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# A causal study of relationships between firm characteristics, international marketing strategies, and export performance

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## Abstract:

This study examines the causal relationship between firm characteristics, international marketing strategies, and export performance by means of a full structural analysis. Maximum likelihood, bivariate correlation analysis, and factor analysis are used to empirically substantiate their conceivable link. The research outcomes, which are based on 355 New Zealand manufacturing export firms, show a strong support for the hypothesized causal relationship among the variables in question. The empirical results of the present study suggest that export performance is significantly influenced by the choice of international marketing strategies which, in turn, is determined by a firm's characteristics. (Reprinted by permission of the publisher.)

## Full Text:

### Introduction

Like many other small countries, New Zealand's economic prosperity depends primarily on international trade, particularly exporting. For some historical reasons, New Zealand's export trade has been reliant on a limited range of primary products and foreign markets (until a few decades ago, over half of New Zealand's exports went to the UK). This narrow dependency and the stiff regulations imposed by the government to protect the domestic market have hampered the nation to cope with the rapid changes in the global market environment. As a result, the New Zealand economy rapidly deteriorated, dropping from the world's highest standard of living to twenty-third in less than three decades (Crocombe et al. 1991).

In recent years, considerable effort has been made by the government and private industry to rectify this economic-structural problem. As a result, an open economic policy has been adopted, and market and product diversification has become a major objective in the nation's international trade policy. This drastic shift of economic policy has however, posed considerable challenges for New Zealand's international firms which have customarily relied on government protection and have limited experience in international operations. In addition, they are exceedingly small compared with their counterparts in other countries. To what extent these factors affect the performance of these firms in the international arena would, therefore, be of interest in the present study.

Specifically, this study examines the causal relationship between firm characteristics, international marketing strategies, and export performance of New Zealand manufacturing export firms. The study postulates that export performance is affected by a firm's characteristics as well as its adoption of international marketing strategies. The implementation of such strategies is, in turn, determined by the firm's attributes.

### International Marketing Strategy

The reason why firms succeed or fail in international operations has been a central question in international marketing strategy. To shed light on this issue, various contingent theories have been developed and numerous empirical research has been carried out. These efforts, in many ways, have increased immensely the awareness of international business operations. Their attempts, however, have been undermined considerably due to the frequent conflicting report findings. To enhance further theory building in this field, the present study adopts a different approach - a full structure analysis - to examine the causal relationship of the variables in question.

### International Expansion

International expansion is a critical process in today's business operations. It is especially important to New Zealand firms which, due to extremely small home-market size, have to rely on export sales for growth and survival. The process of international expansion often encompasses several marketing activity, including: market selection, market segmentation, and rate of entry.

One of the first concerns of firms attempting to expand into foreign markets is to decide which market or markets to target. Selecting a "right" market for expansion is critical because the choice can have a major implication on a firm's market performance (Ayal/Zif 1979, Denis/Depleteau 1985, Christensen et al. 1987, Akoorie/Enderwick 1993). However, studies have found that small firms often venture into the international arena by reacting to unsolicited orders rather than planned (Bilkey 1978). When selecting foreign markets, these firms tend to opt for those that are "psychically closed" to their home markets. Clearly, this selection criterion is not the most effective one because it tends to overlook the potential of other markets.

Market segmentation is often used to uncover market opportunities and to identify potential markets for infiltration. The approach is particularly important to small firms because it renders them to focus their limited resources on certain market niches in which relatively little or no competition existed. As such, the firms may be able to enjoy a "quasimonopoly" that often allows them to price their products with relative freedom from competitors. Further, by concentrating on individual market segments, the firms can anticipate and respond to market changes more promptly and effectively, and this can lead to a higher customer loyalty. Internationally, market segmentation can be performed by a two-step process (Wind/Douglas 1972). The first step is to define individual or groups of countries with similar national-market characteristics into subsets. Within each subset, the market can be further subdivided based on relevant factors such as consumer characteristics.

Firms attempting to expand internationally also have to decide whether to concentrate their marketing efforts on a few markets and gradually expand into new territories (i. e., market concentration) or to penetrate concurrently into a large number of potential markets (i.e., market diversification). Research in this area has been relatively fragmented. On one hand, studies by Piercy (1981), Jung (1984), and Madsen (1989) have reported that firms which concentrate their exporting activities on a small number of important markets tend to be more successful. Other studies, however, have suggested that market diversification not only can disperse risks but also enhance export performance (Hirsch/Lev 1971, Tesar 1977, Cooper/Kleinschmidt 1985, Denis/Depleteau 1985, Amine/Cavusgil 1986, Lee/Yang 1990, Czinkota/Ursic 1991, Louter et al. 1991).

### Product Line Strategy

It has been suggested that firms which market a broad product line can diversify risks and attain better export success (Christensen et al. 1987). Likewise, export performance can be enhanced by broadening the product width (Kaynak/Kuan 1993, Szymanski et al. 1993). Other studies have also confirmed a positive link between R & D intensity and exports (Cavusgil/Nevin 1981, McGuinness/Little 1981). Research by Ong and Person (1982) also suggests a link between inhouse R & D capability and the level of export commitment (cited in Burton/Schlegelmilch 1987, p. 41). However, empirical studies by Hirsch (1971) and Kirpalani and MacIntosh (1980) have shown different results.

### Export Promotion

Past studies have suggested that exporters often employ different promotion means, such as visiting foreign customers, sending product catalogues to potential buyers, and offering free samples/gifts, to foster their export sales (Cunningham/Spigel 1971, Kirpalani/MacIntosh 1980, Albaum et al. 1989, Lindsay 1990). The findings of these studies generally suggest a positive relationship between export performance and the level of promotion activities a firm embraced.

### Determinants of International Marketing Strategy and Export Performance

The relationship between firm characteristics and export operations has been extensively studied in the past. These studies typically attempt to identify the key elements that contribute to the success of export operations. In spite of the immense research effort "it is surprising that so few solid conclusions are available" (Aaby and Slater 1989, p. 23). While several studies have suggested that firm characteristics are the decisive attributes of international business operations (e.g., Reid 1981, Cavusgil/Nevin 1981), others, however, have reported differently (Denis/Depleteau 1985, Madsen 1989, Liouville 1992). Inadequate conceptual framework and methodology are believed to be the major cause of the widely divergent research findings in the current literature of international marketing and export operations (Aaby/Slater 1989, Walters/Samiee 1990, Cavusgil/Zou 1994).

Firm characteristics, in this study, are referred to as the demographics of a firm and can be delineated by: the size of a firm, the level of business experience, the intensity of international involvement, and the extent to which marketing research and planning activities is embraced.

### Firm Size

Among the variables that characterize a firm, none has received as much research attention as firm size (Bonaccorsi 1992, Calof 1994). In spite of such effort, there has been little consensus among researchers concerning the impact this variable has on international business operations (see Table 1). On one hand, one stream of research has suggested a positive correlation between firm size and international marketing activities and/or export performance (Tookey 1964, Bilkey/Tesar 1977, Reid 1982, Denis/Depleteau 1985, Yaprak 1985, Christensen et al. 1987, Burton/Schlegelmilch 1987, Akoorie/Enderwick 1993, Diamantopoulos/Schlegelmilch 1990, Tseng/Yu 1991). Other studies, however, have reported little or no support for such a relationship (Snively et al. 1964, Stening/McDougall 1974, Abdel-Malek 1978, Czinkota/Johnston 1983, Cavusgil 1984, Louter et al. 1991, Bonaccorsi 1992, Liouville 1992). Adding to the confusion, other research has reported an inverse relationship between this variable and: export profitability (Samiee/Walters 1990), export growth (Cooper/Kleinschmidt 1985), and the number of markets served (Culpan 1989).

The discrepancy of research results may be attributed to the conceptual and methodological problems. With very few exceptions, past studies on firm size have employed a simple statistical technique and only the direct relationship between this variable and other

dependent variables has been examined. Other important aspects, such as indirect relationship, have largely been ignored and thus the findings of these studies may be misleading.

Variations in the manner in which firm size is operationally defined and measured may also contribute to the inconsistent research outcomes. The most commonly used firm size indicators are total sales and total employees. Other criteria that have been suggested include: value of firm assets, product lines, and the number of technical and academic staff (Bilkey 1978, Reid 1982, Samiee/Walters 1990). The selection of these indicators and their measurement scales are generally subjective and may vary from one country to the other. A firm which is considered to be small in one country may, for instance, be regarded as medium or large in others.(2) This implies that the relationship between firm size and international marketing activities may vary depending on the criterion and the measurement scale used.

Generally speaking, international operations often incur high costs and risks, it is, therefore, logical to assume that large firms with greater resources do possess size-related advantages such as economies of scale and scope. These advantages enable the firms to more effectively engage in international operations and, as a result, they can attain better market performance.

Firm size classification, as mentioned above, often requires some judgement. In this study, firms are grouped according to their annual sales and total number of employees.

#### International Experience

It has been suggested that internationalisation is a learning process (Johanson/Vahlne 1990, Douglas/Craig 1989) and that the number of years in which a firm engages in business operations inevitably has some bearing on its strategic consideration and market performance (Gripsrud 1990). This view has been empirically substantiated by Li's (1994) study which suggests that international experience is a key factor behind the expansion of the multinational firms in the Asia-Pacific countries. Other research has also reported that foreign market selection tends to be correlated with a firm's level of international experience (Erramilli 1992). According to this author, as a firm acquires more international experience, it tends to become more geographically diverse and select more "psychically distant" markets.

The direct relationship between the level of international experience and export performance is less certain, however. While a number of studies have reported a positive link between these two variables (Denis/Depleteau 1985, Fenwick/Amine 1979, Amine/Cavusgil 1986, Christensen et al. 1987, Madsen 1989), other inquiries, however, have suggested an inverse relationship (Bilkey 1982, Ursic/Czinkota 1984, Cooper/Kleinschmidt 1985, Kaynak/Kuan 1993).

#### Intensity of International Involvement

The relationship between the intensity of international involvement and market performance has been investigated by a number of studies (Dichtl et al. 1990, Lindsay 1990, Dau 1991). Their findings generally suggest that firms which actively pursue international operations tend to attain better export performance. In this study, international activeness is defined along two dimensions - marketing research and planning activities.

Marketing research appears to be an important activity in facilitating a firm's international involvement, since lacking knowledge of overseas markets is often a major obstacle in the development of international operations (Johanson/Vahlne 1977, Walters 1985, Terpstra 1986). Further, by conducting marketing research, a rational market entry strategy can be implemented (Sood/Adams 1984) and this can translate into export success (Dominguez/Sequeira 1993).

The importance of marketing planning has also been reported by several studies (e.g., Bilkey/Tesar 1977, Kaynak/Kothari 1984, Gomez-Mejia 1988, Madsen 1989, Walters 1993). These studies generally suggest a positive connection between formal marketing planning and export performance. It has also been suggested that marketing planning is an incremental process. That is, as firms become more experienced and more committed to international operation, marketing decisions tend to move from ad hoc and reactive to a more formal one (Cavusgil/Godiwalla 1982, Robinson et al. 1984).

#### Measure of Export Performance

How export performance is operationalized has attracted a considerable debate among researchers. The frequent use of export performance indicators include: export intensity, export growth, export vs. nonexport and, to a less extent, export profitability and export award. Any criteria used to measure this variable is inevitably open for criticism, however. Nonetheless, it is generally agreed that multiple indicators should be used because they tend to offer a more complete picture of a firm's performance in export operations (Dominguez/Sequeira 1993). For this reason, export intensity (the ratio of export sales to total sales) and export growth (in the past five years) are employed in the present study to measure export performance. Admittedly, neither criterion is a totally valid gauge of the export performance measurement. It is, nonetheless, believed that they would provide a sufficient picture of a firm's performance in export operations.

#### Overall Research Design

Because there is no well-found assessment of relevant constructs in the international marketing literature (Aaby/Slater 1989), a multi-stage research design has been employed in the present study to empirically substantiate the causal relationship between firm characteristics, international marketing strategies, and export performance. Firstly, data relevant to potentially significant factors unveiled by past research is collected (see Appendix 1). Secondly, bivariate correlation analysis is employed to determine which selected variables are likely to be good predictors and to be included in further data analyses. Thirdly, principal components of factor

analysis and varimax rotation are applied to evaluate and verify the measurement model. In addition, they are used to generate a Pearson covariance matrix which is to be used in path analysis as suggested by Joreskog and Sorbom (1993). Finally, maximum likelihood (ML) is adopted to test the hypothesized causal relationship. ML is used because it allows for simultaneously estimating the measurement errors and structural relations of the model - a full structural analysis (Behrman/Perreault 1984, Cavusgil/Zou 1994), and because it is the most suitable statistical technique for explaining causality among constructs that can not be directly measured (Emory/Cooper 1991).

### Instrument and Sample

Results from past studies on international marketing have formed the basis for constructing the data-collection instrument in the present study. The pertinent data were collected through a mail survey. A questionnaire was designed and pretested using 10 academic staff first. After several iterations, the revised questionnaire was pretested again using a small sample of New Zealand manufacturing export firms. This was followed by telephone interviewing with the executive who had participated in the pretest. Some minor modifications to the questionnaire were made as a result. The revised questionnaires were then mailed to 863 New Zealand manufacturing export firms located throughout the country. The enclosed letters and envelopes were addressed specifically to the names of the top executives. Due to errors in the sampling list, the number of potentially valid participants was adjusted from 863 to 755. Of these, a total of 355 useful returned-questionnaires were received, yielded a response rate of 51 percent.(3) The results of waves comparison,(4) normal probability plot,(5) tolerance (approaching 1), variance inflation factor (around 1), Durbin-Watson statistic (2.12144), and Cronbach alpha (see Table 2) suggest that the collected data are free of any possible biases.

### Operational Model and Research Hypotheses

To determine the likelihood of good export performance predictors, the Pearson's product movement correlation coefficients were computed. Items (such as marketing planning, attending trade shows, and free samples/gifts) with p-value greater than 0.05 were discarded from subsequent data analyses. The principal components of factor analysis and varimax rotation were then applied to the remaining (significant) items. A total of seven factors were extracted from three groups of variables: three from international marketing strategies, three from firm characteristics, and one from export performance indicators. The factors are all highly internally consistent (see Table 2).

The operational model in Figure 1 and the research hypotheses were developed and formulated as a result of the process. Specifically, they were based on extensive literature review and the results of the bivariate correlation and factor analyses.

Hypothesis 1: Export performance is likely to be positively related to a firm's:

a. market expansion strategy; b. product breadth strategy; c. promotion strategy; d. size; e. intensity of international involvement; f. level of international business experience.

Hypothesis 2: Market expansion strategy is likely to be positively related to:

a. the size of a firm; b. the intensity of international involvement; c. the level of international business experience.

Hypothesis 3: Product breadth strategy is likely to be positively related to:

a. the size of a firm; b. the intensity of international involvement; c. the level of international business experience.

Hypothesis 4: Export promotion strategy is likely to be positively related to:

a. the size of a firm; b. the intensity of international involvement; c. the level of international business experience.

Maximum likelihood was then applied to test the hypothesized causal relationship depicted in the operational model [ILLUSTRATION FOR FIGURE 1 OMITTED].

### Research Results

The research outcomes ( and Table 3) suggest that export performance is directly and positively influenced by market expansion strategy, product breadth strategy, and promotion strategy. The formation of these strategies is, in turn, strongly and positively affected by the size of a firm, the intensity of international involvement, and the level of business experience. Thus, the proposed causal relationship between the variables in question is substantiated. The proposed direct relationship between firm characteristics (except intensity of involvement) and export performance, which was confirmed earlier by bivariate correlation analysis, did not revealed, however. This suggests that the relationship between these two groups of variables are indirect rather than direct. The finding may explain why previous research, which focuses primarily on the part of direct relationships of the variables, has been inconclusive.

### Discussion

The empirical results of the present study verify that export performance can be empirically linked to international marketing strategies and firm characteristics. Firstly, export sales and growth can be enhanced by adopting an aggressive market expansion strategy. This includes carefully selecting foreign markets, not just similar markets but psychically distant ones too, and targeting as many markets as possible (i.e., adopting a market diversification approach). By doing so, firms not only can diversify or reduce risks

and stabilize revenues (Hirsch/Bev 1971) but also increase export sales and growth. In this respect, there appears to be plenty of room for New Zealand manufacturing firms to improve their export performance. A further investigation has suggested that 60 percent of the firms surveyed have identified Australia as their major export market and only 18 percent (the second largest group) have indicated East Asia as their important export destination. A mean comparison shows that firms exporting to "psychically distant" markets tend to attain better export performance ( $m = 1.9927$  vs.  $m = 1.8754$ ). This research finding is generally in line with the results reported by Tesar (1977), Cooper and Kleinschmidt (1985), Denis and Depleteau (1985), Amine and Cavusgil (1986), and Lee and Yang (1990).

Secondly, the product breadth strategy, which is measured by the number of product lines, product width, and new product development, can also be used to improve export performance. The research result suggests that export sales and growth can be expanded by regularly introducing new products into potential markets and increasing the number of products served in the major markets. This finding is generally compatible with the studies conducted by Christensen et al. (1987) and Kaynak and Kuan (1993), who have reported a positive link between export performance and product width, and Tesar (1977) and Ito and Pucik (1993), who have found export intensity is positively related to new product development and R & D expenditure.

Thirdly, export sales and growth can be enhanced by implementing an appropriate promotion strategy. The results of the present study suggests that firms adopting a high level of promotion activities, such as visiting foreign customers and sending product catalogues to potential buyers, tend to perform better than other firms. The finding is generally consistent with the studies conducted by Cunningham and Spigel (1971) and Lindsay (1990).

Finally, export sales and growth can also be strengthened by increasing the size of a firm, the intensity of international involvement, and/or the level of international business experience. Larger and more experienced firms appear to be more committed to international operations and tend to pursue a more aggressive strategy in market and product expansion. As a result, these firms tend to enjoy a higher level of export sales and growth.

## Conclusion

This study of 355 New Zealand manufacturing export firms suggests that a causal relationship between firm characteristics, international marketing strategies, and export performance can be substantiated conclusively by a full structural analysis. The research results indicate that export performance is significantly influenced by a firm's choice of market expansion strategy, product breadth strategy, and promotion strategy. The formation of these strategies is, in turn, determined by a firm's characteristics.

## Limitations and Suggestions for Further Research

One limitation in this study is the measurement of export performance. The study has subjectively assumed that export sales and growth are the main objective of a firm's involvement in export operations; these two indicators have thus been used jointly as an export operation assessment. The findings are, therefore, constrained by this measurement limitation. In addition, the data used in the research relied mainly on the managers' retrospection. Future inquiries may be strengthened with more objective information.

A cross-sectional research approach is another limitation. Given that international business operations are a continuous and dynamic process, a longitudinal research design spanning over a number of years can undoubtedly further enrich the understanding of the dynamic causal relationships between a firm's internal factors, strategy choices, and market performance. This is of particular interest in the case of New Zealand manufacturing firms which, as mentioned earlier, have gone through a major market restructuring.

Another concern is whether the findings of the study can be generalized for other countries given the peculiarity of the New Zealand market structure in general and the manufacturing export firms in particular. The New Zealand's economy is one of the smallest in the world and it is comprised of mainly resource-based industries. The manufacturing sector has traditionally been overlooked and, as a result, firms operating in this area are relatively inexperienced domestically and internationally and are exceedingly small. Thus, their involvement in international operations suggests a different pattern of behaviours between these firms and their counterparts in other countries. For example, in contrast to New Zealand firms, many small and medium US companies, which have the potential and capacity to be successfully competed in global markets, do not involve in international operations because of their relatively large and affluent home market (Ronkainen 1984).

The overall research findings of the present study nonetheless are, as addressed in the "Discussion" section, in line with those reported in overseas studies. The research results, for example, have reconfirmed the findings reported by Tesar (1977), Cooper and Kleinschmidt (1985), Amine and Cavusgil (1986), Christensen et al. (1987), Lee and Yang (1990), Kaynak and Kuan (1993), and Ito and Pucik (1993), which suggest a positive relationship between export performance and market and product expansion strategy. This suggests that the present study can be generalized for other countries.

## Appendix 1

The following questions were used as variables that related significantly with export performance:

### 1. Export performance:

a. export sales as a percentage of total sales: (1) under 10%, (2) 10% - under 20%, (3) 20% - under 30%, (4) 30% - under 50%, (5) 50% - under 75%, (6) 75% or more;

b. export sales in the last five years: (1) increased, (2) decreased (3) stayed the same (skip next Q.);

c. average increase or decrease in export sales over the last five years: (1) under 5%, (2) 5% - under 10%, (3) 10% - under 15%, (4) 15% - under 20%, (5) 20% - under 30% (6) 30% - under 50%, (7) 50% - under 75%, (8) 75% or more.

2. Firm size:

a. number of employees (full-time or equivalent);

b. total annual sales in the last financial year: (1) Under \$250,000, (2) \$250,000 - under 500,000, (3) \$50 million - under 100 million, (4) \$500 - under 1 million, (5) \$100 million - under 500 million, (6) \$1 million - under 10 million, (7) \$500 million or more.

3. Modes of operations:

a. besides exporting, is your firm involved in other types of international operations? (1) none, (2) foreign sales branch, (3) foreign joint venture, (4) foreign licensing, (5) other (specify).

4. International experience:

a. number of years in business;

b. number of years in exporting.

5. Marketing planning:

a. (1) no formal, written export marketing plan, (2) planning is limited to an annual export budget, (3) having a separate annual export marketing plan with one-year time frame, (4) having both one-year and longer-term export marketing plan, (5) other (specify).

6. Marketing research:

a. marketing research expenditure as a percentage of total export sales: (1) none, (2) under 3%, (3) 3% under 6%, (4) 6% - under 9%, (5) 9% under 15%, (6) 15% or more, (7) don't know.

7. Market segmentation:

a. segmented by: (1) product range, (2) by economic development, (3) by customer groups, (4) by geographic area, (5) in any other way (please specify);

8. Diversification/concentration:

a. number of foreign countries exported to in the last 5 years;

b. major export markets (rate on 5-point scale): (1) Australia, (2) Europe, (3) North America, (4) Japan, (5) East Asia (including China, Taiwan, Hong Kong, South Korea, and the six ASEAN countries), (6) Pacific Islands, (7) other (specify).

9. Product Line Strategy:

a. principal export products and their approximate shares of total export sales: (1) components or intermediate products, (2) final consumer products, final industrial products, (3) other (describe);

b. number of export product lines;

c. the range (variety) within major export product lines (rate 5-point scale);

d. product R & D expenditure as a percentage of total export sales: (1) none, (2) under 3%, (3) 3% - under 6%, (4) 6% - under 9%, (5) 9% - under 15%, (6) 15% or more, (7) don't know;

e. overall, how many new products, developed by your firm, have you exported during the last 5 years?

10. Export promotion activities:

a. To what extent does your firm employ the following (rate on 5-point scale): (1) visiting foreign customers, (2) attending International trade shows, (3) inviting foreign clients to visit manufacturing plants/offices, (4) catalogues, (5) free samples/gifts, (6) discounts/price reductions, (7) advertising, (8) other (specify);

b. export promotion expenditure as a percentage of total export sales: (1) under 3%, (2), 3% - under 6%, (3) 6% - under 9%, (4) 9% - under 15%, (5) 5% or more, (6) don't know.

Notes

1 The author would like to thank the Marketing staff at the University of Otago, New Zealand, for their valuable advice.

2 In the US, firms with less than 250 employees were considered to be small; in Canada, firms with 100-250 employees were regarded as medium (Kaynak and Kothari 1984); in Italy, firms with 20 to 99 employees were treated as small and 100-499 were defined as medium (Bonaccorsi 1992), while in New Zealand, firms with fewer than 11 employees was considered to be small, 11 - 100 was medium, and 100+ was regarded as large (Hoang 1995).

3 This study adopted the single-stage sample, eligibility requirement approach proposed by the Board of Directors of the Council of American Survey Research Organizations (CASRO):

Response rate =  $\frac{\text{questionnaire completed}}{\text{questionnaire completed} + \text{questionnaire completed/questionnaire completed} + \text{ineligibility} \times (\text{not contact} + \text{refused, eligibility not determined})} \times 100$

=  $\frac{355}{355 + 355/(355 + 87) \times (401 + 21)} \times 100$

= 51%

4 The successive waves-extrapolation method was adopted to assess non-response biases. Two groups of firms were selected based on the response waves (initial 281, follow-up 74). Firm size (total sales and total employees), number of years engaged in export operations, and principal products involved (consumer, industry, component) were the criteria used in the comparison. In all, a total of 4 chi-square tests were performed and all had the significance greater than 0.05 which suggests there was no significant difference between the two groups.

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