

Export Performance Measurement: An Evaluation of the Empirical Research in the Literature

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EXECUTIVE SUMMARY

Increased globalization of trade has led a growing number of firms to search beyond their traditional domestic markets and focus on high-growth export markets not only to expand but also to ensure their very survival. As a result, the role of exporting in firms' activity has become increasingly important. Recognition of this is reflected in the fact that the area of export performance has been gaining increased attention among academics and managers. Research into export performance dates back to the innovating work of Tookey (1964); since then there have been numerous studies published over the last four decades that have been concerned with the export performance of the firm. However, in spite of these research efforts, there is a lack of synthesis and agreement in the conceptualization and operationalization of the construct.

This paper reviews 43 empirical studies concerning the measurement of export performance published between 1998 and 2004. The study is organized into four sections: First, a description of the review methods including the criteria used for a study to be eligible for inclusion. Second, the descriptive properties of the 43 studies selected are summarized and evaluated along three dimensions: (a) fieldwork characteristics (i.e., country of study, industrial sector, and firm size); (b) sampling and data collection (i.e., sample size, data collection method, response rate, nonresponse bias, key informant, and unit of analysis); and (c) statistical analysis. Third, export performance measures employed in the literature are analyzed. Fourth, findings are discussed in detail, along with directions for future research.

Keywords: Export performance, objective and subjective measures, literature review

Export Performance Measurement: An Evaluation of the Empirical Research in the Literature

INTRODUCTION

The area of export performance is attracting both academic and managerial attention at an increasing pace. The fact that globalization has become an undisputed reality has led an increasing number of firms to search for opportunities abroad in order to survive. Increasing globalization has therefore made exporting an important activity for many firms (Leonidou and Katsikeas 1996). Moreover, exporting requires minimal financial, human, and other resource commitments in comparison to other entry modes. It tends to be the most common form of entering the global arena, as it provides the firm with high levels of flexibility and a cost-effective way of penetrating new foreign markets quickly (Leonidou 1995; Leonidou and Adams-Florou 1999). However, as foreign markets tend to be more diverse than domestic ones and in many instances more hostile, a clear understanding of the export performance construct becomes particularly important. It is of vital interest to three major groups: public policy makers, business managers, and marketing researchers (Katsikeas, Leonidou, and Morgan 2000). From the point of view of public policy makers, a better understanding of export performance is important because it allows for the accumulation of foreign exchange reserves, increased employment levels, improved productivity, and enhanced prosperity (Czinkota 1994). Research on export performance is of interest to managers because it is considered as a tool to boost corporate growth, strengthen competitive edge, and ensure company survival in a highly competitive marketplace (Samiee and Walters 1990; Terpstra and Sarathy 2000). As a result, marketing researchers consider exporting a challenging and promising area for theory building in international marketing (Zou and Stan 1998).

The number of studies published over the past decades on the subject of export performance is testimony to the importance of the issue in the literature. However, despite considerable research, the evidence on the factors affecting export performance is largely fragmented and often contradictory (Aaby and Slater 1989; Cavusgil and Zou 1994; Zou and Stan 1998). The main reason for this appears to be the lack of agreement on how to conceptualize and operationalize export performance, a problem that results in a variety of - mostly ad hoc - measurement schemes emphasizing different performance dimensions (Diamantopoulos 1998). These different measurement schemes make it difficult to compare findings of different studies, because it is almost impossible for scholars to determine whether the conflicting findings can be attributed to the independent variables or the use of different measurement scales of export performance (Zou, Taylor, and Osland 1998). The issue is also complicated by the fact that although measures of export performance have been discussed in previous research (Katsikeas, Leonidou, and Morgan 2000; Shoham 1998), there is still disagreement on which measures to use to capture the construct adequately. In this context, several studies have recently appeared in the literature to investigate and develop multi-item measures of export performance (Lages and Lages 2004; Styles 1998; Zou, Taylor, and Osland 1998). This appears to indicate that export performance is a multifaceted concept and that the use of single-item measures is insufficient for reliable assessment (Shoham 1998).

Despite the attention that export performance has attracted in the literature, it has been claimed that it has remained one of the least understood areas of international marketing (Leonidou, Katsikeas, and Piercy 1998). In particular, the evaluation of conceptual and methodological underpinnings of export performance measures has largely been ignored (Katsikeas, Leonidou, and Morgan 2000). Consequently, there is a need for an analysis of existing empirical knowledge on the various export performance measures used in the literature to facilitate theory development. The present study is organized into four sections: The first section sets out the scope of the review and describes the methodology used in the literature. Second, the descriptive properties of the studies reviewed here are summarized and evaluated along three dimensions: (a) fieldwork characteristics; (b) sampling and data collection; and (c) statistical analysis. Third, export performance measures employed in the literature are analyzed. The fourth section is a discussion concluding with directions for future research.

THE SCOPE OF THE REVIEW

The review is focused on empirical literature published between 1998 and 2004 concerning the measurement of export performance. Studies published before 1998 are not included, as Madsen (1987), Aaby and Slater (1989), and Zou and Stan (1998) have provided comprehensive reviews of those works. These reviews confirmed that the measurement of export performance suffers from serious conceptual, methodological, and practical limitations, hindering theory development in the field. In addition, many studies tended to focus on a narrow view of export performance (e.g. export sales). Additionally, a conceptual definition of export performance was missing in many of the papers reviewed and the lack of agreement in the measurement of the construct was also mentioned as a further complication to comparison of findings from different studies. As a result, future researchers were strongly encouraged to develop consistent conceptualization and measurement of export performance and follow with it in empirical studies (Zou and Stan 1998).

Since then, research concerning export performance has grown. The growing liberalization and competition in world economies and subsequent performance difficulties encountered by exporters may explain the growth of research in this area (Leonidou, Katsikeas, and Samiee 2002). This increased interest in the subject demonstrates the need for an updated review of the literature.

Five criteria had to be met for a study to be eligible for inclusion: (a) that it examine firms engaged in exporting as opposed to foreign market entry modes, such as joint ventures, or foreign direct investment; (b) to examine exporting from a micro-business perspective rather than macro-economic one; (c) to study export performance either as a primary objective or as part of a wider research problem; (d) to have an empirical nature, reporting data analysis and statistical tests; and (e) for uniformity and comparability purposes, studies have to provide adequate information on research methodologies. Case studies are not included nor are studies that have appeared in non-English publication outlets. It was difficult to access non-English publications due to the non-availability of the printed form of these studies outside the countries of publication and the non-inclusion of most of these journals in electronic data banks.

The studies included in this paper were identified using a combination of computerized and manual bibliographic search methods. This led to the identification of 43 studies, yielding a relatively large sample for review purposes. These studies were published in some of the most established journals in marketing and international business, including *Journal of Marketing*, *Journal of International Marketing*, *Journal of International Business Studies*, *Journal of Business Research*, *Management International Review*, *Journal of World Business*, *Journal of Global Marketing*, and *Industrial Marketing Management*.

CHARACTERISTICS OF THE REVIEWED STUDIES

Table 1 summarizes the descriptive properties of the 43 studies selected. As the findings tend to be idiosyncratic in relation to the research methodology employed (Leonidou, Katsikeas, and Samiee 2002), it is essential to examine the methodological aspects of the studies included in this review. Consequently, the research methodologies used in the studies were evaluated along three dimensions: (a) fieldwork characteristics (i.e., country of study, industrial sector, and firm size); (b) sampling and data collection (i.e., sample size, data collection method, response rate, nonresponse bias, key informant, and unit of analysis); and (c) statistical analysis.

Fieldwork Characteristics

Although most research on export performance measurement has taken place in the USA, increasing numbers of studies have been conducted in other countries. Of the 43 studies reviewed here, 12 were conducted in the USA, followed by: UK (7); Australia (7); New Zealand (4); Canada (3); Israel (3); China (3); Hong Kong (2); Portugal (2); Norway (2); Finland (1); Austria (1); Japan (1); and Turkey (1). This tendency for an increasing number of studies that have been conducted outside the USA appears to support Zou and Stan's (1998) argument that export

performance research has gained recognition around the world. Three important observations, however, have to be made in regard to the geographic focus of the studies under review. First, a number of studies conducted their research by collecting data from more than one country. The advantage of using this approach is that it provides a strong indication of the external validity of the models. Second, the bulk of research was conducted in the more developed countries, perhaps because most researchers were affiliated with institutions based in these countries. Third, some studies focusing on relatively large countries restricted their analysis to certain regions of the country (e.g. Dean, Menguç, and Myers 2000; Francis and Collins-Dodd 2000; Ling-ye and Ogunmokun 2001; Prasad, Ramamurthy, and Naidu 2001).

The vast majority of the reviewed studies involved samples drawn from multiple industrial sectors, with the emphasis on manufacturers of industrial rather than consumer products. Only four studies, Robertson and Chetty (2000), Dean, Menguç, and Myers (2000), Francis and Collins-Dodd (2000), and Akyol and Akehurst (2003) were focused on firms representing one industrial sector. This approach was due, mainly, to control for industry-specific influences, such as type of product and level of technology. On the other hand, focusing only on one industrial sector does not permit generalizing the results to other industrial sectors as it casts doubt on the external validity of the findings.

Of the studies that reported the size of the firm, most focused on the export performance of small to medium-sized firms. This can be partly attributed to the fact that small to medium-sized firms play an important role in many economies as they often account for the largest part of the industrial base. Furthermore, it leads to larger sampling frames since large firms are usually more difficult to contact due to their small population. Two points have to be made, however, in relation to the size of the firm. First, the criteria to measure it differed among studies (e.g. number of employees, annual sales) making comparisons difficult. Second, because of the geographic focus of these studies, the meaning of the terms 'small', 'medium', and 'large' varies greatly in an international context.

Sampling and Data Collection

Studies conducted in the 1980s tended to use small sample sizes with fewer than 150 firms (Leonidou, Katsikeas, and Samiee 2002). The size of sample used in the reviewed studies sizes ranged from a minimum of 50 to a maximum of 783 firms, with a median sample size of 181 and a mean around 232. This constitutes relatively high sample sizes and indicates a tendency to use larger samples which allows for more sophisticated statistical analysis. For studies which reported small sample sizes, external validity and generality can be questioned. The sample itself may not be representative of the population and it also limits the use of adequate statistical analysis to test the relationships. Therefore, specific conclusions are attenuated and should be regarded as suggestive rather than conclusive.

The overwhelming majority of the studies reviewed here used mail surveys for data collection. This can be partly explained by reference to the difficulties in physically reaching firms that are geographically dispersed. These difficulties are exacerbated in the case of cross-cultural studies, where firms are located in different countries. Only one study employed personal interviews instead of a mail survey to collect data, mainly to solve problems of distrust and access to respondents. Furthermore, personal interviews are generally more appropriate for gaining deeper insights into the problem and provide a better alternative to surveys in terms of collecting reliable data (Cavusgil and Zou 1994). However, they are often employed with small samples which may cast doubt on the external validity of the studies.

The studies reported response rates ranging from as low as 9.8% to a maximum of 80.9%. Effective response rates were high in the majority of cases, usually exceeding 30%. This constitutes fairly high response rates, bearing in mind that the average top management response rates are in the range of 15% to 20% (Menon, Bharadwaj, Adidam, and Edison 1999). In the case of cross-cultural-studies the average response rate was above 20%, which is quite high considering that collecting data from a foreign country is more difficult than from a domestic population due to the numerous obstacles that have to be overcome (Douglas and Craig 1983). Although a satisfactory number of studies (33 out of 43) checked for nonresponse bias, it is surprising that many other studies did not

carry out such controls, casting some doubts on the representativeness of the samples and on the robustness of the data obtained.

The majority of the studies disclosed their key informants and only five studies did not identify clearly their information sources. Management should be considered a major force behind the initiation, development, sustenance and success of a firm's export effort, because of the involvement and direct responsibility in the export decisions (Miesenböck 1988). As a result, in most studies data were collected from the individual responsible for international marketing activities, namely the export manager. Nevertheless, the CEO, president, vice president, managing director, or marketing director also provided the information requested. However, the tendency to view firms as having only one decision maker is misleading, since decisions are often made by more than one person, especially in larger firms (Leonidou and Katsikeas 1996).

Researchers are paying greater attention to the appropriate unit of analysis (Cavusgil 1998). Approximately two-thirds of the studies reviewed here used the firm as the unit of analysis. The remaining fifteen studies adopted export venture as the unit of analysis. In the case of using the firm as the unit of analysis, the export performance construct is assessed in the context of the firm's overall activities in international markets. This can be attributed to the greater willingness of key informants to disclose information at this broad level (Matthyssens and Pauwels 1996). This approach challenges the argument of Cavusgil and Zou (1994) and Cavusgil, Zou, and Naidu (1993) that the proper unit of analysis in export performance research should be the export venture: a single product or product line exported to a single foreign market. Large firms may have more than one product line and each of them may have a different effect on export performance. As such, using the firm as the unit of analysis can result in inaccurate measures of export performance variables (Cavusgil and Zou 1994). Moreover, asking managers to aggregate performance to the firm level, rather than the export venture, may be a difficult task (Shoham 1998).

Statistical Analysis

In comparing the principal method of analysis of the studies covered in this review with previous studies (see, for example, reviews by Aaby and Slater (1989) and Zou and Stan (1998)), we verify that the level of statistical sophistication has improved. The majority of the studies use multivariate data analysis techniques such as factor analysis, cluster analysis, discriminant analysis, multiple regression analysis, and structural equation modeling. Less advanced statistical techniques, such as correlation and analysis of variance, were also employed, although not as often. In 18 studies, structural equation modeling was the most commonly adopted method of statistical analysis. The popularity of this method could be explained by the increasing complexity of the models used in the literature to assess export performance. This method allows for simultaneously estimating the measurement errors and structural relations of the model and enables multiple and interrelated dependence relationships between unobserved constructs to be estimated, i.e., constructs can be both dependent and independent variables (Hair, et al. 1998).

TABLE 1
Characteristics of Studies Reviewed

Authors	Country of Study	Sample size	Industrial sector	Firm size	Data collection	Response rate	Nonresponse bias	Key informant	Unit of analysis	Statistical Analysis
Hoang (1998)	New Zealand	355	Multiple industries	SML	Survey	51.0%	Tested	CEO	Firm	SEM, correlation, factor analysis
Styles (1998)	Australia / UK	232 / 202	Multiple industries	SM	Survey	37.0% / 35.0%	Tested	EM	Export venture	SEM
Zou, Taylor, and Osland (1998)	USA / Japan	165 / 178	Multiple industries	ML	Survey	18.0% / 17.4%	Tested	CEO, PRES, VP	Export venture	SEM
Thirkell and Dau (1998)	New Zealand	253	Multiple industries	SML	Survey	36.5%%	Nontested	not clear	Firm	Regression
Shoham (1998)	Israel	93	Multiple industries	not clear	Survey	40.1%	Tested	EM	Firm	Factor analysis
White, Griffith, and Ryans (1998)	USA	124	Multiple industries	SML	Survey	24.9%	Tested	SM	Firm	Regression
Piercy, Kaleka, and Katsikeas (1998)	UK	312	Multiple industries	SM	Survey	35.2%	Tested	MD, MKD, EM	Export venture	Correlation
Lee (1998)	Australia	105	Multiple industries	SM	Survey	42.0%	Nontested	CEO, MD	Export venture	SEM
Moen (1999)	Norway	335	Multiple industries	SM	Survey	22.9%	Nontested	EM	Firm	Anova, factor analysis
Shoham (1999)	Israel	98	Multiple industries	not clear	Survey	21.2%	Tested	EM	Firm	SEM
Myers (1999)	USA	404	Multiple industries	ML	Survey	21.9%	Tested	EM, MKD	Export venture	Regression, manova
Hart and Tzokas (1999)	UK	50	Multiple industries	SM	Survey	30.0%	Tested	MD	Firm	Correlation
Beamish, Karavis, Goerzen, and Lane (1999)	Australia	185	Multiple industries	ML	Survey	37.0%	Tested	EM, CEO, MKD	Firm	Correlation, regression
Robertson and Chetty (2000)	New Zealand	70	One industry	S	Survey	42.4%	Nontested	SM	Firm	Correlation, t-test
Baldauf, Cravens, and Wagner (2000)	Austria	184	Multiple industries	SML	Survey	52.6%	Tested	CEO, VP, EM, MKD, MD	Firm	Regression
Dean, Menguç, and Myers (2000)	New Zealand	95	One industry	SM	Survey	36.5%	Nontested	SM	Firm	Factor analysis, discriminant analysis

TABLE 1
Continued

Authors	Country of Study	Sample size	Industrial sector	Firm size	Data collection	Response rate	Nonresponse bias	Key informant	Unit of analysis	Statistical Analysis
Yeoh (2000)	USA	180	Multiple industries	SML	Survey	32.7%	Tested	EM, CEO, PRES	Firm	Correlation, regression
Francis and Collins-Dodd (2000)	Canada	88	One industry	SM	Survey	51.8%	Tested	SM	Firm	Factor analysis, regression
Stewart and McAuley (2000)	Canada / UK	207 / 160	Multiple industries	SM	Survey	40.0% / 26.6%	Tested	CEO, EM	Export venture	Cluster analysis, least significant difference, anova
Styles and Ambler (2000)	Australia / UK	232 / 202	Multiple industries	SM	Survey	37.0% / 35.0%	Tested	EM	Export venture	SEM
Wolff and Pett (2000)	USA	157	Multiple industries	S	Survey	9.8%	Nontested	SM	Firm	Anova
Albaum and Tse (2001)	Hong Kong	183	Multiple industries	SML	Survey	45.8%	Tested	SM	Firm	Regression
Richey and Myers (2001)	USA	404	Multiple industries	ML	Survey	21.9%	Tested	EM, MKD	Export venture	SEM
Gençtürk and Kotabe (2001)	USA	162	Multiple industries	SML	Survey	32.4%	Tested	SM, EM	Firm	Anova
Prasad, Ramamurthy, and Naidu (2001)	USA	381	Multiple industries	SM	Survey	19.1%	Tested	CEO	Firm	Anova, regression
Stöttinger and Holzmüller (2001)	USA	104	Multiple industries	SM	Survey	not clear	Tested	EM, SM	Firm	SEM
Ling-yea and Ogunmokun (2001)	China	111	Multiple industries	SM	Survey	39.6%	Tested	not clear	Export venture	Regression
Ling-yea and Ogunmokun (2001)	China	111	Multiple industries	SM	Survey	39.6%	Tested	not clear	Export venture	Factor analysis, regression
Shoham, Evangelista, and Albaum (2002)	Australia	193	Multiple industries	SM	Survey	17.2%	Nontested	not clear	Firm	Regression
Solberg (2002)	Norway	150	Multiple industries	SML	Survey	21.4%	Nontested	MD, EM	Firm	Correlation
Brouthers and Xu (2002)	China	88	Multiple industries	SML	Interview	47.3%	Nontested	CEO, EM	Firm	Correlation, regression
Cadogan, Diamantopoulos, and Siguaw (2002)	USA	206	Multiple industries	not clear	Survey	10.1%	Tested	SM	Firm	SEM
Rose and Shoham (2002)	Israel	124	Multiple industries	SML	Survey	15.7%	Tested	SM	Export venture	Correlation, regression

TABLE 1
Continued

Authors	Country of Study	Sample size	Industrial sector	Firm size	Data collection	Response rate	Nonresponse bias	Key informant	Unit of analysis	Statistical Analysis
Cadogan, Sundqvist, Salminen, and Puumalainen (2002)	Finland	783	Multiple industries	not clear	Survey	80.9%	Tested	EM	Firm	SEM
Cicic, Patterson, and Shoham (2002)	Australia	181	Multiple industries	not clear	Survey	37.2%	Tested	EM	Firm	SEM
Balabanis and Katsikea (2003)	UK	82	Multiple industries	SML	Survey	18.5%	Tested	MD	Firm	SEM
O'Cass and Julian (2003)	Australia	293	Multiple industries	SML	Survey	25.8%	Tested	SM	Export venture	SEM
Cadogan, Cui, and Li (2003)	Hong Kong	137	Multiple industries	ML	Survey	23.3%	Tested	EM	Firm	SEM
Dhanaraj and Beamish (2003)	USA / Canada	87 / 70	Multiple industries	SM	Survey	23.6% / 14.4%	Nontested	not clear	Firm	SEM
Akyol and Akehurst (2003)	Turkey	163	One industry	SML	Survey	43.5%	Tested	SM	Firm	Regression
Morgan, Kaleka, and Katsikeas (2004)	USA	287	Multiple industries	M	Survey	47.8%	Tested	EM	Export Venture	SEM
Lages and Lages (2004)	Portugal / UK	519 / 111	Multiple industries	SM	Survey	22.1% / 32.0%	Tested	PRES, MKD, MD, EM	Export venture	SEM
Lages and Montgomery (2004)	Portugal	413	Multiple industries	SM	Survey	21.0%	Tested	MKD, MD PRES,	Export venture	SEM

Codes used for key-informant:

CEO = Chief Executive Officer
EM = Export Managers
MD = Managing Director

MKD = Marketing Director
PRES = President
VP = Vice President

SM = Senior Managers

OPERATIONALIZATION OF EXPORT PERFORMANCE

Despite the increased number of studies that have been concerned with export performance, there is no uniformly accepted conceptualization and operationalization of the construct (Cavusgil and Zou 1994; Shoham 1998). Our literature review discovered as many as 50 different performance indicators, indicating a lack of consensus with regard to the concept. Nevertheless, in spite of the large number of different export performance measures, only a few were frequently utilized, such as export intensity (export-to-total sales ratio), export sales growth, export profitability, export market share, satisfaction with overall export performance, and perceived export success. Other measures, such as return on investment, quality of distributor relationship, customer satisfaction, and satisfaction with product/service quality compared to competitors were examined in only one or two studies. This large number of different performance measures restricts the advance of the export marketing literature because it makes it hard to compare and contrast the findings from different studies (Zou and Stan 1998).

The export performance indicators used in the studies reviewed here can be classified into objective and subjective measures. Indicators that are based mainly on absolute values such as export intensity, export sales volume, and export market share, among others, are called objective measures. Meanwhile, indicators that measure the perceptual or attitudinal performance such as perceived export success and satisfaction with export sales are considered to be subjective measures of performance. Of 50 different performance indicators, 11 were objective measures, and 39 were subjective measures (see Table 2). These categories are discussed next in more detail.

Objective Measures

Sales-related measures were widely used to assess export performance. Five performance measures were identified in this subcategory: export intensity, export intensity growth, export sales growth, export sales volume, and export sales efficiency. Export intensity was the most common measure with 16 different studies using this indicator to assess export performance. However, there has been some criticism regarding the use of this indicator in assessing export performance (Cooper and Kleinschmidt 1985). For instance, a firm doing an inadequate export job with a new product having a very large foreign market might appear to be a superior performer to another firm with a large market share of a relatively small foreign market (McGuinness and Little 1981). The second most used measure was export sales growth (12 studies), which may also be criticized for overstating performance because of price escalation and market growth, or understating performance because of experience curve effects and deteriorating demand (Kirpalani and Balcome 1987).

Profit-related measures were also used, although not as frequently as sales-related measures. These measures include export profitability (2 studies), export profit margin (3 studies), and export profit margin growth (1 study). As with sales-related measures, these measures are open to criticism in that export-related profit may not be known with any degree of certainty (Samiee and Anckar 1998) and that it might raise comparability problems because of different accounting practices across firms (Lages and Lages 2004).

Among objective measures, market-related measures are seldom used. Three performance indicators were identified here: export market share (2 studies), export market share growth (2 studies), and market diversification (number of markets entered) used only in one study. Market-related measures have been promoted as a good indicator for success, the reason being that high market share leads to scale and experience advantages on the cost side as well as more power in approaching customers (Madsen 1998). However, due to the difficulty in measuring actual market share, these measures have been criticized and rarely employed.

Subjective Measures

Studies using subjective measures of export performance usually assessed the construct on a five or seven-point scale, although scales with higher number of intervals were also employed (e.g. in Styles (1998) study, perceived export success was assessed on a ten-point scale). The use of subjective measures has been suggested in cases where managers may be unwilling or unable to provide objective financial data or because of the difficulty in reconciling cross-national or cross-industrial differences in accounting practices, variations in exchange rates, and financial reporting between home and host countries (Woodcock, Beamish, and Makino 1994). As a result, the

most common measure among all categories is export profitability with 18 studies using this indicator to assess export performance. Authors appear to believe that the use of this subjective indicator encourages more managers to respond given that managers need not provide confidential export profitability figures. Also more widely used than in the objective category are the market share-related measures, with export market share and export market share growth being used in 11 and 7 studies respectively.

TABLE 2
Classification and Frequency of Appearance of Export Performance Measures

Performance Measure		Frequency of Use	Percentage
Objective measures			
<i>Sales-related</i>			
Export intensity	OBJ-SAL-EI	16	37
Export intensity growth	OBJ-SAL-EIG	5	12
Export sales growth	OBJ-SAL-ESG	12	28
Export sales volume	OBJ-SAL-ESV	8	19
Export sales efficiency	OBJ-SAL-ESE	2	5
<i>Profit-related</i>			
Export profitability	OBJ-PRF-EP	2	5
Export profit margin	OBJ-PRF-EPM	3	9
Export profit margin growth	OBJ-PRF-EPMG	1	2
<i>Market-related</i>			
Export market share	OBJ-MKT-EMS	2	5
Export market share growth	OBJ-MKT-EMSG	2	5
Market diversification	OBJ-MKT-MD	1	2
Subjective measures			
<i>Sales-related</i>			
Export intensity	SUB-SAL-EI	4	9
Export intensity growth	SUB-SAL-EIG	4	9
Export intensity growth compared to competitors	SUB-SAL-EIGC	1	2
Export sales volume	SUB-SAL-ESV	9	21
Export sales growth	SUB-SAL-ESG	14	33
Export sales volume compared to competitors	SUB-SAL-ESC	3	7
Export sales growth compared to competitors	SUB-SAL-ESGC	5	12
Export sales return on investment	SUB-SAL-ROI	1	2
Export sales return on investment compared to competitors	SUB-SAL-ROIC	1	2
<i>Profit-related</i>			
Export profitability	SUB-PRF-EP	18	42
Export profit margin	SUB-PRF-EPM	6	12
Export profit margin growth	SUB-PRF-EPMG	4	9
Export profitability compared to competitors	SUB-PRF-EPC	4	9
<i>Market-related</i>			
Export market share	SUB-MKT-EMS	11	26
Export market share growth	SUB-MKT-EMSG	7	16
Export market share compared to competitors	SUB-MKT-EMSC	4	9
Export market share growth compared to competitors	SUB-MKT-EMSGC	1	2
Market diversification	SUB-MKT-MD	3	7
Rate of new market entry	SUB-MKT-NME	4	9
Rate of new market entry compared to competitors	SUB-MKT-NMEC	2	5
Gaining foothold in the market	SUB-MKT-FM	1	2

TABLE 2
Continued

Performance Measure		Frequency of Use	Percentage
Subjective measures			
<i>General</i>			
Overall export performance	SUB-GNL-OEP	12	28
Overall export performance compared to competitors	SUB-GNL-OEPC	1	2
Export success	SUB-GNL-ES	6	14
Meeting expectations	SUB-GNL-ME	4	9
How competitors rate firm's export performance	SUB-GNL-CEP	2	5
Strategic export performance	SUB-GNL-SEP	7	16
<i>Miscellaneous</i>			
Contribution of exporting to the growth of the firm	SUB-MIS-CGF	1	2
Contribution of exporting to the quality of firm's management	SUB-MIS-CQM	1	2
Quality of distributor relationships	SUB-MIS-QDR	1	2
Quality of distributor relationships compared to competitors	SUB-MIS-QDRC	1	2
Customer satisfaction	SUB-MIS-CS	1	2
Customer satisfaction compared to competitors	SUB-MIS-CSC	1	2
Quality of customer relationships compared to competitors	SUB-MIS-QCRC	1	2
Product/service quality compared to competitors	SUB-MIS-PSQC	1	2
Reputation of the firm compared to competitors	SUB-MIS-RFC	1	2
Gaining new technology/expertise	SUB-MIS-GTE	1	2
Building awareness and image overseas	SUB-MIS-AIO	1	2
Achievement of objectives regarding response to competitive pressures	SUB-MIS-RCP	1	2

General measures of export performance were also used. These measures include managers' degree of satisfaction with overall export performance, overall export performance compared to competitors, export success, meeting expectations, how competitors rate firm's export performance, and strategic export performance. The argument for using these kinds of measures is that the general perception of export performance probably best captures the essence of the construct, in that it not only translates the perceived degree of economic success but also includes the managers' opinions of strategic elements of success, such as market expansion, competitive response, market penetration, and so forth (Solberg 2002). Moreover, a firm's management alone knows what its goals and expectations are regarding export performance and, therefore, selecting management's satisfaction is consistent with the trend of managing by objectives (White, Griffith, and Ryans 1998). Firms that meet or exceed their objectives are more satisfied than firms which have not met their objectives.

Several miscellaneous subjective measures were also used, each reported in a single study. These measures include contribution of exporting to the quality of firm's management, quality of distributor relationships, customer satisfaction, and reputation of the firm compared to competitors, among others. Finally, some studies also decided to ask managers to evaluate their export performance in comparison to their main competitors in that area of export business. This approach has been found to be a robust measurement technique and managers found it more straightforward to evaluate their performance against this competitor benchmark than in absolute terms of 'good' or 'bad' performance (Piercy, Kaleka, and Katsikeas 1998).

Overall, given the advantages and the complementary nature of objective and subjective measures, the majority of the studies employed both types of measures in their research (see Table 3). This approach of using several measures to grasp the construct appears to indicate that it would lead to more accurate results and, therefore, that it is preferable to use multiple items to operationalize export performance (Shoham 1998). With the exception of one study that used a single variable to assess export performance (O'Cass and Julian 2003), all the studies reviewed here followed this approach by using several indicators.

TABLE 3
Export Performance Measures of Studies Reviewed

Authors	OBJ-SAL*	OBJ-PRF*	OBJ-MKT*	SUB-SAL*	SUB-PRF*	SUB-MKT*	SUB-GNL*	SUB-MIS*
Hoang (1998)	EI, ESG							
Styles (1998)	ESG	EP					ES, CEP, SEP	
Zou, Taylor, and Osland (1998)				ESG, ESV	EP	EMS	ES, ME, SEP	
Thirkell and Dau (1998)	EI, EIG, ESG, ESV				EP	EMS, MD	OEP	CS
Shoham (1998)	EI, EIG, ESV, ESG	EPM, EPMG	EMS, EMSG	EI, EIG, ESV, ESG,	EPM, EPMG			
White, Griffith, and Ryans (1998)	EI		MD		EP		OEP	
Piercy, Kaleka, and Katsikeas (1998)				ESC	EPC	EMSC		
Lee (1998)				ESG	EPMG	EMSG	OEP	
Moen (1999)	EI		EMSG		EP	EMSG, EMSGC	OEP	
Shoham (1999)				EI, EIG, ESV, ESG	EPM, EPMG			
Myers (1999)				ESV, ROI	EP, EPM	FM	SEP	QDR, RCP
Hart and Tzokas (1999)	EI	EPM						
Beamish, Karavis, Goerzen, and Lane (1999)	EI, ESV, ESG							
Robertson and Chetty (2000)				EI, ESG,	EP	MD	OEP	
Stewart and McAuley (2000)	ESG						OEP	
Styles and Ambler (2000)	ESG	EP					ES, CEP, SEP	

TABLE 3
Continued

Authors	OBJ-SAL*	OBJ-PRF*	OBJ-MKT*	SUB-SAL*	SUB-PRF*	SUB-MKT*	SUB-GNL*	SUB-MIS*
Baldauf, Cravens, and Wagner (2000)				EIG, ESG		EMSG, MD		
Dean, Menguç, and Myers (2000)	EI, ESV, ESG							
Yeoh (2000)	EI, ESG							
Francis and Collins-Dodd (2000)	EI, EIG, ESV				EPM			
Wolff and Pett (2000)	EI, ESV							
Albaum and Tse (2001)					EP, EPC	EMS, EMSC		
Richey and Myers (2001)				ESG	EP	EMSG		
Gençtürk and Kotabe (2001)	EI, EIG				EP		SEP	CGF, CQM
Prasad, Ramamurthy, and Naidu (2001)				ESG	EP	EMS, NME	ME	GTE, AIO
Stöttinger and Holzmüller (2001)	EI, EIG							
Ling-yee and Ogunmokun (2001)					EP		SEP	
Ling-yee and Ogunmokun (2001)				ESG, ESGC			SEP	
Solberg (2002)				ESGC		EMSG	ES	
Brouthers and Xu (2002)				ESG	EP	EMS	OEP	

TABLE 3
Continued

Authors	OBJ-SAL*	OBJ-PRF*	OBJ-MKT*	SUB-SAL*	SUB-PRF*	SUB-MKT*	SUB-GNL*	SUB-MIS*
Shoham, Evangelista, and Albaum (2002)	EI						ES	
Cadogan, Diamantopoulos, and Siguaw (2002)				ESG, ESV	EP	EMS, NME, NMEC	OEP	
Cadogan, Sundqvist, Salminen, and Puumalainen (2002)	ESG, ESE			ESG, ESGC	EP	EMSG, NME		
Cicic, Patterson, and Shoham (2002)	EI						OEP, ME	
Rose and Shoham (2002)	EI, ESV	EPM	EMS	EIG, ESV, ESG	EPM, EPMG	EMS, EMSG		
Balabanis and Katsikea (2003)				ESGC, ROIC	EPC		OEPC	
O'Cass and Julian (2003)							ES	
Cadogan, Cui, and Li (2003)	ESG, ESE			ESGC	EP			
Dhanaraj and Beamish (2003)				ESG	EP	EMS		
Akyol and Akehurst (2003)	ESV, ESG			ESV, ESC		EMS, EMSC, NME, NMEC	OEP	
Morgan, Kaleka, and Katsikeas (2004)				ESC, EIGC	EPC	EMSC		QDRC, CSC, QCRC, PSQC, RFC
Lages and Lages (2004)				EI, ESV	EP, EPM	EMS	ME, OEP	
Lages and Montgomery (2004)				ESV	EP	EMS	OEP	

Note: * see Table 2 for the definitions of the export performance measures

DISCUSSION AND DIRECTIONS FOR FUTURE RESEARCH

Over the past decades, considerable attention has been paid to the export performance of the firm. The present review, however, reveals that research on the measurement of export performance still remains underdeveloped, since no consensus exists about its conceptual and operational definitions. Although compared to earlier studies (e.g. Madsen 1987; Aaby and Slater 1989; Zou and Stan 1998), some progress has been made in developing theory and knowledge of the measures of export performance, there is still a long way to go before it is possible to clearly delineate the domain of this construct and identify its dimensions. Indeed, the export marketing literature has been criticized for providing only fragmented results and for not being able to develop a widely accepted model of export performance, thus limiting theoretical advancement in this field (Diamantopoulos 1998; Morgan, Kaleka, and Katsikeas 2004; Zou and Stan 1998).

Scholars have used many different measures to assess export performance, making it difficult to compare findings and leaving considerable room for inconsistency and confusion (Zou, Taylor, and Osland 1998). When studies try to measure export performance, they face several challenges that show the complexity of assessing the construct. Even though everybody may want the firm to perform very well abroad, shareholders and managers, for instance, may have different views on this issue when setting targets, which makes it much more difficult to reach consensus concerning the operational measures to be used (Cameron 1986; Madsen 1998). A firm is successful if the targets set are met or exceeded. But what were the targets in the first place? Were they even obtainable? Therefore, when managers are asked to assess the export performance of the firm, they have a serious problem because it is not always evident which performance goals they should use and how the degree of achievement of these goals should be measured (Madsen 1998). This demonstrates the complexity of assessing export performance and may explain Bonoma and Clark's (1988, p. 1) comment that: "perhaps no other concept in marketing's short history has proven as stubbornly resistant to conceptualization, definition, or application."

In terms of the mode of performance assessment, studies might use objective or subjective measures or both. This review found that the majority of the studies use both modes of assessment. However, some scholars support the use of subjective over objective indicators (e.g. Katsikeas, Piercy, and Loannidis 1996; Robertson and Chetty 2000). The following motives are usually used to support this view: (a) firms are extremely reluctant to provide the researcher with objective data (Francis and Collins-Dodd 2000; Leonidou, Katsikeas, and Samiee 2002); (b) objective data are not publicly available, and thus it is impossible to check the accuracy of any reported financial performance figures (Robertson and Chetty 2000); (c) decision makers are guided by their subjective perceptions of firm export performance rather than by objective, absolute performance ratings (Madsen 1989); (d) difficulty in establishing a fixed reference point across firms, since financial success for one firm may constitute failure for another (Lages and Lages 2004); (e) subjective and objective measures are positively associated (Baldauf, Cravens, and Wagner 2000; Dess and Robinson 1984); (f) using the export venture as the unit of analysis favors the use of subjective measures over objective measures, since company reports and financial statements rarely provide detailed information on the different export ventures; (g) objective data are often difficult to interpret (Covin and Slevin 1991); and (h) using objective measures makes comparisons across businesses, especially in cross country studies, complicated because of differences in accounting and sales-recording procedures (Styles 1998).

The relevance and importance of performance dimensions also vary across stakeholder groups (e.g. investors, employees, customers) and depend on whether the focus is on the short term or the long term (Walker and Ruekert 1987). A manager of a firm that focuses on the long term to increase the market share in a foreign market may not perceive the export performance to be low even though export sales or export profits are weak. The size of the firm may also influence whether the focus is on short-term or long-term export performance. Managers of small firms may emphasize short-term performance over long-term due to the lack of financial resources to operate with low margins in the foreign markets. However, being overly focused on short-term profits may be risky for the long-term development of the firm's capabilities (Madsen 1998).

The degree of the firm's involvement in export operations is another aspect that has to be considered because it may influence the choice of export performance measures. For example, a firm in early stages of export develop-

ment may put more emphasis on measures such as export sales and profits, while a more experienced firm may find market-share related measures more relevant.

The present study also reveals that the most widely used data collection method is the mail questionnaire directed to the person responsible for the export operations of the firm. The use of the personal in-depth interview as a data collection method was employed by only one study (i.e. Brouthers and Xu 2002). However, personal interviews are often an appropriate way of data gathering when analytical (instead of statistical) generalization is set as the primary goal of the empirical research (Matthyssens and Pauwels 1996).

In terms of time frame, some studies presented in Table 3 measure export performance in a static way (e.g., Hart and Tzokas 1999; Wolff and Pett 2000) not taking past performances into account. Most studies, however, adopt a dynamic orientation to measure export performance. These studies (e.g., Cadogan et al. 2002; Rose and Shoham 2002; Shoham 1998; Solberg 2002) ask the respondents to go back in time and report on the results over the last three or five years. This allows the researcher to get an idea of the evolution of the indicators. Furthermore, some researchers (i.e. Robertson and Chetty 2000) try to gain an insight into future success by using one measure of anticipated future export performance. Respondents were asked in this case for their perception regarding the firm's overall performance for the following three years.

Finally, our review has revealed that studies use either the firm level or the export venture as the unit of analysis. The vast majority of the reviewed studies assessed export performance at the firm level (28 out of 43), which can be explained by the greater willingness of respondents to disclose information at this broad level (Matthyssens and Pauwels 1996). The selection of the unit of analysis is important for the correct operationalization of export performance since a study at the firm level seeks success determinants describing the overall export activity of a firm whereas a study at the venture level focuses on performance determinants of a particular product/market combination. For instance, when studying individual export ventures, firm level export performance analysis is inappropriate because of the heterogeneity of the firm's operations (Jacobson 1987). Using measures such as export profitability, overall export sales and overall export performance at the firm level when the export venture level was adopted, ignores the difference between the venture and the firm level. Furthermore, applying financial measures such as export intensity at the export venture level in most cases is very difficult (Dess and Robinson 1984). Therefore, the level of analysis adopted by the researcher will have major implications on the operational measures of export performance to be implemented. Additionally, using a measure like ROI, as suggested by Myers (1999), to assess export performance ignores the difference between firm's overall performance and the firm export performance.

Future Research Directions

This last section suggests several directions for future research on export performance. The framework described earlier, which refers to the operationalization of export performance, unit of analysis, key informant, characteristics of the firm, research design, statistical analysis, and country of study, will be employed as a guide to recommend future research directions.

First, in terms of mode of assessment, despite the reasons mentioned above favoring the use of subjective over objective measures to assess export performance, both are equally important and should be used given the advantages of each of the two approaches and their complementary nature (Shoham 1998; Shoham, Evangelista, and Albaum 2002). The use of multiple measures of export performance is necessary to realize fully the strengths of each indicator and minimize the impact of their shortcomings (Evangelista 1994). Accordingly, the use of multiple measures of export performance has been more typical in recent years, as it allows the capture of different facets of the construct. For instance, a firm may place a limit on its export intensity to reduce foreign exposure and risk. The use of additional measures would provide a more accurate evaluation of the firm performance that would not be possible otherwise (Shoham 1998). Furthermore, the advantage of using a combination of measures is that it gives purchase on short-term and long-term goals by overcoming the systematic or random fluctuations of any given item (Shoham 1998). For instance, objective measures are considered more reliable in measuring short-term performance whereas subjective measures have proven more valid in measuring long-term aspects of export per-

formance (Huber and Power 1985; Katsikeas, Leonidou, and Morgan 2000; Venkatraman and Ramanujam 1987). Thus, export performance research would benefit from studies using both objective and subjective measures.

Second, export performance should be measured in a dynamic way. In the majority of studies reviewed here, mostly past and current export performance was measured. However, according to Brown and Laverick (1994), what we need are measures that provide today's decisions which will benefit tomorrow's performance. This stresses the importance of future orientation in export performance measurement. Robertson and Chetty (2000), as indicated previously, deliberately projected one such measure into the future. However, more effort should be made in predicting future performance.

Third, the issue of the unit of analysis has to be taken into consideration. The use of the firm level seems inappropriate because it does not take into account the variability of performance in which some ventures are successful and others unsuccessful. Furthermore, this approach has been criticized because of the difficulty of associating export performance with its antecedents and outcomes (Cavusgil, Zou, and Naidu 1993; Lages and Lages 2004). Additionally, using the export venture as unit of analysis could bring deeper insight into more concrete and manageable key success factors in export marketing (Cavusgil and Kirpalani 1993; Cavusgil and Zou 1994). The studies, however, that adopted the export venture as the unit of analysis can also be criticized because it provides little insight into the overall, long-term export performance of the firm. One solution to this problem would be through the analysis of export venture portfolios, which provides information on individual venture performance and the firm's overall export performance (Madsen 1998). This approach, however, would be difficult to put into practice particularly for large firms with numerous export ventures. To solve this problem Katsikeas, Leonidou, and Morgan (2000) suggest an analysis of a sample that constitutes a specific percentage of the total number of the firm's export ventures. Moreover, major export ventures should be chosen deliberately, to ensure maximum representativeness, while a random selection should be applied to the remainder.

Fourth, we must recognize that export performance is a multifaceted concept and that the use of multiple indicators is necessary for a reliable assessment of the construct. In relation to the mode of assessment, as indicated above, researchers are encouraged to combine objective with subjective export performance indicators. The difficulty, however, consists in the selection of appropriate measures to assess the construct. This is consistent with Griffin and Page's (1993) argument that nowadays the multidimensionality of performance is not under discussion, but rather which performance measures to use. Export performance, however, is a complex phenomenon and the choice of individual export performance measures depends on contextual factors that are research method-specific, export business-specific, and target audience-specific (Katsikeas, Leonidou, and Morgan 2000). For instance, the unit of analysis has a significant influence on the measurement selection. In the case of export intensity, which is probably the most widely used export performance measure in the literature (Diamantopoulos and Schlegelmilch 1994; Katsikeas, Leonidou, and Morgan (2000), it is argued that this indicator should not be used when the analysis is performed at the export venture level (Matthyssens and Pauwels 1996). Similarly, the application of measures such as export profitability, overall export sales and overall export performance at the firm level when the export venture level was adopted, ignores the difference between the venture and the firm level.

Fifth, the characteristics of the firm have to be considered when selecting which performance measures to use. The size of the firm, for example, could influence whether the focus is on the short-term or long-term export performance since managers of small firms may emphasize short-term over long-term performance due to the lack of financial resources to operate with low margins in foreign markets. In this case, the use of objective over subjective measures would be more appropriate since they are considered to be more reliable in measuring short-term performance. Another aspect that should be taken into account is the degree of the firm's involvement in export operations. Firms in early stages of export development may put more emphasis on measures such as export sales and profits, while a more experienced firm may find market-share related measures to be more relevant. Researchers should, therefore, attempt to select firms with similar characteristics in order to provide a more reliable assessment of export performance.

Sixth, although the design and implementation of longitudinal research is inevitably time-consuming and logistically difficult, its absence inhibits dynamic model building and limits efficacious measurement of performance (Katsikeas, Leonidou, and Morgan 2000). Indeed, its importance had already been mentioned by Aaby and Slater (1989) as one of the major areas for improvement in the export literature. Accordingly, future research providing longitudinal studies would contribute to theory development by evaluating the longitudinal stability of the functional relationship between export performance and its determinants (Madsen 1987).

Seventh, as discussed previously, stakeholders at different levels of management hold various views about performance (Cameron 1986). Furthermore, it is possible that more than one manager within the firm might be responsible for export operations, especially in case of large firms. Future research should, therefore, consider the use of multiple informants within each firm to grasp more fully the construct and to improve the assessment of export performance.

Eighth, the use of more reliable methods of investigation, as evidenced by an improvement in the level of statistical sophistication of the studies reviewed here, is also recommended to provide a better assessment of the firm's export performance.

Finally, another issue that has to be considered is that most studies have been conducted in a single country context (see Table 1). The performance measures used in these studies often reflect the unique emphasis that different countries place on exporting (Zou, Taylor, and Osland 1998). As a result, attempts should be made to validate scales across countries. This can play an important part in advancing export marketing theory by stimulating cross-cultural export marketing studies that investigate specific similarities and differences among and between countries (Styles 1998).

In summary, the present study reveals that export performance assessment is often idiosyncratic to the type of firm and its setting. This suggests the need for the adoption of a contingency approach in the selection of individual export performance measures to address the idiosyncrasies of the situation at hand, instead of taking a dogmatic view (Kamath et al. 1987). Finally, it is hoped that the issues raised in this study will stimulate more debate and research in the area resulting in a richer and better understanding of export performance measures.

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