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Success Factors of Export Marketing A Meta-Analytic Critique of the Empirical Studies

Abstract: This article presents a critical review of 50 empirical studies which have tried to identify "critical success factors" of export marketing. It shows their main findings, discusses the question whether and how generalizations can be derived from these studies, and proposes desired consequences for future research.

Success Factors of Export Marketing A Meta-Analytic Critique of the Empirical Studies

The present article has been inspired by Madsen's review of 17 empirical export performance studies. I wanted to perform a quantitative meta-analysis of these studies in order to identify the key success factors of export marketing, and to assess their influence by means of objective statistical procedures. In trying this I experienced the following problems:

- a. A meta-analysis of success-factors of export marketing is a very demanding and time-consuming task: There exist much more than 17 studies. After an intensive search, 50 studies, published in more than 70 sources could be secured (see the reference list of reviewed studies). A lot of further studies were unprocurable, in particular reports from export councils and unpublished dissertations (e. g. the UMIST dissertations from Buatsi and Schlegelmilch).
- b. It is virtually impossible to perform a comprehensive quantitative meta-analysis of the complex influence net, because of the extreme diversity of the studies, the exploratory nature of data analysis, and the insufficient disclosure of measurement and data-analytic procedures.

The apparent discrepancy between the high effort necessary to conduct the 50 studies and the rather limited possibilities to exploit their findings for valid generalizations raises the issue: What can be done to improve empirical research in order to establish a truly cumulative discipline?

With this report I want to give some answers to this challenging question:

- a. By applying a systematic review procedure I want to show how the reliability and validity of generalizations can be improved. With this illustration I want to stimulate the discussion how review procedures could be adapted to ill-structured data. Quantitative meta-analytic procedures are appropriate for bivariate relationships, particularly those which have been tested experimentally. In business administration field studies are often performed. They analyse complex networks of relationships by means of multivariate statistics. Therefore a meta-analysis seems to be of limited usefulness. However, the limited opportunities to apply quantitative meta-analytic tools should not lead to the erroneous conclusion that a systematic approach would be useless at all.
- b. In a methodological assessment the characteristics of the studies are compared with the requirements of a quantitative meta-analysis. With this comparison defects of current research are identified and guidelines for better and more informative studies are derived.
- c. By describing the *main results* of current research I want to offer the reader an overview and an assistance in formulating his research framework.

The Review Procedure

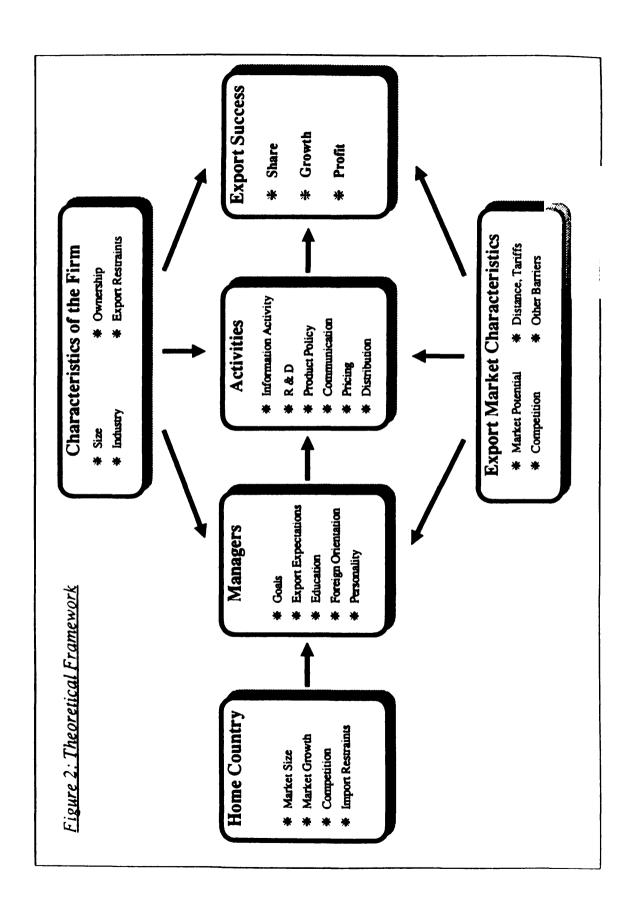
In principle the procedure of a meta-analysis is the same as that of a primary analysis: a frame of reference has to be developed, hypotheses have to be derived, data have to be gathered and analysed. Figure 1 shows the steps in some more detail:

Figure 1: Steps of a Meta-Analysis

- 1. Theoretical Framework
- 2. Derivation of Hypotheses
- 3. Definition of Parent Population
- 4. Drawing of Sample
- 5. Operationalization of Variables
- 6. Evaluation of Data Quality
- 7. Analysis of Relationships
- 8. Presentation of Results

The <u>theoretical framework</u> has a function of ordering. It helps to classify the studies and to illustrate fashioned and neglected research themes. The frame of reference should be concipated broad enough to cover the research field of a large number of studies. It should have a clear and functional structure to permit an unambigous classification of independent and dependent variables, and it should have a certain depth so that not only independent and dependent variables can be discerned, but also intervening and third variables, i. e. complete chains of causality are taken into consideration. Such frameworks have been offered by Cavusgil/Naor, Madsen, Reffait, Reid, Roux and others.

The dependent variable of my own framework (see figure 2) is "export success", a multidimensional construct which comprises export share of total sales, growth of export sales and profitability of exporting. The primary independent variables are the "activities" i. e. the strategies and instruments of export marketing. These include export-related information activities, research and development, export-related actions and adaptations of products, communication, pricing, and distribution. Managers decide which activities are performed and how they are combined to strategies. Therefore characteristics of the managers are used as explanatory variables. Goals, expecta-



tions, and activities of the managers are influenced by the characteristics of the contextual factors firm, export market, and home country.

The second step is the <u>derivation of hypotheses</u>. It is necessary in order to decide which operationalizations of dependent and independent variables are appropriate to test a relationship. It depends on the <u>researcher</u> how general he wants to state his hypothesis. The problem of mixing "apples" and "pears" is <u>not</u> an inherent property of a quantative meta-analysis. One even can imagine a meta-research, exclusively oriented on theories which dispenses totally with considering methods and results, and which "only" aims at backing up more precisely the terms and the theoretical arguments which substantiate their links. Such clarifications would be extremely useful in the field of export marketing, because there is a dearth of theories.

The result of the third step, the <u>definition of parent population</u>, is documented in figure 3. "Profile" studies which only compare attitudes of exporters and non-exporters have been excluded: I don't analyse why a firm is <u>interested</u> in exporting, I want to know the reasons for its <u>success</u> on export markets. Studies which use aggregated data were excluded because of my limited personal capacity. Besides, it is difficult to combine their correlation coefficients with those of micro-economic investigations in order to estimate a "common" effect size. Cases studies and studies which disclose no quantative data have been excluded, because my intention was to perform a quantitative meta-analysis.

Figure 3: Definition of Parent Population

All published empirical studies on export marketing which satisfy the following conditions:

- 1. Export success as the dependent variable: export share, growth, or profitability not; intention to export, perceived barriers
- 2. <u>Micro-economic units of analysis:</u> firms, products, ventures, business relationships

not; countries, or industries

- Export of manufactured goods or services not; export of capital or property rights
- 4. Quantitative statistical studies not; qualitative case studies

The <u>drawing of the sample</u> is a crucial step in a meta-analysis. I have checked the bibliographical references given in the studies, scanned relevant journals and conference proceedings published in German and English, and consulted colleagues working on this field. No online-search has been performed, therefore completeness can't be guaranteed. However, I would be very pleased if the participants of this conference and readers of this article would inform me about further studies because this is a report on an ongoing research.

Figure 4 shows the sample of our meta-analysis. The 50 studies reviewed here, have analysed more than 700 indicators which were assumed to influence the performance of more than 9,000 exporting firms in 18 different countries. This large empirical base should promise valid generalizations about the "critical success factors" of export marketing.

Figure 4 shows that most studies were either performed in Europe (26 samples) or Northamerica (Canada: 15 samples, USA: 9 samples), only 7 samples were gathered in other countries. (Numbers do not add to 50, because in some studies samples were gathered from several countries). Most studies use the firm as the unit of analysis and have a sample size between 100 and 200.

The next step of the review procedure addresses the <u>operationalization</u> of variables. We will first analyse how the dependent variable "export success" has been operationalized. Figure 5 shows three prominent groups of "success" measures: intensity measures, growth measures, and profitability measures. Besides, some studies construct composite scales which are based on two or more of these aspects. For the sake of completeness we have also included attitudinal measures of export behavior, which are sometimes used as proxies for success measures. Measures which describe the concentration of export activity have been neglected.

It should be stressed that the majority of studies uses rather crude nominal or ordinal scales, in particular dichotomous scales which classify the firms into exporters vs. non-exporters, low vs. high exporting firms, or declining/stagnating vs. growing firms. This means a considerable loss of information and inflates the type II error.

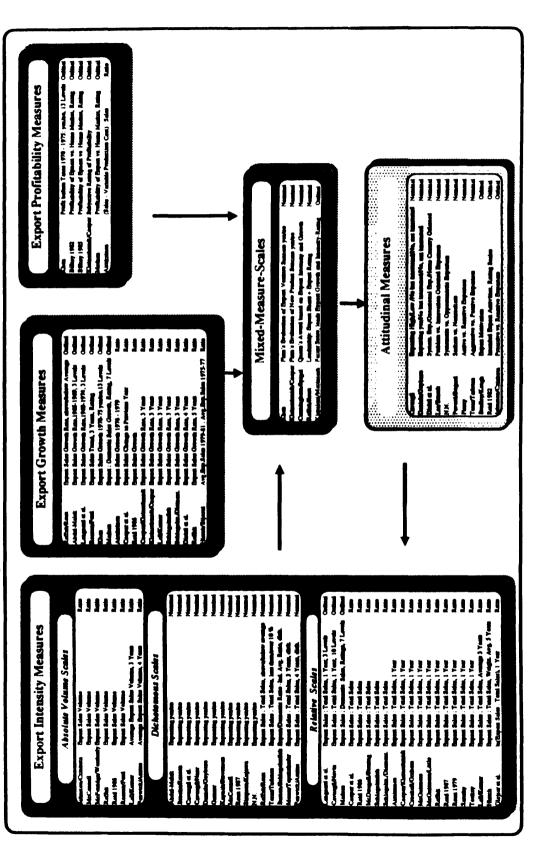
Some studies use absolute volume scales. We have discarded findings with these measures, because it is a trivial fact that - other things equal - larger firms have larger absolute export volumes than smaller firms. A noteworthy exception are studies which use absolute volume scales to test whether a non-linear relationship between size and export volume exists (e.g. McFetridge/Weatherly).

The business economist is worried by the fact that most of the studies explain only the easily collectable export intensity, and not the well-known success measures return and profit which are important criteria for managerial decisions. Is a high share of export sales *per se* an indicator of efficiency?

Figure 4: Sample of Present Meta-Analysis

No.	Main Source				Hair of
140.	IVIAIII SOUICE	Data	Country	# of	Unit of
1	Abdel-Malek	Age 1970	CDN	Cases 166	Analysis Firm
	Airaksinen	1980	SF		
2 3 4 5		1979	USA	104	Plant
13	Bilkey 1982			168	Firm
4	Bilkey 1985	1984	USA	190	Firm
5	Brooks/Rosson	1979	CDN	253	Firm
6	Burton/Schlegelmilch	1982	GB, D	310	Firm
7	Cavusgil 1982	1982	USA	No Info	Firm
8	Cavusgil/Naor	1985	USA	263	Firm
9	Cavusgil/Nevin	1974	USA	473	Firm
10	Cooper/Hartley/Harvey	1967	GB	21	Firm
11	Cooper/Kleinschmidt	1980	CDN	142	Firm
12	Crookell/Graham	1976	CDN	136	Firm
13	Cunningham/Spigel	1969	GB	48	Firm
14	Daniels/Goyboro	1972	PE	190	Firm
15	Dichtl et al.	1983	D	104	Firm
16	Fenwick/Amine	1977	GB	48	Firm
17	Garnier	1977	CDN	105	Firm
18	Glejser et al.	1974	В	970	Firm
19	Hirsch	1969	DK,NL,IL	497	Plant
20	Hirsch/Bijaoui	1981	IL	111	Firm
21	Johnston/Czinkota	1979	USA	181	Firm
22	Kaynak/Stevenson	1981	CDN	183	Firm
23	Khan	1976	S	155	Venture
24	Kirpalani/Macintosh	1978	CDN	34	Firm
25	Kleinschmidt/Cooper	1986	CDN	203	Product
26	Lall/Kumar	1979	IND	100	Firm
27	Langeard et al.	1975	F	130	Firm
28	Madsen	1986	DK	134	Venture
29	McConnell	1978	USA	148	Firm
30	McDougall/Stening	1975	CDN,NZ,AUS	175	Firm
31	McFetridge/Weatherly 1. Study	1973	CDN	127	Firm
32	McFetridge/Weatherly 2. Study	1973	CDN	324	Firm
33	McGuinness	1977	CDN	64	Product
34	McGuinness/Little	1971	CDN	82	Product
35	Moser/Topritzhofer	1977	Α	208	Firm
36	Ong/Pearson	1978	GB	88	Firm
37	Reffait	1979	F	138	Firm
38	Reffait/Roux	1979	F	41	Firm
39	Reid 1986	1979	CDN	89	Firm
40	Reid 1987	1983	I	67	Firm
41	Rosson/Ford	1978	CDN,GB	21	Dyad
42	Roux 1979	1979	F	19	Firm
43	Roux 1979	1984	F	520	Firm
44	Sarathy	1979	j	459	Firm
45	Schlegelmilch	1982	Ď	74	Firm
45 46	Schlegelmilch/Diamantopolous	1982	GB	105	Firm
47 47		1972	USA	120	Firm
	Simpson/Kujawa	1972	USA	190	Firm
48 40	Tesar/Tarleton Virginia Study	1962	GB	52	Firm
49 50	Tookey	1962	GR	102	Firm
50	N.N.	170/	UK	102	Lum

Figure 5: Measurement of Export Success



Findings which have analysed the relationships between intensity, growth and profit measures give raise to doubts. Figure 6 documents: There is neither a positive relationship between intensity and growth, nor between intensity and profit. This means: Export sales intensity is no good proxy for growth or profitability of exporting.

The findings from Khan and Madsen which depart considerably from the other findings deserve a comment: Both have used export ventures as the unit of analysis. They have asked the firms to select pairs of failed and successful ventures. It might be that this selection procedure has influenced the relationship between the three success measures.

If we discard theses two studies we have to acknowledge the following finding:

At the firm level exists no strong relationship between intensity, growth and profit measures of export activity.

This finding has important consequences: If these measures of export success are unrelated then it makes no sense to develop only one model which explains all three variables. Rather, we have to develop different models for each dimension, and we have to perform different meta-analyses for the different type of relationships. (Findings from Schlegelmilch, Schlegelmilch/Burton, Kleinschmidt/Cooper and others confirm this hypothesis by showing that growth and intensity are indeed influenced by different factors).

Under this perspective the empirical base to assess the relevance of "success factors" is rather small: There are only 5 studies which have used profitability measures as the dependent variable and 4 of these 5 rely on crude subjective rating scales. This is clearly a field where further research is needed.

Problems which are connected with the operationalization of the independent variables will be discussed in the "presentation of results section". We now come to step 6: "evaluation of data quality". This step contains two sub-steps: evaluation of data-collection techniques and assessment of data-analysis.

Figure 7 documents the methodological characteristics of data collection and measurement. Our assessment shows that the typical study

- uses a mailed questionnaire,
- shows a response rate below 30 %,
- does not report tests of reliability of measurement,
- does not report tests of validity of measurement,
- uses only one item to measure a construct,
- does not disclose its measures sufficiently, so that they can be reproduced.

With regard to the quality of the original data, the reliability and validity of the results have to be doubted.

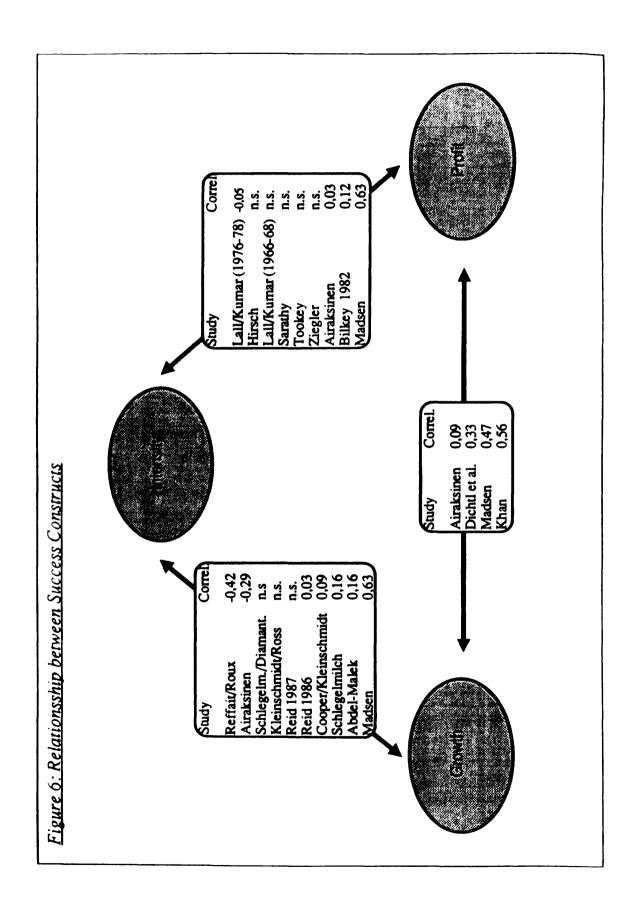


Figure 7: Data Collection and Measurement

		igure 7. L	old C	diection	MIM ME	DIM CITE	E/#			
Main Source	Data	Country	# of	Unit of	Instru-	Res-	Relia-	Vali-	Items	Docum.
	Age		Cases	Analysis	ment	ponse	bility	dity	per	of Mea-
						Rate %	Test	Test	Scale	sure
	1076	-								
Langeard et al.	1975	F	130	Firm	SecAnal.	no Inf.	no	no	one	part.
Hirsch/Bijaoui	1981	IL DE	111	Firm	SecAnal.	no Inf.	no	no	one	yes
Lall/Kumar	1979	IND	100	Firm	SecAnal.	no Inf.	no	no	one	yes
McF./W. 1st Study	1973	CDN	127	Firm	SecAnal.	no Inf.	no	no	one	yes
McF./W. 2nd Study	1973	CDN	324	Firm	SecAnal.	no Inf.	no	no	one	yes
Sarathy	1979	J	459	Firm	SecAnal.	no Inf.	no	no	one	yes
Airaksinen	1980	SF	104	Plant	Quest.	no Inf.	no	no	one	yes
Cavusgil	1982	USA	no Inf.	Firm	Quest.	no Inf.	no	no	one	part.
Daniels/Goyboro	1972	PE	190	Firm	Quest.	no Inf.	no	no	one	yes
Dichtl et al.	1983	D	104	Firm	Quest.	no Inf.	yes	yes	many	yes
Fenwick/Amine	1977	GB	48	Firm	Quest.	no Inf.	no	no	one	part.
Reffait	1979	F	138	Firm	Quest.	no Inf.	no	no		•
Tesar/Tarleton	1981	USA	190	Firm	Quest.	no Inf.	no	no	many	part.
Tookey	1962	GB	52	Firm	Quest.	no lnf.			one	part.
Garnier	1902	CDN	105	Firm	-		no	no	one	part.
	1979	USA			Quest.	11,1	no	no	one	no
Bilkey			168	Firm	Quest.	12,1	no	no	one	yes
McConnell	1978	USA	148	Firm	Quest.	13,0	no	no	m any	part.
Schlegelmilch	1982	D	74	Firm	Quest.	16,0	no	no	many	yes
Glejser et al.	1974	В	970	Firm	Quest.	16,2	no	no	one	yes
Johnston/Czinkota	1979	USA	181	Firm	Quest.	18,0	no	no	one	part.
Bilkey	1984	USA	190	Firm	Quest.	18,5	no	no	one	yes
Burton/Schlegelmilch	1982	GB, D	310	Firm	Quest.	20,7	пo	по	one	no
Ong/Pearson	1978	GB	88	Firm	Quest.	22,0	no	no	one	part.
McGuinness	1977	CDN	64	Product	Quest.	22,5	по	no	many	part.
Reid 1987	1983	I	67	Firm	Quest.	24,3	no	no	one	part.
Schlegelm./Diamant.	1982	GB	105	Firm	Quest.	26,0	no	no	one	yes
Reffait/Roux	1979	F	41	Firm	Quest.	26,5	no	no	one	part.
Cavusgil/Naor	1985	USA	263	Firm	Quest.	29,0	no	no	one	yes
N.N.	1987	GR	102	Firm	Quest.	32,4	no	no	one	part.
Moser/Topritzhofer	1977	A	208	Firm	Quest.	34,7	no	no	one	paart.
Kaynak/Stevenson	1981	CDN	183	Firm	Quest.	37,0	no	no	one	part.
Brooks/Rosson	1979	CDN	253	Firm	Quest.	44,0	no	no	many	part.
Cunningham/Spigel	1969	GB	48	Firm	Quest.	48,0	no	no	one	part.
Hirsch	1969	DK,NL,IL	497	Plant	Quest.	48,7	по	no	one	yes
Reid 1986	1979	CDN	89	Firm	Quest.	50,5	no	no	one	part.
Madsen	1986	DK	134	Venture	Quest. Quest.	52,0	yes	yes	many	yes
McGuinness/Little	1971	CDN	82	Product	Quest.	53,9	no yes	no yes	one	part.
					-	57,0	no	no		no no
McDougall/Stening	1975	CDN,NZ,AUS	175	Firm	Quest.				one	
Cavusgil/Nevin	1974	USA	473	Firm	Quest. Quest.	58,0	по	no	one	yes
Abdel-Malek	1978	CDN	166	Firm	Quest.	88,0	no	no	one	yes
Cooper et al.	1967	GB	21	Firm	Interv.	no lnf.	no	no	one	yes
Crookell/Graham	1976	CDN	136	Firm	Interv.	no Inf.	no	по	one	part.
Kirpalani/Macintosh	1978	CDN	34	Firm	Interv.	no Inf.	no	no	many	part.
•	1978	CDN.GB	21	Dyad	Interv.	no Inf.	no	no	one	yes.
Rosson/Ford		•		•	_	no Inf.			one	part.
Roux 1979	1979	F	19	Firm	Interv.	no ini. no Inf.	no	no		•
Simpson/Kujawa	1972	USA	120	Firm	Interv.		no	no	one	part.
Cooper/Kleinschmidt	1980	CDN	142	Firm	Interv.	43,0	yes	no	one	part.
Kleinschmidt/Cooper	1986	CDN	203	Product	Interv.	63,0	no	no	one	part.
Khan	1976	S	155	Venture	Interv.	79,0	no	no	one	yes
Roux 1987	1984	F	520	Firm	Interv.	82,1	no	no	one	part.

How is the data analysis to be evaluated? Figure 8 documents considerable defects in data analysis and documentation of results.

Many studies renounce at formulating specific hypotheses from the beginning. They simply want to explore how export success is related to certain variables. Typically such studies want to explore how exporters and non-exporters "differ".

Another group of studies outlines some frame of reference and formulates some hypotheses which are usually based on selective perceptions of previous findings, and sometimes also on discussions of theoretical arguments. However, these studies do not perform strict tests of their hypotheses. Rather, they typically use stepwise multivariate tools (regression or discriminant analysis) to find out the combination of influence factors which best fit their specific data set.

Only a small group of studies derive hypotheses which are tested in a fixed procedure during which all parameters are estimated simulaneously in one pre-specified model, or blockwise in a pre-specified sequence of different models.

We have to admit that the borderlines between these three types of studies are fluent and difficult to draw. The phenomen that different publications using the same data-source exhibit different methodological approaches makes the distinction even more difficult.

But, this is not the real problem. What I want to show is that *most* studies follow an exploratory approach. This adds considerable heterogeneity to the empirical findings and makes it even harder to compare and integrate the empirical results. Even if all the studies would use the same unit of analysis, the same set of independent and dependent constructs, and the same (valid and reliable) operationalizations we could not compare and integrate their reported *partial* effects, because these effects depend on the *other* variables which are included or excluded in the data-specific models.

Given our rather incomplete knowledge of the "real" influence factors of export success, it seems to be useful to follow an exploratory approach, at least in the early stages of research. This seems useful, because relying only on tests of pre-specified models would probably lead to model-specification errors (see Madsen's review for this problem). However, this does not imply that the one model which a researcher has constructed for one data-set with a given theoretical knowledge and given data-analytic tools could not be improved in the light of new experience gained by himself or other researchers. Therefore I want to make a strong plea not only to document only the results of one (stepwise) multivariate analysis. Rather, I propose to publish also the matrix of bivariate relationships, so that a later re-analysis or meta-analysis becomes possible.

Figure 8: Data Analysis and Results

Main Source	Derivation of	Method.	Statistical	Statistical	Decementia	Dog of	Dogulto
Mail Source	Hypothesis		Approach	Validity	Prognostic Validity	bivar.	
	Пурошов	Approach	Approach	v andity	v allulty	OIVAI.	muuv.
		Ex	ploratory Stu	dies	•		
Cunningham/Spigel	no	expl.	univariate	no	no	_	
Gamier	no	expl.	bivariate	no	no	part.	
Bilkey 1985	no	expl.	bivariate	no	no	yes	
Crookell/Graham	no	expl.	bivariate	no	no	yes	
Kaynak/Stevens	no	expl.	bivariate	no	no	yes	
Langeard et al.	no	expl.	bivariate	no	no	yes	
McDougall/Stening	no	expl.	bivariate	no	no	no	no
Tookey	no	expl.	bivariate	no	no	yes	
Daniels/Goyboro	no	expl.	bivariate	no	no	yes	
N.N.	no	expl.	bivariate	no	no	yes	
Reffait/Roux	no	expl.	bivariate	no	no	yes	
Roux 1979	no	expl.	bivariate	no	no	yes	
Burton/Schlegelmilch	no	expl.	stepwise	no	no	no	part.
Khan	no	expl.	stepwise	no	no	yes	yes
Moser/Topritzhofer	no	expl.	stepwise	no	no	no	yes
Roux 1983	no	expl.	stepwise	no	no	no	yes
Sarathy	no	expl.	stepwise	no	no	no	yes
Cavusgil/Naor	no	expl.	stepwise	part.	no	yes	yes
Bilkey 1982	no	expl.	blockwise	no	по	no	yes
Kirpalani/Macintosh	no	expl.	blockwise	no	no	yes	yes
		Hypothesi	is Oriented S	tudies			
Cavusgil 1982	yes:firm/man./activ.	expl.	bivariate	no	no	1444	
Johnston/Czinkota	yes:manager	expl.	bivariate	no	no no	yes	
Kleinschmidt/Cooper	yes:activities	ехрі. expl.	bivariate	no	no	yes yes	
Tesar/Tarleton Virg.	yes:firm/manager	expi. expl.	bivariate	no	no	yes	
Simpson/Kujawa	yes:manager	expl.	bivariate	no	no	yes	
Cavusgil/Nevin	yes:firm/manager	expl.	stepwise	no	no	no	yes
McGuinness	yes:firm/activities	expl.	stepwise	no	no	yes	yes
Ong/Pearson	yes:activities	expl.	stepwise	no	no	yes	part.
Reffait	yes:firm/man./activ.	_	stepwise	no	no	yes	yes
Reid 1987	yes:firm/activities	expl.	stepwise	no	пo	yes	yes
Roux 1987	yes:manager	expl.	stepwise	no	no	yes	yes
Schlegelm./Diamant.	yes:activities	expl.	stepwise	no	no	no	yes
Schlegelmilch	yes:activities	expl.	stepwise	no	no	no	yes
Dichtl et al.	yes:manager	expl.	stepwise	no	yes	yes	yes
Reid 1986	yes:firm/activities	expl.	blockwise	no	no	no	yes
Madsen	yes:firm/man./activ.	•	blockwise	part.	no	yes	yes
	•	-	is Testing St	udies			
A. 4-1 84 1 1					-		
Abdel-Malek	yes: firm/manager	prob.	bivariate bivariate	no	no	yes ves	
Brooks/Rosson	yes:man./activities	prob.	bivariate	no	no no	yes ves	
Rosson/Ford	yes:activities	prob.	bivariate	no no	no	yes yes	
Hirsch	yes:firm yes:activities	prob.	blockwise		no	yes yes	yes
Cooper/Kleinschmidt	· ·	prob.	blockwise	no no	no	no no	yes yes
Lall/Kumar	yes:firm	prob.	simultan.	no no	no	no	yes
Airaksinen	yes:firm	prob.				no	yes yes
Cooper et al.	yes:market	prob.	simultan	no	no	no	yes
Glejser et al.	yes:firm	prob.	simultan.	no	no	no	yes
McFetr./Weatherly	yes:firm	prob.	simultan.	ло	no		•
Fenwick/Amine	yes:firm/activities	prob.	simultan.	yes	no	no no	yes yes
McGuinness/Little	yes:firm/man./activ.		simultan.	no	no		-
Hirsch/Bijaoui	yes:activities	prob.	simultan.	no	yes	yes	yes

A well-known problem of stepwise procedures is the risk of capitalization on chance. Given this problem one is worried by the fact that few studies report how they have tested the assumptions of the statistical tools used. This casts severe doubts on the statistical validity of many analyses. Only two studies (Dichtl et al., Hirsch/Bijaoui) use new data to test the prognostic validity of their models. (Fenwick/Amine use hold-outs and jack-knife-estimation-technique to validate their finding). I have to add that many studies in the first group ("exploratory studies") do not even use any statistical test.

The next step in a meta-analysis is the <u>analysis of relationships</u>. For this step, four different strategies have been developed:

- 1. pooling of raw-data,
- 2. estimation and analysis of effect sizes,
- 3. combination of significance levels,
- 4. classification of results ("vote-counting").

Since raw-data were not available, my preferred choice was the estimation and analysis of effect sizes (cf. e.g. Schmidt/Hunter/Jackson or Hedges/Olkin). With these methods I wanted to exploit the large empirical data base.

However, five factors strongly restrict the potential of this data-base:

1. The extreme diversity of the studies:

The studies use different units of analysis (firms, plants, products, export ventures), different performance aspects (export share, growth, profitability), different sets of success factors, different operationalizations of independent and dependent variables, and a variety of different statistical procedures. This makes it rather difficult to compare the results and to reconcile conflicting findings.

2. The low quality of the data gathered.

Most studies rely on self-administered questionnaires, have a response rate under 30 %, use only one item to measure a success factor, and do not check reliability or validity.

3. The exploratory nature of data analysis.

Many studies use stepwise data-analytique techniques to identify critical success factors instead of testing pre-specified models. This leads to a diversity of data-dependent models whose partial effects cannot be compared across studies.

4. The lack of theoretical arguments.

The "hypotheses" are often formulated very vague, (e. g. exporters and non-exporters "differ"), it is seldom explained why and how "success factors" make a difference, contingencies are seldom postulated before the data-analysis, and there are no path-analytic models which separate direct and indirect effects. In addition, theoretical reasoning is required to clarify the causal direction of influences. E. g. is a large firm size or an intensive R&D-activity a consequence of growing exports or a condition for successful exporting?

5. Insufficient disclosure of measurement and data-analytic procedures.

Many measurements cannot be reproduced, or even evaluated because the wordings of the questions are not given. The statistical validity of results can not be assessed because the procedures are not explained. Only significant partial effects of the final multivariate analysis are reported, but the basic bivariate relationships which could be compared across studies are omitted. Therefore meta-analytic techniques cannot be applied.

Faced with these problems I have developed an ordinal scale to evaluate the findings. It has the following levels and meanings:

- ++ the study shows one or more results wich confirm the hypothesis at a significance level of 5 % or better (one-sided test),
- + the overall tendency of the study confirms the hypothesis, but a minority of results or, less appropriate indicators fail to confirm the hypothesis, or no significance tests have been performed,
- the study does not support the hypothesis, but according to measurement problems or stepwise procedures the reported evidence is not strong enough to falsify the hypothesis,
- the study falsifies the hypothesis by a significant result whose direction is contrary to the hypothesis, and which cannot be explained by artifacts (e.g. multicollinearity).

This scale deserves some comments.

- 1. The Scale was constructed to show the *central tendency* of the findings. Misclassifications of single studies on single indicators can't be excluded, particularly because of the insufficient disclosure of data collection, data analysis and results, but several mechanisms were used to improve the reliability of the classification:
 - all classifications were made by the same senior researcher,
 - separate classifications were made for each success factor,
 - for each independent variable a codebook was developed which describes the content of the construct and contains a list of all operationalizations which were embraced to this construct, and of those which were excluded.
 - results which were influenced by specific defects of a study were carefully documented.
- 2. The relationships are evaluated by a simple counting procedure: I count how often a category value occurs. The categories "0" and "-" have been collapsed because definite falsifications occured too seldom. Such vote-counting procedures are well-known for its conservative behaviour. For small effect sizes and small sample sizes the probability of making a type II error is rather high. Olkins and Hedges show that it will increase with an increasing number of counted studies and converge toward 1 if the number of studies goes toward infinity. However, our scale probably has a positive bias. I had to

rely on the positive results which were reported. "Non"-significant results are often omitted, and sometimes hard to interpret. E. g. in the organizational theory size of a firm is well-known to influence functional specialisation. Therefore one can expect that larger firms do more often have a full-time manager for the export function than smaller firms. If the variable "export department" has a significant positive partial influence in a step-wise analysis and the size-variable is not significant, then one cannot conclude that size has no influence on export intensity, because it indirectly influences export intensity via functional specialisation. Therefore non-significant partial effects have usually been neglected. (Besides, if partial effects conflicted with bivariate effects the latter were given higher weight).

To make comparisons between influence factors easier I have constructed a "confirmation ratio". It is defined as:

The last step of our procedure is the <u>presentation of results</u>. Table 1 documents my findings. It shows that four prominent success factors have been researched rather frequently:

- 1. Size of a firm (43 findings),
- 2. Export-oriented information activities (34 findings),
- 3. Intensity of R&D (31 findings),
- 4. Export-oriented product adaptations and services (19 findings).

All four factors show a positive influence on export share of total sales, but only exportoriented information activity also shows a stronger positive influence on growth and profitability of export.

The other factors which have been evaluated document that (perceived) product strength, the importance of growth as a goal of the firm, exports perceived contribution to growth or profit goals, managers foreign orientation, export restraints laid upon foreign owned firms, existence of an export department, and attractiveness of export market and saturation of domestic market correlate positively with export intensity. Perceived Product strength, expected profit or growth contribution of exporting, attractiveness of export market and saturation of home market also show positive correlation with growth and profitability of exporting but these tendencies are based on a much smaller number of results.

These findings deserve some comments.

The positive relationship between size of a firm and export intensity needs to be clarified. I first have to add findings which document a positive relationship between absolute domestic sales volume and export sales volume (e. g. Fenwick/Amine, McFetridge/Weatherly). These rather trivial findings have been neglected in Table 1, because absolute volume scale were usually discarded. The economically interesting question is: Do larger firms also export a larger share of their sales? A positive answer to this question would support the assumption that larger firms have special scale economies which facilitate exporting. The evidence for this relationship is less conclusive. In the following table

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I have divided the 30 findings into those which used metric export-share scales and studies which used dichotomies ("exporters vs. non-exporters") or crude ordinal scales. One can see that 8 of the 9 findings which failed to support the hypothesis were gained from studies with metric scales. (The one study with dichotomous scales which failed to confirm the hypothesis was Cavusgil 1982. He compared interested non-exporters with low-exporters (under 10 % export-share). This is an atypical comparison). The reader should notice that the dichotomous scales were often used in studies where smaller firms dominated. Thus we may conclude: up to a certain minimum size the probability of exporting in industries with export potential rises with increasing size, but beyond this limit, there is only a weak association between size and exporting. These findings are confirmed by macro-analytic investigations which have tried to identify critical minimum sizes for exporting (Auquier). We cannot conclude from this finding that a higher concentration of firms is needed to stay competitive, because there do exist much more small firms than larger firms. The macro-analytic investigation from Kubista shows that this effect often outweighs the threshold effect, so that in many industries the export share of all small firms is rather high and not necessarily declining.

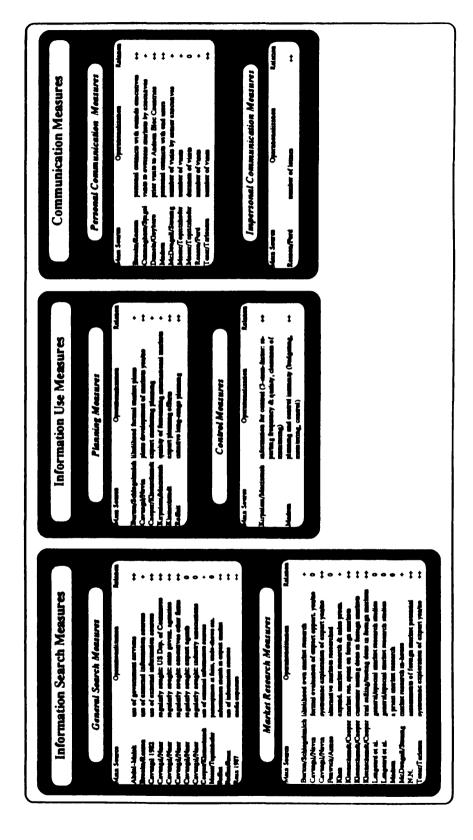
Table 2: Relationship between Size and Export Intensity

Export Intensity	Empi	rical Relation	ship	
Measurement	++	+	0/-	Sum
Non-Metric Scale	9	2	1	12
Metric Scale	5	5	8	18

Intensity of R&D shows a positive relationship with export intensity but not with export growth. This is an interesting finding which should be analysed in-depth by future studies. A high R&D activity appears to be necessary to defend a competitive position in the world-market, but seems to be not sufficient to expand export activity, at least in the shorter run.

It is surprising that information-activity is positively related to all three measures of export success. It appears to be a variable which has been neglected in the export-marketing field as a critical success factor. This raises the question: How was information behavior measured? Which phenomena are hidden behind this variable? Figure 9 shows three groups of measures: information search measures, information use measures, and communication measures. All three groups show positive influences, particularly planning and control measures. It seems very promising to study these factors in depth and build upon the rich empirical research traditions which have been developed in the decision-making and information behavior field.

Figure 9: Measurement of Information Activity



References of Analysed Empirical Studies

- Abdel-Malek, T.: Managerial Export-Orientation. A Canadian Study. School of Business Administration University of Western Ontario: 1974.
- Abdel-Malek, T.: Export Marketing Orientation in Small Firms. American Journal of Small Business, 3 (1978), pp. 25-34.
- Airaksinen, T.: Export Performance of the Firms in the Finnish Engineering Industry. Helsinki School of Economics: 1982.
- Bilkey, W. J.: Variables Associated with Export Profitability. Journal of International Business Studies, 13 (1982), pp. 39-55.
- Bilkey, W. J.: Development of Export Marketing Guidelines. International Marketing Review, 2 (1985), pp. 31-40.
- Bilkey, W. J. und Tesar, G.: The Export Behavior of Smaller-Sized Wisconsin Manufactoring Firms. Journal of International Business Studies, 8 (1977), pp. 93-98.
- Bradley, M. F. und Keogh, P.: Export Management: Motivated Openminded. Journal of Irish Business and Administrative Research, 3, Heft 2 (1981), pp. 29-40.
- Brooks, M. R. und Rosson, Ph. J.: A Study of Export Behavior of Small and Medium-Sized Manufactoring Firms in Three Canadian Provinces. In: M. Czinkota and G. Tesar (Eds.): Export Management., Praeger Publishers: 1982, pp. 39-54.
- Burton, F. N. und Schlegelmilch, B. B.: Profile Analyses of Non-Exporters versus Exporters Grouped by Export Involvement. Management International Review, 27 (1987), pp. 38-49.
- Cavusgil, S. T.: Organizational Determinants of Firms' Export Behavior: An Empirical Analysis. Dissertation: 1976.
- Cavusgil, S. T.: Some Observations on the Relevance of Critical Variables for Internationalization Stages. In: M. Czinkota and G. Tesar (Eds.): Export Management., Praeger Publishers: 1982, pp. 276-286.
- Cavusgil, S. T.: Organizational Characteristics Associated with Export Activity. Journal of Management Studies, 21 (1984), pp. 3-22.
- Cavusgil, S. T. und Naor, J.: Firm and Management Characteristics as Discriminators of Export Marketing Activity. Journal of Business Research, 15 (1987), pp. 221-235.
- Cavusgil, S. T. und Nevin, J. R.: Internal Determinants of Export Marketing Behavior: An Empirical Investigation. Journal of Marketing Research, 18 (1981), pp.

- 114-119.
- Cavusgil, S. T., Bilkey, W. J. und Tesar, G.: A Note on the Export Behavior of Firms: Exporter Profiles. Journal of International Business Studies, 10 (1979), pp. 91-97.
- Cooper, R. A., Hartley, K. und Harvey, C. R. M.: Export Performance and the Pressure of Demand. A Study of Firms. Allen and Unwin: 1970.
- Cooper, R. G. und Kleinschmidt, E. J.: The Impact of Export Strategy on Export Sales Performance. Journal of International Business Studies, 16 (1985), pp. 37-55.
- Crookell, H. und Graham, I.: International Marketing and Canadian Industrial Strategy. The Business Quarterly, 44 Spring (1979), pp. 28-34.
- Cunningham, M. T. und Spigel, R. I.: A Study in Successful Exporting. British Journal of Marketing, 5 (1971), pp. 2-12.
- Czinkota, M. R. und Johnston, W. J.: Exporting: Does Sales Volume Make a Difference? Journal of International Business Studies, 14 (1983), pp. 147-153.
- Daniels, J. D. und Goyburo, J.: The Exporter-Nonexporter Interface: A Search for Variables. Foreign Trade Review, 11 (1976), pp. 258-282.
- Dichtl, E., Köglmayr, H.-G. und Müller, St.: Die Auslandsorientierung von Führungskräften: Eine Schlüsselvariable für Exportförderung und Exporterfolg. In: E. Dichtl und O. Issing (Eds.): Exporte als Herausforderung für die deutsche Wirtschaft., Deutscher Instituts-Verlag: 1984, pp. 429-462.
- Dichtl, E., Köglmayr, H.-G. und Müller, St.: Die Auslandsorientierung als Voraussetzung für Exporterfolge. Zeitschrift für Betriebswirtschaft, 56 (1986), pp. 1064-1076.
- Dichtl, E., Leibold, M., Köglmayr, H.-G. und Müller, S.: The Foreign Orientation of Management as a Central Construct in Export-Centered Decision-Making Processes. Research for Marketing, 10 (1983), pp. 7-14.
- Fenwick, I. und Amine, L.: Export Performance and Export Policy: Evidence from the U.K. Clothing Industry. Journal of the Operational Research Society, 30 (1979), pp. 747-754.
- Ford, D. und Rosson, Ph. J.: The Relationships between Export Manufacturers and Their Overseas Distributors. In: M. Czinkota and G. Tesar (Eds.): Export Management., Praeger Publishers: 1982, pp. 257-275.
- Garnier, G.: Comparative Export Behavior of Small Canadian Firms in the Printing and Electrical Industries. In: M. Czinkota and G. Tesar (Eds.): Export Management., Praeger Publishers: 1982, pp. 113-131.
- Glejser, H., Jacquemin, A. und Petit, J.: Exports in an Imperfect Competition Framework: An Analysis of 1,446 Exporters. The Quarterly Journal of Econo-

- mics, 94 (1980), pp. 507-524.
- Hirsch, S.: The Export Performance of Six Manufacturing Industries. A Comparative Study of Denmark, Holland, and Israel. Praeger Publishers: 1971.
- Hirsch, S. und Adar, Z.: Firm Size and Export Performance. World Development, 2, No. 7 (1974), pp. 41-46.
- Hirsch, S. und Bijaoui, I.: R&D Intensity and Export Performance: A Micro View. Weltwirtschaftliches Archiv, 121 (1985), pp. 238-251.
- Hunt, H. G., Frogatt, J. D. und Hovell, P. J.: The Management of Export Marketing in Engineering Industries. British Journal of Marketing, Spring (1967), pp. 10-24.
- Johnston, W. J. und Czinkota, M. R.: Managerial Motivations as Determinants of Industrial Export Behavior. In: M. Czinkota and G. Tesar (Eds.): Export Management., Praeger Publishers: 1982, pp. 3-17.
- Kaynak, E. und Stevenson, L.: Export Orientation of Nova Scotia Manufacturers. In: M. Czinkota and G. Tesar (Eds.): Export Management., Praeger Publishers: 1982, pp. 132-145.
- Khan, M. S.: A Study of Success and Failure in Exports. Akademilitteratur: 1978.
- Kirpalani, V. H. und Macintosh, N. B.: International Marketing Effectiveness of Technology-Oriented Small Firms. Journal of International Business Studies, 11 (1980), pp. 81-90.
- Kleinschmidt, E. J.: The Impact of Foreign Ownership on the Export Behavior of Industrial Firms. McMaster University: 1986.
- Kleinschmidt, E. J. und Cooper, R. G.: The Performance Impact of an International Orientation on Product Innovation. Arbeitspapier: 1986.
- Kleinschmidt, E. J. und Ross, R. E.: Export Performance and Foreign Market Information: Relationships for Small High-Technology Firms. Journal of Small Business, 2, No. 2 (1984), pp. 8-23.
- Lall, S. und Kumar, R.: Firm-Level Export Performance in an Inward-Looking Economy: The Indian Engineering Industry. World Development, 9 (1981), pp. 453-463.
- Langeard, E., Reffait, P. und Roux, E.: Les composantes de la performance commerciale des candidats aux Oscars de l'exportation. Institut D'Administration des Entreprises: 1976.
- Langeard, E., Reffait, P. und Roux, E.: Profil Commercial de l'Exportateur Français. Revue Française de Gestion, novembre - decembre (1976), pp. 91-109.
- Lee, W.-L. und Brasch, J. J.: The Adoption of Export as an Innovative Strategy. Journal of International Business Studies, 9 (1978), pp. 85-93.

- Madsen, T. K.: Eksportsucces: Hvad og hvordan? En empirisk undersøgelse af nogle Danske fremdstillingsvirksomheders eksportaktiviteter. Dissertation: 1987.
- McConnell, J. E.: The Export Decision: An Empirical Study of Firm Behavior. Economic Geography, 55 (1970), pp. 171-183.
- McDougall, G. H. G. und Stening, B. W.: Something to Think About: Identifying the High Performance Exporter. Canada Commerce, December 1975 (1975), pp. 12-15.
- McFetridge, D. G. und Weatherly, L. J.: Notes on the Economics of Large Firm Size.

 Minister of Supply and Services: 1977.
- McGuinness, N. W.: The Influence of Research and Development on Foreign Sales Performance. In: A. M. Rugman (Eds.): Multinationals and Technology Transfer. The Canadian Experience. 1983, pp. 126-141.
- McGuinness, N. W. und Little, B.: The Influence of Product Characteristics on the Export Performance of New Industrial Products. Journal of Marketing, 45 (1981), pp. 110-122.
- McGuinness, N. W. und Little, B.: The Impact of R&D Spending on the Foreign Sales of New Canadian Industrial Products. Research Policy, 10 (1981), pp. 78-98.
- Moser, R. und Topritzhofer, E.: Exploratorische LOGIT- und PROBIT-Analysen zur empirischen Identifikation von Determinanten der Exporttüchtigkeit von Unternehmen. Zeitschrift für Betriebswirtschaft, 49 (1979), pp. 873-890.
- Müller, St. und Köglmayr, H.-G.: Die psychische Distanz zu Auslandsmärkten: Ein verkanntes Exporthemmnis. Schmalenbachs Zeitschrift für betriebswirtschaftliche Forschung, 38 (1986), pp. 788-804.
- Ong, C. H. und Pearson, A. W.: The Impact of Technical Characteristics on Export Activity: A Study of Small and Medium-Sized UK Electronic Firms. R & D Management, 12 (1982), pp. 189-196.
- Pavord, W. C. und Bogard, R. G.: The Dynamics of the Decision to Export. Akron Business and Economic Review, Spring (1975), pp. 6-11.
- Piercy, N.: Company Internationalisation: Active and Reactive Exporting. European Journal of Marketing, 15 (1981), pp. 26-40.
- Reffait, P.: Corrélation entre le Profil du Responsable Export et la Réussite Internationale de l'Entreprise. L'Exportation, (1984), pp. 72-94.
- Reffait, P. und Roux, E.: Correlates of Small Business Export Performance. Institut d'Administration des Entreprises: 1979.
- Reffait, P. und Roux, E.: Le Profil Idéal de la P.M.I. Exportatrice. Revue Française de

- Gestion, janvier-février (1981), pp. 88-96.
- Reffait, P. und Roux, E.: Marketing des Produits Agricoles: Les Voies du Succès à l'Exportation. Revue Française du Marketing, 102 (1985), pp. 95-107.
- Reid, St.: Is Technology Linked with Export Performance in Small Firms. In: H. Hübner (Eds.): The Art and Science of Innovation Management., Elsevier Science Publishing Company: 1986, pp. 273-283.
- Reid, St.: Export Structures, Strategy and Performance: An Empirical Study of Small Italian Manufacturing Firms. In: P. Rosson und St. Reid (Eds.): Managing Export Entry and Expansion: Concepts and Practice., Praeger Publishers: 1987, pp. 335-357.
- Rosson, P. J. und Ford, I. D.: Manufacturer-Overseas Distributor Relations and Export Performance. Journal of International Business Studies, 13 (1982), pp. 57-72.
- Roux, E.: The Export Behavior of Small and Medium Size French Firms: The Role of the Manager's Profile. In: Mattsson, L. G. und Wiedersheim-Paul, F. (Eds.): Recent Research on the Internationalization of Business. Proceedings from the Annual Meeting of the European International Business Association, Uppsala, 14.-17.12.1977., Almqvist & Wiksell International: 1979, pp. 88-101.
- Roux, E.: Interaction Effects of Managerial and Firm Factors on Export Performance. CERRESSEC: 1983.
- Roux, E.: Firm and Managerial Determinants of Small Business Export Performance. Working Paper: 1983.
- Roux, E.: Manager's Attitudes Toward Risk Among Determinants of Export Entry of Small- and Medium-Sized Firms. In: P. Rosson und St. Reid (Eds.): Managing Export Entry and Expansion: Concepts and Practice., Praeger Publishers: 1987, pp. 95-110.
- Sarathy, R.: The Financial Basis of Export Success: An Analysis of Japan's Major Industrial Exporters. In: M. Czinkota and G. Tesar (Eds.): Export Management., Praeger Publishers: 1982, pp. 200-213.
- Sarathy, R.: Inter-Industry Differences in Export Activity Among Japanese Corporations. In: H. Simon (Eds.): Proceedings of the Annual Conference 1985 of the European Marketing Academy., EMAC: 1985, pp. 100-109.
- Schlegelmilch, B.: Controlling Country-Specific and Industry-Specific Influences on Export Behaviour. European Journal of Marketing, 20 (1986), pp. 54-71.
- Schlegelmilch, B.: Der Zusammenhang zwischen Innovationsneigung und Exportleistung. Ergebnisse einer empirischen Untersuchung in der deutschen Maschinenbauindustrie. Schmalenbachs Zeitschrift für betriebswirtschaftliche Forschung, 40 (1988), pp. 227-242.

- Schlegelmilch, B. und Crook, J. N.: Firm Level Determinants of Export Intensity. Department of Business Studies: 1986.
- Schlegelmilch, B. und Diamantopoulos, A.: The Impact of Innovativeness on Export Performance: Empirical Evidence from the U.K. Mechanical Engineering Industry. Department of Business Studies: 1987.
- Simpson, C. L. und Kujawa, D.: The Export Decision Process: An Empirical Inquiry. Journal of International Business Studies, 5 (1974), pp. 107-117.
- Tesar, G.: Empirical Study of Export Operations Among Small and Medium-Sizes Manufacturing Firms. Dissertation: 1975.
- Tesar, G. und Tarleton, J. S.: Comparison of Wisconsin and Virginia Small- and Medium-Sized Exporters: Aggressive and Passive Exporters. In: M. Czinkota and G. Tesar (Eds.): Export Management., Praeger Publishers: 1982, pp. 85-112.
- Tookey, D. A.: Factors Associated with Success in Exporting. The Journal of Management Studies, 1 (1964), pp. 48-66.
- Ziegler, W.: Die Unternehmerbeurteilung als Instrument zur Früherkennung von Kreditrisiken. Universität Hohenheim, Dissertation: 1984.