

Export Product Strategy Fit and Performance: An Empirical Investigation

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ABSTRACT

This study of exporters' product strategy and performance investigates the issue of balancing the benefits gained through standardized strategies with those achievable when adapting to local conditions. Building on previous work that explored the role of contingency theory and the concept of strategic fit in international marketing strategy, the authors posit that there is no one-size-fits-all solution to the export product strategy adaptation decision. Based on a sample of Swedish exporters, the authors find support that an array of forces from the macro-, micro-, and internal environments drives product adaptation, which affects the nature of product strategy fit and its performance outcomes. In terms of the performance relevance of product strategy fit, sociocultural environment, technological environment, marketing infrastructure, stage of PLC, scope of exporting experience, and duration of exporting experience all matter. However, the pattern of significant and nonsignificant findings cautions against excessive aggregation of environmental variables in conceptualizing environment-product strategy fit to performance linkages. Implications of the findings for theory building and management practice are discussed.

Keywords

Product adaptation; exporting; performance; contingency theory; strategic fit

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Recent decades have witnessed a dramatic globalization of business due to increasing liberalization of trade policies, stability in monetary transactions, regional economic integration, convergence of customer preferences, and technological advances (Katsikeas, Samiee, and Theodosiou 2006). Exporting constitutes an attractive foreign market entry and expansion approach for firms, especially those of small and medium size. Importantly, export market development has become more a matter of survival than of choice for many firms that face challenging economic conditions (O’Cass and Julian 2003).

During the past four decades, the field of exporting has paid particular attention to the forces that drive adaptation or standardization of international marketing strategies (e.g., Griffith, Chandra, and Ryans 2003). In this context, factors that influence the level of product adaptation have been the focus of many studies (Theodosiou and Leonidou 2003). This is understandable as appropriate adaptations to the product elements are key to the success of the export product offering (Cavusgil and Zou 1994). As opposed to the bulk of research on drivers of product adaptation, relatively little attention has been devoted to assessing performance outcomes of product adaptation (Leonidou, Katsikeas, and Samiee 2002). Moreover, there is inconsistency in the limited empirical evidence on the export product adaptation–performance link. Some studies report a positive link (Cavusgil and Kirpalani 1993), others find no association (Kotabe 1990; Shoham 1999), and still others unveil a negative relationship (Zou, Andrus, and Norvell 1997). Lages, Jap, and Griffith’s (2008) study predicted product adaptation is positively related to export performance dimensions, but found no association between product adaptation and performance satisfaction and an inverse link between product adaptation and performance achievement.

The mixed findings in the literature might be attributed to researchers’ focus on establishing direct relationships between adaptation or standardization of product strategy elements and export performance. An issue inherent in testing research hypotheses that state

a positive (direct) relationship of export product strategy adaptation (or standardization) with performance is that product adaptation (or standardization) is a superior strategy—which seems difficult to generalize (Katsikeas, Samiee, and Theodosiou 2006). However, in the strategic management field (Luo and Park 2001; Venkatraman and Prescott 1990) and, more recently, in the area of international marketing (Griffith and Myers 2005; Pangarkar and Klein 2004), it has been shown that the appropriateness of a specific strategy depends on its fit with the context in which it is deployed; good fit positively impacts performance. Thus, in the context of exporting, it is possible to adopt contingency theory reasoning that product adaptation, standardization, or any combination between the two can enhance performance only if there is co-alignment or fit between the strategy deployed and the context in which it is implemented. With few notable exceptions (e.g., Katsikeas, Samiee, and Theodosiou 2006; Xu, Cavusgil, and White 2006), there is a lack of empirical research on the issue of international marketing strategy adaptation/standardization fit and its impact on performance.

Drawing on the notion of strategic fit, our study contributes to existing knowledge in three ways. First, whereas prior research in international marketing focuses on strategic fit and performance outcomes of multinational companies (MNCs) (Katsikeas, Samiee, and Theodosiou 2006; Xu, Cavusgil, and White 2006), we investigate the strategy fit–performance link in the context of exporters. From a pragmatic standpoint, drivers of international strategy are likely to differ between MNCs and exporting firms, which in turn may affect the nature of fit and its impact on performance. Second, in contrast with prior fit research that takes a holistic view of international marketing strategy (e.g., Katsikeas, Samiee, and Theodosiou 2006), we focus on the product component of export marketing strategy. Notwithstanding the importance of adopting an overall strategy approach to the study of co-alignment and its effects (Venkatraman and Prescott 1990), such a focus may mask the different roles individual marketing strategy components play in shaping strategic fit and its

performance outcomes. Third, one view in the literature is that strategy is formulated as a firm's deliberate response to the external market environment (e.g., Katsikeas, Samiee, and Theodosiou 2006). Although strategy formulation work has contributed to our understanding of marketing strategy adaptation, an examination of only external factors may provide an incomplete contingency theory explanation of the topic. We adopt a more encompassing perspective that product strategy must be properly matched with internal variables that potentially facilitate implementation (cf. Xu, Cavusgil, and White 2006), together with macro- and micro- environment factors, in order to influence performance. Further, analysis of the performance effects of mismatching product adaptation with individual environment factors reveals that some factors matter while others do not.

CONTINGENCY THEORY PERSPECTIVES OF STRATEGY FIT

Product adaptation is defined as the degree to which the physical product differs across national markets (Cavusgil, Zou, and Naidu 1993). We posit that a firm's product adaptation strategy is chiefly determined by a combination of external business environments and firm-internal characteristics. That macro- and micro-level external characteristics (e.g., sociocultural environment, competitive intensity) as well as firm attributes and knowledge (e.g., export commitment, scope of exporting experience) are expected to facilitate product adaptation is generally supported by previous research (e.g., Cavusgil and Zou 1994; Theodosiou and Leonidou 2003). However, unlike most previous studies, we do not expect environment factors or product adaptation itself to exert a direct effect on export performance.

The maxim of environment–strategy coalignment permeates contingency theory work in international marketing. Nonetheless, prior studies have focused on descriptively specifying links between an internationally active firm's market environment, its international marketing strategy, and its performance, based on the structure–conduct–performance framework of industrial organization (IO) economics (Cavusgil and Zou 1994; Özsomer and Simonin 2004;

Sousa and Bradley 2008). The focus of the work has been to identify (full and partial) mediation patterns that exist among important constructs (e.g., the larger set of environmental and organizational factors conducive to firms' adaptation) that help organizations perform (Calantone et al. 2006). However, descriptive contingency theory studies do not aim to produce a generalizable response to observed inconsistency in the adaptation–performance relationship (Shoham et al. 2008).

We adopt the normative philosophy of coalignment, which seeks to test whether more than one product strategy potentially maximizes export performance, based on differing environmental conditions. Drawing upon insights primarily from the strategic management and organization behavior fields (e.g., Drazin and Van de Ven 1985; Zajac, Kraatz and Bresser 2000), we make the assumption that an exporting firm can boost profitability by shifting its product strategy to improve the congruity of contextual complexities (Vorhies and Morgan 2003). This approach to contingency theory building involves three types of variables: *contingency variables* are situational aspects usually external, but sometimes internal; *response variables* are the strategic actions taken in response to contingency factors; and *performance variables* are dependent on the fit between contingency variables and response variables for the particular situation (Zeithaml, Varadarajan, and Zeithaml 1988).

In practice, there are various ways of modeling the impact of fit between environment and strategy on performance (see Venkatraman 1989). The dominant approach within international marketing research has been 'fit as moderation', with environmental variables conditioning the adaptation–performance relationship. Yet, the moderation perspective has not been borne out by the data (Shoham 1999; Xu, Cavusgil, and White 2006), leading Xu and colleagues to call for more theoretical justification in future applications of contingency theory in international marketing strategy research. Consistent with a systems theory approach to contingency theory, we assert that our understanding of environment–product

strategy fit to export performance relationships can only advance by addressing simultaneously the various contingencies surrounding complex organizations. International marketers operate in contexts of multiple and potentially conflicting contingencies (Govindarajan 1988; Griffith 2009). As such, the systems approach may be viewed as a reaction to the potential reductionism of fit as moderation (Drazin and Van de Ven 1985; Tan and Litschert 1994).¹

The form of congruity logic we adopt is Venkatraman's (1989) 'fit as matching' approach. As with moderation, this approach entails identifying a precise functional form between variables (e.g., extent of product adaptation and each of the environmental variables) based on extant research. But unlike moderation, which focuses on the joint effects of variables on performance, fit is a theoretically defined match or similarity between the variables (Powell 1992). The measure of fit is developed independent of performance and is then regressed on performance. Importantly, using fit as matching, Katsikeas, Samiee, and Theodosiou (2006) showed external environment–marketing strategy standardization co-alignment is positively linked to performance. We extend this work by going further into the issue of whether firms are able to treat the environment as an exogenous variable and adjust their product strategy to fit the macro-, micro- and internal environments, benefiting their performance outcomes.

HYPOTHESES

Macro-environment Factors and Product Adaptation

The general influence of macro-environmental differences on export product strategy may be explained through institutional theory (Sousa and Bradley 2008), which posits that differences in various macro level aspects of society including regulatory institutions, social standards, and cultural norms between countries potentially condition firms' international strategies (Grewal and Dharwadkar 2002). The *economic environment* reflects level of industrial

development, income, distribution, and purchasing power of consumers, which in turn influences customers' interpretations of product offers and purchasing behaviors (Boddewyn 1981; Jain 1989). The importance of the economic environment is reflected in previous research that developed clusters of nations with similar economic conditions as the basis for implementing standardized programs (Day, Fox, and Huszagh 1988). The literature also presents examples of firms in economically developed nations that adapt their offerings by selling products with lower quality and in smaller packages when exporting to less developed countries in order to cater to the inhabitants with relatively low discretionary income (Hill and Still 1984). Thus, product adaptation is more likely when the prevailing economic conditions of the export market are different to those of the home market. The *regulatory environment* pertains to differences in political and legal aspects between the home and export markets. In particular, regulations designed to protect customers, companies, and society at large can be a key obstacle to deploying a uniform product. Previous research (e.g., Cavusgil, Zou, and Naidu 1993) implies that firms will be forced to adapt their products in an export market where regulations dictate different health, safety, or technical standards. Developed countries tend to have highly developed regulatory systems, often necessitating product modifications to local standards (Cavusgil and Zou 1994; Lages, Jap, and Griffith 2008).

The *sociocultural environment* refers to customer value systems, customs, religions, and education levels, which exert a significant impact on product preferences and usage patterns. Customer backgrounds in a firm's export markets are not likely to be identical in all respects; rather, similarity is imperative only along the dimensions that impact customer interpretation of the product (Katsikeas, Samiee, and Theodosiou 2006). Evidence suggests cultural factors impact whether or not a physical product meets universal needs and requirements (Shoham 1999). Sociocultural differences between the home and export markets would require the cultural specificity of the product be increased and, therefore, should encourage product

adaptation (Johnson and Arunthanes 1995). The *technological environment* reflects differences between markets in technological skills and resources and the pace of technological development. Customers are becoming technologically sophisticated the world over and increasingly expect products that incorporate a high degree of technological innovation. In the absence of technological sophistication, customers might view the product as obsolete. Firms targeting markets with similar technological expectations face pressure from consumers to adopt standardized strategies (Katsikeas, Samiee, and Theodosiou 2006). By contrast, the deployment of customized product strategies is essential in an export market characterized by unique technological characteristics. There is evidence that technology gaps in industrial markets may require product modifications in order to be bridged (Johnson and Arunthanes 1995). Thus:

H_{1a}: Difference in the economic environment between the home and export markets is positively related to the level of product adaptation.

H_{1b}: Difference in the regulatory environment between the home and export markets is positively related to the level of product adaptation.

H_{1c}: Difference in the sociocultural environment between the home and export markets is positively related to the level of product adaptation.

H_{1d}: Difference in the technological environment between the home and export markets is positively related to the level of product adaptation.

Micro-environment Factors and Product Adaptation

Customer characteristics, including product evaluation criteria, price sensitivity, and purchasing criteria, influence product strategy decisions. The literature suggests standardization efforts commonly fail when firms neglect to identify clearly defined, researched, and delineated intermarket segments (Samiee and Roth 1992). Also, firms that have managed to alter their product offerings in order to accommodate identified customer

differences stand a good chance of increasing benefits to local customers (Johnson and Arunthanes 1995). Consequently, significant differences in customer tastes and preferences justify the use and improve the viability of product adaptation. Export *market characteristics* pertain to the sophistication and development of a particular foreign marketplace in terms of size, growth, demand potential, and profitability potential (Akaah 1991). These characteristics reflect unique features across markets and are expected to play a key role in the product adaptation decision (Calantone et al. 2006). Specifically, the more distinctive and diverse the basic characteristic of the target export market, vis-à-vis the home market, the greater the need for product customization. Importantly, the higher sales generated in a big, important export market could cover the added costs involved in product adaptation activities (Theodosiou and Leonidou 2003). *Marketing infrastructure* is defined as the institutions and functions (e.g., market research agencies, advertising media, distributors, retailers) necessary to create, develop, and service demand (Jain 1989). Only when marketing infrastructures are similar across markets is it feasible for companies to engage in standardized product practices, including product design and branding (Samiee et al. 2003). By contrast, use of customized strategies is vital for exporters operating in a foreign market with a distinctive marketing infrastructure in terms of its cost, competence, and general usability (Johnson and Arunthanes 1995). For example, faced with a particularly costly retail structure in the foreign market, the exporter may be forced to downgrade product quality and features in order to develop and service demand profitably.

Competitive intensity differences in the velocity and strength of competition across markets lead to greater adaptation to foreign markets by exporting firms. The literature suggests when major competitors internationally standardize their marketing approaches for greater efficiency and brand impact, an exporter can more safely follow suit (Cavusgil, Zou, and Naidu 1993). Still, the reality commonly is that the firm's product efforts must be

adapted to the export market in order to be in the position to outdo and counter competitive activities idiosyncratic to this market. It has, for instance, been argued (e.g., Cavusgil and Zou 1994; Johnson and Arunthanes 1995) that fiercer competition in the export market than in the home market can induce firms to engage in extensive product adaptation. Finally, *stage of PLC* would need to be about the same in the home and host markets for product standardization. However, products may well be at different stages across markets due to variations in customers' product knowledge, utilization, and demand patterns (Özsomer and Simonin 2004). If the exported product's market is at a different stage of development, appropriate changes in the product design, quality, and/or other elements are desirable in order to facilitate market penetration (cf. Jain 1989). This line of reasoning is supported by the classical IO paradigm which suggests that a firm's strategic choices are reactions to the marketplace in which it currently competes (Venkatraman and Camillus 1984). Accordingly:

H_{2a}: Difference in the customer characteristics between the home and export markets is positively related to the level of product adaptation.

H_{2b}: Difference in the market characteristics between the home and export markets is positively related to the level of product adaptation.

H_{2c}: Difference in the marketing infrastructure between the home and export markets is positively related to the level of product adaptation.

H_{2d}: Difference in the competitive intensity between the home and export markets is positively related to the level of product adaptation.

H_{2e}: Difference in the stage of PLC between the home and export markets is positively related to the level of product adaptation.

Internal Factors and Product Adaptation

Extant research (e.g., Calantone et al. 2006) has attributed the influence exercised by internal factors on product adaptation to resource-based view (RBV) explanations of the firm. The

RBV contends that the principal determinants of a firm's strategic direction are the unique bundle of tangible and intangible assets, capabilities, and knowledge that exists within firms (Morgan, Kaleka, and Katsikeas 2004). *Export commitment* refers to the degree to which organizational and managerial resources are allocated to an export venture (Lages and Montgomery 2004). When senior managers are committed to an exporting operation they are likely to allocate resources sufficient to improve its planning procedures (O'Cass and Julian 2003). Through formal planning, uncertainty can be reduced, and the ability of the exporter to identify ways to tailor the product to local needs improves. Adaptation demands increase as managers become increasingly motivated to work hard on the generally challenging product adaptation tasks (Lages, Jap, and Griffith 2008).

Scope of exporting experience refers to the number of markets in which the firm has regular exporting activities (Cavusgil and Zou 1994). Ambiguity exists concerning the nature of the impact of exporting experience. Two studies (Cavusgil and Zou 1994; Cavusgil, Zou, and Naidu 1993) found a positive link between experience and product adaptation, another (Chung 2003) found an unexpected negative relationship, and still another (Lages, Jap, and Griffith 2008) observed no relationship. These prior studies share the theory based prediction that a firm's experience affords exporters with the luxury of making product modifications (Theodosiou and Leonidou 2003). Experience in a wide range of markets furnishes export managers with broad insights, consistent with a more confident knowledge base (Evans, Mavondo, and Bridson 2008). Once a firm has significant international experience, managers can leverage this knowledge to better understand the specific contingencies of each export market and the complex issues facing product adaptation (Douglas and Craig 1989). Established exporters are able to utilize their general experiences by adapting product attributes such as packaging, service, and warranty. Similarly, *duration of export venture* reflects the firm's experience, this time within the focal export product-market venture

(O’Cass and Julian 2003). International strategic choices tend to have evolutionary characteristics, in that, over time, as managers develop a better understanding of their foreign markets, they can adapt their offers accordingly (Cavusgil, Zou, and Naidu 1993). Product adaptation may be inevitable once firms are in the position to anticipate particular export market requirements (Albaum and Tse 2001). Therefore:

H_{3a}: A firm’s export commitment is positively related to the level of product adaptation between home and export markets.

H_{3b}: A firm’s scope of exporting experience is positively related to the level of product adaptation between home and export markets.

H_{3c}: The duration of the export venture is positively related to the level of product adaptation between home and export markets.

Product Adaptation and Export Performance

In accordance with theoretical developments concerning the multidimensional assessment of business performance (e.g., March and Sutton 1997; Morgan, Kaleka, and Katsikeas 2004), we view performance of the export venture as a higher-order construct comprising: market performance, reflecting economic marketing indicators on sales and market share; financial performance, capturing the venture’s profitability and return on investment; and customer performance, which taps the venture’s response to customer needs and pressures in the market. Based on contingency theory, we argue that there is no one-size-fits-all solution to the adaptation/standardization debate. Moreover, we posit that complex systems cannot be easily understood by analytically decomposing the system into its individual parts in order to examine each part (Tan and Litschert 1994). Rather than adopting a reductionist theoretical treatment of strategic fit that examines particular environment factors, we adopt a holistic perspective that incorporates macro-, micro-, as well as internal environment dimensions.

The *macro-environment* provides a structured and accepted context from which to investigate environmental factors that potentially shape marketing strategy outcomes. Research (e.g., Root 1988) suggests institutional and economic environments in a host country have a substantial impact on the survival and growth of firms. Hence, trade councils and other export intelligence agencies place strong emphasis on the need for exporters to identify and consider macro-environmental contingencies in the first instance (Singer and Czinkota 1994). Rather than directly influencing performance, we posit that export managers intentionally fit their product strategy to economic, regulatory, sociocultural, and technological environment forces in order to improve their performance. Country-specific environments shape the nature and intensity of competition and the dynamics of local industries (Luo and Park 2001). Thus, performance may also be viewed as critically dependent on the *micro-environment* in which a firm competes (Venkatraman and Camillus 1984). Irrespective of the cost savings and coordination benefits achievable through product standardization, a significant degree of product adaptation might provide higher sales and profits from a better exploitation of different market requirements across countries. Export managers are likely to seek benefit by modifying their product strategy to meet perceived similarities/differences between the home and export markets in customer characteristics, market characteristics, marketing infrastructure, competitive intensity, and stage of PLC.

The literature suggests a marketing strategy can only produce superior performance when it is properly and effectively implemented (Vorhies and Morgan 2003). Key here is that many of the problems that face the exporter relate directly to controllable issues pertaining to the *internal environment* (Zhang, Hu, and Gu 2008). Exporting strategy is informed by an awareness of variables within the firm itself that may impede chosen strategy (Katsikeas and Morgan 1994). We suggest that the successful implementation of an adapted/standardized export product strategy depends on firm characteristics including level of export commitment,

scope of exporting experience, and duration of export venture. In sum, the correct product strategy for a particular firm depends on the complete environmental picture (cf. Dess, Lumpkin, and Covin 1997; Katsikeas, Samiee, and Theodosiou 2006). High performance across the performance dimensions occurs only to the extent that there is fit between the product adaptation being deployed and the macro-, micro-, and internal environment contexts within which it is executed (cf. Drazin and Van de Ven 1985).

H_{4a}: Fit between the level of product adaptation and the macro-environmental context in which it is executed is positively related to export performance.

H_{4b}: Fit between the level of product adaptation and the micro-environmental context in which it is executed is positively related to export performance.

H_{4c}: Fit between the level of product adaptation and the internal environmental context in which it is executed is positively related to export performance.

METHOD

Sample and Procedures

To test the study hypotheses, we obtained data from a sample of Swedish exporting manufacturers. Sweden is a particularly appropriate study context because exporting has been the main engine of its economy for decades and accounts for more than half the GDP (Berg 2008). The unit of analysis is the individual product–market export venture. Respondents were asked randomly to complete the questionnaire with reference to an export venture that was either ‘highly successful,’ ‘averagely successful,’ or ‘not so successful.’ This procedure minimized potential selection bias and assured variation in the responses.

As for the location of the export market, it was decided to collect data from firms exporting to E.U., North American, or Asian markets. In addition, we focused on firms active in Sweden’s three largest export sectors, namely, transport equipment and machinery, wood and paper products, and chemicals and rubber products. Finally, since smaller exporters

would be less likely to have established export organizations and informants with all appropriate knowledge, companies with less than 20 employees and an export turnover below 10 million Swedish Krona were excluded from the study. Our systematic sample selection increases observed variance and generalizability, as it provides a reasonable picture of the Swedish and international trade situation and also affords a degree of control over potential confounding factors in cross-national studies (Heide and Weiss 1995).

The sampling frame was acquired from Statistics Sweden's business register service. The initial list comprised 1016 companies. In order to certify that the list provided up-to-date and accurate information and reduce the likelihood of misdirected questionnaires, it was considered necessary to contact each company by telephone. The telephone contact also allowed the lead researcher to assert that the firm met the study eligibility criteria; prenotify the execution, purpose, and significance of the research; and identify the most appropriate (key) informant for the study by name, title, and contact details. This procedure resulted in the deletion of 455 firms from the sample. The most common reason for omission was that the firm was part of a domestic or foreign-owned MNC with Swedish production units and had moved beyond just exporting as a means of international business.

A questionnaire and self-addressed prepaid envelope were sent to the key informants in the 561 firms that satisfied our eligibility criteria. We offered the informants a summary of the study results to encourage participation. Reminder/thank you postcards, a second mailing, and another wave of reminders yielded 401 responses. From these, 38 questionnaires were excluded from further analysis because of marked missing data, and another 22 removed for reasons of failing the post-hoc key informant quality tests. The informant quality test consisted of four questions at the end of the questionnaire assessing the respondent's amount of (1) responsibility for, (2) involvement in, and (3) knowledge about the focal product-market export venture; and (4) confidence in answering the questions. We employed a seven-

point rating scale anchored by 'very low' (1) and 'very high' (7). As per Kumar, Stern, and Anderson (1993), all the questionnaires with a rating of four or lower on at least one item were eliminated from further analysis. The mean composite rating after deletion of 5.94 provides confidence in the key informant data. This confidence is further strengthened by the fact that: the average respondent had more than 12 years working experience at the firm; and 82.2% of the key informants were in the cadre of top management (e.g., export director, sales director, marketing director, CEO), with the remainder being functional managers within relevant areas (e.g., key account manager, business area manager, product manager).

Hence, usable responses numbered 341, for an effective response rate of 60.8%. This response rate can be considered high compared to other recent studies in the area (e.g., Lages, Jap, and Griffith 2008; Sousa and Bradley, 2008). The distribution patterns of industries and export destinations in the sample generally match the actual distribution of Swedish national merchandise exports (Statistics Sweden 2008). Specifically, 62.8% of the ventures in the sample were active in the transport equipment and machinery industry, 18.7% in wood and paper products, and 18.5% in chemicals and rubber products. The great majority (74.5%) of the export ventures dealt with E.U. markets, with relatively less emphasis on North American (13.5%) and Asian (12.0%) markets.

Non-response bias was tested through the extrapolation method proposed by Armstrong and Overton (1977). The results of t-tests comparing the key study constructs between those who responded after the first mailing (72.2%) and those who responded after the second (27.8%) indicated no significant differences with regard to the study constructs. Further, we compared the 341 responding firms with a group of 128 non-responding firms (with available secondary data) in terms of number of employees, years exporting, and annual sales turnover. Again no significant differences were detected between the two groups. Thus, we can conclude that non-response bias does not appear to pose a particular problem in the study.

Measures

The survey instrument was developed from prior research following a comprehensive review of relevant literature and adapted to the specific context through a series of pre-tests and field interviews. Specifically, we adopted three stages of pre-testing to assure the content and face validity of the measures (Hair, Bush, and Ortinau 2006). First, five academic experts with extensive knowledge of questionnaire construction examined a preliminary version of the questionnaire. The second stage involved an academic expert with profound knowledge of international marketing reviewing the revised questionnaire. Third, we conducted face-to-face or telephone interviews with seven Swedish export managers. Our pre-testing procedure did not point to any major problems in the measurement, wording in English (cf. Gray 1997), sequencing, or design of the survey instrument.

As a rule, we used multi-item scales to assess the study constructs. Three exceptions were the more objective constructs stage of PLC, scope of exporting experience, and duration of export venture experience. All questionnaire items are shown in the Appendix together with response formats and internal consistency estimates, which range from .79 to .92.

There is agreement in the marketing and management literatures that performance is a complex phenomenon with several different inputs and outputs (Katsikeas, Leonidou, and Morgan 2000; Zou, Taylor, and Osland 1998). Most international product strategy studies have adopted this reasoning to some degree and assess performance using multiple measures, though several have treated performance as a global or unidimensional construct. Indeed, this practice could contribute to the inconclusive findings on determinants of export performance (Katsikeas, Leonidou, and Morgan 2000). We therefore treated export performance as a second-order construct with three dimensions: market performance, financial performance, and customer performance. The three-item scale for market performance was adapted from Katsikeas, Samiee, and Theodosiou (2006), O'Donnell and Jeong (2000), and Sriram and

Manu (1995). We developed the four financial indicators based on Cavusgil and Zou (1994), Okazaki, Taylor, and Zou (2006), and Xu, Cavusgil, and White (2006). The three-item scale for customer performance was modified from Katsikeas, Leonidou, and Morgan (2000) and Morgan, Kaleka, and Katsikeas (2004). For each scale, the respondents were asked to assess the performance of their chosen export venture compared to that of their main competitors in the export venture market.

Product adaptation was operationalized using four items measuring the level of adaptation in product quality, product design and style, product features/performance, and product branding. These aspects of the product were identified as the most pertinent in our prestudy interviews and literature review (e.g., Albaum and Tse 2001; Chung 2003; Özsomer and Simonin 2004).

Economic environment was captured on a four-item scale modified from Chung (2003) and Jain (1989). Our assessment of regulatory environment comprised four items adapted from Chung (2003) and Shoham (1999). Four items representing the sociocultural environment were modified from those used by Chung (2003) and Katsikeas, Samiee, and Theodosiou (2006). The four-item technological environment measure likewise drew from prior research (Cavusgil and Zou 1994; Katsikeas, Samiee, and Theodosiou 2006). Customer characteristics and market characteristics were captured using three-item scales modified from Akaah (1991) and Katsikeas, Samiee, and Theodosiou (2006). Differences in marketing infrastructure were reflected in a four-item scale, based on the measures of Johnson and Arunthanes (1995) and Katsikeas, Samiee, and Theodosiou (2006). Competitive intensity was operationalized with a four-item scale modified from Chung (2003) and Lages and Montgomery (2004). Stage of PLC was captured through a single measure based on Katsikeas, Samiee, and Theodosiou (2006).

Export commitment was measured using three items modified from (Lages and Montgomery 2004). We captured scope of exporting experience using a single item taken from Cavusgil and Zou (1994) and O’Cass and Julian (2003). And duration of export venture experience was assessed through a single indicator taken from O’Cass and Julian (2003). Our prestudy discussions with export managers suggested that informants were able to identify with and clearly distinguish between these assessments of general and venture-specific exporting experiences, which did not appear to be the case when conceptualizing general exporting experience as duration of company exporting (Seifert and Ford 1989).

ANALYSIS AND RESULTS

Measure Validation

Construct validity was assessed through confirmatory factor analysis (CFA). Due to sample size restrictions, it was necessary to split the scales into three groups of similar constructs for measurement model estimation. The first CFA contained the nine unidimensional macro- and micro-environment factors. The second was also a first-order CFA, this time involving the three internal factors as well as product adaptation. Third, we estimated a second-order CFA for export performance and its three dimensions, market performance, financial performance, and customer performance. The CFAs were performed using EQS (6.1) and the elliptical reweighted least squares (ERLS) method. This method is less constrained by normality assumptions and, thus, yields unbiased parameter estimates for both multivariate normal and non-normal data (Sharma, Durvasula, and Dillon 1989).

The macro- and micro-environment factors CFA exhibited a good fit to the data (see Table 1). Though there was a significant chi-square value ($\chi^2_{(370)} = 651.55, p < .01$), the other fit indicators (NFI = .99; NNFI = .99; CFI = .99; RMSEA = .05; AOSR = .04) revealed a good fitting model. The internal environment factors and product adaptation CFA also exhibited a good fit ($\chi^2_{(23)} = 36.05, p = .04$), NFI = .99, NNFI = .99, CFI = .99, RMSEA = .04,

and AOSR = .03. The second-order export performance model exhibited equally good results ($\chi^2_{(32)} = 45.80, p = .05$; NFI = .99; NNFI = .99; CFI = .99; RMSEA = .04; AOSR = .03).

- Insert Table 1 about here -

Convergent validity is confirmed in these CFAs by the significant standardized factor loadings ($> .67$) of each item on its predetermined construct, as well as by the composite reliability scores and average variance extracted scores exceeding the required levels of .70 and .50, respectively (Fornell and Larcker 1981) (see Table 2). The constructs' discriminant validity was assessed using Fornell and Larcker's (1981) stringent test. Specifically, discriminant validity is evidenced when the variance shared between two latent constructs (i.e., the square of their correlation) is inferior to the average variance extracted of the items forming the constructs. The correlation matrix in Table 2 shows that the average variance extracted for each construct is indeed greater than its shared variance with any of the other constructs in the model.

- Insert Table 2 about here -

Common Method Bias

We tested for common method bias (CMB) using two approaches. If CMB accounts for the observed relationships between the study variables, then a CFA containing all constructs should yield a single factor (Podsakoff et al. 2003). The fit indices (e.g., NFI = .63; NNFI = .64; CFI = .66; RMSEA = .15) imply a poor fitting model. Still, the single-factor test is conservative in detecting biases (Malhotra, Kim, and Patil 2006). We thus also employed the more stringent post hoc marker variable test (Lindell and Whitney 2001). Specifically, we first identified the second smallest positive correlation among the manifest variables in the study (i.e., .02) as this has been claimed to be a reasonable proxy for CMB (Malhotra, Kim, and Patil 2006). Based on this marker variable, we computed the CMB-adjusted correlations between all the variables in the study using the equation:

$$r_A = (r_u - r_M)/(1 - r_M)$$

Where: r_A = CMB-adjusted correlation; r_u = original correlation; r_M = marker variable

We found that the very small differences between the original and CMB-adjusted correlations ($\Delta r \leq 0.02$) made no difference to the statistical significance of the correlations. Moreover, we re-estimated our three measurement models using the CMB-adjusted correlations and conducted a chi-square difference test between the original and CMB-adjusted models. In all cases the substitution did not significantly deteriorate fit ($\Delta\chi^2 \leq .70$). While we cannot discount CMB completely due to our key informant approach, these analyses suggest such bias is not likely to explain relationships between the study constructs.

Hypothesis Testing

Regression analysis was used to test our hypotheses. We first examined factors driving level of product adaptation and then assessed whether presence of fit impacts export performance.² To test the impact of macro-, micro-, and internal environment factors on product adaptation, the following regression model was estimated using ordinary least squares:

$$Y_1 = \alpha_1 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + \beta_{10} X_{10} + \beta_{11} X_{11} + \beta_{12} X_{12} + \varepsilon_1$$

Where: Y_1 = product adaptation; X_1 = economic environment; X_2 = regulatory environment; X_3 = sociocultural environment; X_4 = technological environment; X_5 = customer characteristics; X_6 = market characteristics; X_7 = marketing infrastructure; X_8 = competitive intensity; X_9 = stage of PLC; X_{10} = export commitment; X_{11} = scope of exporting experience; X_{12} = duration of export venture

As indicated in Table 3a, the value of the relevant test statistic is significant (F-Statistic = 25.35, $p < .01$) and the adjusted R^2 is .43. We assessed whether multicollinearity might cause problems in our data by computing variance inflation factors (VIFs). The highest VIF was 2.62 and therefore multicollinearity is not a problem in our regression results (Hair et al.

2006). For macro-environment factors, differences in sociocultural environments ($\beta = .22, p < .01$) and technological environments ($\beta = .30, p < .01$) of the home and export markets are positively associated with product adaptation. Hence hypotheses H_{1c} and H_{1d} are upheld. H_{1a} and H_{1b} are not supported, however, as economic environment ($\beta = -.03, p > .05$) and regulatory environment ($\beta = -.08, p > .05$) are not significantly associated with the level of product adaptation. Of the micro-environment factors, differences in market characteristics ($\beta = .14, p < .05$), marketing infrastructure ($\beta = .26, p < .01$), and stage of PLC ($\beta = .19, p < .01$) between the home and export markets are positively linked to product adaptation, in support of H_{2b}, H_{2c}, and H_{2e}. H_{2a} is not supported as customer characteristics is not an influential variable ($\beta = .08, p > .05$). Further, H_{2d} is not supported due to the surprising finding that competitive intensity is negatively linked to product adaptation ($\beta = -.16, p < .01$). Considering the internal factors, export commitment ($\beta = .15, p < .01$) and duration of export venture ($\beta = .11, p < .01$) are positively related to product adaptation. Thus the results support H_{3a} and H_{3c}. But H_{3b} is not supported as scope of exporting experience is negatively linked to product adaptation ($\beta = -.20, p < .01$).

- Insert Table 3 about here -

Consistent with the study's theoretical foundation, testing H_{4a}, H_{4b}, and H_{4c} requires the development of measures that assess fit as matching for level of product adaptation with macro-, micro- and internal environmental contexts, and then examination of whether fit is positively linked to export performance. Following precedent in the marketing and strategy literature, we adopted deviation score analysis (Pangarkar and Klein 2004; Powell 1992). The deviation score approach avoids the measurement error and interpretation problems associated with residuals of regression and multicollinearity problems of interaction effects used to calculate matching levels of independent variables (Keller 1994; Venkatraman 1989).

Based on deviation score analysis, Naman and Slevin's (1993) mathematical model was employed to measure fit and test for its impact on performance using the following equation:

$$\text{Export performance} = f(\text{misfit}) = c_0 + c_1 \text{misfit} + \varepsilon$$

Where $c_1 < 0$

For example: micro-environment misfit = $|X_1 - X_2| + |X_1 - X_3| + |X_1 - X_4| + |X_1 - X_5|$

Where: X_1 = product adaptation; X_2 = market characteristics; X_3 = marketing infrastructure; X_4 = competitive intensity; X_5 = stage of PLC

The underlying hypothesis is that misfit is inversely related to performance. Macro-, micro-, and internal environment misfits are operationalized as the sum of the absolute distance of degree of strategy adaptation from each of the *significant* contextual factors (i.e., four factors for micro-environment). This operationalization is based on the premise that, given the magnitude of the relevant contextual factors, there is a matched degree of export product strategy adaptation that enhances performance. For instance, the absolute difference between marketing infrastructure (X_3) and extent of product adaptation (X_1) indicates the extent of deviation (positive or negative) between this contextual factor and export product strategy. Significant deviations of this kind result in a misfit, which reflects the inappropriateness of the export product strategy deployed.

Table 3b presents the estimation results for our model based on deviation score analysis. The evidence suggests negative associations between macro-environment misfit ($\beta = -.22, p < .01$) and micro-environment misfit ($\beta = -.32, p < .01$) and performance, indicating deviation from the adoption of appropriate product strategy, as determined by pertinent external contextual factors, significantly reduces performance in line with H_{4a} and H_{4b} . However, the proper match between degree of product adaptation and internal environment is not linked to performance ($\beta = -.06, p > .05$), providing no support for H_{4c} .³ The regression model also controlled for the effect of product adaptation on export performance. The observed

coefficient ($\beta = -.05, p > .05$) rules out a direct (universalistic) effect on performance. The significance of this regression is manifest in a F-Statistic of 20.14 ($p < .01$) and the adjusted R^2 is .17. While the adjusted R^2 suggests more than 80% of the variance in performance is not explained by the model, the performance relevance of this study of product strategy adaptation is comparable to prior studies (e.g., Katsikeas, Samiee, and Theodosiou 2006; Shoham 1999) on overall marketing strategy.

Deviation Score Sensitivity Analysis

Given the surprising finding for internal environment misfit in particular, we performed the extra procedure of decomposing macro-, micro-, and internal environment fit to observe which individual differences are actually important drivers and which are not (Griffith 2009). This sensitivity analysis involved regressing performance on the individual deviation scores for product adaptation with each of the influential micro-, macro-, and internal environment factors. Table 4 shows that this regression model is significant, with a slightly improved adjusted R^2 of .19, in support of our predictions. Inspection of the path coefficients reveals a more nuanced picture.

- Insert Table 4 about here -

We find that small deviation scores are related to high levels of performance as regards sociocultural environment misfit ($\beta = -.12, p < .05$) and technological environment misfit ($\beta = -.13, p < .05$). For these macro-level constructs, pairing large differences between home and export contexts with extensive product adaptation reduces the potential for misfit, which enhances performance. At the micro-environment level, small deviation scores are related to high levels of performance for marketing infrastructure misfit ($\beta = -.16, p < .01$) and stage of PLC misfit ($\beta = -.16, p < .01$). The results also reveal that there is no significant relationship with performance for market characteristics misfit ($\beta = -.08, p > .10$) or competitive intensity misfit ($\beta = -.09, p > .10$). As for the internal environment factors, small deviation scores are

related to high levels of performance for duration of export venture misfit ($\beta = -.20, p < .01$), indicating that matching long duration of the export venture with substantial product adaptation has performance relevance. By contrast, the results reveal that scope of exporting misfit is positively related to performance ($\beta = .14, p < .05$). However, the deviation score for scope of exporting was calculated on the basis of the unexpected negative association between scope of exporting and product adaptation. This observed positive coefficient for scope of exporting misfit–performance thus implies managers can derive benefit from adapting as a result of large scope of exporting. Finally, there is no significant relationship with performance for export commitment misfit ($\beta = -.01, p > .10$). Therefore, it would appear that counteracting individual effects of the internal environment misfit constituents specifically, weaken the total effect of this dimension.

Our deviation score analyses investigate the performance relevance of absolute misfit. Yet, it is possible that performance benefits or suffers more from either over- or under-adapting product strategy to the different contextual factors when exporting to markets. To investigate this, we separated over-adapters and under-adapters based on positive and negative misfit scores for each contextual factor. In a series of regressions, each pair of misfit scores produced equivalent coefficients to performance that also matched the absolute misfit reported in Table 4.

DISCUSSION

The findings of this research broaden our appreciation of how exporters develop effective product adaptation strategies. Whereas the vast majority of product adaptation studies have looked at the factors driving adaptation among exporting firms, we extend recent international marketing research (Katsikeas, Samiee, and Theodosiou 2006; Xu, Cavusgil, and White 2006) that views contingency theory as the solution to the product adaptation–performance relationship. According to contingency theory, no universal strategic choice for adaptation is

optimal for all firms and circumstances, which would explain the inconsistency in the findings of the relatively few exporting studies that have investigated the performance implications of product adaptation. The evidence reported here is consistent with the notion that product adaptation is not of its own accord related to export performance. Likewise, tempting as product standardization is as a means of reducing exporting costs, highly standardized strategies are unlikely to be inherently beneficial to exporters in general.

Existing international marketing strategy and contingency theory studies (Albaum and Tse 2001; Özsomer and Simonin 2004; Sousa and Bradley 2008) have concentrated on examining environment structure to strategy conduct to performance associations. We add to the few empirical studies (e.g., Katsikeas, Samiee, and Theodosiou 2006) that have applied the normative model of contingency theory to international marketing strategy adaptation/standardization. Specifically, a contribution of this research is to reveal the importance of the fit as matching approach to the study of export product strategy fit. The results of our empirical analysis clearly indicate that fit as matching has performance relevance, in contrast to the generally inconsistent findings reported in previous studies that employed moderation as a form of fit (Shoham 1999). Further, while prior work has examined the overall marketing strategy fit–performance relationship in MNCs (e.g., Xu, Cavusgil, and White 2006), we featured the performance relevance of product strategy fit in exporter product–market ventures.

The observation that product adaptation is an influential variable, even though not directly linked to performance, is particularly noteworthy. Previous exporting studies often treat marketing mix elements holistically and employ global or higher-order reflective conceptualizations that have a single path coefficient to performance (Katsikeas, Samiee, and Theodosiou 2006; Özsomer and Simonin 2004). However, prior research (Cavusgil and Zou 1994; Lages, Jap, and Griffith 2008) has shown that the performance relevance of adaptation

differs across the components of the marketing program. Our paper illustrates that it is timely and meaningful to investigate specific dimensions of the marketing mix. The thrust of studies investigating individual marketing mix elements has isolated promotion as the key adaptation/standardization concern (Jain 1989; Özsomer and Simonin 2004). We contribute to the body of work that has focused on the product decision, which is at the vanguard of exporters' marketing strategy decision-making (Theodosiou and Leonidou 2003).

Our finding that a comprehensive, multi-environment set of factors is significantly related to product adaptation is theoretically significant. We demonstrate that combining external and internal factors in an integrated strategy formulation–implementation framework (Venkatraman and Camillus 1984) is apposite to export marketing strategy decision-making. Marketing strategy researchers have in the past used narrow conceptual models that employ internal but not external environmental factors, or vice-versa (Katsikeas, Samiee, and Theodosiou 2006). To this point, Shoham (1999) concluded that in practice, due to bounded rationality, managers often use a subset of the relevant market characteristics. For instance, Roth (1995) found that managerial decisions regarding international advertising practices are typically based on an incomplete set of contextual forces. Our results though suggest that a thorough set of factors encompassing macro-, micro-, and internal influences shapes fit between extent of product adaptation and context, with positive implications for performance in export ventures. It would seem that the export product strategy decision at least is assiduously considered.

What is more, our analysis produced a number of surprising findings in the way certain environmental variables are used, which cautions against excessive aggregation (e.g., in higher-order structures) of contextual factors. Though we predicted that competitive intensity plays an important role in shaping export product adaptation, the negative nature of the association is unexpected. One possible contributing factor may be the nature of competitors.

Low differences in competitive intensity between the home and export markets could signify multi-point competition with global competitors deploying standardized product strategies. Faced by global competitors in the overseas market that have achieved scale economies, the exporter may consider adaptation an efficacious route to achieving sustainable competitive advantage and maximizing its return (cf. Jain 1989). It would be interesting to investigate further this unexpected finding in the context of firms operating in export markets with more and fewer established global competitors.

Another contribution of this research is to reveal the heterogeneous influence of different types of experience on product adaptation. We had expected that both scale of exporting experience and duration of the export venture would be positively linked to product adaptation, as firms with greater scope and depth of experience might leverage their knowledge to anticipate customer requirements and adapt. The evidence cited here that scope of exporting experience and duration of export venture are negatively and positively related to product adaptation, respectively, is in this respect surprising. However, extant research has suggested ambiguity in the nature of the influence of international experience (Chung 2003; Sousa and Bradley 2008). Our results seem to imply that managers require specific experience of the export venture market in order to adapt offerings over time and increase chances of reaching out to more customers. Nonspecific experiences in terms of regular exporting to other markets may instead increase the need to secure economies of scale and consistent quality and branding through product standardization.

Besides the two environmental variables that behaved conversely to our expectations, three others (i.e., economic environment, regulatory environment, and customer characteristics) failed to show significant associations with product adaptation. This can be explained partly by the fact that we investigated ongoing export ventures (median export venture duration = 15 years) as opposed to startups. Cavusgil, Zou, and Naidu (1993)

asserted that product adaptation strategy is likely to be evolutionary in nature and what influences product adaptation upon entry into a new market is not necessarily constant over time. The more concrete contextual issues such as legal systems and regulations tend to be important in the initiation stages of an export venture whereas, over time, the adaptation decision might change and develop in line with the exporter's improved understanding of foreign market idiosyncrasies. The three identified nonsignificant environments are factors that export managers can discern and evaluate with relative ease before initiating new export ventures. These nonsignificant links might also be a reflection of the ongoing homogenization of industrial markets. Since the great majority of investigated export destinations in this study were industrialized markets, the results serve as an indication that there may no longer be the same need as before for firms in industrial countries to consider traditional macro- and customer-related issues when designing their export product strategies for other industrialized markets. Future research might aim to put both explanations to the test. Our findings, as well as the results of others, are cumulatively beginning to identify how and when contextual factors drive adaptation strategy.

Moreover, the study provided surprising findings concerning the complex role played by the internal environment in the relationship between environment–product strategy fit and performance. Here, the sensitivity analysis with individual deviation scores presented relevant insights.⁴ Contrary to expectation, we found that scope of exporting misfit relates positively to performance, implying that firms that adapt their products while having a large scope of exporting experience seem to perform better than firms that obtain strategic fit for this dimension by standardizing. Intriguingly, this finding actually is in line with our initial prediction on the link between scope of exporting experience and product adaptation (H_{3b}), and although the initial results reveal that exporters do not adapt their export products in accordance with wide scope of exporting, the sensitivity analysis suggests that they may

actually benefit from doing so. The literature offers a degree of support for this ambiguous finding. Sousa and Bradley (2008) argue that internationally experienced exporters, in continuous pursuit of consistent positioning and economies of scale, find it increasingly difficult to utilize adaptation strategies. At the same time, there are indications that the more internationally experienced a firm is, the higher the likelihood that standardization will fail to yield optimal results (Cavusgil and Zou 1994; Douglas and Wind 1987).

Further, the sensitivity analysis yielded nonsignificant relationships to performance for market characteristics, competitive intensity, and export commitment misfit. In combination with nonsignificant direct links to performance observed in the literature (e.g., Lages, Jap, and Griffith 2008), the nonsignificant misfit results could begin to effectively rule out the performance relevance of particular context variables. A further deliberation of these results suggests that export managers who disregard the above contextual factors in their pursuit of product strategy fit will achieve equal levels of export performance as managers who do take them into consideration. A comparison of the overall misfit regression (Table 3b) with a new regression analysis where misfit scores were calculated only from the individual factors that proved relevant in determining export performance, revealed virtually identical macro-, micro-, and internal environment misfit coefficients and adjusted R^2 values for the two models. It is important that future research takes the opportunity to assess the applicability of our product strategy fit–export performance results across other marketing mix components.

The present findings provide managers with novel insights into the role of product strategies in export venture operations. The literature suggests that decisions taken on international product strategy have serious implications for the market performance of the affected firms as sizeable expenditures are involved (Cavusgil, Zou, and Naidu 1993). Previous studies have also cautioned that pressures for global integration are often misinterpreted and that businesses frequently adopt programs that are too adapted or

standardized (Özsomer and Simonin 2004). Our study suggests export venture contingencies are all important. We find that adaptation or standardization can both be powerful strategies in this era of globalization, but it is important that the product strategy used is fitted to relevant macro-, micro-, and internal environment conditions. There is no one-size-fits-all solution to developing export product strategy. And given that the study identified nine significant drivers of product adaptation, of which the majority in turn affect the nature of product strategy fit and its performance outcomes, exporting firms would be well advised to monitor assiduously the contextual rationale underpinning the deeper customer penetration benefits of adaptation.

Importantly, our analysis cautions managers not to oversimplify their view of the contextual factors with which they wish to achieve fit. The initial hypothesis testing results indicated that the attainment of fit with the external environment, and not the internal environment, is conducive to export performance. Nonetheless, the more fine-grained sensitivity analysis showed that the individual constituents of the internal environment are just as influential in determining export performance as the external factors, but that this effect is masked by counteracting factors (i.e., the firm's scope and duration of exporting). Indeed, in light of the often limited resources of exporters, it is important that managers revisit their reasoning concerning scope of exporting. That exporters tend to match wide scope of experience with low adaptation serves to undermine performance.

The present findings should be interpreted in light of a number of limitations inherent in this study. First, caution should be exercised in attempts to generalize from these findings. The study was conducted within the context of Swedish exporters operating within specific capital intensive industries (e.g., transport equipment and machinery). The resource base of these firms and their ability and willingness to adapt exported products may be distinctive.

Still, the results supported that most of the environment factors were associated with product adaptation in line with our predictions.

Second, the possibility of methods bias remains in this key informant study, despite our emphasis on targeting appropriate informants and ensuring their competency and the favorable outcomes of associated statistical procedures (e.g., the marker variable test). Recruiting additional informants willing and able to answer the questionnaire proved a difficult task, given that the exporting function of firms usually is limited in size. Third, the cross-sectional nature of the study restricts our ability to make causal inferences from the data. Research involving phenomena like the dynamic nature of fit between the export marketing strategy and the venture context is best approached using a longitudinal research design. Future attempts to overcome the considerable challenges of implementing a longitudinal research design could make a substantial contribution to the literature on international marketing strategy fit.

Fourth, to enhance confidence in our deviation score analysis of misfit we also employed residual analysis (see Endnote 4) from the fit as matching perspective of fit-based relationships (Venkatraman 1989). Though we use a precise definition of form of fit that is theoretically justified in marketing strategy adaptation/standardization research and consequential for performance (Katsikeas, Samiee, and Theodosiou 2006), another view is that multiple forms of fit should be tested comparatively in order to improve the rigor of study findings (Xu, Cavusgil, and White 2006). The findings of this study make an important contribution to research on the product strategy–performance relationship, but it is important that future research expands on the conceptualization of fit used here to resolve the international strategy adaptation and/or standardization dilemma once and for all.

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Notes

1. A criticism of contingency theory application is that any contingent (e.g., moderating) effect in any field can be explained by the theory. Viewing international marketing operations as open systems faced with uncertainty, we base our contingency approach on the core principles of *adaptation* and *equifinality* (Olson, Slater, and Hult 2005). Adaptation denotes that elements within the system adapt to preserve the basic character of the system. That prior research on drivers of export product adaptation has achieved reasonably significant findings using several theoretical perspectives (e.g., the resource based view, IO paradigm, institutional theory) (Calantone et al. 2006), is suggestive that firms are adaptive to environmental conditions in setting product strategy. Second, equifinality implies that a system can reach the same final outcome from differing initial conditions and by a variety of paths. Contradictory findings in the limited empirical evidence on the export product adaptation–performance relationship (Cavusgil and Kirpalani 1993; Lages, Jap, and Griffith 2008) are generally supportive of equifinality.
2. To ascertain that this modeling approach is not underspecified, we conducted a preliminary mediation test following Baron and Kenny's (1986) procedures. The first step of this process, involved a regression model in which export performance was regressed on the micro-, macro-, and internal environment factors. That no significant relationships were observed (at $p < .05$) suggests there are no effects that may be mediated.
3. In accordance with recommendations in the literature (cf. Xu, Cavusgil, and White 2006) for the use of alternative approaches to assessing the impact of fit on performance, we also employed residual analysis (Zajac, Kraatz and Bresser 2000). The absolute standardized residuals that resulted from the estimation of a regression model were regressed onto performance (Venkatraman and Prescott 1990). High levels of such residuals indicate misfit between level of product adaptation and macro-, micro-, and internal environmental factors, which should negatively impact performance. The results reveal associations between absolute standardized residuals and performance consistent with the deviation score analysis (reported in Table 3b).
4. Prima facie, our original multivariate assessment of misfit is consistent with the open systems origins of contingency theory. Yet systems theory highlights the need to study potentially conflicting contingencies, and these effects are best scrutinized through individual (bivariate) misfit analyses. Our surprising findings reveal that exclusive reliance on aggregate misfit calculations are likely to result in loss of information (Govindarajan 1988).

Table 1: Measurement Models

Macro- and Micro-environment Factors Model		Internal Environment Factors and Product Adaptation Model		Export Performance Model	
Factors and Items	Standardized Loadings ^a	Factors and Items	Standardized Loadings	Factors and Items	Standardized Loadings
Economic environment		Export commitment		<i>First-order Factors</i>	
Econ 1	.84 (17.45)	Comm 1	.77 (14.52)	Market performance	
Econ 2	.88 (18.70)	Comm 2	.84 (16.01)	Markperf 1 ^b	.77
Econ 3	.82 (16.93)	Comm 3	.68 (12.63)	Markperf 2	.77 (12.90)
Econ 4	.76 (14.99)	Scope of exp. experience		Markperf 3	.87 (14.09)
Regulatory environment		Scope 1	.94 (22.44)	Financial performance	
Reg 1	.93 (20.99)	Duration of export venture		Finperf 1 ^b	.86
Reg 2	.94 (21.33)	Dur 1	.92 (21.62)	Finperf 2	.88 (20.03)
Reg 3	.83 (17.41)	Product adaptation		Finperf 3	.89 (20.28)
Reg 4	.75 (15.07)	Prod 1	.86 (18.83)	Finperf 4	.81 (17.13)
Sociocultural environment		Prod 2	.86 (19.04)	Customer performance	
Soc 1	.91 (19.40)	Prod 3	.89 (19.99)	Custperf 1 ^b	.87
Soc 2	.91 (19.42)	Prod 4	.86 (19.18)	Custperf 2	.86 (16.30)
Soc 3	.69 (13.43)			Custperf 3	.70 (13.03)
Technological environment				<i>Second-order Factor</i>	
Tech 1	.80 (16.19)			Export performance	
Tech 2	.81 (16.56)			Market performance	.79 (10.59)
Tech 3	.86 (18.10)			Financial performance	.83 (12.34)
Tech 4	.82 (16.98)			Customer performance	.76 (11.25)
Customer characteristics					
Cust 1	.74 (13.91)				
Cust 2	.80 (15.74)				
Cust 3	.77 (14.73)				
Market characteristics					
Markcha 1	.73 (13.73)				
Markcha 2	.74 (13.91)				
Markcha 3	.76 (14.54)				
Marketing infrastructure					
Markinf 1	.81 (16.61)				
Markinf 2	.85 (17.78)				
Markinf 3	.78 (15.51)				
Markinf 4	.80 (16.44)				
Competitive intensity					
Compint 1	.74 (14.14)				
Compint 2	.75 (14.46)				
Compint 3	.78 (15.28)				
Compint 4	.79 (15.42)				
Stage of PLC					
Stage 1	.98 (23.56)				
<i>Fit Indices</i>		<i>Fit Indices</i>		<i>Fit Indices</i>	
$\chi^2_{(370)} = 651.55, p < .01; NFI = .99; NNFI = .99; CFI = .99; RMSEA = .05; AOSR = .04$		$\chi^2_{(23)} = 36.05, p = .04; NFI = .99; NNFI = .99; CFI = .99; RMSEA = .04; AOSR = .03$		$\chi^2_{(32)} = 45.80, p = .05; NFI = .99; NNFI = .99; CFI = .99; RMSEA = .04; AOSR = .03$	

^a *t*-values reported within the parentheses

^b Fixed parameter

Table 2: Construct Correlations and Descriptive Statistics

Construct	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Economic environment	3.49	1.55	.82/.68 ^a													
2. Regulatory environment	3.99	1.51	.62**	.86/.75												
3. Sociocultural environment	4.35	1.42	-.47**	-.47**	.80/.71											
4. Technological environment	3.35	1.36	.45**	.62**	-.31**	.82/.67										
5. Customer characteristics	3.84	1.46	.29**	.47**	-.20**	.46**	.74/.62									
6. Market characteristics	4.12	1.34	.33**	.54**	-.28**	.58**	.49**	.71/.55								
7. Marketing infrastructure	3.62	1.30	.34**	.55**	-.21**	.63**	.53**	.57**	.82/.59							
8. Competitive intensity	3.61	1.39	.25**	.43**	-.20**	.39**	.41**	.42**	.40**	.78/.59						
9. Stage of PLC	3.50	1.78	.25**	.46**	-.15**	.56**	.43**	.58**	.45**	.41**	-/-					
10. Export commitment	4.01	1.40	.03	.02	.04	.05	.08	-.08	.00	.02	.04	.73/.59				
11. Scope of exporting experience ^b	2.82	.91	.15**	.14*	-.25**	.07	.03	.09	-.03	.05	-.01	.11*	-/-			
12. Duration of export venture ^b	2.66	.81	-.16**	-.13*	.09	-.13*	-.12	-.21**	-.13*	-.06	-.19**	.06	.23**	-/-		
13. Product adaptation	3.60	1.66	-.08	.16**	.14*	.41**	.30	.33**	.43**	.10	.40**	.15**	-.21**	-.01	.86/.75	
14. Export performance	4.48	.93	-.01	.02	.06	-.07	-.04	-.06	.00	.01	-.09	-.03	.01	-.01	-.10	.76/.63

N = 341

** Correlation significant at $p < .01$

* Correlation significant at $p < .05$

^a Composite reliability/average variance extracted of the measures reported on the diagonal

^b A logarithmic transformation was used to reduce variance

Table 3: Regression Analyses

(a) Dependent Variable: Product Adaptation			
Independent Variables	Coefficient	t-value	Conclusion
Economic environment	-.03	-.97	H _{1a} not supported
Regulatory environment	-.08	-1.18	H _{1b} not supported
Sociocultural environment	.22	4.80**	H _{1c} supported
Technological environment	.30	4.82**	H _{1d} supported
Customer characteristics	.08	1.44	H _{2a} not supported
Market characteristics	.14	2.33*	H _{2b} supported
Marketing infrastructure	.26	4.30**	H _{2c} supported
Competitive intensity	-.16	-3.38**	H _{2d} not supported
Stage of PLC	.19	3.49**	H _{2e} supported
Export commitment	.15	3.61**	H _{3a} supported
Scope of exporting experience	-.20	-4.40**	H _{3b} not supported
Duration of export venture	.11	2.59**	H _{3c} supported
R ² = 0.45 Adjusted R ² = 0.43 F-Statistic = 22.46**			
(b) Dependent Variable: Export Performance			
Product adaptation	-.05	-.96	
Macro-environment misfit	-.22	-3.98**	H _{4a} supported
Micro-environment misfit	-.32	-6.10**	H _{4b} supported
Internal environment misfit	-.06	-1.12	H _{4c} not supported
R ² = .18 Adjusted R ² = .17 F-Statistic = 20.48**			
** $p < .01$ * $p < .05$			

Table 4: Regression Analysis of Fit Constituents

Independent Variables	Coefficient	t-value
Sociocultural environment misfit	-.12	-2.39*
Technological environment misfit	-.13	-2.06*
Market characteristics misfit	-.08	-1.28
Marketing infrastructure misfit	-.16	-2.61**
Competitive intensity misfit	-.09	-1.46
Stage of PLC misfit	-.16	-2.69**
Export commitment misfit	-.01	-.16
Scope of exporting experience misfit	.14	2.09*
Duration of export venture misfit	-.20	-3.00**
R ² = .21		
Adjusted R ² = .19		
F-Statistic = 9.97**		

** $p < .01$

* $p < .05$

Appendix: Measures

Macro-environment Factors

Please indicate to what extent the chosen export venture market is similar to or different from the domestic market in terms of the following aspects.

(Seven point rating scales, anchored by 1 = 'very similar' and 7 = 'very different')

Economic environment ($\alpha = .89$)

1. Level of industrial development
2. Purchasing power of customers
3. Communications infrastructure
4. Income distribution
5. Inflation rates*

Regulatory environment ($\alpha = .90$)

1. Laws and regulations concerning company protection
2. Laws and regulations concerning customer protection
3. Environmental laws and regulations
4. Taxation

Sociocultural environment ($\alpha = .87$)

1. Values, beliefs, and attitudes
2. Customs and traditions
3. Religion
4. Aesthetics (e.g., designs and colors)*

Technological environment ($\alpha = .89$)

1. Information technology
2. Technology in transportation
3. Technological skills
4. Pace of technological development

Micro-environment Factors

Please indicate to what extent the chosen export venture market is similar to or different from the domestic market in terms of the following aspects.

(Seven point rating scales, anchored by 1 = 'very similar' and 7 = 'very different')

Customer characteristics ($\alpha = .82$)

1. Product evaluation criteria
2. Customers' price sensitivity
3. Customer purchasing criteria (e.g., price, quality, and features)
4. Product usage patterns*

Market characteristics ($\alpha = .79$)

1. Demand conditions and potential
2. Market growth
3. Profitability potential
4. Market size*

Marketing infrastructure ($\alpha = .88$)

1. Competencies of marketing research agencies
2. Competencies of distributors
3. Availability of suitable advertising media
4. Structure of distribution channels

Competitive intensity ($\alpha = .80$)

1. Pace of new competitive moves in this product area
2. Frequency of promotion wars in this industry
3. Frequency of new product introductions by competitors
4. Aggressiveness of competition in our industry

Stage of PLC

Product life cycle stage

Managerial Factors

Export commitment ($\alpha = .80$)

Consider the chosen export venture over the past year. To what extent do you agree or disagree with the following statements about your commitment to exporting.

(Seven point Likert scale, anchored by 1 = 'strongly disagree' and 7 = 'strongly agree')

1. There was substantial planning for this export venture
2. There was a significant amount of human resources involved in the exporting activity
3. There was a significant degree of management commitment to exporting
4. There were more financial resources for exporting than those used for the domestic market*

Scope of exporting experience

Please indicate the number of markets in which your firm has regular exporting operations

Duration of export venture

Please indicate the approximate number of years your firm has been exporting to the investigated export venture market.

Product adaptation ($\alpha = .92$)

Please indicate the degree to which each of the following product strategy elements have been standardized or adapted in the chosen export venture market compared to the domestic market.

(Seven point rating scale, anchored by 1 = 'highly standardized' and 7 = 'highly adapted')

1. Product quality
2. Product design and style
3. Product features/performance
4. Product branding
5. Product packaging*

Export Performance

Please provide an indication of the chosen export venture performance in the last financial year compared to the performance of your main competitors in the export venture market.

(Seven point rating scales, anchored by 1 = 'much worse' and 7 = 'much better')

Market performance ($\alpha = .84$)

1. Sales volume
2. Sales growth
3. Market share

Financial performance ($\alpha = .91$)

1. Profitability as a percentage of sales
2. Return on investment (ROI)
3. Profit margin
4. Profit growth

Customer performance ($\alpha = .84$)

1. Customer satisfaction
2. Customer retention
3. Customer referral
4. New customer generation*

* Item omitted during scale purification.

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