
The determinants of export performance: a review of the empirical literature between 1987 and 1997

Determinants of
export
performance

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Received February 1998
Revised May 1998
Accepted June 1998

There have been numerous studies published in the past 30 years on the determinants of export performance (see Aaby and Slater, 1989; Bilkey, 1978; Chetty and Hamilton, 1993; Madsen, 1987). This large volume of publications is a strong testimony of not only the importance of the issue but also the legitimacy of inquiry into export marketing. As an area of inquiry, export marketing has been gaining increased recognition among academic disciplines as a legitimate field of research. This recognition is well reflected not only by the fact that exporting research has been published in the leading academic journals, such as the *Journal of International Business Studies*, *Journal of Marketing*, *International Marketing Review*, and *Journal of International Marketing*, but also by the sheer number of publications related to exporting.

Its importance and legitimacy notwithstanding, the field of exporting inquiry is known for autonomous and unco-ordinated efforts (Aaby and Slater, 1989; Leonidou and Katsikeas, 1996). In particular, the knowledge of the determinants of export performance is still characterized by a fragmented collection of confusing findings (Aaby and Slater, 1989; Cavusgil and Zou, 1994). A major reason for the lack of clear conclusions regarding the determinants of export performance, in spite of the large volume of published studies, is the lack of synthesis and assimilation of the fragmented knowledge (Leonidou and Katsikeas, 1996). Aaby and Slater (1989) and Chetty and Hamilton (1993) represent excellent efforts to review and synthesize export performance literature. Unfortunately, two weaknesses in these reviews limit

The authors gratefully acknowledge the assistance of Constantine S. Katsikeas of Cardiff Business School, Cardiff University and Sylvie K. Chetty and R.T. Hamilton of the University of Canterbury in New Zealand, in developing the bibliography for this review. The authors would like to thank two *IMR* anonymous reviewers for their constructive comments on an earlier version of this article.

International Marketing Review,
Vol. 15 No. 5, 1998, pp. 333-356,
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their ability to draw concrete conclusions. First, they cover studies that deal with a variety of export dimensions which conceptually are broader than export performance, such as propensity to export, exporter/non-exporter dichotomy, and barriers to export. In order to avoid confusion, a more focused review on the determinants of export performance needs to be conducted. Second, both reviews are limited to "management influences" (i.e. firm characteristics, competencies, and strategy), leaving out the external environment. However, since external forces are recognized to affect export performance (Cavusgil and Zou, 1994), a review is not complete unless the external environment is included.

Given the fact that the literature concerning exporting has proliferated in the last ten years and that a number of different conceptualizations and methodologies have appeared in the literature, it is worthwhile to offer an updated review of what has been accomplished in the last decade and where future research efforts should be directed. The purpose of this paper is twofold:

- (1) to provide an updated review and synthesis of the empirical literature between 1987 and 1997 of the determinants of export performance; and
- (2) to discuss directions for future research aimed at developing better theories and advancing knowledge of export marketing.

This review is intended to overcome the two weaknesses in previous reviews by focusing on export performance studies and by including both internal and external determinants of export performance. The article is organized into three sections:

- (1) description of the review methods;
- (2) presentation and discussion of the review results; and
- (3) discussion of future research directions in light of the findings.

Methodology

Scope of the review

This review is focused on the empirical literature concerning the determinants of export performance published between 1987 and 1997. The goal is to trace the new developments in the last decade and identify trends in export performance research. Publications before 1987 are not included, as Madsen (1987) and Aaby and Slater (1989) have offered valuable reviews of those pieces. There are three major criteria used in selecting the articles for review. First, the articles have to be empirical in nature, reporting data analysis and statistical tests. Second, the articles have to use some kind of export performance measures as dependent variables. Third, the articles must be cross-sectional in nature. Case studies are not included.

Identification of studies

The studies included in this review were identified by a systematic process that combines electronic means with manual search. The electronic search was

conducted by using the ABI/INFO database and by searching the Internet resources, including the MCB University Press database. This method has the advantage of efficiently generating a large number of articles which contain the key search words and which are published in a wide variety of journals. Examples of the key words include terms such as export, exporting, export performance, export sales, export profits, export growth, export success, and satisfaction with export. The manual search, on the other hand, was directed at sorting through the articles published in major marketing and international business journals, tracking down those articles listed in the references of major export performance studies, and searching the books on exporting. In particular, the bibliography of Chetty and Hamilton (1993), Leonidou and Katsikeas (1996), and articles published in the *Advances in International Marketing* provided a good starting point. The manual search helped identify articles which treat export performance as a secondary issue and are, therefore, less likely to be identified through electronic means.

Based on the three criteria, the search yielded 50 articles. Compared to Madsen (1987) who offered a similar review on 17 articles published between 1967 and 1987, the number of studies reviewed here is significantly higher. The identified articles come from some of the most popular journals in marketing and international business, including the *Journal of International Business Studies*, *Journal of Marketing*, *International Marketing Review*, *Journal of International Marketing*, *Journal of Business Research*, *Management International Review*, and *Journal of Global Marketing*, among others. Like other reviews of export performance, the current review is limited by its inclusion of only English-language publications. Non-English publications have been difficult to access. Nonetheless, it should be recognized that valuable contributions to the exporting literature have been made in non-English publications (e.g. the European schools). Researchers with language capability are urged to follow the example of Da Rocha and Christensen (1994) whose review of Brazilian studies on exporting represents a good effort to integrate knowledge developed in Portuguese into the mainstream English literature.

Variable grouping procedure

A major objective of this review is to synthesize the literature in a meaningful way. Similar to the observations made in earlier reviews (e.g. Aaby and Slater, 1989; Chetty and Hamilton, 1993; Madsen, 1987), the studies reviewed here have investigated several hundreds of independent variables and used several dozens of indicators for export performance. However, these operationalized variables can be grouped into a reduced number of more general factors, based on their substantive conceptual meanings (Leonidou *et al.*, 1998; Madsen, 1987). Using a procedure similar to content analysis and based upon the marketing literature, the two researchers independently categorized the operationalized variables into several factors. The aim is to balance the danger of having too many factors which are specific but lack parsimony with that of having too few factors which are parsimonious but may lack meaning. The two researchers

resolved their differences through discussion and finalized a classification scheme containing 33 factors for the independent variables and seven factors for the export performance. It should be noted that the final classification scheme represents the authors' informed judgment.

Analytical approach

A rigorous approach to synthesizing a literature stream is meta-analysis. Through this approach, the effect sizes found by various studies can be evaluated and combined into a single measure of the effect of one factor on another factor. However, effective use of the classical meta-analysis requires that there is a high degree of agreement across different studies with regard to the measurement of independent and dependent factors and the statistical approach to data analysis (Hedges and Olkin, 1980). Because export performance studies are characterized by a diversity of measurement and analytical approaches, only a weak form of meta-analysis, called the vote-counting technique, is applicable (Hedges and Olkin, 1980). Essentially, the vote-counting approach summarizes, for each independent factor, the number of studies that report a significant positive effect, a significant negative effect, or a non-significant effect on export performance. Assuming that a positive true effect of a factor on export performance would result in a high probability of empirical studies reporting a significant and positive effect, the null hypothesis of "no effect" should be rejected if the number of positive significant findings is larger than a critical value, which depends on the total number of studies. For example, the critical value is four for ten to 15 studies, five for 20 studies, and six for 30 studies (see Hedges and Olkin (1980) and Chetty and Hamilton (1993) for a detailed explanation). Hence, the vote-counting technique offers a simple and clear picture to readers with regard to the likely sign of the true effect of a factor.

However, the vote-counting technique assumes that effect sizes are constant across studies and disregards sample size differences and the use of multivariate versus bivariate techniques (Chetty and Hamilton, 1993). Given the fact that several operationalized variables are grouped in one factor, one should be cautious in interpreting the conclusions of the vote-counting technique. Researchers such as Madsen (1987) and Aaby and Slater (1989) prefer to adopt a narrative approach to literature review. Through this technique, the researchers subjectively interpret, based on their knowledge of the literature, the overall pattern of a factor's influence on export performance without showing specific statistics. However, by not showing summary statistics, the researchers appear to impose upon readers their subjective interpretation of the literature, leaving little room for readers to make their own judgment (Chetty and Hamilton, 1993).

This review takes a hybrid approach that combines the vote-counting technique with the narrative approach. The number of studies reporting significant positive, negative, and non-significant findings is summarized in a table for each factor influencing export performance, allowing readers to draw

their own conclusions based on the vote-counting technique's guidelines for rejecting the null hypothesis. Meanwhile, the researchers use their expertise to interpret the patterns of influences on export performance for each factor. In this way, it is hoped that this review will take advantages of the two approaches while reducing their limitations.

Results of the review

General assessment of the reviewed studies

Table I summarizes the 50 studies reviewed in this paper. This summary table provides information about each study in terms of the country (or countries) of investigation, size of the sample, industry context of the study, type of firms targeted, data collection method, whether an explicit theoretical basis is followed, whether hypotheses are explicitly advanced, analytical approach(es), unit of analysis, measures of export performance, and independent factors investigated. In the following, each of these attributes is assessed:

Country (or countries) of investigation. While the USA remained as the most researched country in export performance studies, compared to earlier periods as reported by Aaby and Slater (1989) and Chetty and Hamilton (1993), an increasing number of export performance studies have been conducted in many other countries. Out of the 50 studies reviewed here, 26 studies were conducted outside the USA or involved non-US data. An important contribution has been made by European researchers from non-English-speaking countries who conducted studies in the contexts of their home countries and published in English-language journals: researchers such as Bijmolt and Zwart (1994), Holzmuller and Kasper (1991) and Madsen (1989). In addition to European countries, developing countries in Asia and Latin America have also been studied. This is a clear indication that export performance research has gained recognition around the world. It can be expected that this trend will help enrich the knowledge of the determinants of export performance.

Size of the sample. The size of sample used in the reviewed studies ranged from a low of 51 to a high of 728. The majority of studies reported sample sizes of over 100. With a reasonable number of independent variables and common statistical analysis, the sample size should be adequate for most studies. However, if the number of factors is large and sophisticated analysis is required, researchers are advised to make sure that their sample size is adequate for the statistical analysis. For studies which reported small sample sizes, the interpretation of their findings must be made with clear assessment of the type of analysis adopted. Findings of a few studies appear to be suspect due to their small sample sizes and multivariate approaches.

Industry context of the study. With the exception of six studies which focused on only one manufacturing industry (e.g. machine tools), the vast majority of the reviewed studies involved samples drawn from multiple manufacturing industries. Only three studies, Cavusgil and Kirpalani (1993), Singer and Czinkota (1994), and Sriram and Manu (1995), included in their samples reselling and service firms in addition to manufacturers. While this may reflect

Table I.
Characteristics of the
reviewed articles

Authors	Country of study	Sample size	Industry type	Firm size	Data collect	Analytical approach	Unit analysis	Use typ	Theoretical basis	Export performance*	Independent factors*
Atuahene-Gima (1995)	Australia	275	-	-	survey	discriminant/regression	exvent firm	y	clear	COM	SZ IO FT PDS DM
Axinn (1988)	US/Canada	105	one manuf	-	survey	regression	firm	n	clear	SAL	SZ FT FGH MIE MEE MPA MPB
Axinn, Noordewier, Sinkula (1996)	US	75	mult manuf	SM	survey	regression/structural eq	firm	y	clear	SAL PRF	SZ EP IO GES PDA PDS PCA PCD PMI CHT EP
Axinn, Savitt, Sinkula, Thach (1995)	US	77	mult manuf	SM	survey	anova	firm	n	unclear	SAL PRF GRW	
Axinn, Thach (1990)	US/Canada	101	one manuf	-	survey	t-test	firm	y	clear	SAL	MEC PCA CHR CHT EP MEC GES PDS PMI
Beamish, Craig, McLellan (1993)	UK/Canada	197	-	SM	survey	correlations	firm	n	unclear	SAL PRF	CHA CHT EMA
Bijmolt, Zwart (1994)	Netherlands	248	-	SM	survey	structural eq	firm	n	clear	COM	EP EO FCH EO CHT CHR PCA
Bilkey (1987)	US	156	mult manuf	-	survey	n/a**	exvent firm	n	clear	PRF	SZ IC FA EM EP FCH MEE GES PDS PMI EMC
Bodur (1994)	Turkey	88	mult manuf	-	interv	discriminant	firm	n	clear	SAL	IC BE MEC PDA PDS PCC
Cavusgil, Zou (1994)	US	202	mult manuf	M	interv	structural eq	exvent firm	y	clear	COM	PMA CHR ITI EMC EMA
Cavusgil, Kirpalani (1993)	US/Canada/ Japan	130	mult manuf/ reseller service	SML	second	chi-square	exvent firm	y	unclear	COM	SZ PDA PDS PCA PMA CHR CHT ITI
Chan (1992)	HK/Singapore	122	mult manuf	SM	survey	correlations	firm	n	unclear	SAL	CHT
Culpan (1989)	US	210	mult manuf	SM	survey	chisq/discrim	firm	y	unclear	COM SAL GRW	SZ
Czinkota, Ursic (1991)	US	174	mult manuf	SM	survey	anova	firm	n	clear	SAL GRW	MEE MPA MPB MRU
Das (1994)	India	58	-	SM	interv	discrim/chisq	firm	n	unclear	SAL	SZ IC FA EO FGH MIE MEE MPA PCA CHR IS EMA
De Luz (1993)	Brazil	31	mult manuf	-	survey	regression	firm	y	unclear	GWR	EM FT FCC MIE MEE GES MRU PDA PDS PCC PMI
Diamantopoulos, Schlegelmilch (1994)	US/UK/ Germany	296	one manuf	-	survey	regres/ancova	firm	n	unclear	SAL	IC EO FT MPA MPB PDS
Dominguez, Sequeira (1993)	Central America	253	manuf/reseller	-	interv	cluster/ancova	firm	n	unclear	COM	CHT EMB EM GES MRU PDS PCD PMI CHT
Donthu, Kim (1993)	US	640	mult manuf	SM	survey	discrim	firm	y	clear	GRW	MEC MPB GES MRU PDA
Evangelista (1994)	Australia	193	mult manuf	SM	survey	discrim	firm	n	unclear	SAT	SZ EP EO FCC MEC MIE MEE PMI
Gomez-Mejia (1988)	US	388	mult manuf	SML	survey	regression	firm	n	unclear	COM	SZ FA EP IO FT FCH MEC MIE MEE MPA PDA EMA
Gray (1997)	N Zealand	300	-	SM	survey	cluster/anova	firm	y	unclear	SAL GRW	SZ IO MIE MEE MPA EMB
Holzmueller, Kasper (1991)	Austria	103	mult manuf	SM	survey	structural eq	firm	y	clear	COM	SZ IO FCC MIE MEE ITI
Holzmueller, Stottinger (1996)	Austria	101	mult manuf	SM	survey	structural eq	firm	y	clear	COM	SZ IO FCC MIE MEE MPB ITI
Ito, Pucik (1993)	Japan	271	mult manuf	L	second	regression	firm	y	clear	SAL GRW	SZ FT FCC ITI DM

(Continued)

Authors	Country of study	Sample size	Industry type	Firm size	Data collect	Analytical approach	Unit analysis	Use	Theoretical basis	Export performance*	Independent factors*
Katsikeas, Piercy, Ioannidis (1996)	Greece	87	one manuf	SM	interv	regression	firm	y	clear	GAC	SZ IC EM EP IO EO FCC MPB GES MRU PDA PDS PCC PCD PMI EMA DM SZ IC EO FT FCC MIE MEE MPA GES PDA PDS PCA
Kaynak, Kuran (1993)	Taiwan	140	mult manuf	SML	survey	discriminant	firm	n	unclear	SAL PRF	PCD EMC EMA EMB EM EP EO MEE MRU PDA PDS PCA PCD PMI CHR CHT EO PDA PDS PCA PCD PMI CHR CHT
Koh (1991)	US	233	mult manuf	-	survey	anova	firm	n	clear	PRF	GES MRU IS
Koh, Robitcheaux (1988)	US	233	-	SML	survey	anova	firm	y	unclear	PRF	SZ IC BE FCC MIE MPA MPB PDS PCC CHR CHT SZ IC EP IO EO FT MEC GES PDS PCC PMI CHR EMA EMB DM SZ IC FA EP FT FCC MIE MEE MPA MPB PDS PCC
Lee, Yang (1990)	US	52	mult manuf	SM	interv	anova	firm	y	clear	SAL PRF GRW	PMI EMB
Lim, Sharkey, Kim (1996)	US	438	mult manuf	SM	survey	regression	firm	y	unclear	SAL	CHT CHR
Louiter, Ouwerkerk, Bakker (1991)	Holland	165	manuf/reseller	SM	survey	structural eq	firm	n	unclear	SAL PRF	GES ITI
Madsen (1989)	Denmark	134	mult manuf	SM	survey	regression	exvent	n	clear	SAL PRF GRW	IO GES PDA PCA PMA CHA IO PDA PDS PCA PCC PMA n/a** MPB
Moini (1995)	US	102	mult manuf	SM	survey	anova/discrim	firm	n	unclear	COM	SZ IC BE EO FT FCC GES CHT
Munra, Beamish (1987)	Canada	116	-	SML	survey	correlations	firm	n	unclear	SAL PRF GRW	SZ IC EP FCC MEC MPA
Naidu, Prasad (1994)	US	728	mult manuf	SM	survey	chisq/logreg	firm	y	clear	GRW GAC	CHT DM
Namiki (1989)	US	106	one manuf	M	survey	anova	firm	n	unclear	SAL GRW	EP EO
Namiki (1994)	US	99	one manuf	SML	survey	anova	firm	n	unclear	SAL PRF GRW	MIE MEE
Patterson, Cicic, Shoham (1987)	Australia	181	services	SML	survey	regression	firm	y	clear	SAT	SZ IC EM FCH PMA EP PDA PCA PMA CHA
Raven, McCulloch, Tansuhaj (1994)	US	118	reseller	S	survey	regression	firm	y	clear	SUC	SZ IC MEC MRU FCC GES PDA PCC PMA CHT DM
Reid (1987)	Italy	77	mult manuf	-	survey	regression	firm	n	clear	SAL	EP
Samiee, Walters (1990)	US	145	manuf/reseller	SL	survey	t-test/chisq	firm	y	unclear	SAL PRF	SZ EP IO EO FT MPA GES MRU PDA PDS PDA PCA PMA CHA
Schlegelmilch, Ross (1987)	UK	51	mult manuf	-	survey	t-test	firm	n	unclear	SAL PRF GRW	EP
Seifert, Ford (1989)	US	65	mult manuf	SM	survey	anova	firm	n	unclear	SAT	SZ IC EM FCH PMA EP PDA PCA PMA CHA
Shoham (1996)	US	81	mult manuf	SML	survey	regression	firm	y	clear	COM	SZ IC MEC MRU FCC GES PDA PCC PMA CHT DM
Singer, Czinkota (1994)	US	89	man/resel/serv	SML	survey	chisq/logreg	firm	y	unclear	SUC	EP
Sriram, Manu (1995)	US	121	man/resel/serv	SML	survey	regression	exvent	n	unclear	SUC	SZ EP IO EO FT MPA GES MRU PDA PDS PDA PCA PMA CHA
Walters (1993)	US	141	mult manuf	-	survey	anova	firm	y	unclear	SAL PRF GRW	EP
Walters, Samtee (1990)	US	145	mult manuf	SL	survey	t-test/chisq/reg	firm	y	clear	SAL PRF GRW	SZ EP IO EO FT MPA GES MRU PDA PDS PDA PCA PMA CHA
Zou, Andrus, Norvell (1997)	Colombia	51	mult manuf	ML	survey	regression	firm	n	clear	SAL	

Notes: *see Figure 1 for the definitions of the factor labels; ** not applicable

Table I.
Continued

the importance of manufacturing exports in the world economy (Leonidou and Katsikeas, 1996), the generalizability of the findings to other industry contexts should not be automatically assumed. Researchers should focus more on service firms in order to elucidate the specific problems posed by the unique characteristics of services, such as intangibility.

Type of firms targeted. Out of the studies that reported the type of firms targeted for investigation, the majority focused on small and medium-sized firms. This focus may reflect the perception that exporting by small and medium-sized firms plays an important role in many economies. It also leads to larger sampling frames (i.e. there are more small and medium-sized firms) and easier identification of managerial factors (i.e. small and medium-sized firms are less diversified). While some studies included large firms in their samples, very few studies compared large firms with small and medium-sized firms in terms of the determinants of export performance. Those studies that did compare firms of different sizes (e.g. Cavusgil and Kirpalani, 1993; Culpan, 1989; Madsen, 1989; Samiee and Walters, 1990) reported few conclusive findings. Thus, as noted by Axinn (1994), it remains largely unclear whether the determinants of export performance are different between large firms and small or medium-sized firms.

Data collection method(s). The majority of studies reviewed here used mail survey for data collection. Only a tenth of the studies used personal interviews and only two studies were based on secondary data. It can be concluded that mail survey is the dominant method for data collection in export performance research. This high degree of conformity in data collection methods is in sharp contrast to the glaring lack of agreement about the export performance measures and the potential determinants of export performance. Given the current status of the literature, this conformity is a welcoming feature, since different findings could be more readily attributed to differences in measures as opposed to differences in data collection methods.

Theoretical basis adopted. Only a few studies have built upon an explicit theoretical basis. Nevertheless, quite a few studies have made a conscious effort to derive their research hypotheses with clear reference to some theoretical and conceptual frameworks, such as the strategy-structure-performance paradigm. While the trend toward more theoretical reasoning is encouraging, the literature still has a long way to go before reaching theoretical maturity. In fact, about half of the studies reviewed here did not contain theoretical reasoning in developing the research questions or hypotheses. This is somewhat surprising given the fact that Aaby and Slater (1989) had proposed a "strategic management model" of export performance, and Cavusgil and Zou (1994) had provided a broad conceptual framework that delineates the relationships between the internal and external factors, export marketing strategy, and export performance. It appears that researchers need to be more conscious about the theoretical logic when conducting their studies.

Use of research hypotheses. Nearly half of the reviewed studies included explicit testing of research hypotheses. Nevertheless, there were still many

studies that were anecdotal and/or exploratory in nature. Given the volume of publications on export performance in the past three decades, it is intriguing that so many studies are still exploratory in nature. In many cases, a priori expectations or hypotheses should have been available to researchers. While recognizing that some of these studies were conducted in countries other than the USA, where circumstances may make it difficult to directly apply US-based knowledge, researchers should build their studies on previous contributions, whenever available, so that incremental progress of knowledge can be realized.

Analytical approach. While regression was the most popular analytical approach adopted by researchers, a diverse set of approaches were also used, such as the *t*-test and chi-square test, ANOVA, discriminant analysis, loglinear model, and structural equation modelling. The popularity of the regression approach could be both the cause and the result of researchers' assumption that all potential factors influence export performance in the same way. There was very little distinction between direct effects and indirect effects. This assumption is obviously inconsistent with, for example, the theoretical frameworks advanced in Aaby and Slater (1989) and Cavusgil and Zou (1994), in which strategy factors mediate the effect of firm characteristics on export performance. Only five studies (Axinn and Thach, 1990; Bijmolt and Zwart, 1994; Cavusgil and Zou, 1994; Koh, 1991; Naidu and Prasad, 1994) used export strategy variables as mediators in models of export performance. When indirect effects are present, it is inappropriate to introduce all independent variables into a regression equation. To develop better theory in export performance research, researchers need to combine regression analysis with more sophisticated approaches such as path analysis and structural equation modeling, so that both direct and indirect effects can be investigated.

Unit of analysis. Cavusgil and Zou (1994) and Cavusgil and Kirpalani (1993) advocated that the proper unit of analysis in export performance research should be the export venture: a product and a market combination. However, the majority of studies reviewed here still used the firm as the unit of analysis, and some studies never made their unit of analysis clear. Firm level studies may be appropriate for small firms that often have only one product line. Nevertheless, using the firm as the unit of analysis can result in inaccurate measures of strategy and performance variables in studies that target medium and large firms with diversified business portfolios (Cavusgil and Zou, 1994).

Measures and determinants of export performance

Measures of export performance. There is still no agreement on how to measure export performance, though several broad approaches have been advocated (e.g. Cavusgil and Zou, 1994; Schlegelmilch and Ross, 1987; Walters and Samiee, 1990). Researchers continue to use unique names to label their export performance measures, resulting in dozens of such names (see Matthyssens and Pauwels, 1996, for an excellent review of export performance measures). This is detrimental to the advancement of the literature as it makes it hard to compare and contrast the findings from different studies. In this review,

consistent with Madsen (1987) and Matthyssens and Pauwels (1996), all measures of export performance are grouped into seven categories, representing financial, nonfinancial and composite scales (see Figure 1).

The "sales" category includes measures of the absolute volume of export sales or the export intensity. The "profit" category consists of absolute measures of overall export profitability and relative measures such as export profit divided by total profit or by domestic market profit. While the "sales" and "profit" measures are static, the "growth" measures refer to changes in export sales or profits over a period of time. Compared to financial measures, which are more objective, the non-financial measures of export performance are more subjective. The "success" category comprises measures such as the managers' belief that export contributes to a firm's overall profitability and reputation (e.g. Raven *et al.*, 1994); "satisfaction" refers to the managers' overall satisfaction with the company's export performance (e.g. Evangelista, 1994); and "goal achievement" refers to the managers' assessment of performance compared to objectives (e.g. Katsikeas *et al.*, 1996). Finally, "composite scales" refer to measures that are based on overall scores of a variety of performance measures. Export sales, profits, and composite scales are probably the most frequently used measures of export performance (see Table I), despite recent recommendations for using more perceptual measures of overall export success or success in achieving organizational goals (e.g. Cavusgil and Zou, 1994; Matthyssens and Pauwels, 1996).

Independent factors/variables investigated. A glaring problem of the export performance studies reviewed here is the multiplicity of factors/variables proposed by researchers to influence export performance, the large number of ways in which the factors are measured, and the lack of a consistent theoretical framework or logic to guide the choice of independent factors. The result of these problems is a sea of complex, confusing and conflicting findings. To organize the discussion of the review findings, a 2 × 2 table is used to classify various determinants of export performance based on two dimensions: internal vs external and controllable vs uncontrollable (see Figure 1).

Classifying the determinants of export performance into internal and external factors is theoretically justified as the two categories correspond to different theoretical bases. Specifically, internal determinants are justified by the resource-based theory, while external determinants are supported by the industrial organization theory. The resource-based theory conceives a firm as a unique bundle of tangible and intangible "resources" (assets, capabilities, processes, managerial attributes, information, and knowledge) that are controlled by a firm and that enable it to conceive and implement strategies aimed at improving its efficiency and effectiveness (Barney, 1991; Daft, 1983; Wernerfelt, 1984). The resource-based theory contends that the principal determinants of a firm's export performance and strategy are the internal organization resources (Barney, 1991; Collis, 1991). In contrast, the industrial organization (IO) theory argues that the external factors determine the firm's strategy, which in turn determines economic performance (Scherer and Ross,

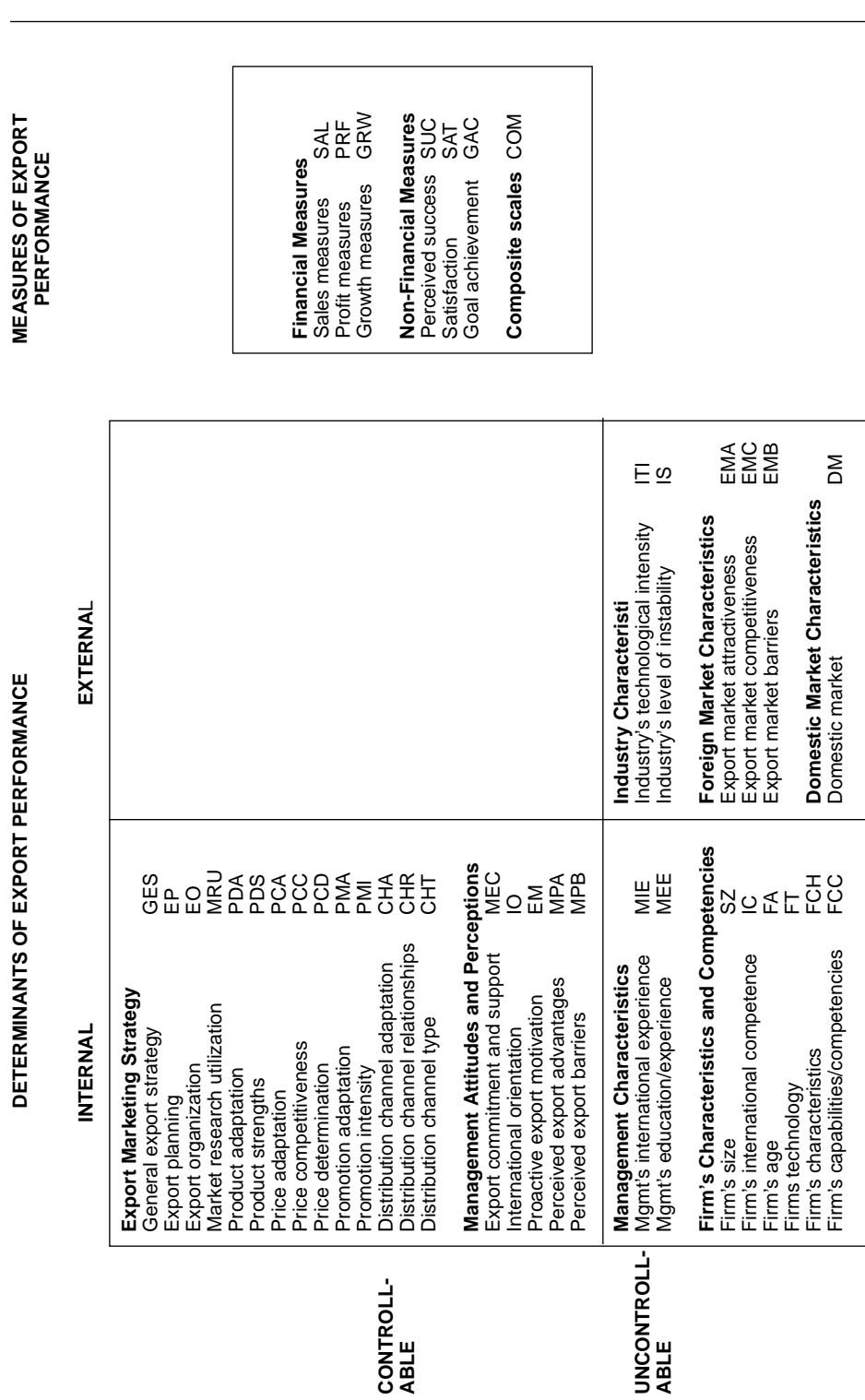


Figure 1.
Classification of the dependent and independent factors

1990). The logic is that the external environment imposes pressures to which a firm must adapt in order to survive and prosper (Collis, 1991). Following the IO theory, the external factors and firm's export strategy are the primary determinants of export performance. The classification of determinants of export performance into controllable and uncontrollable factors, while lacking theoretical foundation, has strong practical relevance to both researchers and management. Marketing models often make such a distinction. For example, Bilkey (1987) advanced a "theory of export marketing mix" that distinguishes among controllable factors, short-run uncontrollable factors, and uncontrollable factors. For studies that focused on mostly controllable factors as determinants of export performance, an implicit assumption is made that managers can take charge in affecting their firms' export performance. In contrast, studies that focus exclusively on uncontrollable factors essentially portrayed a fatalistic view of exporting. Therefore, discussing the findings of this review along the internal vs external and controllable vs uncontrollable dimensions is theoretically sound and practically significant.

In order to classify the factors within the proposed framework, the broad categories of factors identified by previous theoretical frameworks (e.g. Aaby and Slater, 1989; Da Rocha and Christensen, 1994) are followed. These include export marketing strategy, managers' attitudes and perceptions, managers' characteristics, firm characteristics and competencies, industry, and foreign and domestic market characteristics. Using the 2×2 table described above, the thirty-three independent factors were analyzed and placed into the appropriate cells. While the internal/external classification is clear, the controllable/uncontrollable classification takes into consideration as well short-run controllability (see Bilkey, 1987).

The effects of independent factors on export performance

Based on the vote-counting method described above, the results of this review are summarized in Table II. Compared to the tabulation that Chetty and Hamilton (1993) presented, Table II has a major distinctive feature. Chetty and Hamilton grouped all measures of export performance into a single category. As a result, their tabulation contains only the total number of studies that found, for a particular independent factor, a significant positive effect, a significant negative effect, or a nonsignificant effect on export performance. But it can not be known whether the effect of the factor is on export sales, or export profits, or other specific measures of export performance. In contrast, in this review, export performance is classified into seven different measures, and the effects of an independent factor on each of the seven export performance measures are presented in Table II. This should offer a clearer picture about the effects of independent factors on various measures of export performance.

The single most important set of determinants of export performance falls in the cell of internal-controllable factors. This finding is consistent with those reported by Madsen (1987), Aaby and Slater (1989), and Chetty and Hamilton (1993). The prevalence of controllable factors suggests that most researchers

hold the view that export performance is under the control of the firm and its management. Thus, not only should better export performance be attributed to management's superior work, but poor export performance should be blamed upon the management as well. The number of reported findings on the influence of uncontrollable environmental factors is the lowest. It seems that the lack of emphasis on the environment, as noted by Madsen (1987), is still characterizing the export performance studies in the last decade. Also, internal uncontrollable factors have received less attention from researchers than the controllable factors. The view that export performance could be attributed to uncontrollable circumstances seems to have limited support in the literature. As can be seen, the cell "external/controllable" is empty, reflecting the fact that the studies reviewed here had not looked into such factors yet to see if they are at all relevant.

Internal-controllable factors

There are basically two types of internal and controllable factors. The first type is associated with aspects of a firm's export marketing strategy. Frequently studied strategy factors include product adaptation, product strength, promotion adaptation, promotion intensity, price adaptation, competitive pricing, channel relationships, and type of channels. Export planning and organization variables have also been included in this set of factors. The second type is related to the attitudes and perceptions of management. These include, among others, management's international orientation, management's export commitment, management's perceived export advantages, and management's perceived barriers of exporting.

Export marketing strategy. Perhaps rightfully, factors related to a firm's export marketing strategy have received considerable research attention. While not totally clear cut, some conclusions can be derived based on Table II. First, export planning is found to be a consistent determinant of export sales and the composite measure of export performance, and a predictor of export profits and export growth. The few negative findings reported may be explained on the basis of increased costs of export planning in specific situations (e.g. Katsikeas *et al.*, 1996). This finding, which is consistent with that of Aaby and Slater (1989), underscores the importance of systematic planning in export operations. Second, a good export organization seems to pay off to firms in terms of sales, profits, and satisfaction. However, some studies found the effect of this factor not significant. Third, the effect of a firm's general exporting strategy, in terms of being a first mover or a follower, using a concentration or diversification strategy, etc., is mostly insignificant, which is similar to the finding reported by Madsen (1987). This may suggest that the type of exporting strategy per se does not necessarily affect export performance. Multiple strategic approaches to exporting may be successful if they fit the particular circumstances of export operations. Fourth, consistent with Madsen (1987), a firm's utilization of international marketing research positively affects export sales, growth, and composite measures of export performance. But one study, Walters and Samiee

Table II.
Summary of the findings on the direct influence of independent factors on export performance

Independent variables	No. studies	Dependent variables: export performance																					
		Sales	Profit	Growth	Success	Satisfaction	Goal achiev	Composite	Total														
		+	-	0	+	-	0	+	-	0	+	-	0										
Export marketing strategy	13	4	-	8	1	-	7	5	-	4	-	1	-	2	-	1	-	-	-	12	1	20	
Firm general export strategy																							
Marketing research utilization	7	3	-	1	-	1	2	1	-	2	-	1	-	2	-	-	-	-	-	6	1	6	
Export planning	16	8	1	2	3	1	7	2	-	3	-	-	-	1	-	4	-	-	19	3	12		
Export organization	12	9	-	3	2	-	5	-	1	-	-	-	-	1	-	2	-	-	13	0	13		
Product adaptation	14	3	1	4	2	-	4	2	-	2	1	-	-	-	-	1	4	1	2	12	2	13	
Product strengths	15	5	1	7	3	1	10	1	-	5	-	-	-	-	-	1	4	-	4	13	2	27	
Price adaptation	9	3	1	2	2	-	2	1	-	1	-	-	-	-	-	1	-	2	7	1	6		
Price competitiveness	7	1	-	1	-	-	2	1	-	1	-	-	-	-	-	1	-	2	3	0	7		
Price determination	5	-	-	2	-	-	8	-	-	-	-	-	-	-	-	1	-	2	0	0	11		
Promotion adapt	6	1	-	1	-	-	1	-	1	-	-	-	-	-	-	1	2	-	3	3	2		
Promotion intensity	10	5	1	1	3	1	3	1	-	4	-	-	-	5	-	2	-	-	15	2	11		
Channel adaptation	4	1	-	3	-	1	1	-	1	-	-	-	-	-	-	1	-	1	2	1	6		
Channel relationships	8	4	-	5	2	-	6	2	-	6	-	-	-	-	-	1	-	-	9	0	17		
Channel type	11	3	4	3	2	-	3	-	-	2	-	-	-	-	-	-	-	-	5	4	8		
Management attitudes and perceptions																							
Management export commitment	10	4	-	1	2	-	-	3	-	-	1	-	-	2	-	1	-	-	15	0	2		
International orientation	10	3	-	1	1	-	1	2	-	1	-	-	-	-	-	1	4	-	10	0	6		
Export motivation (proactive)	5	1	-	-	-	-	1	-	-	1	-	-	-	-	-	-	-	-	1	0	4		
Management's perceived exp advantages	9	6	-	3	3	-	1	2	-	1	-	-	-	-	-	1	-	2	11	0	8		
Management's perceived exp barriers	9	-	2	4	1	-	-	-	1	-	-	-	-	-	-	1	-	2	1	6	9		

(Continued)

Independent variables	No. studies	Dependent variables: export performance										Total									
		Sales	Profit	Growth	Success	Satisfaction	Goal achiev	Composite													
U I Management characteristics																					
N N Manag. international experience	11	6	1	3	2	-	2	5	-	2	-	1	-	-	-	2	-	2	15	1	10
C T Manag. education/experience	13	2	-	9	2	-	3	2	-	4	-	-	-	2	-	5	3	2	11	3	20
O E Firm characteristics and																					
N R competencies																					
T N Size	22	2	2	8	-	3	2	1	-	5	-	1	1	-	1	1	-	3	4	-	3
R A Firm's age	6	-	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	0
O L Firm's international competence	13	3	1	2	1	2	-	3	-	-	-	1	1	2	-	2	-	1	12	3	7
L Firm technology	11	3	-	5	1	-	2	1	1	3	-	-	-	-	-	2	-	1	7	1	11
L Firm characteristics	5	2	1	1	-	-	-	-	-	-	-	-	-	-	-	2	-	-	4	1	1
A Firm capabilities/competencies	13	4	1	4	1	-	4	2	-	2	-	1	3	-	4	3	-	1	7	2	5
B																					
L E Industry characteristics																					
E X Industry technological intensity	4	1	-	-	-	-	-	-	1	-	-	-	-	-	-	3	-	-	4	0	1
T Industry instability	2	2	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	0	1
E Export market characteristics																					
R Export market competitiveness	3	-	-	3	-	-	2	-	-	-	-	-	-	-	-	1	-	-	1	0	5
N Export market attractiveness	8	3	1	4	3	2	2	-	2	-	-	-	-	-	-	2	-	-	6	3	12
A Export market barriers	5	1	2	3	-	-	3	-	1	1	-	-	-	-	-	-	-	-	1	3	8
L Domestic market characteristics																					
Domestic market	4	-	2	-	-	-	1	-	-	2	-	-	-	-	-	1	-	3	1	-	6

Table II.
Continued

(1990), reported a negative effect on export profits, and several others reported insignificant effects.

With regard to the marketing mix variables, several findings are in order. First, product adaptation and product strength are frequently studied by researchers. Several studies concluded that these two factors are important determinants of export sales, profits, and growth. This could probably be explained by the fact that an adapted product can satisfy foreign consumers' needs and preference better and that a strong product allows a firm to transfer it more easily to the foreign markets. Other studies found insignificant effects of product adaptation and product strength, while a few studies reported negative effects. Nevertheless, the negative correlations may be explained by the cost of adaptation (e.g. "localized after-sale service" in Kaynak and Kuan, 1993). Hence, these factors deserve further research attention, though their overall effects seem to be positive. Second, the effects of promotion adaptation on various measures of export performance appear mixed, whereas promotion intensity seems to have positive effects on export sales, export profits, and satisfaction with export. A possible explanation for the mixed effects of promotion adaptation is that researchers measured the extent of promotion adaptation as opposed to the extent to which the adapted promotion met foreign consumers' preferences. Third, while the effects of channel adaptation and channel type on export performance are mixed, channel relationship, generally expressed as dealer/distributor support, motivation, and involvement, emerges as a key determinant of export sales, profits, and growth. This is consistent with Madsen's (1987) finding. Fourth, price adaptation seems to positively influence export sales, export profits, and export growth in some studies, but is insignificant in others. The effect of price competitiveness is mostly insignificant, with the exception of three studies that reported positive effect. The price determination method was found to be an insignificant factor in five studies that looked at this factor. The weak and uncertain findings on pricing are in contrast with the medium positive effect size concluded by Chetty and Hamilton (1993). Given the importance of export pricing as the only marketing mix variable that generates revenue, more research needs to be done on the effect of price related factors.

Management's attitudes and perceptions. The attitudes and perceptions of management have been frequently cited as important determinants of export performance (for an excellent review of the effect of managerial factors, see Leonidou *et al.*, 1998). Several conclusions can be drawn from Table II regarding the effects of these factors. First, with almost no exception, management's export commitment has emerged as one of the key determinants of export performance, regardless of performance dimension. This finding is consistent with all previous reviews and reinforces Cavusgil and Zou's (1994) conclusion that high management commitment allows a firm to aggressively go after the export market opportunities and pursue effective export marketing strategies that improve export performance. Second, international orientation is found to be a very consistent predictor of good export performance, measured in

financial terms or as a composite. Presumably, an internationally oriented firm can better identify and benefit from emerging international opportunities and avoid threats. Third, management's perceived export advantages (e.g. perceived importance or profit contribution which exporting brings to the firm), seem to predict well export sales, profits, and growth, whereas management's perceived export barriers (e.g. perceived risks, costs, or complexity of exporting) either result in low export sales, slow export growth, and low perceived export success, or fail to be significant predictors of export performance. These findings suggest that it is important for the management to focus on the advantages rather than barriers to exporting, and keep a positive attitude toward the outlook of export operations. Overall, consistent with the conclusions of Aaby and Slater (1989) and Chetty and Hamilton (1993), factors related to management's attitudes and perceptions seem to be potent determinants of the financial measures of export performance such as export sales, profits, and growth. In addition, export commitment also influences non-financial measures of export performance, including perceived export success, satisfaction, and goal achievement.

Internal-uncontrollable factors

The internal-uncontrollable factors are those characteristics of a firm and its management that can not be readily changed in the short run. It should be acknowledged that in the long run many internal factors could be changed. For example, a firm can improve its international competence in the long run by hiring more competent managers or developing competence internally. But a firm can not control the level of its competence in the short run.

Management characteristics. Management's international experience seems to have a positive effect on export sales, export profits, export growth, and the composite measure of export performance. This is perhaps due to the fact that managers' international experience helps a firm to identify and leverage on the international opportunities while avoiding international threats. Only one study, Das (1994), found that managers of successful exporting firms have less past experience in exporting and less foreign experience than managers of unsuccessful firms. However, since Das (1994) focused on firms operating in turbulent environments, it could be that the unique context of the research contributed to its unique findings. It should also be noted that some studies found this factor insignificant. Concerning managers' levels of formal education and general business experience, about a third of the studies found that this has a positive effect on export sales, growth, and profits. But other studies found that it has an insignificant effect, and a few others reported a negative effect. Overall, it can be concluded that firms' export performance benefits from having educated and internationally experienced managers.

Firm characteristics and competencies. Firm competencies, in terms of both international competence and overall business competencies (e.g. strong market position, strong human resources, strong functional capabilities) appear to be important determinants of export performance. This finding is consistent with

those of previous reviews (e.g. Aaby and Slater, 1989; Madsen, 1987). However, it is necessary to note the relatively large number of non-significant findings and the few negative effects reported. For example, Kaynak and Kuan (1993) and Louter *et al.* (1991) reported a negative impact of the firm's number of years in exporting on export profitability and sales. The technology level is reported to have a positive effect on export performance in six studies, but a nonsignificant effect or even a negative effect in five others. Madsen (1987) and Aaby and Slater (1989) noted that the effect of the technological intensity of the firm on export performance is uncertain. However, Chetty and Hamilton (1993) found a positive effect of firm technology on export performance. It appears that more attention should be given to the context in which the technology level is studied.

Firm size, the most researched independent variable, has mixed effects. This conclusion is in contrast to Chetty and Hamilton's (1993) finding of a medium positive effect of firm size on export performance, but is in line with the conclusions drawn by Madsen (1987) and Aaby and Slater (1989). However, it is interesting to note that most positive effects are found when size is measured by total firm sales, while some negative effects, especially on export profit, are found when it is measured by number of employees (e.g. Kaynak and Kuan, 1993). A firm's general characteristics, in terms of life cycle stage, nature of product (consumer vs industrial), or nature of the firm (manufacturer vs intermediary) appear to have a significant effect on export sales. But only five studies looked at this factor, suggesting that more research is needed. Finally, a firm's age, expressed as number of years in business, appears to have either a negative effect (Bodur, 1994; Das, 1994) or an insignificant effect on export performance. While this may suggest that younger firms are more likely to be successful exporters, the conclusion should be drawn with caution as only six studies looked at this factor. Overall, with the exception of a few factors, the effects of most internal-uncontrollable factors are mixed. This is consistent with Madsen's (1987) conclusion that, compared to the internationalization literature where organization-structure factors are very important, in the export-performance literature such factors have only limited explanatory power. More research seems to be warranted before definite conclusions can be drawn regarding the effects of internal-uncontrollable factors.

External-uncontrollable factors

The external-uncontrollable factors have received the least attention from researchers. Only 18 out of the 50 reviewed studies addressed the influence of external environment and most of them reported non-significant findings. This may be the result of previous researchers' use of the entire firm as the unit of analysis. When the firm's total export is the focus, the environment is often hard to define clearly, because the same firm can export to many markets with different characteristics. Most studies that investigated the effects of external-uncontrollable factors assessed the effects of these factors on financial

measures of export performance such as export sales, profits, and growth. Several conclusions can be drawn from Table II.

Industry characteristics. The four studies that addressed industry's technological intensity or "manufacturing complexity" reported a positive influence on export performance (Cavusgil and Zou, 1994; Holzmuller and Kasper, 1991; Holzmuller and Stottinger, 1996; Ito and Pucik, 1993). While it seems that firms in more complex and technologically oriented industries have better export performance, more research is needed before drawing definite conclusions. Surprisingly, industry instability (operationalized as rate of change in technology, predictability, riskiness) is found to positively influence export sales (Das, 1994; Lim *et al.*, 1996). Again caution should be applied because only two studies looked at this factor.

Export market characteristics. Out of the three studies that addressed export market competitiveness, only one (i.e. Cavusgil and Zou, 1994) found a significant indirect effect on export performance. Further, while some studies found that export market attractiveness (economic development, demand potential, etc.) has a positive effect on export performance, others reported a negative effect (e.g. Kaynak and Kuan, 1993) or an insignificant effect for this factor. This inconclusiveness was also observed in Madsen's (1987) review. Finally, in contrast to Madsen's (1987) observation, most studies reported that export market barriers (trade barriers, physical and psychological distance) are not a significant predictor of export performance. Perhaps firms can overcome such barriers by pursuing effective marketing strategies.

Domestic market characteristics. The four studies that researched the effect of domestic market forces reported mixed findings. For example, Katsikeas *et al.* (1996) reported a positive effect on export performance for the national export policy, but a non-significant effect for domestic market pressure and domestic currency devaluation. Madsen (1989) reported a negative influence of domestic market attractiveness on export sales. It seems that the relationship between domestic market conditions and export performance needs to be further researched.

Discussion and future research directions

Significant progress has been made in the last decade in developing better theory and knowledge of the determinants of export performance. A key point to make here is that, compared to earlier studies reviewed by Aaby and Slater (1989) and Chetty and Hamilton (1993), more studies in the last decade have incorporated some theoretical reasoning in developing their research questions and hypotheses. Indeed, several studies (e.g. Atuahene-Gima, 1995; Cavusgil and Zou, 1994; Diamantopoulos and Schlegelmilch, 1994; Holzmuller and Stottinger, 1996; Louter *et al.*, 1991) have used explicit conceptual models to guide their hypothesis development. These developments in the last decade have significantly strengthened the theoretical foundation of export performance research, legitimizing the academic inquiry in the field of exporting. Now, researchers will be able to build their studies upon some

theoretical foundations. Therefore, export performance research has made a big step forward in the last decade toward developing mature theories.

Despite the positive progress in theory development, the export performance literature is still plagued by several major problems. First, several conceptual frameworks developed so far are competing explanations for export performance. For example, based on industrial organization theory, Cavusgil and Zou's (1994) framework contends that export performance is determined mainly by export marketing strategy and some internal organizational factors such as export commitment and international experience, and that external factors and other internal factors have only indirect effects on export performance through their influence on export marketing strategy. In contrast, the frameworks of Donthu and Kim (1993), Holzmüller and Kasper (1991), Louter *et al.* (1991), and Madsen (1989) posit direct effects for all potential determinants of export performance, external or internal. These differences need to be addressed in future research, conceptually and empirically, to reduce the confusion in the literature.

Another major problem of the literature is the conceptualization and measurement of export performance. Dozens of names have been used by researchers to label export performance and a wide variety of measures have been used. In addition, many studies are focused on a narrow view of export performance (export sales, for example), while others have used non-financial measures. This lack of agreement on the conceptualization and measurement of export performance makes it very difficult, if not impossible, to compare the findings from different studies. Theory development is certainly hampered by this weakness of the literature. Future researchers are strongly encouraged to develop a consistent conceptualization and measurement of export performance and follow with it in empirical studies. Moreover, it is very important to develop a cross-culturally consistent conceptualization and measurement of export performance, given the fact that half of the studies reviewed were conducted outside the USA. A notable effort in this regard is Zou *et al.*'s (1998) work on developing a cross-nationally consistent conceptualization and measurement of export performance, namely the EXPERF scale.

Still another major problem is the lack of agreement on the relevant determinants of export performance and their measurement. Hundreds of names have been used in the last decade to label a diverse set of independent variables, and numerous measurement schemes have also been used. Like the problem with export performance, the lack of agreement on the domains and measurement of independent variables also hampers the theory development in export performance literature. Future researchers are again strongly encouraged to develop some consistency in conceptualizing and measuring independent variables. A potentially fruitful direction to take is to use the independent factors used in this review, as well as those in Aaby and Slater (1989), to group independent variables, develop clear conceptual domains for the selected factors, develop sound schemes to measure the factors, and assess

the reliability, validity, and cross-cultural consistency of the measures. Once a sound conceptualization and measurement of export performance and independent factors is developed, researchers are urged to follow it in their effort to develop and test theory of export performance in various industry and country contexts.

Several other problems of the literature need to be addressed by future researchers as well. First, the issue of the unit of analysis is an important one. When diversified large firms and medium-sized firms are targeted by researchers, it is very important that the one-product-one-market export venture be used as the unit of analysis in data collection, because in such cases firm-level investigation would inevitably lead to confounded and inaccurate measures. Second, the size of the firm must be controlled in data collection or explicitly included as a covariate in analysis. Leaving firm size uncontrolled or out of analysis would introduce biases into the results, since success factors for large firms may be different from those for small and medium-sized firms. Third, it is recommended that, in addition to following more consistent conceptualization and measurement of export performance and independent factors, future researchers adopt a multivariate data analysis technique whenever feasible and report full results including effect size, variances, test statistics, and sample size. In this way, weak analysis can be avoided and the knowledge can be more readily summarized by rigorous meta-analysis in the future. These steps are also key to enhancing the academic status of the export inquiry. Finally, while it is encouraging that an increasing number of studies have been conducted outside the USA, more work needs to be done internationally. Preferably, cross-cultural studies should be conducted so that the generalizability of theories of export performance can be assessed. It might also be interesting to explore the possibility of explicitly incorporating cultural variables and socioeconomic variables into theory.

Building on the significant progress made in the last decade in the export performance literature, research on the determinants of export performance should and could achieve a greater advancement toward mature theory in the next few decades. But the aforementioned problems must be addressed by researchers before the field can reach the theoretical maturity that every respectable academic field is known for.

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