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Nilsson, Carl-Henric

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STRATEGIC ALLIANCES: Optimistic Fiction or Negative Fact?

Carl-Henric Nilsson[9]

Introduction

Strategic alliances (SA) have become increasingly popular as a strategic option in industry and as a research area for scholars during the last decade. More strategic alliances have been formed since 1981 than in all previous years (Anderson, 1990), and

> "Alliances have become an integral part of contemporary strategic thinking" (Sherman, 1992, p77).

The literature reports an increasing frequency of alliance formation (Harrigan, 1987; Dowling, 1993) and also predicts that this trend will continue, and that the alliances will become globally orientated (Lei and Slocum, 1991). Global strategic partnerships have

> "become an important new strategic option that touches every sector of the world economy, from sunrise to sunset industries, from manufacturing to services" (Perlmutter and Heenan, 1986, p.136).

Ohmae (1989) goes one step further by stating that globalisation makes strategic alliances absolutely essential to corporate strategy.

Such general optimistic opinions are presented primarily by authors using examples of successful alliances as their fundamental source of empirical evidence (eg Roberts, 1992; Spiegel, 1993). This rather glossy picture is however contradicted by others (eg Takac and Singh, 1992), who remind the reader that problems do exist in strategic alliances and that they can be difficult to overcome. Empirical research also points in this direction. Harrigan (1988) made one of the most extensive surveys of alliance success, examining 895 different strategic alliances from 1924 to 1985. She found that in 54.7% of the alliances the expectations of at least one of the alliance partners were not met. Scientific case studies support these conclusions and also present risks involved in co-operation, such as diffusion of core skills to alliance partners (Hamel, 1991).

A closer inspection reveals that the picture conveyed by the aggregated literature on strategic alliances might not be a true reflection of the realities of the business world. As an example, we can contrast Harrigan's findings of an approximately equal share of successful and unsuccessful alliances with the findings of the present analysis, where over four times as many successful as unsuccessful examples of alliances were mentioned.

There seems to exist a great divide between, on the one hand, the optimistic feeling and rosy picture concerning strategic alliances conveyed in the literature and, on the other hand, the empirical facts concerning alliances. The fact that a failed relationship

> *"isn't the kind of thing you like to write up in a press release"*
> (De Young and Davis, 1990, p36)

is of course one explanation of the lack of empirical evidence of failures, but this is not sufficient to explain the divide and the exceedingly positive attitudes towards strategic alliances.

The main purpose of this article is to analyse, in a systematic way, to what extent there actually exists a divide between the optimistic fiction on strategic alliances presented in the majority of the literature and the empirically grounded facts of high failure rates presented in other articles. A secondary purpose is to examine if the divide can be explained in terms of author profession, 'scientificness' and empirical grounding.

The methodology used is an integrative research review, or meta-analysis, of 121 articles, with strategic alliance in the title, found in ABI-Inform from 1971 up to 1993. The scheme of the article is as follows. The literature on alliances and other intermediary forms is reviewed with the perspective of co-operation as an alternative, or rather complement, to competition. Then the possible divide between the optimistic and negative empirical literature is outlined. Following this the methodology is presented and thereafter the results of the meta-analysis are presented and discussed. Finally, conclusions are drawn and suggestions for future research presented.

Competition And Co-operation

Competitive strategy is, by tradition, viewed from the perspective of a company competing in a market against its rivals. It is based on the company's ability to protect information and conceal its intentions from the competition (Turner, 1988), thus retaining the company's competitive edge. Co-operative arrangements such as strategic alliances, however, lift the level of analysis to a collective, or inter-company, level. Bresser (1988) argues that, under certain circumstances, companies can use collective strategies in combination with competitive strategies to achieve common goals. However, the fundamental tension between co-operation and collaboration remains and varies according to his typology. O'Brien and Tullis (1989) suggest that the boundaries between competition and co-operation are shifting in favour of co-operation. The increasing interest in co-operative arrangements, such as strategic alliances, can be explained by this shift. But why are the boundaries shifting in the first place?

O'Brien and Tullis suggest a series of trends which will gain momentum and further shift the prerequisites for companies in the 90's: increasing costs of R&D and the commercialisation phase, increasing scale of industrial projects demanding a very large or even global market for the product, shorter product life cycles which

make time an important factor, political changes and changes in barriers between different markets, making it necessary to adapt rapidly to a turbulent environment.

Harrigan (1988a) maintains that strategic alliances represent a significant change in industry structure as well as in the competitive behaviour of firms. In order not to be beaten by the competition, and considering the company's environment as a complex, uncertain world filled with dangerous opponents, Ohmae (1989, p143) suggests: *"It's best not to go it alone"*.

According to Lewis (1992) the best firms are sweeping past their rivals, in sector after sector, with strategic alliances. Managers have to ask themselves if there is not some truth in the old saying: *"If you can't beat them join them"*.

Optimistic Literature On Alliances

There is a grave risk of being overrun by co-operating competitors, so just as a precaution, companies should join forces to block off the competition. Your competitors must be regarded as potential strategic resources.

> *"Strategic alliances make it possible to draw on excellence from anywhere in the world"* (Mason, 1993, p10).

There is no indisputable definition of a strategic alliance in the literature. However, there is an implicit understanding among the authors, of what a strategic alliance is. It is implicit since two thirds of the authors do not present their definition, although there exists an understanding since the discussion in the literature does not indicate any grave difference of opinion concerning the topic of discussion. In order to indicate what we mean by a strategic alliance, we present a working definition. A strategic alliance must fulfil two major criteria: it has to be an alliance, ie more than one company involved, excluding mergers and acquisitions, and the alliance must be strategic, that is it must have a substantial impact on each participating company's long-term goal, thus excluding, for instance, short-term supplier agreements.

The case for collaboration is "stronger than ever" (Hamel, Doz and Prahalad, 1989, p133). If strategic alliances are so favourable, what are the inducements? Three groups of motives can be distinguished: efficiency, timeliness and flexibility.[1]

Efficiency factors are always relevant to strategic issues, in both the production and distribution dimension. Examples of efficiency factors are: economies of scale (eg Gross and Neuman, 1989; Lewis, 1990) for instance, via new production technology (Lewis, 1990; Modic, 1988); and economies of scope through, for instance, market expansion (Gross and Newman, 1989). Hennart (1988) also refers to efficiency factors and bases his explanation on transaction cost theory, which is especially relevant in strategic alliances.

The increasing speed of technological change is a major driving force for joining forces, as is the need of organisational learning (Pucik, 1988).

"Alliances may be seen as a way of short-circuiting the process of skills acquisition and thus avoiding the opportunity cost of being a perpetual follower" (Hamel, 1991, p99).

Today,

"the penalty for standing still is far higher than the cost of change" (Bower and Hout, 1988, p111).

Timeliness, manifested primarily as speed to market is demanded due to shorter product life cycles (Merrifield, 1992, p77), and this narrows the market window time-wise for a product. The total time in the market can be increased by beating the competition to the market or by product innovation, as an extension at the end of the normal product life cycle. Weimer, Knill, Modic and Potter (1988), argue that strategic alliances and simultaneous engineering are manifestations of one and the same global force, to cope with the increasing complexity of the world. Simultaneous engineering can also be a means of reaching the market quickly.

Flexibility comes in several different flavours, a fact to which surprisingly few authors pay attention. Nevertheless, different types of flexibility are regarded as a prime motive for alliance formation as well as a success factor. The discussion on flexibility in the literature follows these two main routes. Firstly, flexibility is viewed as a motive for forming the strategic alliance, enhancing the relationship with the customers (Hagedoorn and Schakenraad, 1992). This flexibility can be achieved in response to market changes and technological changes (Modic, 1988). Secondly, flexibility is viewed as a success factor needed to forge a strategic alliance, either viewed as flexible structures on the alliance level (Parkhe, 1991), or viewed from the perspective of the individual company (Borys and Jemison, 1989; Hagedoorn and Schakenraad, 1992). The alliance is a revitalised organisation gaining 'youthful flexibility', provided it is unbound by the administrative routines of the extant organisation (Olleros and Macdonald, 1988, p159).

According to the majority of the literature strategic alliances are a great idea. The current trends are towards a globalisation of products, technology, competition and alliances.

"This trend cannot be reversed and we do not wish to turn back this drive towards the future, with all of its opportunities . . ." (Hahn, 1988, p19).

Strategic alliances have become a managerial panacea, it appears.

A closer inspection, however, reveals reasons to question the optimism commonly found in the literature. The articles often seem to be practically, as opposed to scientifically, orientated. Furthermore, the articles appear to be short and frequently published in non-refereed journals. The authors seem to lean heavily on success stories and examples as empirical grounding. Case studies of successful alliances are also common, while surveys are very rare.

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Empirical Research On Alliance

Given the entertained suspicion that part of the literature on strategic alliances is at least a little over-optimistic, how do strategic alliances perform on average? A broad survey seems to be the most appropriate method to go about answering that question.

Porter (1987) studied the diversification programmes of

> *"33 large prestigious US companies over the period 1950-1986 and found that most of them had divested many more acquisitions than they had kept".*

A longitudinal study is argued to be a telling way of studying the success and failure of strategies. During the period, the studied companies made 2644 entries into new industries. The entries are divided into acquisitions, joint ventures and internal start-ups. Joint ventures, which are closely related to strategic alliances[2] is the smallest group, accounting for 8% of the empirical material, adding up to just over 200 occurrences. The vast majority of the empirical material, 70%, is acquisitions. The study provides the opportunity of relating one of the predominant types of alliances to other types of expansion possibilities. The results indicate a 50% divestiture rate for the joint venture expansion attempts made up to 1980 and divested before 1987. The corresponding rates were 44% for internal start-ups and 74% for acquisitions. We must, however, bear in mind that Porter's study is aimed only at diversification strategies, joint venture is the only form of alliance in the study, and failure is measured by divestiture rate, which is highly questionable (Parkhe, 1991).

The success rates of strategic alliances are frequently discussed, but the definitions of SA success and SA performance vary. Porter's study is aimed at measuring divestiture, which may not be a valid measure of alliance success, since alliances can be intended to have a limited duration in time as well as being long lasting. Anderson (1990) discusses how the performance of a joint venture should be assessed. She found

> *"startlingly little information on how (and even if) firms monitor and weigh their joint ventures' performance"* (Ibid, p20).

The study makes the distinction between indicators of performance and determinants of performance. Evaluation of joint ventures is contrasted with evaluation of wholly owned subsidiaries and the conclusion is that joint ventures differ in many respects and should therefore be evaluated according to *"a more balanced, often more subjective, approach . . ."* (Ibid, p29), *"primarily as stand-alone entities, seeking to maximise their own performance not the parents'"* (Ibid, p23). We must note that Anderson's concerns are joint ventures, which are stand-alone entities, to a greater degree than strategic alliances generally are.

Harrigan's (1988b) study is limited to *"business activities where partners may co-operate"* (Ibid, p53) thus excluding acquisitions and internal start-ups. Furthermore, this definition includes not only joint ventures but also other forms of inter-firm co-operation. 895 alliances were studied worldwide, but the material has

a heavy American preponderance, with 93% of the alliances having at least one American partner.

Alliances are defined as successful in Harrigan's study if they are *"mutually assessed to be successful by their sponsors"* (Ibid, p54). Harrigan, as opposed to Anderson, takes the sponsoring firms' view. The author advocates the idea that partner asymmetries are the driving force for the starting and continuing of an alliance. The other partner has something that you don't have, but you need.

An overall failure rate of 54.7% for alliances was found. Further analysis is carried out as a function of industry, exploring the influence of the sponsoring firms' nationality, relative asset size, and also relatedness; horizontal, vertical or non-related. The results concerning success rates are meagre. It

> *"appears that partner's traits and sponsor-venture relationship traits do not offer much explanatory power in models of venture survival, duration and success"* (Ibid, p70).

However, when both sponsor firms were unrelated to their venture the failure rate for those ventures was 77%. The empirical basis for this conclusion was, however, only 6.3% of the studied alliances.

The failure rates indicate that there are more problems associated with strategic alliances than meet the uncritical eye. Still, we conclude from the literature that strategic alliances cannot be dismissed as just another 'buzz-word' in the strategic management literature. Strategic alliances have the potential of providing companies with several of the organisational criteria needed to compete. Efficiency, timeliness and flexibility are among the prominent ones. However, problems in relation to SAs seem to exist to a greater extent than the alliance-optimistic literature acknowledges. The implementation phase is one aspect that appears to be much easier to discuss theoretically than execute in a real situation. The problems are amplified by the partner selection process, involving cross-cultural aspects on the individual, company and national levels.

Strategic alliances thus surface, not only as the often over-optimistic picture of golden opportunity painted by the literature on strategic alliances, but also as a harsh reality of organisational dilemmas. This apparent divide in SA literature seems to be related to the attitude towards strategic alliances as well as the 'scientificness' of the articles. Two main dimensions thus build up the analysis model: firstly, the general attitude towards alliances in a positive–neutral–negative dimension and secondly, the empirical grounding on which the attitude is based, here dichotomised as facts vs. fiction.

The analysis model in Table 1 presents the six principle squares combining the articles' attitudes toward strategic alliances and the empirical grounding. Each square is also labelled.

	Fact	Fiction
Positive	positive realist	optimist
Neutral	neutral realist	'neutralist'
Negative	negative realist	pessimist

TABLE 1

THE ANALYSIS MODEL

In order to analyse the nature of the divide in the literature on strategic alliances, a meta-analysis of the literature on strategic alliances is the orderly methodological approach, and has consequently been chosen. The dimensions in Table 1 are taken as a starting point for a deeper probe into the characteristics of the literature on strategic alliances.

Methodology

A meta-analytical approach allows for inference between empirical and theoretical research in a time-effective way not feasibly obtainable by performing the empirical work oneself. An integrative review is to

> *"summarise past research by drawing overall conclusions from many separate studies that are believed to address related or identical hypotheses."* (Cooper, 1984, p11).

This makes a meta-analysis the most suitable method, considering the purpose of this study.

The database ABI-Inform was searched for articles on strategic alliances from the start of 1971 up to 1993. Fig 1 illustrates a steady increase in the accumulated number of articles in ABI-Inform. The first articles concerning strategic alliances appeared in 1983 when strategic alliance is found in the abstract (or keywords or title) of an article. In 1985, the first article was published with strategic alliance in the title. From then on, the number of articles on strategic alliances has increased rapidly. At the end of 1993, the accumulated number of articles in the database was 816138. Of these, 728, or one out of about 11000, had strategic alliance in the abstract (or keywords or title) and 132 or approximately $1/6$ of those had strategic alliance in the title. From Fig 1 we conclude that the proportion of articles addressing strategic alliances is still increasing steadily.
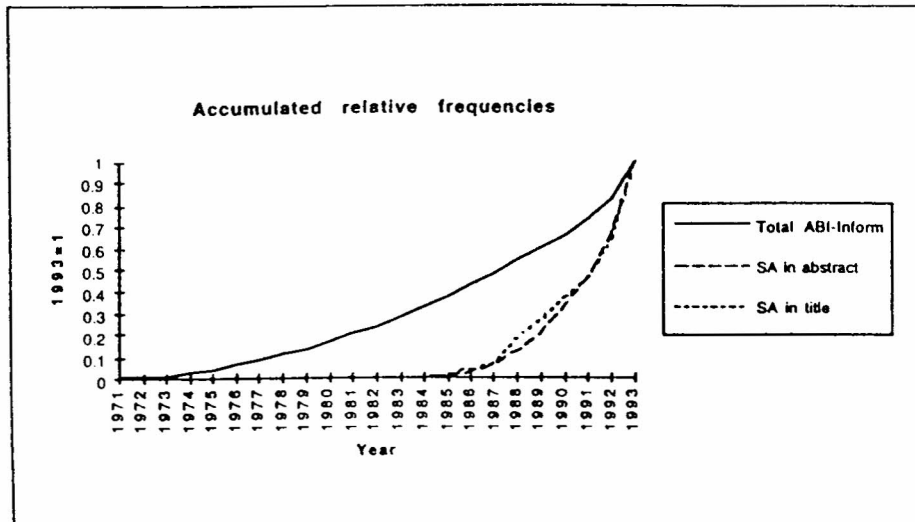
FIGURE 1

ACCUMULATED RELATIVE FREQUENCIES FOR
ARTICLES ABI-INFORM

132 articles is a manageable sample for the analysis. The ratio of articles with SA in the title to articles with SA in the abstract (or keywords or title) is relatively constant, indicating that the sample is not skewed with respect to publication year. This sample could also be expected to be concentrated on articles with alliances as the main topic, thus increasing the 'validity density' of the material. Exclusion of duplicates, book reviews and conference reviews leaves 121 articles to be analysed. These articles have been read and classified' in an iterative manner, generating the final classification system. The taxa[4] of each category[5] as well as some new categories were thus developed during the coding procedure.

A classification system should fulfil four objectives: differentiation, generalisation, identification and information retrieval. In order to achieve these objectives all categorical levels must be: mutually exclusive, internally homogeneous, collectively exhaustive, stable and based on relevant names (Chrisman, Hofer and Boulton, 1988, p415). The classification system used in this study was constructed with this in mind. All taxa are mutually exclusive within each category. However, some of the categories were allowed to overlap each other in an effort to capture the fundamental characteristics of each entity from several different perspectives.

The validity and reliability of the coding is of fundamental importance for the results of the analysis. To ensure proper coding the following precautions were applied. All articles were coded by the same person (the author) and in random order. All coding was controlled at least once after the final changes to the coding instrument. This involved substantial re-coding of the earliest coded material due to changes in the instrument. All variables were checked for correlation with the coding order. No significant correlation was found except for the coding time for

each article. However, this is not related to the article content and was not used in the analysis. It is merely an indication of the effect of the learning curve.

In order to control the coding procedure the inter-rater reliability was calculated. A random sample of two articles was selected and coded by an extra coder. The coding schemes of the regular and extra coder were then compared and the incidence of identical coding of the 34 variables of each article was calculated. The inter-rater reliability was 82%, which is regarded as a satisfactory level for the instrument employed.

The coding instrument is divided into four groups of categories (or variables, the terms are interchangeable). In the first group, 'publication' is coded, for instance, publication year, author gender, author profession, number of pages, number of figures, etc. The second group is 'research', where referee procedure, empirical grounding, methodological discussion, number of references, etc., is coded. The third group deals with 'content' of the articles, such as: definition of SA, joint venture discussed, industry and alliance type. The fourth group concerns the 'attitude' toward strategic alliances. This is the group which involve the most subjective appraisals. The aim was, therefore, to build up a hierarchical classification of these entities in such as way that the number of taxa at the lowest level of the hierarchy (positive, neutral, negative) was minimised and the richness of the measure was achieved by aggregating these taxa to a higher level in the hierarchy.

Attitude Index

Articles can convey messages in more than one way. The most obvious way is directly and openly via the outspoken statements of the text. But messages are also communicated indirectly, consciously or unconsciously, via the characteristics of the text in which the topic is embedded. For instance, if an article on strategic alliances openly states that there are both advantages and disadvantages of strategic alliances, without giving reference to any empirical material, the text appears alliance neutral to the reader, provided that the advantages and disadvantages mentioned are equivalent in frequency and importance. However, if in addition to the above, an article flashes out numerous examples of successful alliances throughout the text, the reader is indirectly given the impression that strategic alliances are favourable. This also holds true for the textual context encompassing words synonymous or closely related to strategic alliances, such as co-operation, joint ventures, alliances and, of course, strategic alliances.

In order to capture the essence of an article's attitude towards strategic alliances, an attitude measure was developed after the coding of the articles. It is aimed at embracing both the direct and the indirect messages of an article. Three variables are involved. Firstly, the article's 'assessed attitude' to strategic alliances is coded on a scale from (1) very negative to (5) very positive, with (3) indicating a neutral attitude. This measure is aimed at capturing primarily the direct message in the article. Secondly, every time an 'example' of an alliance is mentioned in the text, the example is assessed as conveying a message concerning the strategic alliance; positive, neutral or negative. Thirdly, the latter procedure is applied every time the

'term' 'strategic alliance' is mentioned. From these three factors an aggregated measure of attitude toward strategic alliances, the 'attitude index', is calculated.

The attitude index was constructed in order to allow the three components to be weighted to form a single measure. Conceptually, it is advantageous if the scale is constructed with a range from (-1.00) very negative, via (0) completely neutral to (+1.00) very positive. The assessed attitude toward SAs is converted into the 'assessment component' having a -1.00 to +1.00 scale by calculating $(x-3)/2$, where x is the assessed attitude on a five-point Likert scale. The 'SA example component' is calculated by adding the number of positive, negative and total number of examples of SA mentioned in the text of the article and computing:

$$\text{SA example component} = \frac{\text{positive SA examples} - \text{negative SA examples}}{\text{total number of SA examples}}$$

The 'SA term component' is calculated analogously to the example component. All three components thus have a maximum of +1.00, a minimum of -1.00, and 0 as the neutral point. The three components are then weighted together to form the 'attitude index' defined as:

$$\text{Attitude index} = \frac{\text{assessment} + \text{SA example} + \text{SA term}}{3}$$

Equal weighting factors have been used for the three components, but other weights are possible and have been tried. The results of the analysis, however, do not change significantly, hence equal weighting factors were used in the analysis.[6]

The statistical tests applied in the analysis are rather crude, due to the characteristics of the underlying data. The attitude index, for instance, does not appear to comply with a normal distribution, and too many missing values (eg concerning author profession) inhibit Anova analysis involving this variable. For visual display the attitude index is divided into three taxa and analysed with contingency tables. Due to the skewness of the data, cautious interpretation is required.[7]

Results

Correlation between author profession, 'scientificness", empirical grounding and attitude index is proposed. These relationships are further tested via traditional statistical analysis. Thirty-four variables were coded for each of the 121 articles in the study. All articles together with abbreviated bibliographical references are listed in Appendix A. Furthermore, some of the most interesting variables of the analysis are also listed for each article in the Appendix.

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There is a striking difference between scientific and practical articles. The scientific articles are often written by academics (78%), making references to previous literature in the field (82%) and discussing the assumptions and the methodology on which the results are based (61%). These articles are also rather long (73% $\geq$ 7 pages) and often published in refereed journals (80%).

In contrast, the practical literature seldom discusses the assumptions or methodology used to derive conclusions (99%). Furthermore, the articles are often short (91% $\leq$ 6 pages), without any references (96%) and are published in non-refereed journals (84%). They are different in most respects: by whom they are written, and how they are written, and presumably they are also written with a different purpose in mind and aimed at a different target readership.

	Industry	Consultant	Mix	Academic	(Missing)	Totals
Scientific	6	3	2	38	2	51
Practical	18	11	1	6	34	70
Totals	24	14	3	44	36	121

TABLE 2

FREQUENCIES FOR 'SCIENTIFICNESS' AND AUTHOR PROFESSION

(X^2 = 33; p<0.0001; contingency coefficient = 0.53)

Academics are responsible for the majority of the scientific contributions, while authors from industry and consultants are responsible for the practically orientated articles. This does not come as a big surprise. What is more surprising, though, is the lack of co-authorship between academics and non-academics. Such co-operation could have been one way of bridging the gap between scientific and practical articles.

'Scientificness' and empirical grounding for the articles are two independent variables which, according to the purpose of this study, are expected to be related to the article's attitude towards strategic alliances. But how are these variables related to each other? A contingency table can shed some light on this issue.

Table 3 reveals that almost all surveys are scientific publications. Case studies and non-empirical studies can be both scientific and practical. A majority of the studies that are based solely on examples are practical. The table also shows that surveys

	Survey	Case	Examples	Non-empirical	Totals
Scientific	11	10	14	16	51
Practical	1	15	37	17	70
Totals	12	25	51	33	121

TABLE 3

FREQUENCIES FOR 'SCIENTIFICNESS' AND EMPIRICAL GROUNDING

$(X^2 = 17; p<0.001;$ contingency coefficient $= 0.35)$

are most scarce while examples are the most common empirical grounding. In all, practical articles are more common than scientific articles.

Recall that we expected a correlation between an article's attitude to SA and 'scientificness' as well as the empirical grounding of the article. The attitude is measured by the attitude index. Thus what we need is a third dimension in Table 3 containing each article's rating on the attitude index. An alternative to a 3D diagram is presented in Fig 2. This complex figure contains much of the essence of the findings of the study.

Three variables are involved in Fig 2: the 'attitude index', which is the dependent variable, and two independent variables: 'scientificness' and 'empirical grounding'; survey, case studies, examples or non-empirical. The two independent variables, with two times four taxa, create eight different groups of articles, the same eight groups as in Table 3. In Fig 2, the articles within each of the eight groups are arranged in ascending attitude index order: starting with the scientific surveys ranging from the survey with the lowest attitude index, which is (0) to the survey with the highest attitude index which is (0.69). In the figure, filled symbols represent scientific and open symbols practical articles. The single open circle thus indicates the only practically orientated survey with a attitude index of (0.48). Thereafter, case studies, examples and non-empirical articles are arranged in the same manner.

Fig 2 makes it totally clear that the majority of the literature on strategic alliances is positive towards alliances. 84% of the articles have a positive attitude index while 13% have a negative attitude index (3% have zero). If we compare the filled, scientific symbols with the open practical ones, all articles are skewed towards the positive end of the scale, but the scientific articles are less skewed.
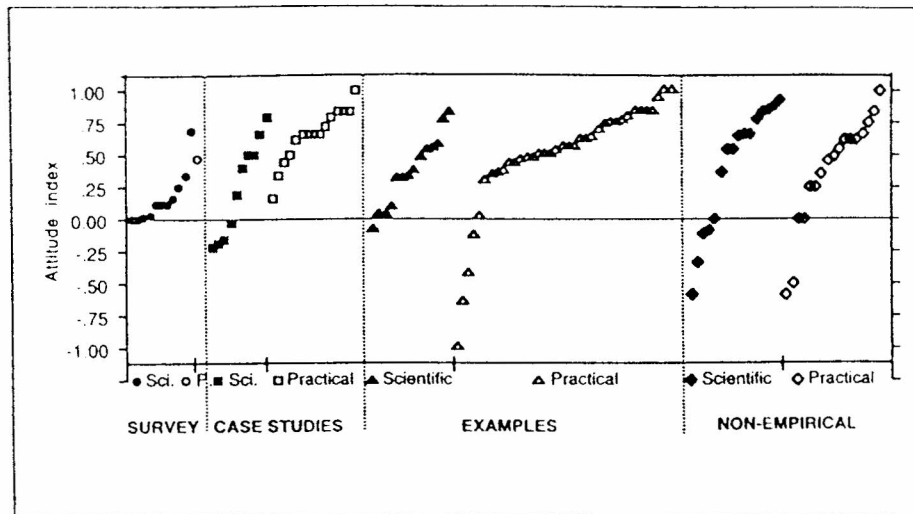

	Scientific	Practical	Totals
Positive	24	55	79
Neutral	26	10	36
Negative	1	5	6
Totals	51	70	121

TABLE 4

FREQUENCIES FOR ATTITUDES TO SAs AND 'SCIENTIFICNESS'

$(X^2 = 19; p<0.0001; \text{contingency coefficient} = 0.37)$

0.004). The scientific articles are divided approximately equally between positive and neutral, while 79% of the practical articles are rated positive.

A correlation between attitude toward SAs and the article's empirical grounding is expected. From Table 3 and Fig 2 it is clear that an article can be based on a survey, case studies, examples or can be non-empirical. But what characterises these taxa and how different are they?

One third of the surveys are based on 100 to 600 alliances, and another third are based on more than 600 studied alliances. Case studies, on the other hand, are based on fewer alliances, but constitute contextually deeper studies. Two thirds of the case studies are based on a single case, while just one out of twenty-five case studies is based on more than ten cases. Authors can also draw their conclusions based on examples. However, it is much more difficult for the reader to tell how deep the author's knowledge is concerning a specific alliance that is merely used to exemplify a point. Equally, he might be either quoting hearsay or describing personal experience. In general, however, the author's knowledge of an alliance mentioned as an example is regarded to be substantially lower than an author's knowledge of an alliance in a case study. The number of examples per article is fairly evenly distributed between one and twenty-five examples, but more authors use fewer examples. One outlier uses as many as forty-nine different examples of alliances. The fourth and last type of grounding is non-empirical.

Table 5 illustrates attitude towards SA as a function of empirical grounding. Ten out of twelve surveys are rated to have a neutral attitude. These studies base their conclusions on the nomothetically* most firm ground. The conclusions from a survey are, on average, based on 393 alliances. The equivalent number of alliances is 4 in case studies, 11 in examples and of course zero for the non-empirical articles. The three latter groups have their central point in the positive square with approximately 70% of the articles rated as positive.

	Survey	Case	Examples	Non-empirical	Totals
Positive	2	18	37	22	79
Neutral	10	7	11	8	36
Negative	0	0	3	3	6
Totals	12	25	51	33	121

TABLE 5

FREQUENCIES OF ATTITUDES TO SAs AND EMPIRICAL GROUNDING

($x^2 = 21$; $p < 0.002$; contingency coefficient = 0.38)

Spearman's rho = 0.09, p = 0.33 in Table 5, indicating that no linear relationship exists, while x^2 indicates some sort of relationship (x^2 tests are insensitive to the effects of order). The dilemma is solved by the Anova plot in Fig 3, showing the interaction line plot for the attitude index with the effects of 'scientificness' and empirical grounding. The error bars indicate the 95% confidence interval.
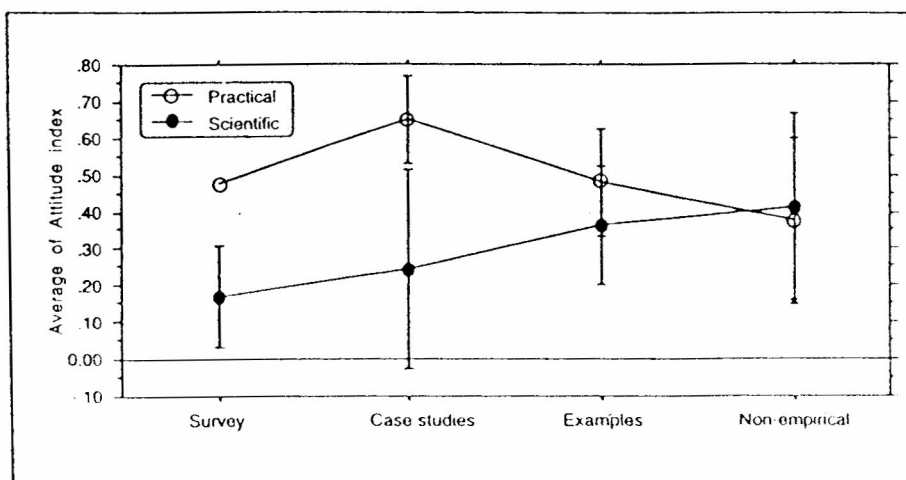
FIGURE 3

INTERACTION LINE SHOWING THE VARIATION IN THE MEAN VALUE OF THE ATTITUDE INDEX SPLIT BY 'SCIENTIFICNESS' AND EMPIRICAL GROUNDING

However, Fig 3 should be interpreted cautiously. The data contain just one single practical survey. It is interesting to note that the scientific articles' attitude index increases with decreasing strength of empirical grounding, which is fully logical, while the practical articles show the opposite pattern (with the exception of the one practical survey). This is the explanation of the low correlation according to Spearman's rho: the practical and scientific articles neutralise each other. According to the Anova analysis, significant differences in the means at the 5% level, according to Fisher's protected least significant difference, are found for: survey vs. case studies, mean diff = 0.29 and for survey vs. examples, mean diff = 2.5.

Table 5, which indicated a low correlation, can thus be further split by 'scientificness', generating Tables 6a and 6b. These tables reveal the divide between the optimistic fiction regarding strategic alliances presented in the majority of the literature and the empirically grounded facts of high failure rates of strategic alliances, presented in other articles. Spearman's rho is: for table 6a 0.28 and $p<0.05$; for table 6b -0.22, and $p<0.07$ thus indicating a higher significance than in Table 5.

	Survey	Case	Examples	Non-empirical	Totals
Positive	1	5	7	11	24
Neutral	10	5	7	4	26
Negative	0	0	0	1	1
Totals	11	10	14	16	51

TABLE 6A

FREQUENCIES BASED ON SCIENTIFIC ARTICLES' GROUNDING AND ATTITUDE TO SAs
($x^2 = 13$; $p<0.05$; contingency coefficient = 0.45)

	Survey	Case	Examples	Non-empirical	Totals
Positive	1	13	30	11	55
Neutral	0	2	4	4	10
Negative	0	0	3	2	5
Totals	1	15	37	17	70

TABLE 6B

FREQUENCIES BASED ON PRACTICAL ARTICLES' GROUNDING AND ATTITUDE TO SAs
($x^2 = 4$; $p<0.07$; contingency coefficient = 0.23)

The scientific articles are not as positively skewed as the practical literature. One possible explanation for this is that the practically orientated literature uses examples and cases as the primary source of empirical data and, as was mentioned in the introduction, there is probably an access problem hindering the study of unsuccessful strategic alliances. Interestingly enough, the writers of the scientific papers seem to manage the access problem better since they are distributed equally between positive and neutral for case studies and examples. Nearly all surveys, the most probable method of obtaining an unbiased result in the attitude dimension, are scientific articles and ten out of eleven of these articles are rated neutral on the attitude index. Of these ten articles, seven were written by academics, one by a mixture of academics and non-academics, one by a consultant and one was written by an author from industry.

The major boundary between empirical grounding, labelled as fact and fiction in the analysis model, could be argued to be anywhere between survey and non-empirical in the empirical grounding dimension. It could, for instance, be between empirical and non-empirical studies, embracing surveys, case studies and examples in the empirical group. It could also be argued to be between surveys and case studies on the one hand, being firmly grounded, and examples and non-empirical on the other hand, as anecdotal. Finally, the divide can be argued to be between surveys and non-surveys. From Table 7 it is clear that the material suggests a divide between surveys and non-survey studies. A closer examination from a nomothetic point of view also reveals that all surveys are based on 50 alliances or more, while all non-surveys are based on less than 50 alliances.

	Survey	Non-Survey	Survey or case	Examples or non-empirical	Survey, case or examples	Non-empirical	Totals
Positive	2	77	20	59	57	22	79
Neutral	10	26	17	19	28	8	36
Negative	0	6	0	6	3	3	6
Totals	12	109	37	84	88	33	121

	$X^2 = 18$ $p < 0.0001$	$X^2 = 8$ $p < 0.02$	$X^2 = 2$ $p < 0.4$
Spearman's rho corrected for ties:	= 0.25	= 0.08	= 0.01
Tied p-value:	< 0.001	< 0.39	< 0.92

TABLE 7a, 7b, 7c

FREQUENCIES FOR ATTITUDE TO SA FOR THREE DIFFERENT DICHOTOMISATIONS OF EMPIRICAL GROUNDING

Thus, returning to the analysis model in Table 1, survey represents facts in this study and fiction is represented by articles based on case studies, examples and non-empirical research. This is illustrated in Table 7a which provides the clearest divide scientifically and empirically. Case studies and surveys do not belong to the same group, as proposed in Table 7b. Case studies are not providing the proper scientific grounding for conclusions regarding the general success of strategic alliances. From a scientific point of view, this is natural since case studies are most apt for empirical induction and theory generative purposes, in contrast to surveys which are deductive and more apt for testing general patterns and verifying hypotheses. Examples as empirical grounding seem questionable based on the results of this study. Non-empirical studies also seem questionable. The time trend of the attitude index is weak in the material. But while the time trend of the attitude index is negative for surveys, the trend is positive and stronger for the non-empirical studies.

The fictional literature, here represented by the non-survey articles, can act as an instigator for strategic alliances in providing decision makers with ideas and insight that strategic alliances can be favourable or even very favourable. The factual literature, represented by the surveys, on the other hand, can provide objective information concerning alliances. The task of assessing the validity of the material presented in the literature thus differs depending on the empirical grounding of the article.

	Survey	Non-survey
Positive	50%	32%
Neutral	90%	58%
Negative	–	30%

TABLE 8

THE PERCENTAGE OF REFEREED ARTICLES FOR EACH OF THE SIX SQUARES OF THE ANALYSIS MODEL (*BASED ON ONLY TWO POSITIVE SURVEYS)

In the factual literature (surveys) most articles have been screened before publication, thus ensuring validation by the external referee procedure. The positive survey square contains only two articles, thus making it difficult to draw any valid conclusions concerning this square. All but one of the neutral surveys were refereed. In the non-survey studies, especially the positive and negative ones, the task of judging the relevance and validity of the articles is left primarily to the reader. A larger proportion of refereed articles is found in the neutral square (58%)

than in the positive and negative non-survey squares (32% and 30%). One possible explanation for this is that it is difficult to convince the referees of all the rosy pictures of alliances, thus restricting these articles to non-refereed journals.

A further hypothesis is that while the factual articles are usually intended to convey a correct picture of strategic alliances and their pros and cons, the practically orientated literature is not bound by this objective. Instead, fictional literature is intended to convey a correct picture of the aspects of reality that the author chooses to present, which may be the author's experience of certain strategic alliances. If this is true, it is an additional indication to the readers of the literature on strategic alliance that they must themselves assess the validity of any general conclusions concerning alliances presented in these studies.

Dividing the analysis in Table 7 further into scientific and practical articles does not enhance the results. The major divide is found in Table 7a, between the optimists (77 articles) and the neutral realists (10 articles). The matrix also shows that 'neutralists' are not unusual, relatively few pessimists and positive realists exist, while no negative realists are found. (Spearman's rho = 0.25; $p<0.01$).

	Fact = survey		Fiction = non-survey	
Positive	positive realist	2	optimist	77
Neutral	neutral realist	10	'neutralist'	26
Negative	negative realist	0	pessimist	6

TABLE 9

THE RESULTS OF THE ANALYSIS MODEL. THE NUMBERS INDICATE THE NUMBER OF ARTICLES FOUND IN EACH SQUARE

Discussion

The substantive area of this study is the literature on strategic alliances not the alliances themselves. Being without empirical grounding it would be hazardous to draw conclusions from this study concerning strategic alliances themselves. Conclusions concerning the literature on alliances, however, are firmly grounded.

The empirical basis of a study can be expected to be biased depending on the methodology used. This suspicion is strengthened by the discovered skewness of

the material. Surveys are argued to have least potential for bias since the survey respondents often are protected by anonymity. Surveys are further often answered in a written form. It is probably easier to admit a failure in a written anonymous form than to do so in, for instance, an interview situation. Most surveys also indicate a failure rate of approximately 50%, indicating an equal number of positive/favourable alliances and negative/unfavourable ones.

In case studies, the distribution of positive and negative alliances may be biased for different reasons. Firstly, there may be an 'access bias'. The potential respondents are asked to participate in a case study. Those respondents that can show a positive/favourable alliance are probably more willing, as are their superiors, to participate in the case study. A bias towards successful alliances could thus be expected. Secondly, there may be a 'response bias'. Those respondents that are willing to take part in the study are probably somehow responsible for their alliance and want to describe their alliance, consciously or subconsciously, in a favourable light. Thirdly, there is a potential for 'selection bias' by the author. In the case studies analysed in this study six success cases are studied for each failure. Assuming the failure rate of approximately 50% found in broad surveys, this indicates a clear bias in the case studies. The practical case studies are responsible for the lion's share of the potential bias, since they do not study any unfavourable alliances at all.

A similar bias is also possible for studies using examples. A positive 'selection bias' can be expected if the examples are selected to confirm the author's hypotheses. In addition to this, 'access bias' is possible. If the sources are reluctant to recount incidents of failure, the available stock of alliances from which to choose examples is probably already biased towards positive alliances. The studies based on examples presented more than four examples of successful strategic alliances for each failure, indicating a probable bias in articles based on examples, especially practical articles.

Being biased without any empirical backing would be a 'prejudice bias'. The non-empirical articles, however, use the literature on strategic alliances for references. This literature may be biased, as discussed above. The non-empirical articles may thus also be biased, and if they are, it would be expected to be towards successful alliances. Admittedly, the bias of non-empirical articles is somewhat speculative and it is not possible to confirm it with the data in this study in the same way as for case studies and examples. However, an indication of possible biases as a function of 'scientificness' and empirical grounding is given by the skewness of the average attitude index shown in Fig 3.

Conclusions

This study empirically confirms three major issues. Firstly, the literature on strategic alliances is, on average, over-optimistic. Secondly, there exist clear relationships between author profession, 'scientificness', empirical grounding and attitude toward alliances. Thirdly, the natural divide between different types of empirical grounding is between survey and non-survey studies. This divide may be further explained as a function of the biases intrinsic to each method used. The skewness of the material is taken as a probable indicator of these biases. Surveys

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are least skewed thus indicating less bias. The case studies and examples can be skewed due to access bias, response bias and selection bias. The non-empirical studies can be skewed due to prejudice bias. Probable biases were found for all methodological approaches and were higher for practical studies than scientific ones, with the exception of non-empirical studies where the scientific and practical studies were approximately equally skewed.

The study indicates that two major groups or articles exist: the optimists, represented by non-survey-based articles rated positive on the attitude index, and the neutral realists, represented by surveys rated neutral on the attitude index. Three minor groups also exist: 'neutralists' are not unusual, relatively few pessimists and positive realists exist, while no negative realists are found.

From the literature, it appears that the potential of strategic alliances is overrated while significant realisation difficulties are underrated. Therefore, it should be of interest for practitioners, as well as scholars, to clarify the potential of strategic alliances together with the realisation difficulties in order to bridge this divide. Co-authorship between academics and non-academics is one way of reaching practically applicable implications based on the extant literature that is empirically grounded in more than mere examples of successful alliances. Surprisingly few such studies have been found.

Studies of other than successful alliances could provide important insight into the determinants of formation of successful alliances. For instance, case studies of failed alliances are clearly underrepresented in the literature. Furthermore, remarkably few articles discuss the possibility of *not* taking part in an in an alliance. In order to understand the advantages of taking part it would be advantageous to also view alliances from the perspective of a company that consciously chooses not to take part. Therefore, studies of companies that have chosen not to take part could also offer a means of gaining important insight into the pros and, especially, the cons of alliance formation.

The results of this study could be improved by reducing the lacking information concerning, for instance, author profession in order to validate these results as well as refine them via Anova analysis, or, in order to take into account the interaction effects, analyse the material with LISREL. Furthermore, similar analyses could also be performed on other relevant issues, such as joint ventures, merger and acquisitions to name some potential topics.

In this article a sobering picture of strategic alliances is painted. Taking part in strategic alliances can be an advantageous strategic move for some companies, but in other cases it may still be better to beat them, than to join them.

NOTES

1.   There are of course other types of alliance motives than these three groups. For instance, Bresser (1988) argues from a theoretical point of view that the major motivation for collaborative strategies is the need to reduce uncertainty in the company's environment.

2. For a discussion on the differences between joint ventures and strategic alliances, see Baranson, 1990.

3. "Classification is the development of a system or scheme in order for researchers to arrange entities into taxa based on their similarities, differences, and relationships to one another as determined by or inferred from their most fundamental characteristics" (Chrisman, Hofer and Boulton, 1988, p415).

4. Taxa are "sets of entities sufficiently similar to each other and sufficiently different from the entities in other such sets that they are separately delimited and named" (Ibid.).

5. "A category is a rank or a level in a hierarchical classification which is composed of taxa to which a given rank is assigned" (Ibid.).

6. Of the 121 articles, 32 lack one of the three components constituting the attitude index, making an analysis of missing values necessary. For the articles with missing values the assessed attitude to SA was not missing in any case. The missing values were in either the examples or the terms, either due to the fact that the authors did not mention any examples (28 articles), or did not mention the term strategic alliances (4 articles). The missing values were significantly related to the article grounding ($x^2=54$) making re-coding of the missing values necessary. An unpaired t-test revealed an insignificant difference ($p<0.5$) in the means of the parameters between original and missing. Therefore, the missing values were predicted based on the two values available.

7. The dependent variable in many of the analyses, the attitude index, is skewed towards the positive end of the scale. This creates some statistical problems. Firstly, the material is not normally distributed, thus reducing the applicable statistical arsenal. Secondly, although x^2 tests allow different types of distribution, the classification table has to fulfil certain minimum criteria, such as expected values of at least 5 in at least 80% of the squares, and no square with an expected value of less than one. (For further discussion see eg Siegal, 1956). Several of the matrices in this analysis are close to, but do not fully comply with these criteria. For these analyses, individual cell x^2 values have been calculated in order to analyse the impact on the total x^2. In all cases, the contribution from the questionable cells to the total x^2 value was low, although not insignificant. In the contingency tables the total x^2 is still given but, in accordance with the discussion above, must be interpreted cautiously. In some cases, the contingency coefficient is reported. This measure is the equivalent of a correlation coefficient for contingency tables. It only requires nominal variables and hence does not consider the order of values within rows and columns.

8. Nomothetic is here defined as the methodological approach which emphasises "the importance of basing research upon systematic protocol and technique" (Burrell and Morgan, 1979, p6), using quantitative

techniques for the analysis of data collected, for instance, by surveys. The opposite approach is the ideographic approach, based on the view that one can only understand the social world by 'getting inside' situations and "letting one's subject unfold its nature and characteristics during the process under investigation" (Ibid). For a discussion on this methodological debate, emanating from the literature on social philosophy, see Burrell and Morgan (1979).

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Appendix A: The Analysed Articles

Each article (of 121) is listed below in alphabetical order of Author, with the following bibliographical data: (year), journal, Vol, No., pages. For each article the following 7 variables are listed to the right: 1. Attitude index: -1.00 to 1.00. 2. Author profession: academic - industry - consultant - mix (of academic and non-academic) • indicates insufficient information. 3. 'Scientificness': scientific - practical. 4. Referee procedure: refereed - not refereed. 5. Empirical grounding: Survey - case studies - examples - non-empirical. 6. Theory discussion on SA: yes - no. 7. Definition of SA: yes - no.	1. Attitude index	2. Author profession	3. 'Scientificness'	4. Referee procedure	5. Empirical grounding	6. Theory discussion on SA	7. Definition of SA
Abramson (1989) Magazine for Magazine Mgmt, 18, 2, 143-147.	0.50	i	p	n	e	n	n
Anonymous (1989) Mergers & Acquisitions, 24, 4, 70-71.	0.33	•	p	n	c	n	n
Anonymous (1990) Directors & Boards, 14, 3, 54-55.	-0.58	i	p	n	n	n	y
Anonymous (1990) Electronic Business, 16, 6, 58-60.	0.48	•	p	n	s	n	n
Anonymous (1993) ENR, 231, 17, 12.	0.83	•	p	n	e	n	n
Anonymous (1993) European Business Rev., 93, 1, 41-42.	1.00	•	p	n	c	n	n
Anonymous (1993) Information Today, 10, 5, 29.	0.67	•	p	n	c	n	n
Banks & Baranson (1993) Planning Rev., 21, 6, 28-31+.	0.94	m	p	r	e	y	y
Baranson (1990) Multinational Business, 2, 54-61.	0.57	•	s	n	e	y	y
Bell (1990) J. of Business Strategy, 11, 6, 63-64.	-0.50	c	p	r	n	n	n
Bergsman (1993) Nat. Real Estate Investor, 35, 8, 30-40.	0.29	•	p	n	e	n	n
Bertodo (1990) Intl. J. of Technology Management, 5, 4, 375-388.	-0.03	i	s	r	c	n	n
Billon (1986) Business Forum, 11, 4, 22-25.	0.40	a	s	n	c	n	n
Borys & Jemison (1989) Academy of Mgmt Rev., 14, 2, 234-249.	0.00	a	s	r	n	y	y
Bronder & Pritzl (1992) European Management J., 10, 4, 412-421.	0.50	a	s	r	c	y	y
Burgers, Hill & Kim (1993) Strategic Management J., 14, 6, 419-432.	0.33	a	s	r	s	y	y
Casey (1989) CIO, 3, 1, 57-61.	1.00	•	p	n	e	n	n
Cellini (1993) Management Accounting, 74, 12, 56-59.	0.49	i	p	n	n	n	n
Chan & Heide (1993) SAM Advanced Management J., 58, 4, 9-17.	0.31	a	s	r	e	y	y
Cooper & Gardner (1993) Intl. J. of Physical Distr. & Logistics Mgmt., 23, 6, 14-26.	0.67	a	s	r	n	y	y
Corcella (1993) Wall Street & Technology, 10, 10, 30-36.	0.25	•	p	n	n	n	n
De Young & Davis (1990) Electronic Business, 16, 10, 32-40.	0.50	•	p	n	e	n	y
Dev & Klein (1993) Cornell Hotel & Restaurant Administration Quarterly, 34, 1, 42-45.	0.03	a	s	n	e	n	n
Devlin & Bleackley (1988) Long Range Planning, 21, 5, 18-23.	0.08	c	s	r	e	y	y
Donlon & Pollard (1986) Chief Executive, 38, 38-39, 42-45.	0.33	•	p	n	e	n	n
Dowling (1993) Catalog Age, 10, 7, 43-44.	0.46	•	p	n	e	n	y
Elliott (1987) J. of Information Systems Management, 4, 4, 57-59.	0.00	i	p	n	n	n	n
Emond (1992) National Petroleum News, 84, 11, 92-96.	0.80	i	p	n	c	n	n
Flanagan (1993) Management Rev., 82, 3, 24-26.	0.50	i	p	n	e	n	n
Ford (1991) Frontiers of Health Service Management, 7, 3, 29-31.	-0.58	i	s	n	n	n	n
Forrest & Martin (1992) R&D Management, 22, 1, 41-53.	0.69	a	s	r	s	y	y
Forrest (1990) J. of Small Business Management, 28, 3, 37-45.	0.64	a	s	r	n	y	y
Gantz (1990) Networking Management, 8, 7, 74-78.	0.01	c	p	n	e	n	n
Gentry (1993) Intl. J. of Purchasing & Materials Mgmt, 29, 3, 11-17.	0.89	a	s	r	n	y	y
Gilbert (1991) Financier, 15, 6, 18-21.	0.62	c	p	n	n	n	n
Gillette (1993) Hotel & Motel Management, 208, 2, 1, 26.	0.67	•	p	n	c	n	n
Gregory (1992) Hospital & Health Services Administration, 37, 2, 247-258.	0.50	i	s	r	c	y	n
Gross & Neuman (1989) Marketing News, 23, 13, 1-2.	0.57	i	p	n	e	n	n
Hackney (1991) Financial World, 160, 22, 20-22.	0.67	•	p	n	c	n	n
Hagedoorn & Schakenraad (1992) Research Policy, 21, 2, 163-190.	0.03	a	s	r	s	y	y

Bibliographical data: Authors (year) journal, Vol, No., pages.

For each article the following 7 variables are listed to the right:

1. Attitude index: **-1.00 to 1.00.**
2. Author profession: academic - industry - consultant - **mix** (of academic and non-academic), • indicates insufficient information.
3. 'Scientificness': Scientific - practical.
4. Referee procedure: refereed - not refereed.
5. Empirical grounding: Survey - **case** studies - examples - non-empirical.
6. Theory discussion on SA: yes - **no.**
7. Definition of SA: yes - no.

Bibliographical data	1. Attitude index	2. Author profession	3. 'Scientificness'	4. Referee procedure	5. Empirical grounding	6. Theory discussion on SA	7. Definition of SA
Hahn (1988) Executive Speeches, 2, 6, 14-19.	0.67	i	p	n	n	n	n
Haigh (1992) Columbia J. of World Business, 27, 1, 60-74.	0.67	a	s	r	c	n	n
Hamel (1991) Strategic Management J., 12, July, 83-103.	-0.22	a	s	r	c	y	n
Harrigan (1987) Colombia J. of World Business, 22, 2, 67-69.	0.77	a	s	r	e	n	n
Harrigan (1988) Management Intl. Rev., 28, special issue, 53-72.	0.11	a	s	r	s	y	y
Hausman (1991) Regulation, 14, 1, 69-76.	-0.43	a	p	n	e	n	n
Hellebust (1988) J. of Information Systems Mgmt, 5, 1, 32-37.	0.38	c	p	n	e	n	n
Kaluzny & Zuckerman (1992) Hospital & Health Services Administr., 37, 4, 477-490.	0.55	a	s	r	n	y	y
Kaluzny & Zuckerman (1993) Healthcare Executive, 8, 3, 33-35.	0.83	a	p	n	n	n	n
Kaluzny, Lacey, Warnecke & Hynes (1993) Health Services Research, 28, 2, 159-182.	0.12	m	s	r	s	y	y
Kobayashi (1988) Long Range Planning, 21, 2, 29-34.	1.00	a	p	r	e	n	n
Kobayashi (1990) Tokyo Business Today, 58, 9, 53.	0.83	a	s	n	n	n	n
Kuhn (1989) J. of Business Strategy, 10, 2, 51-53.	0.93	i	s	r	n	n	n
Kulkosky (1989) Wall Street J., 6, 8, 18-24, 86.	0.69	•	p	n	e	n	n
Laycock (1993) Canadian Insurance, 98, 7, 24-25.	0.77	i	p	n	e	n	n
Lazarus (1993) Health Care Strategic Management, 11, 11, 14-17.	0.55	i	p	n	n	n	n
Lei & Slocum (1991) Organisational Dynamics, 19, 3, 44-62.	0.54	a	s	r	e	y	y
Lei & Slocum (1992) California Management Rev., 35, 1, 81-97.	-0.09	•	s	r	e	n	y
Leslie (1993) Inc., 15, 4, 96-104.	0.83	•	p	n	c	n	n
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