (*foreign ROS*) was chosen as the performance measure valid for the particular market, and respondents reported data in this way. This method coincides with previous studies of international business units (Makino *et al.*, 2004; Christmann *et al.*, 1999). As transfer pricing may be used and not fully reflect market costs, respondents were asked to assume regular market costs in the foreign market in the profit information.

Hypothesized variables. In order to capture data on obstacles to accessing customers and competitive certainty, managers in the study were asked to indicate ratings for different perceptual items. Four items (previous loyalties, switching costs, channel availability, and a need for product customization) constitute possible obstacles to customer access, and they were summed to create a variable score for *customer access obstacles* ($\alpha=0.75$). Further, six items, reflecting competitors product/market scope and their product differentiation, were used to measure managers' certainty of business strategies of main competitors ($\alpha=0.84$). The items were summed into a score for *competitive certainty*.

To initially secure their validity, the hypothesized variables were chosen on the basis of a focus group meeting. A draft questionnaire was tested on a group of eight managers representing companies in the sample. The ensuing discussion revealed no need for major changes in the questionnaire.

Control variables. Previous studies have estimated corporate, business unit, and industry effects on performance (Hawawini *et al.*, 2003; McGahan and Porter, 1997; Ruefli and Wiggins, 2003; Rumelt, 1991; Spanos *et al.*, 2004), and these effects were controlled for in the study. For instance, firm size is a characteristic that is often used to control for a corporate effect (e.g., Buysse and Verbeke, 2003). The reason is that large firms frequently have a more

developed market position and profitability potential than small firms. However, as this study concerned international operations, firm size on foreign markets in total was controlled for. Data on *corporate foreign sales* in 2004 were collected from annual reports and transformed into logarithmic values.

Further, it has been found that market experience affects performance (Pehrsson, 2004a,b; Shaver *et al.*, 1997; Sin *et al.*, 2000). The logical reason is that strategy processes are normally extended in time, and accumulated experience may, therefore, correlate positively with performance. Consequently, market experience on both the corporate level and the level of the foreign business unit was controlled for. The number of foreign countries in which a firm is established, *international breadth* of the corporation, manifests corporate market experience, and such data were collected from annual reports. As regards *foreign experience*, this was measured as the number of years since the foreign business unit was initially established, following the example of Sanders and Boivie (2004); these data were reported by respondents in the questionnaire.

Finally, empirical analysis of industry effects has demonstrated that performance may vary along the value chain when firms in upstream industries offering individual products are compared to firms in downstream industries offering systems of products that incorporate extensive value (Pehrsson, 1995). In order to control for such industry effects, a dummy variable, *main products*, was included in the analysis, where 1 represented firms in industries defined by systems of products, and 0 represented firms in industries defined by individual products. Survey respondents were asked to describe the main products that were offered locally and indicate the products' character.

Analysis

In the analysis, *foreign ROS* was a regression function of the hypothesized variables, the control variables, and an error term. The hypothesized variables and the control variables were standardized in order to reduce any multicollinearity problems. This meant that the maximum value of Variable Inflation Factors (VIF) for the regressions was 1.19. This is below the value of 10, which is an indication of potential multicollinearity problems (Neter *et al.*, 1996).

Tests for violations in the model assumptions were also conducted on all regressions. No violations were found in the plots of standardized residuals as compared to predicted values in the normal probability plots of standardized residuals. Further, error terms were independent in accordance with the assumptions. The Durbin-Watson statistics ranged from 1.44 to 2.03 and this is acceptable (Van der Vegt and Bunderson, 2005).

RESULTS

Descriptive statistics and correlations

Tables 1 and 2 present mean values, standard deviations, and correlations of variables in the two strategy contexts. As there were significant correlations ($p < 0.05$), I used hierarchical linear regressions (Cohen *et al.*, 2003) to test the impact of each hypothesized variable on performance.

Insert Table 1 about here

Insert Table 2 about here

Tests of hypotheses

The first hierarchical regression concerned the performance effects in the context of a narrow product/market scope (Table 3). As a first test, performance was regressed on the control variables (Model 1a). Further, the changes in the levels of explanation were significant ($p < 0.001$, Model 2a to 4a) when the hypothesized variables were added to the controls in a stepwise manner, and this also concerned the full model ($p < 0.001$, Model 5a). The second hierarchical regression addressed the context of a broad product/market scope. Here, there were no significant changes in the levels of explanation.

Insert Table 3 about here

Hypotheses 1 predicted negative performance effects of customer access obstacles in both contexts. As the obstacles had negative performance effects in the narrow context ($p < 0.001$, Model 2a and 5a), but not in the broad context, the hypotheses is partly supported. Furthermore, competitive certainty had no positive effects in the context of a narrow product/market scope, and the second hypothesis is, therefore, rejected. On the other hand, the effects of competitive certainty were negative ($p < 0.001$, Model 3a; $p < 0.01$, Model 5a). Finally, the third hypothesis predicted a positive moderation effect of competitive certainty in the narrow context. The results showed a positive effect ($p < 0.001$, Model 4a and 5a), and Hypothesis 3 is supported.

As regards the control variables, *international breadth* had a negative performance effect in all models of the broad product/market context ($p < 0.05$).

DISCUSSION

In this section I discuss the findings, limitations, conclusions, and implications of the study and offer suggestions for future research.

Discussion of the findings

It has been found in the study that obstacles to customer access effects performance of an industrial business unit in a negative way if the unit has a narrow product/market scope. This confirms the dominant view on barrier effects (Han *et al.*, 2001). One reason why the obstacles are not significant if the scope is broad may be that different customer types and delivered products in this context are associated with more freedom degrees in choosing customers. Problems in accessing a certain customer type may, thus, be balanced against limited problems regarding other types.

Furthermore, contrary to the expectation, it has been found that competitive certainty has no positive performance effects in the context of a narrow product/market scope. Instead, the effects in this context are negative. An interpretation of this may be that managerial assessments to some extent consist of biases (Johnson and Hoopes, 2003) due to perceived uncertainty. Managers may focus too much on competitors and this detracts from a focus on customers, and the activities and resources of the firm itself. This could, thus, be a manifestation of risks associated with learning from managers' own experience (Ingram and Baum, 1997) in the form of overattention to certain conditions.

Regarding the expected moderation effect, the results show that competitive certainty positively moderates the relationship between customer access obstacles and performance if

the industrial unit has a narrow product/market scope. Competitive certainty, hence, implies possibilities of an incumbent to overcome expansion barriers and demonstrate positive performance. Most probably, this is a benefit of bounded rationality in the sense that managers focus on assessments of nearby competitors (Johnson and Hoopes, 2003). These assessments are facilitated if the scope is narrow, and the competitors are then relatively easy to identify in comparison with a broader product/market scope (Pehrsson, 1993).

The moderation effect of competitive certainty indicates that expansion barriers are not always sustainable. Rather, the relevance of competitive certainty underscores that dynamic effects are involved. For example, Cooper and Schendel (1976) and Shankar *et al.* (1998) found that innovative market entrants may outsell pioneers by affecting the product diffusion and marketing spending effectiveness of the pioneering firms. This underscores that knowledge of competitors and their product differentiation may be an advantage and helps in balancing problems of customer access.

It has finally been found that international breadth of an industrial firm, in terms of presence in a number of countries, has negative performance effects in the broad strategy context. It seems that presence in too many countries in general is problematic, and makes it difficult to acquire enough country-specific knowledge (Shaver *et al.* 1997). This knowledge includes experience of conditions particular to a foreign country and constitutes the frame for the assessment of competitors' business strategies.

Limitations, conclusions, and implications

Although the relatively small sample size, the variance in data access in the studied countries, and the missing cases in the collection of data limit the generalizability of the findings, we are able to draw conclusions. A pattern has been found regarding performance effects of customer

access obstacles, competitive certainty and an interaction relevant to different strategy contexts of business units of industrial firms.

The three hypothesized relationships explained significant portions of the variance in performance of the studied subsidiaries of Swedish manufacturing firms in Germany, the United Kingdom, and the United States. First, it was found that the direct performance effects of customer access obstacles experienced by incumbent business units are negative as far as units with narrow product/market scopes are concerned. Second, the direct effects of competitive certainty in the narrow context are negative. Third, perceived competitive certainty moderates the relationship between customer access obstacles and performance in the narrow context, and this yields a positive effect.

The performance effects of expansion barriers are, thus, more complicated than previously thought. A theoretical implication of the study is that we need to acknowledge perceptions of competitive certainty and type of strategy context in trying to understand performance effects of barriers. Although the existence of objective barriers should not be denied, perceptions to a large extent are the foundation of an industrial firm's business strategy.

A suggestion for industrial management would be that knowledge of competitors and the way they approach their customers may balance problems related to customer access. However, it is important to observe that too much focus on competitors may result in a less focus on customers, and activities and resources of the firm itself.

Future research

Managerial perceptions are crucial to business strategy of the industrial firm, and this emphasizes the importance of continued research on relevant perceptions of the environment. In particular, we need to test the findings of this study in studies of similar or other samples, and also larger samples, and this will yield important input into our understanding of

performance effects of expansion barriers in different strategy contexts. We also need to understand the impact of contexts beyond strategy contexts determined by product/market scope.

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APPENDIX: PERCEPTUAL SURVEY ITEMS

Business strategy context: product/market scope

How different are your customers regarding size? How different are the products that you deliver? (Scale point 1 = "Very similar"; scale point 5 = "Very different": Alpha=0.77)

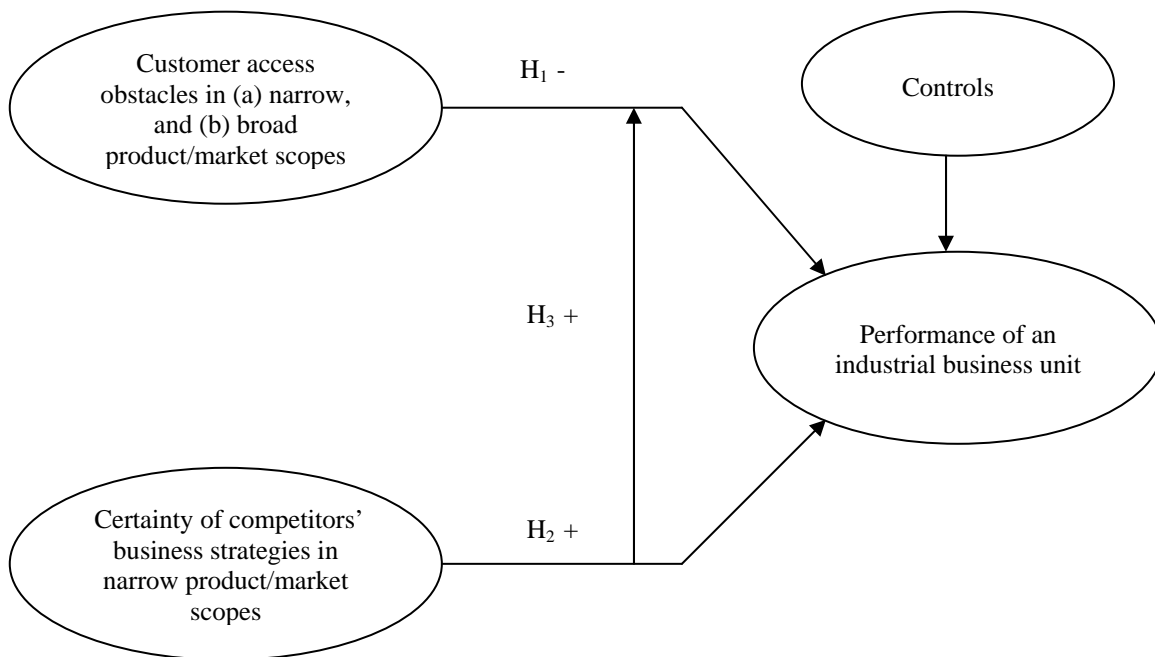
Customer access obstacles

To what extent do you agree with the following statements? Customers are loyal to suppliers; it is costly for customers in your market to switch suppliers; sales channels in your market are less available; it is necessary to customize products to customers in your market. (Scale point 1 = "Strongly disagree"; scale point 5 = "Strongly agree": Alpha=0.75.)

Certainty of competitors' business strategies: competitive certainty

In the following questions a “main competitor” is a firm with products similar to products of your firm and competing for the same customers as you do. To what extent are you certain of your assessments of main competitors' product ranges, customer scope, geographical scope, pricing policy, product development activities, and product customization ? (Scale point 1 = “Very uncertain”; scale point 5 = “Very certain”: Alpha=0.84.)

Figure 1. Hypothesized model of performance effects of customer access obstacles and competitive certainty.



H_{1-3} indicate hypotheses and expected directions.

Table 1. Descriptive statistics and Pearson correlation coefficients. Context: narrow product/market scope (n=118).

Variables	Mean	S.D.	1	2	3	4	5	6
1: Foreign ROS	3.63	3.56	1.00					
2: Corporate foreign sales (lgsales)	2.44	.71	-.18	1.00				
3: International breadth	15.86	23.35	.01	.29**	1.00			
4: Foreign experience	19.19	13.68	-.20*	.32**	.23*	1.00		
5: Main products	.43	.50	-.07	-.04	-.10	-.15	1.00	
6: Customer access obstacles	14.92	3.30	-.38**	.09	-.01	.14	.08	1.00
7: Competitive certainty	26.16	3.27	-.36**	-.03	-.07	.16	.07	.18

* $p < .05$; ** $p < .01$; two-tailed tests.

Table 2. Descriptive statistics and Pearson correlation coefficients. Context: broad product/market scope (n=73).

Variables	Mean	S.D.	1	2	3	4	5	6
1: Foreign ROS	7.81	6.77	1.00					
2: Corporate foreign sales (lgsales)	2.47	.65	.02	1.00				
3: International breadth	17.29	22.56	-.16	.33**	1.00			
4: Foreign experience	25.73	20.89	.05	.25*	.25*	1.00		
5: Main products	.21	.41	-.11	.06	-.07	.06	1.00	
6: Customer access obstacles	12.77	3.56	-.14	.13	.02	.11	-.08	1.00
7: Competitive certainty	24.55	4.42	-.12	.08	.10	.06	-.11	.22

* p<.05; **p<.01; two-tailed tests.

Table 3. Regression results for effects of customer access obstacles and competitive certainty on foreign ROS.

Independent variables	Expected directions	Context: (a) narrow product/market scope (n=118)					Context: (b) broad product/market scope (n=73)				
		Model 1a	Model 2a	Model 3a	Model 4a	Model 5a	Model 1b	Model 2b	Model 3b	Model 4b	Model 5b
<i>Control variables</i>											
Corporate foreign sales (lgsales)		-.14	-.13	-.17*	-.16	-.16	.08	.11	.09	.09	.11
International breadth		.08	.06	.05	.08	.05	-.22**	-.23**	-.21**	-.23**	-.23**
Foreign experience		-.18*	-.13	-.11	-.16	-.07	.09	.11	.09	.08	.10
Main products (dummy ^a)		-.09	-.06	-.06	-.04	.00	-.14	-.15	-.15	-.14	-.16
<i>Hypothesized variables</i>											
H ₁ : Customer access obstacles	-		-.34****			-.28****		-.17			-.15
H ₂ : Competitive certainty	+			-.34****		-.22***			-.13		-.08
H ₃ : Customer access obstacles x competitive certainty	+				.43****	.36****				-.11	-.08
R ²		.07	.18	.18	.26	.39	.06	.09	.07	.07	.10
Adjusted R ²		.04	.14	.14	.22	.35	.00	.02	.01	.00	.01
Change in R ²			.11****	.11****	.19****	.32****		.03	.02	.01	.04

^a 1=systems of products, 0=individual products.

H₁₋₃ indicate hypotheses. *p<.10; **p<.05; ***p<.01; ****p<.001.

Values are standardized beta coefficients.

