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New Venture Competitive Strategies and Performance: An Empirical Study

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This paper presents the results of a survey of 74 owner-managed small companies in Alicante (Spain), ex-ploring the existence and performance implications of new venture competitive strategies. A factor analytic pro-cedure and cluster analysis confirmed the existence of multiple strategies which new venture firms follow. Four strategic clusters of firms were uncovered: 1/ Differentiation, 2/ Innovation, 3/ Product Offering, and 4/ Aggressive Growth with Narrow Special Products. A Scheffé posteriori contrast test revealed different "performance patterns" between these clusters.

INTRODUCTION

In recent years, interest among entrepreneurship researchers has surged in attempting to better understand the nature of the strategies employed by new venture firms (McDougall and Robinson, 1990; Carter, Stearns, and Reynolds, 1991; Mullins, Cardozo, Reynolds, and Miller, 1991; Carter, Stearns, Reynolds, and Miller, 1992, 1994; Ostgaard and Birley, 1993) and to identify the relationships between the strategies employed by such ventures, the environments in which they operate, and the performance which ensues (Cooper, Willard, and Woo, 1986; Chaganti, Chaganti, and Mahajan, 1989; Cardozo, McLaughlin, Harmon, Reynolds, and Miller, 1990; Feeser and Willard, 1990; Stearns, Carter, and Reynolds, 1991; Tsai, MacMillan, and Low, 1991; Hoy, McDougall, and Dsouza, 1992; Mullins and Cardozo, 1993; Ostgaard and Birley, 1993; Chandler and Hanks, 1994; Bamford, Dean, and McDougall, 1997; Ireland and Hitt, 1997).

A recurrent theme in much of this research has been to characterize new venture strategies as belonging to one of several archetypes or types. Empirical research into the relationships between strategic type, environment, and performance, however, has been hampered by prob-lems in the conceptual definition and measurement of such new ven-ture strategies (Mullins and Cardozo, 1993: 72). Some studies have employed strategy typologies drawn from the strategic management literature (Miles and Snow, 1978; Porter, 1980) to characterize and measure new venture strategies (e.g., Hambrick and Lei, 1985; Shi-

manski, Cardozo, Mullins, Reynolds, and Miller, 1991). Shimanski et al. (1991) point out, however, that the Miles and Snow characterization of strategies as Prospectors, Analyzers, Defenders, and Reactors does not easily fit the new venture context. New ventures have, at the outset, neither customers nor markets to defend, and new firms usually find it necessary to focus their energies and limited resources on one or a few target markets, rather than behaving as prospectors. Furthermore, the measures used to identify strategic types in empirical research have questionable reliability and validity (Conant, Mokwa, and Varadarajan, 1990).

Other studies have begun afresh, unencumbered by traditional thinking about strategies, and have used cluster analysis to empirically derive taxonomies (or archetypes) of new venture strategies (e.g., McDougall and Robinson, 1990; Carter et al., 1991; Carter et al., 1992, 1994; Ostgaard and Birley, 1993). Indeed «this taxonomy-oriented research stream represents a significant development in business strategy content research» (Fahey and Christensen, 1986: 175). However, despite the potential of this taxonomy-oriented research stream, Fahey and Christensen (1986) note that the research effort is largely non-cumulative and to date, little convergence has emerged in the categories of strategy types. Feeser and Willard (1990) also note that relatively little research has examined relationships between dimensions of strategy for new firms and performance. For example, although Robinson and Pearce (1988) identified such dimensions and the performance correlates, their results were based on a cross-sectional sample of 97 established manufacturing business units in the U.S. with an average size of 278 employees. Clearly, such firms may not be representative of the Spanish new an independent venture. While McDougall (1987) investigated new ventures (less than eight years old), her sample was limited to fairly large (some corporate) ventures in the information processing industry. The question is therefore how industry specific her strategic archetypes are and also how relevant they are to new independent small ventures. Moreover, none of these studies have attempted to measure the impact of new venture strategies on the performance of the venture at the point of venture formation. Therefore, the research question addressed in this paper is: Which initial strategies are associated with higher performance?

THEORETICAL BACKGROUND

STRATEGIC ALTERNATIVES

Development of the strategy construct in the literature reflects the assumption that firms share considerable commonalities. This view has led to a number of classification schemes which assume that a limited number of strategic archetypes capture the essence of most competitive postures. These typologies reflect generic strategies often broadly applied across all industries, organization types, or organiza-

tion sizes. Herbert and Deresky (1987) provide an insightful comparison of several widely recognized "grand strategy" typologies.

Conceptually, the use of typologies of firm strategy is appealing. Typologies provide a method for clustering apparently diverse characteristics across firms into a few common representations. Many researchers in the application of typologies, however, ignore the diversity that can exist within types in an effort to make the data "fit" the typology.

It is our contention that strategy types are most diverse among new ventures and this diversity is a function of a different pattern of competitive position objectives, investment strategies, and competitive advantages (Hofer and Schendel, 1978). In this respect, we concur with McDougall and Robinson's (1990) conclusion following a study of 247 new venture CEOs from the information processing industry. The findings in their study suggest that many different forms of these strategy types are available for new ventures to select among. The following analysis focuses on the diversity of the initial strategies that new ventures pursue across a broad variety of industries.

NEW VENTURE STRATEGIES

The development of strategic typologies has greatly influenced research on small firms. However, much of the writing about new venture strategies has dealt with the debate over whether new ventures a/ must avoid direct competition with large firms and pursue "niche" strategies or, b/ can risk an aggressive, proactive assault and compete on a broad front. These discussions tend to overlook the distinction between the start-up of an autonomous firm with limited resources, and the entry intro a new market by an established firm backed by considerable resources. The assumption underlying the "niche" perspective is that a start-up organization suffers from the "liability of newness" (Stinchcombe, 1965) in which limits in both resources and organizational learning constrain its chances for survival and success. Such new ventures have traditionally been encouraged to design specialized, high-quality products targeted to market segments overlooked by large, more established firms (Hosmer, 1957; Broom and Longenecker, 1971; Cohn and Lindberg, 1974) rather than attempting to compete on the basis of price (Deeks, 1976; Stegall, Steinmetz and Kline, 1976).

More recently, researchers have argued that new ventures should consider a broader range of strategic alternatives, including head-to-head competition with market leaders (Miller and Camp, 1985; MacMillan and Day, 1987). Typifying the rationale underlying this challenge, Biggadike (1976) argued that unless new ventures enter markets aggressively, on a large scale, they penalize themselves by lacking the broad appeal of their competitors. Such a strategy would obviously require substantial resources, appropriate for an established firm entering a major market for the first time (Carter et al., 1992: 153).

McDougall and Robinson (1990) recently characterized the basic thrusts of these two bodies of literature (niche versus aggressiveness)

as an important foundation, but challenged the "measurement" of strategy that underlies the work. In an attempt to further differentiate new venture strategies, they examined the strategic actions of firms in the information processing industry. Using cluster analysis they identified eight different competitive strategies: 1/ aggressive growth via commodity type products to numerous markets with small customer orders; 2/ aggressive growth via price competitive new products to large customers; 3/ aggressive growth with narrow, special products priced competitively to a few larger buyers; 4/ controlled growth with broad product range to many markets and extensive backward integration; 5/ controlled growth via premium priced products sold directly to consumers; 6/ limited growth in small niches offering a superior product and high customer service; 7/ average growth via steady development of new channels, brand/name ID, and heavy promotion; and 8/ limited growth selling infrequently purchased products to numerous markets with some forward integration. McDougall and Robinson (1990) intentionally restricted their study to one broad industry to control for the impact of industry differences. In this way, they sought to examine new venture strategies across different competitive methods rather than across a variety of industries.

This important body of research raises an important question: How industry specific are the strategy archetypes that evolved in the firms studied by McDougall and Robinson? Are these archetypes peculiar to the information processing industry or are there generic strategies among new ventures that can be generalized across industries? If so, are the strategies similar to those depicted in the extant strategy literature that focuses on new ventures? These and others questions guided the present study.

DATA AND VARIABLES

DATA COLLECTION

The data for the study were gathered by means of interviews conducted during year 2000 at 74 new ventures in Alicante (Spain). Prior to the main field study the questionnaire was tested in a pilot study by means of face-to-face interviews with ten of the respondents to examine its clarity and suitability for the manufacturing industry in Alicante. In the actual field research, 67 entrepreneurs were interviewed face-to-face by the first author using the comprehensive structured questionnaire (see **Appendix**). The remaining of the questionnaires were received by fax/mail. Respondents were asked to indicate on a 5-point bi-polar scale the emphasis their business had placed on each in establishing their competitive orientation during the last three years and relative to competitors (Galbraith and Schendel, 1983). Nineteen variables describing a firm's competitive strategy and practice along the dimensions of product/service innovation, marketing, differentiation and focus/scope were selected from the review of new venture/small business strategies or constructed/refined in order to capture the nature of new venture competitive strategies. The selection of nineteen compet-

itive methods for inclusion in the instrument of measure was accomplished through several procedures. Competitive dimensions studied in previous new venture literature (Biggadike, 1976; Hobson and Morrison, 1983; Sandberg, 1984; MacMillan and Day, 1987) were first extracted. Questionnaire items used by previous new venture researchers (Biggadike, 1976; Miller and Camp, 1985; MacMillan and Day, 1987; McDougall and Robinson, 1990) and strategy researchers studying relatively small, established firms (Hambrick, 1983; Dess and Davis, 1984; Robinson and Pearce, 1988) served as a second source. In order to ensure a high response rate, despite the length and complexity of the questionnaire, preliminary phone calls were made to the owner/entrepreneur of each venture. Since the questionnaire included variables on business performance, the respondents were assured of full confidentiality. The indices generated were reviewed for internal consistency (Cronbach's α) to meet Nunnally's (1978) criteria for acceptable reliability. The research sample covered 63.79% of the initial population of new ventures in the area.

A chi-square analysis confirmed that survey respondents did not significantly differ (p = 0.05 level) from non-respondents on firm size or firm geographical location. Thus, the sample does not appear to exhibit any size or location bias, when compared to the initial directory of firms analyzed, composed of a total of 116 companies obtained of the S.A.B.E. data base.

CHARACTERISTICS OF THE ENTREPRENEURS:
SOCIO-DEMOGRAPHIC VARIABLES

83% of the respondents were males and 17% females. The average age was 31: 23% were under the age of 25, 51.4% were 25-34 years old, 20.3% were 35-44 years old, and only 5.4% were over 45 years old. Two-third of the respondents had parents who had run independent businesses. The educational level of the respondents was high in comparison with the general population: only 39.2% had primary education and the remaining 60.8% had, at least, secondary education.

CHARACTERISTICS OF THE NEW FIRMS

Of the ventures studied, 56.8% were start-ups in 1995, 28.4% in 1996 and 14.9% in 1997. The average size of these small and new firms measured by number of employees was 13.7. Indeed, more than one-fourth of the ventures, 29.7%, had up to five employees; 5,4% employed only one other person. The average sales was $893,889.

Eighteen main categories of SIC codes, SIC 22 to SIC 39 (for manufacturing), were selected for this study. The most common groups of SIC codes were 3143 (Men's Footwear), 3144 (Women's Footwear), and 3149 (Footwear, NEC), accounting for 33.8% of the sample. In terms of the number of companies, the Province of Alicante accounts for 78.5% of all firms involved in the footwear sector in the region of Levante and 50% of footwear firms in Spain. In terms of employment, the Province of Alicante represents 76.4% of employed persons in footwear in the region of Levante, or 42.4% in the country as a whole.

PERFORMANCE MEASURE

The venture's performance was measured with a modified version of an instrument developed initially by Gupta and Govindarajan (1984). The respondents were first asked to indicate on a 5-point Likert-type scale, ranging from "of little importance" to "extremely important", the degree of importance their firm attaches to each of the following financial performance criteria: return on investment (ROI), return on equity (ROE), and growth. These "importance" scores were mathematically adjusted to sum to 1 for the purpose of minimizing the impact of individual bias. The respondents were then asked to indicate on another 5 point Likert-type scale, ranging from "highly dissatisfied" to "highly satisfied", the extent to which their firm's top managers were satisfied with their firm's performance on each of these same financial performance criteria (ROI, ROE, and growth). These "satisfaction" scores were multiplied by the "importance" scores in order to compute a weighted average performance index for each firm (Gupta and Govindarajan, 1984).

The subjective measure of performance was chosen over objective data for several reasons. First, small firms are often very reluctant to provide "hard" financial data (Fiorito and LaForge, 1986; Sapienza, Smith, and Gannon, 1988). Its was therefore felt that more complete financial information could be obtained with a subjective measure. Second, objective financial data on the sampled firms were not publicly available, making it impossible to check the accuracy of any reported financial performance figures. Third, assuming that accurate financial data were reported, such data on small firms are difficult to interpret (Cooper, 1979). Finally, absolute scores on financial performance criteria are affected by industry-related factors (Gupta and Govindarajan, 1984; Miller and Toulouse, 1986; Gupta, 1987; Covin and Covin, 1990). As such, directly comparing the objective financial data obtained for firms in different industries could be misleading. This final concern was thought to be particularly critical given the diverse industry settings represented in the sample.

Several researchers have suggested that subjective performance measures may be appropriate given the restrictions imposed by objective measures (e.g., Cooper, 1984; Dess and Robinson, 1984; Gupta and Govindarajan, 1984). Recently, Jennings and Young (1990) considered the validity of using subjective measures of performance. As they suggested, the development of subjective and objective measures of entrepreneurial activity is of paramount importance. Their results suggested a significant overlap between objective and subjective measures of entrepreneurship. Dess and Robinson (1984) also found that subjective measures of return on assets and sales growth correlated significantly with their objective counterparts and encouraged their use when objective measures were not available. Furthermore, Sapienza et al. (1988) concluded that both objective and subjective measures can be useful in small business research.

ANALYSIS AND RESULTS

An R-Mode Principal Components Analysis (PCA), with varimax rotation, was used to reduce the data and develop and test the convergent validity of meaningful constructs (KMO = .676). For the purpose of describing the underlying factor structure, the "eigenvalue-one criterion" (Rummel, 1970: 362) was used to determine the number of components to extract for further analysis. The component loadings, commonalities and sum of squares of component loadings produced by an orthogonal varimax rotation are displayed in **Table 1**. After the varimax rotation, the first six components (out of a total of nineteen) accounted for 70.722% of the total variance. Each strategic variable loaded on at least one component with a minimum component loading of 0.517 for "Use only existing channels of distribution". Reliability of the items loading on each factor (those with factor loading greater than 0.60) was examined by calculating a coefficient alpha (Cronbach, 1951) across items within each factor. Coefficient alphas ranging from 0.568 to 0.818 met Nunnally's (1978) criteria for acceptable reliability.

A common methodological weakness that might threaten the reliability and validity of the factor analytic results is the possible instability of the factor loadings. Instability of the factor loadings because of sampling error may result from the use of a relatively small ratio of subjects

Table 1. Strategy Variables: Varimax Rotated Component Matrix

| Variables | Varimax Rotated Components | | | | | | Communality |
	1	2	3	4	5	6	h2
S 06	-.842	.049	-.232	.083	.127	-.050	.741
S 19	.760	.033	-.110	.115	-.075	.205	.823
S 10	-.746	-.127	-.056	.157	.153	.215	.639
S 01	.720	-.210	.161	.052	-.160	.351	.733
S 13	-.517	.003	.020	.440	.249	.091	.772
S 15	-.127	.767	.112	-.095	.139	.187	.791
S 07	.055	.736	.269	.235	.259	.029	.740
S 14	.117	.695	-.110	.041	-.123	.443	.687
S 04	.044	-.607	-.440	.360	-.105	.171	.771
S 05	.062	.096	.795	.237	-.214	.157	.670
S 16	.446	-.010	.704	-.050	.289	.071	.575
S 11	.022	.251	.629	.302	-.087	-.132	.729
S 17	-.173	-.220	.196	.795	.006	.192	.532
S 18	.032	.185	.130	.704	.177	-.171	.722
S 08	.326	-.003	.007	-.131	-.750	.035	.680
S 12	-.169	.259	-.005	.317	.730	.017	.786
S 09	-.083	.156	-.093	-.451	.651	.322	.786
S 03	.186	.176	-.015	.020	.065	.754	.609
S 02	-.086	.238	.552	-.076	.139	.655	.651
Eigenvalue	3.082	2.380	2.279	2.042	1.956	1.698	
% variance	16.221%	12.527%	11.996%	10.748%	10.294%	8.935%	70.722%

Kaiser-Mayer-Olkin = 0.679

(n = 74) to measures (n = 19). This ratio of 3.89 approaches but does not exceed the desirable ratio of four or five to one advocated by some authors (Hair, Anderson, Tatham, and Grablowsky, 1979). The sample size does exceed the ratio suggested by Lawley and Maxwell (1971) for the maximum likelihood solution method of confirmatory factor analysis. They suggested that this test is appropriate if the sample contains at least 51 more cases than the number of variables under consideration. Furthermore, given the exploratory nature of the research question as well as constraints—time, resources, availability of firms—inherent in field research, the sample size of this study is not considered a significant limitation in interpreting the results.

On the basis of the component loadings the six components are given descriptive labels in **Table 2** with the variables listed in order of the magnitude of their corresponding component loading. Examination of the component loadings showed that the PCA mostly grouped together items which, on a priori grounds, might have been regarded as very similar; the components could consequently readily be given names. A correspondence between the factor structure identified in this study and those identified in previous studies using many of the same variables enhanced the convergent validity of the study (Venkataraman and Grant, 1986).

The pattern of strategic behavior in the first factor is commonly identified in the strategy literature as low cost leadership. Four competitive methods (those with factor loadings greater than 0.60) load on this factor (see **Table 2**): S06 (Lowest price offering), S19 (Entered the market(s) on a large scale with rapid, immediate growth objectives), S10 (Emphasis on serviceable product quality), and S01 (Manufacturing commodity type products). The second factor has four competitive methods loading on it: S15 (Customers make infrequent purchases), S07 (High level of advertising and promotion expense), S14 (Large number of customers) and S04 (Continued new product development). For new ventures selling products for which customers make infrequent purchases, a rational way in which to build an adequate level of sales would be to cultivate a broad market base. So factor 2 reflects a rather straightforward pattern of strategic behavior easily characterized by its four factor loadings.

A major emphasis on both product and process innovation, comprises factor 3. The pattern of strategic behavior reflected by the two competitive methods, S17 and S18, loading on the fourth factor represents, essentially, two central marketing aspects of the strategy of a firm: Distribution and Number of customer segments.

Factor 5 explained 51% of the variance of S08 (Lowest cost per unit not an overriding concern). A more moderate emphasis is placed on S12 (Developing brand identification and name recognition) and S09 (Excess capacity tolerated in anticipation of future growth). Factor 6 differentiates firms based on their manufacturing of a broad range of products to many customers and markets.

Although the R-Mode Principal Components Analysis (PCA) reveals six distinct dimensions of strategic focus, we assume that firm strategy is a multidimensional construct which represents a composite or

"bundle" of actions. As such, our interest is in how these six dimensions coalesce into distinct patterns that represent strategy archetypes. We chose cluster analysis as the analytical tool to identify these "patterns" of strategic attributes because it offers two distinct advantages. The first advantage cluster analysis offers is that it overcomes limitations in the way strategy has been operationalized in previous research. Often strategy is treated as a vector of scores which Venkatraman and Prescott (1990) contended may produce misleading results. In these approaches researchers treat each dimension of strategy as having equal importance. Venkatraman and Prescott (1990) argued that the weighting of the dimensions should reflect the differential emphasis that corresponds to the deployment of firm's resources. Cluster analysis provides one solution to this concern since it classifies data on the basis of patterns of observed differences and similarities.

The second advantage of cluster analysis for the present study is that unlike other statistical methods for classification such as discriminant analysis, cluster analysis makes no prior assumptions about differences in the population being studied (Hair et al., 1979). Thus, we could explore the data for patterns of strategy among new ventures.

The six dimensions of strategy attributes from the R-Mode Principal Components Analysis (PCA) were used as variables in the cluster

Table 2. Strategic Variables Associated With Each Factor (and Loadings[†])

Factor	Competitive aspects emphasized
1	Low Cost Leadership
	S06　Lowest price offering (-.842)
	S19　Entered the market(s) on a large scale with rapid, immediate growth objectives (.760)
	10　Emphasis on serviceable product quality (-.746)
	S01　Manufacturing commodity type products (.720)
2	Marketing Differentiation
	S15　Customers make infrequent purchases (.767)
	S07　High level of advertising and promotion expense (.736)
	S14　Large number of customers (.695)
	S04　Continued new product development (-.607)
3	Product and Process Innovation
	S05　Innovation in manufacturing processes (.795)
	S16　Average customer order large (.704)
	S11　Ownership of patents or other proprietary knowledge (.629)
4	Broad Market Segmentation
	S17　Sell products to numerous market segments (.795)
	S18　Many channels of distribution (.704)
5	Differentiation vs. Low Cost
	S08　Lowest cost per unit of product not an overriding concern for new venture (-.750)
	S12　Developing brand identification and name recognition (.730)
	S09　Excess capacity tolerated in anticipation of future growth (.651)
6	Distribution
	S03　Serving broad markets (.754)
	S02　Providing a broad range of products (.655)

†. A negative loading reflects emphasis on the left anchor of the bipolar instrument (see Appendix).

analysis. We computed these dimensions by summing the items loading above 0.60 on each factor and dividing by the number of applicable responses. Because cluster algorithms are sensitive to the presence of outliers we standardized the six strategy dimensions by computing Z-scores (Aldenderfer and Blashfield, 1984). Additionally, we dropped cases whose values on any of the six dimensions were greater than 2.5 standard deviations from the mean. The degree of skewedness required that 2.7% of the cases be dropped to achieve normality on this variable.

Following Punj and Stewart (1983) and Ketchen and Shook (1996), we adopted a two-step cluster analysis technique. In this technique, a hierarchical agglomerative method is first used to produce centroid estimates and determine the appropriate number of cluster. The centroid estimates generated in the first step are then used in the second step to set an iterative partitioning method for the final cluster solution. Ward's (1963) minimum variance method was used to determine cluster linkage. Ward's method maximizes intercluster differences across a set of clustering variables (Everitt, 1974).

One of the most crucial steps in cluster analysis is determining the number of clusters that best structure the data. Often this decision is made by graphing a hierarchical tree (dendogram) against the fusion or amalgamation coefficients and detecting when a "flattening" in the graph occurs. The subjectivity of this approach led Mojena and Wishart (1980) to develop a heuristic procedure for determining when a "significant jump" in the fusion coefficients occurs that signals an optimal partitioning (Mojena, 1977; Mojena and Wishart, 1980). Aldenderfer and Blashfield (1984) provide an example for calculating this "stopping rule".

Applying Mojena and Wishart's test to the results of our hierarchical agglomerative analysis indicates that four clusters best describe the data. From this preliminary analysis we used the centroids associated with the four-cluster solution as initial starting values in an iterative partitioning analysis (using SPSS Quick Cluster). Refining the clusters in this second stage yields a more optimal solution. The overall significance of the cluster solutions obtained was tested by means of a one-way analysis of variance, ANOVA, based on the assumption that the scores in each of the various groups have approximately the same variance. However, because the various groups do not contain the same number of subjects, a Bartlett's Box F-test on the within-cell variances was used to test for homogeneity among variances.

Table 3 shows the mean (standardized deviations) clusters scores on each of the six principal components with component 1 shown first followed by component 2 and 3, etc. The group of four was however be retained for the purpose of the resulting generalized descriptions of the clusters described below and for new venture performance comparisons.

CLUSTER 1: DIFFERENTIATION (N = 13)
Of the four clusters, this cluster has the smallest membership. The firms in this cluster exhibit a high negative score on factor 1, followed

by negative scores on factors 6, 4 and 2. This cluster of firms focuses on one fundamental strategic orientation: a classic differentiation strategy offering a superior product accompanied by a high level of customer service. A narrow range of products is provided to a small number of customers and few markets segments.

CLUSTER 2: INNOVATION (N = 25)
This group of firms shows a consistent high score on all the strategy variables related to innovation and development, and in particular use of product-related patents. They further provide their products at a competitive price. The firms sell to numerous market segments using numerous channels, with an emphasis on developing new channels of distribution.

CLUSTER 3: PRODUCT OFFERING (N = 14)
Marketing of a broad range of tried and true products to a large number of customer is the primary means of competing for this group of firms. Moreover, this group of firms shows an above average emphasis on developing brand identification and name recognition, continued new product development and a high level of advertising and promotion.

CLUSTER 4: AGGRESSIVE GROWTH WITH NARROW SPECIAL PRODUCTS (N = 20)
This group of firms is focused in its market approach, as indicated by a narrow range of products, small number of customers, few market segments and minimal use of advertising and promotion. This archetype appears to follow Biggadike's (1976) and Miller and Camp's (1985) recommendation of a large-scale entry. The apparent focus on

Table 3. Summary of Cluster Analysis Results: The Four Clusters Solution[†]

Factor(s)	Cluster 1 (n = 13)	Cluster 2 (n = 25)	Cluster 3 (n = 14)	Cluster 4 (n = 20)	F	Sig. F	Scheffé Test $p > .05$
Factor 1	-1.516 (.658)	.318 (.783)	.235 (1.014)	.442 (.342)	23.668	.000	C2>C1[‡] C3>C1 C4>C1
Factor 2	-.405 (.927)	.336 (.831)	.801 (.933)	-.720 (.743)	11.308	.000	C2>C4 C3>C1 C3>C4
Factor 3	-0.075 (1.046)	.822 (.835)	-.502 (.641)	-.649 (.679)	14.906	.000	C2>C3 C2>C4
Factor 4	-.666 (.627)	.802 (.729)	-.611 (.549)	-.120 (1.123)	13.674	.000	C2>C1 C2>C3 C2>C4
Factor 5	0.006 (.771)	-.397 (.628)	1.156 (.462)	-.569 (.786)	20.953	.000	C3>C1 C3>C2 C3>C4
Factor 6	-.702 (.966)	.663 (.393)	.812 (.000)	-1.021 (.700)	44.395	.000	C2>C1 C2>C4 C3>C1 C3>C4

†. Table 3 shows the mean cluster scores (standardized deviations) on each of the six strategic factors from the PCA
‡. C1: Cluster 1; C2: Cluster 2; C3: Cluster 3; C4: Cluster 4.

a specific customer group provides a degree of security to the new ventures in this cluster.

To evaluate the accuracy of the presented taxonomy, a stepwise discriminant analysis model was produced based in the original "raw" data for the firms which had values on all the strategy variables. Mahalanobis' distance criteria was used to select variables entered into each step of the analysis. Thus, variables with a probability of or greater than the .05 level of significance were included in the analysis. The final discriminant analysis model which maximized the Mahalanobis distance between the groups included twelve out of the original nineteen variables and correctly classified 95.8% of the firms, providing reassuring support for discriminant validity (Venkataraman and Grant, 1986).

The cluster analysis suggest that while patterns of strategic behavior may be "generic" in the sense of being relevant across industries, the idea that most firms emphasize only one pattern of strategic behavior is not supported. Rather, the firms appear to follow multiple patterns of strategic behavior, supporting the findings of other studies (Robinson and Pearce, 1985; McDougall, 1987; Feeser and Willard, 1990; McDougall and Robinson, 1990; Carter et al., 1991; Ostgaard and Birley, 1993).

Indeed, Sandberg (1986) proposed and found some support for venture performance, being superior when two or more competitive strategies are used in concert. In this context, the performance question becomes one that whether growth and performance differences exist between the six different strategic orientations (groups) found to exist among the sample firms.

The next step in the analysis was to compare performance amongst the four clusters of strategic groups. One-way analysis of variance, ANOVA, and the Kruskall-Wallis H-test were performed to decide whether there were significant differences amongst the strategic groups (clusters) on the basis of their mean values for the performance measure. Because the various groups do not contain the same number of subjects, the Barlett-Box F-statistics was used to evaluate the assumption on homogeneity of variances.

Table 4 indicates that the four strategic groups were significantly different (p = .001) from one another with regard to performance. The Kruskall-Wallis H-test indicates the same result.

To determine where the significant differences lie, Scheffé's posterior contrast test was used to compare all possible pairs of performance means. Among the various multiple comparisons (Duncan's multiple range test, Tukey, Games-Howell) test, Scheffé's is considered to be the most conservative test (Huck, Cormier, and Bounds, 1974; Dess and Davis, 1984). This test also offers the advantages of applicability to groups of unequal size and is relatively insensitive to departures from normality and homogeneity of variances (Hays, 1963). The Scheffé test for significant differences among the groups on the performance measure shows that only the mean value for group 1 "Differentiation" is significantly greater than the mean value for group 4 "Aggressive Growth with Narrow Special Products". None of the other differences are significant.

DISCUSSION AND CONCLUSION

FINDINGS

Distinct and different competitive strategies were found to exist among new ventures. Four clusters or archetypes among new ventures in the manufacturing industry were so identified because of key differences in elements of the new venture strategies they employ. The nature of each strategy has essentially been answered in the previous description of strategies emphasized by firms in each of the four clusters. These four new venture strategies appear consistent with general strategy descriptions in the new venture literature. New ventures strategies discussed in the literature like niche strategies, aggressive or leader attacking strategies, and differentiation all found reinforcement among the four new venture strategic groups identified in this research. But far from simple replication, the findings of this study expand the richness associated with most of these descriptions.

The issue of Biggadike's (1976) argument for an "aggressive growth strategy" serves to illustrate the depth associated with our findings. Evidence exists that some ventures are pursuing strategies consistent with a large-scale entry strategy, but there was also clear evidence that ventures are pursuing the prescription of Van de Ven, Hudson, and Schroeder (1984) that new ventures should initially pursue a niche strategy entering selected markets on a small scale with incremental expansion (McDougall and Robinson, 1990: 461).

Parallels between the strategy archetypes identified in the present study and those discerned in earlier works are especially noteworthy since the firms previously studied were designated as small, not new. McDougall and Robinson's (1990) research is the exception and merits special comment. Examining new ventures in the information processing industry, McDougall and Robinson (1990) identified eight strategy archetypes. 1/ aggressive growth via selling commodity type products to numerous markets with small customer orders; 2/ aggressive growth via price competitive new products to large customers; 3/ aggressive

Table 4. Summary of Cluster Analysis Results and Performance Relationships: ANOVA and Kruskall-Wallis H-test Results

Analysis of Variance (ANOVA)

Performance	Degrees of freedom	Mean square	F-ratio	p-value
Between groups	3	5.207	6.089	.001
Within groups	68	.855		
Total	71			

Kruskall-Wallis H-test

	$X2 = 18.348$	p =	.01	

growth with narrow, special products priced competitively to a few larg-er buyers; 4/ controlled growth with broad product range sold to many markets and extensive backward integration; 5/ controlled growth via premium priced products sold directly to consumers; 6/ limited growth in small niches via offering a superior product and high customer ser-vice; 7/ average growth via steady development of new channels, brand/name ID, and heavy promotion; and 8/ limited growth via selling infrequently purchased products to numerous markets with some for-ward integration. In ex post analysis they categorized the strategies according to market coverage (broad vs. narrow markets) and scope (niche vs. aggressive strategies). Several of the archetypes they described parallel those identified in the present study. In this respect, we concur with McDougall and Robinson's (1990) conclusion following a study of 247 new venture CEOs from the information processing industry. The findings in their study suggest that many different strate-gy types are available for new ventures to select among.

We do not suggest that the four archetypes identified in this study, each one which reflecting a unique strategic orientation as well as dif-ferent levels of performance, represent a complete picture of new ven-ture strategies. We lack, for instance, information on new ventures that failed, which may represent additional unique forms of strategic archetypes. Neither can we claim that we have exhausted every com-ponents of a strategy in the administration of our questionnaire. How-ever, we can suggest that the application of a few strategic archetypes based on studies of large firms may well overlook the robust develop-ment of strategies among new ventures.

LIMITATIONS OF THE STUDY

Limitations of this study should be noted: 1/ The study was exploratory in nature. It was pursued to contribute a context for eventual theory development rather than prematurely attempting to test any theory about new venture strategy. Such testing would be premature given the limited development of new venture strategy theories or paradigms. The diversity across the four archetypes identified in this study sug-gests the need for further exploratory research into the nature and vari-ety of new venture strategies. This research stream should be helpful for scholars interested in the study of new venture strategies and ulti-mately helpful to new venture managers as relevant guidelines emerge; 2/ The relatively small sample of firms in the field study may lead to some instability in the factor loadings (Kim and Mueller, 1978; Nunnal-ly, 1978). However, given the exploratory nature of the study and resource constraints inherent in field research, this limitation is not con-sidered a major barrier in interpreting the results; 3/ Although we attempted to use the best performing clustering methods available, cluster analysis is a less exact procedure than statistics that are based on the general linear model. Some researchers have endorsed Ward's (1963) method as the best hierarchical agglomerative clustering proce-dure (e.g., Mojena, 1977), but it has a known tendency to create hyper-

spheroid (n-dimensional spherical) clusters as opposed to other possible shapes. Use of a different clustering algorithm might have yielded different cluster centers and, thus different relative cluster sizes. Similarly, Mojena's stopping rule is one of the most highly regarded of many possible ways of determining the optimal number of clusters. It is, however, based on fusion coefficients (the value at which a new cluster is formed); stopping rules based on other criteria, such as explained versus unexplained variance, might have suggested that a different number of clusters was optimal. At the same time, the observed convergence with the extensive literature on new venture strategy increases confidence in the generalizability of this cluster solution.

FUTURE RESEARCH

Further research into new venture strategies should begin to build a theory or typology that guides the creation, understanding, and integration of new venture strategy alternatives.

While not specifically examined in this study, future research should begin to explore patterns of emphasis on different strategic variables across a variety of industries. Numerous researchers have suggested connections between the growth rates of industries and the components of business strategy necessary for competition in those industries. For example, Porter (1980) identifies strategies for firms competing in emerging, maturing, and declining industries, thus implying a connection between specific business practices or competitive tactics and the growth rates of industries. Thus, there is ample reason to suggest that the content of the competitive strategies of new ventures might vary across their industry growth dimension. Still other researchers have suggested connections between the strategic breadth of business firms and the components of business strategy necessary for their success and survival. Hamermesch, Anderson , and Harris (1978) suggest that successful firms with low breadth strategies tend to share many detailed components of strategy on a specific level such as creative market segmentation, limited by highly efficient R&D, and strong individual (as opposed to team) leadership.

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APPENDIX: QUESTIONNAIRE

Each of the following items consists of a pair of statements representing the two extremes on different methods by which businesses may compete. Please consider each statement as it relates to your business unit relative to competitors. Place an X at the position on the scales that best describes the emphasis your business unit has placed on each in establishing your competitive posture since entering the market place.

Manufacturing specialty products	☐	☐	☐	☐	☐	Manufacturing commodity type products
Providing a narrow range of products	☐	☐	☐	☐	☐	Providing a broad range of products
Serving limited or specific geographic markets	☐	☐	☐	☐	☐	Serving broad markets
Continued new products development	☐	☐	☐	☐	☐	Maintaining current products
Reliance on proven manufacturing processes	☐	☐	☐	☐	☐	Innovation in manufacturing processes
Lowest price offering	☐	☐	☐	☐	☐	Premium pricing policy
Minimal advertising and promotion expense	☐	☐	☐	☐	☐	High level of advertising and promotion expense
Lowest cost per unit not an overriding concern	☐	☐	☐	☐	☐	Continuing, overriding concern for lowest cost per unit
High capacity utilization	☐	☐	☐	☐	☐	Excess capacity tolerated in anticipation of future growth
Emphasis on serviceable product quality	☐	☐	☐	☐	☐	Emphasis on superior product quality
Reliance on public domain processes and technologies	☐	☐	☐	☐	☐	Ownership of patents or other proprietary knowledge
Let brand identification and name recognition take care of themselves	☐	☐	☐	☐	☐	Developing brand identification and name recognition
Use only existing channels of distribution	☐	☐	☐	☐	☐	Develop new channels of distribution
Small number of customers	☐	☐	☐	☐	☐	Large number of customers
Customers make frequent purchases	☐	☐	☐	☐	☐	Customers make infrequent purchases
Average customer order small	☐	☐	☐	☐	☐	Average customer order large
Sell products to one market segment	☐	☐	☐	☐	☐	Sell products to numerous market segments
Single channel of distribution	☐	☐	☐	☐	☐	Many channels of distribution
Entered the market(s) on a small scale with steady, incremental growth objectives	☐	☐	☐	☐	☐	Entered the market(s) on a large scale with rapid, immediate growth objectives