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THE EFFECTS OF INDUSTRY GROWTH AND STRATEGIC BREADTH ON NEW VENTURE PERFORMANCE AND STRATEGY CONTENT

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A sample of 123 independent new ventures was classified into four industry growth/strategic breadth categories. High growth industry environments were found to provide a favorable environment for new ventures to achieve sales growth; however, the highest sales growth rates were exhibited by new ventures pursuing broad breadth strategies in high growth industries. One-way ANOVA and contrast tests were also used to identify whether specific strategic variables varied across the four industry growth/strategic breadth combinations. New ventures in high growth industries chose to enter on a larger, more aggressive scale and placed more emphasis on new product development than those entering low growth industries. Broad breadth strategy ventures had higher levels of advertising and promotion expenses and placed greater emphasis on the dominance of marketing expertise in their top management team, developing new channels of distribution, and on brand name recognition. Ventures pursuing focus strategies emphasized specialty products and were less cost conscious.

As calls for a more integrative research approach to strategic management and industrial organization economics have been forwarded (Jemison, 1981; Porter, 1981), the parallel need for a more integrative approach toward the study of new venture performance has also been perceived. While Sandberg found strong support for the impact of both venture strategy and industry structure on new venture success, he also found that the integration of strategy and industry structure was far greater than the influence of either of these variables individually (Sandberg,

1986). McDougall, Robinson, and DeNisi's (1992) and Kunkel's (1991) identification of the impact of the interaction of strategy and industry structure on new venture performance offers additional evidence of the need for an integrative research approach.

This study examines the concept that to more fully understand new venture performance both the structure of the venture's competitive environment and the venture's strategy must be examined. Industry growth rate is identified as a key component of industry structure. Ventures pursuing focused strategies and broad strategies are compared under high and low growth industry conditions.

Key words: New ventures, industry growth, focus strategy, breadth, entrepreneurship

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INDUSTRY GROWTH

An industry's growth rate has been a key component of market attractiveness for both new ventures and established firms, even to the point of being the sole measure of market attractiveness of the Boston Consulting Group's product-portfolio matrix. Growth has served as an indicator of disequilibrium (Yip, 1982), a condition favorably associated with entry (Yip, 1982; Porter, 1980) and as an indicator of industry evolution (Sandberg, 1986). Explicit in many prescriptions offered by both new venture researchers and venture capitalists for venture success has been entry into a high growth industry. When asked to determine the most important criterion in deciding which new ventures to fund, venture capitalists in MacMillan, Siegel, and Narasimha's (1985) study identified a high industry growth rate as the critical market requirement.

Porter (1980) argues that rapid industry growth ensures that incumbents can maintain a strong financial performance even though a new entrant takes some market share. Thus, new ventures entering into rapidly growing industries would provoke less retaliation by incumbent firms. Consistent with Porter's argument, Miller and Camp's (1985) research on the selection of markets to enter suggested that managers should look for situations in which high market growth can potentially reduce the effect of competitive pressures.

Contrary to the majority of previous research, the more successful ventures in Stuart and Abetti's (1987) sample of 24 technology ventures were in slow growth markets. They posited that early success of the ventures in their sample in the slower growing, more stable markets may have resulted from finding appropriate technical and market niches. Pointing to the low market share of their ventures, they noted the consistency of their results with Woo and Cooper's (1981) finding that effective low market share companies tended to occur in markets characterized by slow growth and infrequent product changes. Kunkel's (1991) finding that new ventures entering mature stage markets were the most successful corroborates Stuart and Abetti's research.

Tsai, MacMillan, and Low (1991) caution new ventures against entering high growth markets. Their finding of a negative, although nonsignifi-

cant, relationship between growth and new venture performance led them to conclude that high growth markets may not be desirable as many other firms may be entering simultaneously.

NEW VENTURE STRATEGY

In addition to the decision of which industry to enter, the entrepreneur is faced with what type of strategy to adopt. Much of the conventional wisdom of earlier entrepreneurship literature advised ventures to pursue very narrow or focused strategies, wherein they would avoid direct competition with large firms (Broom, Longenecker, and Moore, 1983; Buchele, 1967). Elaborators on this theme have suggested that new ventures concentrate on specialized products or localized business operation (Hosmer, 1957; Gross, 1967), market segments where customization and high levels of customer service create unique (to small firms) advantages (Cohn and Lindberg, 1972), or opportunities too small to be of interest to larger, economy-of-scale oriented firms (Porter, 1980).

More recent entrepreneurship studies, using the PIMS corporate start-up data base, support a broader, more aggressive strategy (Biggadike, 1979; Hobson and Morrison, 1983; MacMillan and Day, 1987; Miller and Camp, 1985; Tsai *et al.*, 1991). The most successful firms in Miller and Camp's (1985) sample served a broadly defined market in terms of number, sizes, and types of their customers, as well as the breadth of their product line.

McCann's (1991) study of young, independent, technology-based ventures supported the broad breadth prescription of the studies using the PIMS corporate start-up data base. Noting the mixed results of research about scope or breadth of the venture's strategy, McCann argued that it 'is a variable that should at least be considered in any research' (1991: 193).

Other new venture researchers have combined their strategy prescriptions with specific industry conditions. In their reexamination of the focus or niche strategy, Cooper, Willard, and Woo (1986) identified specific industry conditions under which new ventures might aggressively challenge leaders. Abell (1980) recommended using a differentiated strategy when entering growth stage markets and a focus strategy when entering mature markets. In her study of start-ups in the minicomputer industry Romanelli (1989) found that when industry sales

are increasing rapidly, generalists (broad market breadth) firms are more likely to survive than are specialists firms.

Finally, using a sample of new ventures sponsored by venture capitalists, Hofer and Sandberg (1987) found that the effectiveness of the venture's strategy was dependent on the stage of evolution of the industry being entered. When all industries were combined, a broad strategy outperformed a focused strategy, but under late evolution only (a condition associated with low growth), a focused strategy was superior to a broad strategy. Kunkel (1991), using a sample gathered from the IPO prospectuses of new venture, also found broad strategies outperformed narrow strategies during early stages of the life cycle (high growth) and narrow strategies outperformed broad strategies in the later stages of the life cycle (low growth).

INDUSTRY AND STRATEGY FITS: THE RESEARCH QUESTIONS

The studies outlined above offer contradictory evidence of the most appropriate industry and strategy choices. While conventional wisdom suggests a high growth rate to be the most important criterion in industry selection, Stuart and Abetti's (1987) and Kunkel's (1991) findings support entry into low growth industries. Even greater inconsistency exists in research finding relating to strategic breadth.

These inconsistencies and the works of such researchers as Sandberg (1986), Kunkel (1991), Cooper *et al.* (1986) and Abell (1980) suggest that perhaps it is not a specific industry condition or a particular strategy, but an appropriate combination of industry and strategy that is important for new venture success. In opting for high growth industries, are entrepreneurs missing venturing opportunities in low growth industries? Might a new venture with resources so limited that only a narrowly focused strategy is possible find greater potential success under certain industry growth conditions?

One of the purposes of this study is to investigate these contradictory findings on industry growth and breadth of strategy as regards new venture performance. The new ventures in this study were divided into four industry growth/strategic breadth combinations: (1) high growth,

broad strategy, (2) high growth, focused strategy, (3) low growth, broad strategy, and (4) low growth, focused strategy. Figure 1 represents a graphic representation of the four industry growth/strategic breadth combinations. Thus, the first research question addressed was:

Research Question 1: Are significant differences in performance associated with the pursuit of different industry growth/strategic breadth combinations and, if so, which combinations are associated with the highest levels of performance?

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. For instance, Hamermesh, Anderson, and Harris (1978) suggest that successful firms with low breadth strategies tend to share in common 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.

Taken in concert, the literature suggests the second research question:

Research Question 2: Does the content of a new venture's competitive strategy significantly vary across the four industry growth/strategic breadth combinations and, if so, how?

HYPOTHESES

Relationships between performance and industry growth/strategic breadth

While Biggadike (1976), Hobson and Morrison (1983) and Sandberg (1986) all found that new

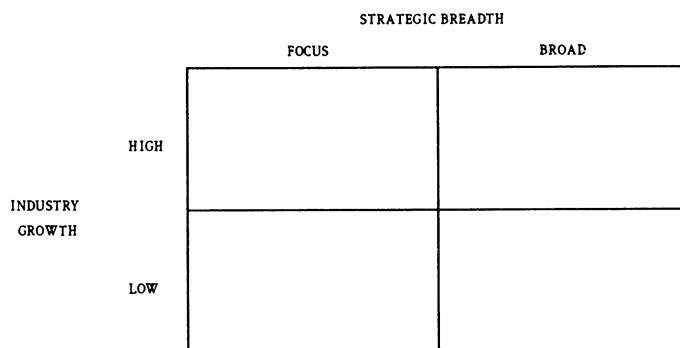


Figure 1. Industry growth/strategic breadth clusters

ventures entering markets in high growth stages of evolution were more successful, each study used a different measure of performance. Biggadike used ROI, ROS, and cash flow/investment, Hobson and Morrison used a market share measure, and Sandberg examined ROE and survival. Biggadike (1976) noted that there is no commonly accepted list of performance variables or method by which new ventures should be evaluated.

Venture capitalists have indicated a preference for growing industries (MacMillan *et al.*, 1985; Sandberg and Hofer, 1987). Venture capitalists are considered to be one of the most successful groups of new venture investors (Sandberg and Hofer, 1987; Davis and Stetson, 1984).

Contrary to the above findings, new ventures in Stuart and Abetti's (1987) and Kunkel's (1991) research were more successful in low growth industries. While it is important to note that the 24 new ventures in Stuart and Abetti's sample were technical start-ups and as such may have some product advantage that gives them a significant competitive advantage over more mature firms in slower-growth industries, Kunkel's (1991) sample was more general.

Of critical importance in hypothesizing about the performance implications of operating under various industry growth and strategic breadth conditions is the clear specification of the performance criteria in question. For the current study, ROS and sales growth rate were chosen for examination. Both of these criteria have been widely used in studies which assessed small firm and new venture financial performance (see the Methodology section).

The direction of the relationship between

industry growth rate and ROS is somewhat difficult to predict because it could conceivably be either negative or positive. For example, relative to the managers of new ventures in low growth industries, those in high growth industries may feel compelled to heavily reinvest their earnings into such activities as product or market development for the purpose of keeping pace with the industry. Such reinvestment in the venture would tend to diminish ROS. On the other hand, as several of the aforementioned studies have found, growing industries are often associated with high returns. Perhaps the munificence of a growing industry permits high returns to be achieved without necessitating investment in the venture beyond what would be typical of new ventures in slower growing industries. Clearly, theoretical arguments can be made in support of both negative and positive relationships between industry growth rate and ROS. However, the majority of the empirical evidence suggests the existence of a positive relationship. Accordingly, it is hypothesized:

Hypothesis 1a: New ventures in higher growth industries will have higher average ROS than new ventures in lower growth industries.

The direction of the relationship between industry growth rate and new venture sales growth, the second performance criterion examined in this research is seemingly less equivocal. Specifically, industries in which demand is increasing (i.e., growing industries) are likely to be composed of increasing numbers of firms and/or of firms whose sales revenues are, on average, increasing. For sales growth performance, it is hypothesized:

Hypothesis 1b: New ventures in higher growth industries will have higher average sales growth rates than new ventures in lower growth industries.

Sandberg (1986), Hobson and Morrison (1983), MacMillan and Day (1987), McCann, (1991), and Biggadike (1976) have all found that more aggressive, broadly defined strategies have been more successful. In their study of adolescent ventures Miller and Camp found that the most successful ventures in their sample served a broadly defined market in terms of number, sizes, and types of customers, as well as the breadth of their product line, leading Miller and Camp to suggest that 'if there is anything gained by being more focused than the competition it is apparently only the undesirable distinction of lower profitability' (1985: 99).

Hypothesis 2a: New ventures with broader strategies will have higher average ROS than new ventures with focus strategies.

Hypothesis 2b: New ventures with broader strategies will have higher average sales growth rates than new ventures with focus strategies.

While Sandberg (1986) found that broad strategies outperformed focus strategies, he also found that broad strategies were more effective in high than in low growth industries. Consistent with Sandberg, Abell (1980), Romanelli (1989), and Kunkel (1991) prescribed that new ventures entering high growth industries should employ broad breadth strategies. In addition, Duchesneau and Gartner's (1990) examination of the strategies of orange juice distributors during a period of high industry growth found that successful firms had broad breadth strategies.

Hypothesis 3a: New ventures with broader strategies in higher growth industries will have higher ROS than the collective group of all other strategy/industry growth group combinations.

Hypothesis 3b: New ventures with broader strategies in higher growth industries will have higher sales growth rates than the collective group of all other strategy/industry growth group combinations.

Relationships between strategy content and industry growth/strategic breadth

In their discussion of the perils of high-growth markets, Aaker and Day (1986) reasoned that aggressive entry into high growth markets would deter later entrants. By entering on a large, aggressive scale the entrant may be able to both signal their commitment to the market and erect barriers to entry which make the segment less appealing, no matter how attractive the growth rate. Sandberg (1986) found that the new ventures entering industries in which entry barriers rose after the ventures entered the industry were more successful. Duchesneau and Gartner's (1990) study of new ventures operating in an environment characterized by high growth found that successful ventures entered aggressively.

Hypothesis 4: New ventures in high growth industries will enter the market on a larger, more aggressive scale than will new ventures in low growth industries.

Aaker and Day (1986) also discussed the substantial financing requirements for businesses choosing to enter high growth markets. Resource constraints would logically be expected to be greater for ventures experiencing higher initial growth. As noted earlier, outside investors such as venture capitalists consider high growth markets to be more attractive targets for investment (MacMillan *et al.*, 1985). Consequently, ventures in high growth industries would be expected to be better able to attract capital from outside sources.

Hypothesis 5: New ventures in high growth industries will attract more capital from outside investors than new ventures in low growth markets.

Growth rates are a critical variable in defining stages in product life cycles. As Porter notes, 'the grandfather of concepts for predicting the probable course of industry evolution is the familiar product life cycle' (1980: 157). The highest industry growth rates have been associated with the product life cycle's growth stage. Strategic variables have increased or decreased in emphasis at different stages of the cycle (see e.g., Anderson and Zeithaml, 1984; Thietart and

Vivas, 1984; Abell and Hammond, 1979; Wasson, 1974; Hofer and Schendel, 1978). In earlier high growth stages there is a higher rate of technological change in product design (Hofer, 1975). Consequently ventures would be expected to invest more heavily in product development, a finding supported by Covin and Slevin (1988). Patents would be a logical outgrowth of this investment. As the industry growth rate slows and the industry becomes mature, investment would shift to process design (Abernathy and Utterback, 1978).

Hypothesis 6: New ventures in high growth industries place greater emphasis on new product development than new ventures in low growth industries.

Hypothesis 7: New ventures in high growth industries place greater emphasis on the ownership of patents or other proprietary knowledge than new ventures in low growth industries.

Hypothesis 8: New ventures in low growth industries place greater emphasis on innovation in manufacturing processes than new ventures in high growth industries.

As noted earlier, a prescription to new ventures pursuing focus strategies has been to develop specialized products (Cooper, 1981; Hosmer, 1957; Gross, 1967; Hamermesh *et al.*, 1978) and to compete in market segments which require high levels of customer service (Cooper, 1981; Cohn and Lindberg, 1972; Hamermesh *et al.*, 1978).

Hypothesis 9: New ventures pursuing a focus strategy place greater emphasis on specialty products than new ventures pursuing a broad strategy.

Hypothesis 10: New ventures pursuing a focus strategy provide a higher level of customer service than new ventures pursuing a broad strategy.

Specialty products are often associated with premium pricing policies, thus allowing the venture to compete less on the basis of cost. New ventures adopting a focus strategy may have difficulty competing on cost since they would

typically lack economies of scale. Further, as suggested by Henderson (1984), low cost strategies tend to be associated with broad scope strategies, and thus focus would be associated with higher costs and prices.

Hypothesis 11: New ventures pursuing a focus strategy have a higher pricing policy than new ventures pursuing a broad strategy.

Hypothesis 12: New ventures pursuing a focus strategy place less emphasis on low cost concern than new ventures pursuing a broad strategy.

Since firms competing through broader strategies would be expected to have a wider range of products, more channels of distribution to manage, more segments and customers, and broader markets, it seems reasonable that there would be a positive relationship between broad strategic breadth and advertising and promotion expense. Marketing expertise would be expected to be an important competency for developing additional channels of distribution. The addition of new channels would likewise increase advertising and promotion expense. Emphasis on brand identification and name recognition would enhance the new venture's ability to market multiple products in numerous market segments.

Like advertising and promotion, forward integration is a means by which firms achieve closer contact and communication with their markets. Biggadike (1976) found that relative forward integration was significantly correlated with relative advertising expenditures and relative promotion expenditures. Broad strategy ventures might use forward integration and advertising and promotion concurrently as strategic thrusts. Moreover, broad strategy ventures, by definition, will have more of their resources tied up in distribution related functions. Distribution effectiveness will often be a significant determinant of performance for these firms, and forward integration would be a logical means through which they could gain greater control over these operations and consequent performance.

Hypothesis 13: New ventures pursuing a broad strategy have a higher level of advertising and promotion expenses than new ventures pursuing a focus strategy.

Hypothesis 14: New ventures pursuing a broad strategy place greater emphasis on the dominance of marketing expertise in their top management team than new ventures pursuing a focus strategy.

Hypothesis 15: New ventures pursuing a broad strategy place greater emphasis on developing new channels of distribution than new ventures pursuing a focus strategy.

Hypothesis 16: New ventures pursuing a broad strategy place greater emphasis on brand identification and name recognition than new ventures pursuing a focus strategy.

Hypothesis 17: New ventures pursuing a broad strategy place greater emphasis on forward integration than new ventures pursuing a focus strategy.

METHODOLOGY

Sample

Data for this study were collected from surveys validated in a pilot study which was mailed to the owner, president, CEO, or chairman of the board of 2552 potential new venture businesses or business units¹ using addresses obtained from Dun and Bradstreet. The owner, president, CEO, or chairman of the board was targeted as the respondent because they typically possess the most comprehensive knowledge of relevant characteristics of the organization, the firm's strategy, and its performance (Hambrick, 1981).

A total of 271 surveys were returned (11%). A chi-square analysis of the sample revealed that the respondents and the population of Dun and Bradstreet new ventures for the industries included in the study did not differ in terms of geographical location ($\chi^2 = 8.408$, d.f. = 7) or number of employees ($\chi^2 = 4.474$, d.f. = 4). Thus, the sample did not exhibit any size or regional bias.

In an additional effort to guard against

nonrespondent bias, a follow-up telephone survey of 23 nonrespondents was conducted. There were no significant differences in any of the basic characteristics describing nonrespondents and the participants. It is important to note that of the 23 nonrespondents contacted, six (25%) indicated that they did not regard themselves as a new venture (one was established in 1907, one in 1946, two in 1970, one in 1972, and one in 1973). Since the cover letter had indicated that the research was on new ventures they had chosen to not return the questionnaire. These older businesses were included on the Dun and Bradstreet new venture mailing lists since Dun and Bradstreet uses any change in ownership of the firm as the date of origination, rather than the date that the firm necessarily began operations. It seems probable that numerous other firms receiving the questionnaires were also firms which were not new ventures, and as such, would not have completed the questionnaire, thus undoubtedly depressing the response rate.

Reliability was examined using a sample of survey second respondents. Fifty randomly selected firms agreed to have a top executive complete sections of the questionnaire. Pearson correlation coefficients for each of the 50 pairs of respondents were computed on the strategic variable's portion of the questionnaire. High correlations between the pairs of respondents within each firm on the strategic variables would argue for a high degree of reliability of the instrument. The average of these 50 correlation scores was 0.58. For an extensive discussion of the data base see McDougall and Robinson (1990).

While both independent and corporate-sponsored ventures were included in the original sample, differences between independent and corporate-sponsored ventures suggest that researchers should examine each group separately (Biggadike, 1976; Weiss, 1981). Since independent ventures far outnumbered the corporate-sponsored ventures and the inclusion of both may have contaminated the results, this study focused exclusively on independent ventures.

Two SIC codes, SIC 3573 and SIC 3662, were selected for this study. SIC 3573 is electronic computing equipment, and SIC 3662 is radio and television transmitting, signaling, and detection equipment and apparatus. The sample contained

¹ Paralleling prior research (Biggadike, 1976; Miller and Camp, 1985) a firm was considered a new venture if it was 8 years old or less. The term 'potential' was used since a significant number of firms identified by Dun and Bradstreet as new ventures did not meet our definition of new ventures, but were in actuality, established businesses.

59 independent new ventures in SIC 3573 and 64 independent new ventures in SIC 3662. Thus, the sample in this research consisted of 123 new ventures.

Measures and classification of ventures

The ventures were classified into one of four groups based on the narrowness or broadness of their strategy and on the growth rate of the industry segment each had entered. Respondents were asked to indicate the level of growth in their industry sector as shown in Question I of the Appendix.

Five survey items were used to measure the strategic breadth of each venture. As shown in Question II of the Appendix, these were (1) range of products, (2) broadness of markets, (3) number of market segments, (4) number of customers, and (5) number of distribution channels. The coefficient alpha of the five items was 0.63, consequently it appears that the strategic breadth measure has an acceptable level of reliability (Nunnally, 1967). An individual venture's strategic breadth score was computed as its mean score on the five strategic breadth items.

Fourteen strategic variables describing a firm's competitive philosophy and practice were examined in this study. Using questionnaire items in the same format as those for industry growth and strategic breadth, respondents indicated the emphasis their venture placed on each strategic variable when compared to other firms in their industry.

Two objective measures—ROS and sales growth—were used in the study. In their study to determine the best way to measure the performance of new ventures, Brush and VanderWerf (1990) examined a sample of 34 articles published in 1987 and 1988 in leading entrepreneurship journals. While Brush and VanderWerf concluded that there are no generally accepted guidelines for measuring new venture performance, five operationalizations of performance emerged as the most frequently used. 'Changes in sales' was overwhelmingly the most popular operationalization, with 16 of the 34 studies reviewed utilizing this measure. They also identified 'return on sales' as one of the most frequently used measures of profitability (see e.g., Smith *et al.*, 1988; Robinson *et al.*, 1984; Weiss, 1981; and Biggadike, 1976).

The hypotheses required that the sample be sorted into the four industry growth/strategic breadth categories according to the individual firm's placement along the dimensions of industry growth and strategic breadth. Ward's method of hierarchical cluster analysis was used for this purpose. Ward's method maximizes intercluster differences and minimizes intracluster differences across a set of clustering variables (Everitt, 1974). Cluster analysis allows cases to be sorted into groups according to natural division points in the data and does not require that a mean, median, or some other arbitrary basis for sorting cases into groups be applied to the sample. One-way ANOVA and contrast tests were then used to identify whether the strategic and performance variables exhibited the hypothesized variation across the resulting clusters of firms.

RESULTS

The cluster scores (i.e., means and standard deviations) for the industry growth and strategic breadth variables used in the cluster analysis are presented in Table 1. The 4-cluster solution was chosen on an *a priori* basis in order to be methodologically consistent with the theory and hypotheses. However, the empirical results of the cluster analysis confirmed that a 4-cluster solution is the most appropriate for the data. Specifically, an examination of the dendrogram, as well as changes in the squared Euclidian distance for various cluster solutions, revealed that 4 clusters, rather than 3, 5, or some other number, is the most appropriate solution for the data. As such, none of the clusters is an empirical artifact but, rather, they are naturally occurring strategic types manifest in the data.

Ventures in clusters 1 and 2 have industry growth scores significantly higher than ventures in clusters 3 and 4. Clusters 1 and 2 are labeled high industry growth and clusters 3 and 4 are labeled low industry growth. Ventures in clusters 2 and 4 have significantly higher breadth scores than ventures in clusters 1 and 3. Clusters 2 and 4 are labeled broad breadth and clusters 1 and 3 are labeled focus.

Age, sales revenues, number of employees, and productivity (i.e., sales per employee) were computed for each cluster group (see Table 2).

Table 1. Cluster means and (standard deviations): Industry growth and strategic breadth

Focus variable	Cluster means/(SDs)					Lo vs. hi F-ratio	Focus vs. broad growth	Breadth
	High industry growth/broad n = 31	High industry growth/focus n = 49	Low industry growth/broad n = 30	Low industry growth/focus n = 13				
Industry growth	6.42 (0.50)	5.88 (0.75)	3.70 (1.24)	3.69 (0.63)		78.17***	-14.47***	
Strategic breadth	3.03 (0.83)	5.02 (0.69)	2.95 (0.95)	5.43 (0.59)		75.07***		14.08***

***p < 0.001

The four clusters exhibited no overall differences on any of the four measures, nor are there significant differences on any of the measures between high and low industry growth clusters or broad breadth or focus clusters. Table 3 shows the correlations among the research variables.

Tables 4–6 present the results of the hypotheses testing. Each of the three tables show the cluster means and standard deviations, the ANOVA values, and the contrast tests results for each of the hypotheses. Table 4 presents the first three hypotheses, each of which relate to performance. Hypotheses 4–8, which examines the content of a new venture’s competitive strategy under high and low industry growth conditions are shown in Table 5. The remaining nine hypotheses, which examine the relationships between strategy content and strategic breadth, are presented in Table 6.

For the first performance hypothesis, that new ventures in high growth industries would be more successful than new ventures in low growth industries, the results are significant ($p < 0.1$) for sales growth but not for ROS. Hypothesis 2, that broad breadth strategies would outperform focus strategies, was not supported for either ROS or sales growth. In Hypothesis 3, broad breadth strategies in high growth industries had significantly ($p < 0.1$) higher sales growth than all other ventures. No difference in ROS was observed for Hypothesis 3.

For the remaining 14 variables, the data generally support the hypotheses. In contrasting new ventures in high and low growth industries

two of the five hypotheses were supported, and in contrasting new ventures with broad breadth and focus strategies seven of the nine hypotheses were supported (see Tables 5 and 6).

New ventures in high growth industries were found to have made significantly larger scale entries ($p < 0.01$) and placed more emphasis on new product development ($p < 0.05$). However, contrary to Hypotheses 5 and 7 new ventures in high growth industries did not attract more capital from outside investors than new ventures in low growth markets or place greater emphasis on patents or proprietary processes. Nor was Hypothesis 8 that new ventures in low growth industries placed greater emphasis on innovation in manufacturing processes supported.

New ventures pursuing focus strategies placed significantly higher emphasis on manufacturing specialty products ($p < 0.05$) and indicated significantly less concern for low cost ($p < 0.05$). Broad strategy new ventures indicated that they had significantly higher levels of advertising and promotion expenses ($p < 0.1$) and placed greater emphasis on the dominance of marketing expertise in their top management team ($p < 0.05$), on developing new channels of distribution ($p < 0.05$), on brand name identification and name recognition ($p < 0.01$), and on forward integration ($p < 0.1$). Hypotheses 10 and 11 were not supported by the data. Specifically, the new ventures with focus strategies did not provide a higher level of customer service, nor did they have higher pricing policies than new ventures with broad strategies.

Table 2. Cluster characteristics

	Means/(SDs)			
	Age	Sales revenues	Number of employees	Productivity
High industry growth/focus	3.00 years (1.86)	\$2,528,405 (\$3,686,774)	33.00 (48.20)	\$72,202 (\$40,340)
High industry growth/broad breadth	2.76 years (1.45)	\$3,481,833 (\$5,819,053)	35.85 (47.67)	\$88,185 (\$69,352)
Low industry growth/focus	3.10 years (2.01)	\$1,686,681 (\$3,927,100)	20.90 (35.94)	\$90,787 (\$142,680)
Low industry growth/broad breadth	3.92 years (2.18)	\$2,608,375 (\$2,219,099)	22.11 (21.61)	\$135,744 (\$134,313)
Total sample	3.02 years (1.80)	\$2,685,838 (\$4,602,475)	29.93 (42.85)	\$89,381 (\$94,749)

Table 3. Correlation matrix

	V1	V2	V3	V4	V5	V6	V7	V8	V9
Growth	1.00								
Breadth	0.04	1.00							
Age	-0.10	-0.01	1.00						
Number of employees	0.04	0.11	0.07	1.00					
Sales	-0.03	0.15	0.15	0.90***					
Productivity	-0.16	0.02	0.34*	0.02	1.00				
Specialty products	-0.09	0.27**	0.02	-0.04	0.26*	1.00			
Customer service	-0.06	0.01	0.04	0.01	0.00	0.17	1.00		
Premium pricing	-0.05	-0.07	0.06	0.22*	0.18@	0.02	-0.07	1.00	
Low cost	-0.09	0.18	0.02	-0.12	-0.13	-0.14	0.01	0.03	1.00
Advertising & promotion	0.00	0.31***	0.02	0.09	0.15	0.08	0.17@	0.04	-0.44***
TM marketing expertise	0.07	0.20*	-0.03	0.08	0.09	0.18	0.01	0.15@	0.16@
New channels	0.08	0.14	-0.06	-0.01	0.02	0.06	-0.18	0.05	0.06
Brand ID	0.06	0.30***	-0.03	0.04	0.10	-0.19@	-0.01	0.08	0.09
Large scale entry	0.15@	0.00	-0.21*	0.12	0.05	-0.09	0.17@	0.10	0.01
Outside capital	0.15@	0.13	-0.34***	0.40***	0.35***	-0.11	0.05	-0.08	-0.12
New product development	-0.23**	-0.06	0.13	-0.23*	-0.19@	0.21@	0.17@	-0.18*	-0.01
Patents/prop. processes	0.12	0.02	0.09	0.07	0.12	0.01	0.09	-0.02	-0.16@
Innovation manuf. processes	0.18*	-0.01	-0.09	-0.03	-0.07	-0.06	0.01	-0.02	0.12
Forward integration	0.11	0.21*	0.05	-0.13	-0.19@	-0.01	0.06	0.03	0.17@
								0.15@	0.03

Continued.

Table 3. Continued

	V10	V11	V12	V13	V14	V15	V16	V17	V18	V19	V20
Growth											
Breadth											
Age											
Number of employees											
Sales											
Productivity											
Specialty products											
Customer service											
Premium pricing											
Low cost	1.00										
Advertising & promotion	-0.10	1.00									
TM marketing expertise	0.18*	0.20*	1.00								
New channels	0.07	0.13	0.21*	1.00							
Brand ID	0.08	0.31***	0.25**	0.22*	1.00						
Large scale entry	0.08	0.03	0.00	-0.11	0.08	1.00					
Outside capital	0.07	0.10	0.09	-0.02	0.13	0.32***	1.00				
New product development	0.14	-0.16@	0.07	-0.01	-0.16@	-0.09	-0.08	1.00			
Patents/prop. processes	0.02	0.04	0.22*	0.16@	0.24**	0.03	0.20*	0.00	1.00		
Innovation manuf. processes	-0.14	0.00	-0.01	0.05	0.12	0.18*	-0.02	-0.10	0.16	1.00	
Forward integration	0.06	0.17@	0.00	0.16@	0.02	0.05	-0.04	-0.05	-0.17@	-0.07	1.00

@ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 4. Performance hypotheses results

	Cluster means (SDs)				ANOVA <i>F</i> _s
	HG/F	HG/BB	LG/F	LG/BB	
ROS	13.0% (19.7%)	7.6% (17.4%)	15.0% (26.4%)	2.8% (24.2%)	0.66
Sales growth	181.1% (245.1%)	362.0% (717.0%)	157.2% (290.6%)	75.6% (85.5%)	0.77

Hypotheses	Contrast <i>t</i> s	Results
High growth vs. low growth		
H1a: ROS	−0.22	Not supported
H1b: Sales growth	−1.61 [@]	Supported
Focus vs. broad breadth		
H2a: ROS	−1.37	Not supported
H2b: Sales growth	0.52	Not supported
Broad breadth/high growth vs. All Others		
H3a: ROS	0.43	Not supported
H3b: Sales growth	−1.39 [@]	Supported

[@]*p* < 0.1, **p* < 0.05, ***p* < 0.01, ****p* < 0.001

Table 5. High vs. low industry growth hypotheses results

Strategic variable	Cluster means (SDs)				ANOVA <i>F</i> _s	Contrast <i>t</i> s	Results
	HG/F	HG/BB	LG/F	LG/BB			
H4 Large scale entry	2.61 (1.69)	2.53 (1.85)	2.00 (1.68)	1.38 (0.65)	2.26 [@]	−2.59**	Supported
H5 Capital from outside investors	3.71 (2.70)	4.16 (2.47)	3.23 (2.54)	3.38 (2.43)	0.94	−1.22	Not supported
H6 New product development	5.10 (1.35)	5.08 (1.29)	4.60 (1.71)	4.46 (1.71)	1.25	1.89*	Supported
H7 Ownership of patents or proprietary processes	4.60 (1.89)	4.57 (1.93)	4.37 (1.71)	4.23 (2.28)	0.19	−0.74	Not supported
H8 Innovation in manufacturing processes	4.43 (1.78)	4.18 (2.03)	3.83 (1.53)	3.38 (1.94)	1.21	−1.87	Not supported

[@]*p* < 0.1, **p* < 0.05, ***p* < 0.01, ****p* < 0.001

Importantly, as determined using Scheffe contrasts across the four individual clusters, no two clusters differ significantly (i.e., *p* < 0.1) on any of the dependent variables (large scale entry, new product development, specialty products, low cost concern, advertising and promotion expense, top management marketing expertise, new channels of distribution, and brand identification). Thus, it appears that the significant results reported above are not being driven

primarily by a dependent variable's score within any single cluster.

DISCUSSION

While high growth industry environments in general were found to provide a favorable environment for new ventures to achieve sales growth, the significantly highest sales growth

Table 6. Focus vs. broad breadth hypotheses results

Strategic variable	Cluster means (SDs)				ANOVA <i>F_s</i>	Contrast <i>ts</i>	Results
	HG/F	HG/BB	LG/F	LG/BB			
H9 Specialty products	5.47 (0.82)	4.67 (1.56)	5.03 (1.52)	4.54 (1.56)	2.40@	2.27*	Supported
H10 Customer service	6.32 (1.05)	6.04 (1.43)	6.17 (1.23)	6.69 (0.63)	1.08	0.61	Not supported
H11 Premium pricing	4.23 (2.09)	4.02 (1.59)	4.50 (1.85)	4.38 (1.80)	0.47	-0.44	Not supported
H12 Low-cost concern	3.84 (2.00)	4.33 (1.66)	4.07 (1.89)	4.92 (1.50)	1.26	1.86*	Supported
H13 Advertising and promotion expense	3.16 (1.90)	3.04 (1.76)	2.90 (1.52)	4.15 (1.72)	1.72	1.62@	Supported
H14 Top management marketing expertise	3.29 (1.74)	3.20 (1.80)	2.77 (2.10)	4.31 (2.32)	1.95	1.87*	Supported
H15 New channels of distribution	4.52 (1.77)	5.02 (1.66)	4.20 (1.75)	5.15 (1.68)	1.85	2.11*	Supported
H16 Brand ID & name	5.16 (1.53)	5.45 (1.34)	4.57 (2.22)	5.92 (1.26)	2.73*	2.61**	Supported
H17 Forward integration	4.27 (1.84)	4.60 (1.72)	3.93 (1.09)	4.46 (1.39)	1.11	1.34@	Supported

@*p* < 0.1, **p* < 0.05, ***p* < 0.01, ****p* < 0.001

rates were exhibited by new ventures in high growth industries pursuing broad breadth strategies. These results offer support for the contention by venture capitalists (MacMillan *et al.*, 1985) that high industry growth rate is a critical market requirement, as well as Porter's (1980) and Miller and Camp's (1985) arguments that ventures may experience less competitive pressures in rapidly growing industries. Perhaps more importantly, these results offer support to researchers (e.g., Abell, 1980; Romanelli, 1989; Hofer and Sandberg, 1987) who have stressed the need to combine strategy prescriptions with specific industry conditions.

The same results did not apply for ROS. Although the broad breadth strategy ventures in high growth industries exhibited the significantly highest sales growth rates, they showed only modest ROS. This divergent finding regarding sales growth and ROS is interesting and can perhaps best be analyzed within the context of past research studies.

Key to Biggadike's (1976) prescription to new ventures was the criticalness of market share building, despite what he considered an adverse effect on current financial performance. Directly related to this research, sales growth would be

expected to have a close relationship with market share growth. Biggadike found a short-term ROI penalty for those ventures in his sample following a rapid share building strategy. MacMillan and Day (1987) were more optimistic. They found a high positive correlation between market share and ROI, concluding that new ventures can 'have their cake (market share) and eat it too (ROI),' a finding collaborated by Miller and Camp (1985).

While researchers may interpret the Biggadike (1976) and MacMillan and Day (1987) studies to represent divergent conclusions regarding market share and financial performance, perhaps these two studies do not actually contradict each other. While Biggadike's sample did not obtain good financial and good market performance, Biggadike's examination is in the same period. We do not interpret Biggadike as saying that it is impossible for a venture to have good financial and good market performance *once* share is established. MacMillan and Day compared the strategic investment decisions of ventures in year *one* with their market share performance *four years later*. In our interpretation, there is no real contradiction in these research findings, since MacMillan and Day do not address market share

and ROI in the same reporting period in which the *growth* in market share might well have been accomplished. It is quite conceivable that ventures in MacMillan and Day's sample did suffer a short run ROI penalty for market share gain in the first three years, as Biggadike would predict, but by year four the higher market share had translated into scale benefits leading to higher ROI.

It is interesting to point out that our sample consists of independent new ventures, as opposed to Biggadike's (1976) and MacMillan and Day's (1987) sample of PIMS (corporate-sponsored) start-ups. With average sales of \$2,685,838 the ventures in this research are much smaller than those studied by Biggadike and MacMillan and Day. Also, on average, these ventures are less than 4 years of age, the age MacMillan and Day used for their analysis. Perhaps because of age or, in our opinion, more likely small size, these ventures have not yet been able to translate scale benefits from growth into financial performance.

The divergent performance results for ROS and sales growth highlight the importance of including multiple measures of performance in research studies, particularly for those on new ventures. The preceding discussion also underscores the need for more longitudinal research studies of new ventures.

The high ROS performance of the focus strategy/low industry growth ventures is consistent with Sandberg and Hofer's (1987) finding that focus strategies performed well in later life cycle stages where industry growth rates are lower. Sandberg and Hofer posited that incumbents dominated major segments in mature industries, leaving only specialized positions susceptible to entry.

The two electronic equipment industries we examined help us with conjecture about why focus strategies performed best (ROS) when industries mature and growth rates subside. Firms focusing on a narrower product line or target market should accrue cost benefits from the 'learning curve'—knowing and being known to distributors, users and raw material suppliers of electronics equipment manufacturing needs, as well as knowing how to produce most cost effectively. Channels in a maturing industry are well established—and there are many alternative channels in electronics equipment, all contributing

to lower overhead costs in sales, administration and in lower costs of capital.

The most unenviable ventures were those pursuing broad breadth strategies in low growth industries. While not examined as a hypothesis, these ventures exhibited the lowest ROS and sales growth. Statistically their sales growth was significantly lower ($p < 0.05$) when compared to all other ventures in the study. We would agree with Hofer and Sandberg's (1987) contention that under later stages of evolution (low industry growth) broad strategies may serve to waste the venture's limited organizational resources.

Broad breadth strategies in the maturing electronic equipment industry sectors may be ineffective for several reasons. Sales growth in slow growth industries has to come from taking the sales of a competitor, all the time facing a more knowledgeable, well-informed buyer with many options. Success in this setting, selling to consumer electronics distributors and retailers, would logically require pricing advantages with solid product quality and some other competitive advantage (service, return policy, maintenance and repair, additional support, manufacturing convenience or expertise, etc.). Companies spread across broad product lines would have a hard time overcoming competitive advantage pressures from numerous specialized manufacturers; and any attempt to do so would have to be spread across numerous lines, thereby incurring costs and lowering profitability.

The high number of hypotheses supported for the strategic variables demonstrates the diversity of new venture strategies among similar firms. While not linked to performance, these findings enrich our understanding of how new ventures compete within the contexts of industries with varying growth rates and how strategic decisions vary by the new venture's choice of a focus or a broad breadth strategy.

The research offers perhaps two contributions to the study of new venture strategies. First, it examines new ventures in two prominent manufacturing sectors that are predominantly younger, smaller and independently initiated than are the firms which have been the focus of most previous new venture strategy research. The firms studied are not corporate ventures, they are seldom venture capital backed, they are younger and smaller—the industry upstarts. Yet many of the findings of previous researchers

looking at the 'other' new ventures (e.g., Sandberg and Hofer, 1987; Biggadike, 1976; MacMillan and Day, 1987; Tsai *et al.*, 1991) have been found to apply to the strategies of these important, understudied 'upstarts.'

Second, the comparison of strategic variables across firms in two growth settings with two basic strategic postures begins to further refine our understanding of how their strategies are similar and different, as well as raise questions about other aspects that might be examined. For example, there was significantly no difference in the level of emphasis these firms placed on several strategic variables regardless of their overall strategic breadth (broad vs. focus) or the growth of their industry subsegment. They all placed major emphasis on customer service—long said to be a key and perhaps only source of competitive advantage for small firms relative to larger competitors. Such a posture is absolutely critical to small manufacturers in today's 'TQM' environment. Modest, somewhat 'neutral' emphasis on premium pricing, patent/proprietary position and outside capital was a consistent strategic theme among all four groups. Most anyone familiar with small, growing companies will recognize 'price what the market will bear' or 'charge the minimum we can live with and get the contract' as the typical pricing strategy. Similarly, proprietary positions are often sought in the sense of having 'a lead time or jump' on competitors but seldom is the effort to 'patent or protect' deemed worthwhile or affordable. And 'outside capital,' a widely popularized notion, is seldom the reality in most small growth companies—F,F,A—friends, family and associates are most always (by necessity) the choice. While these anecdotal observations provide possible explanation, future research could address these findings to reconcile theoretical ideas (e.g., Porter, 1980, 1985) with reality in small growth companies. For example, when is a premium pricing strategy viable for a small independent, young growth company? What conditions must be present to encourage sticking to that strategy in the face of enormous financial pressure just to survive?

Two strategic variables were clearly associated with industry growth-setting—scale of entry and new product introduction. New ventures in high growth industries chose to enter on a larger, more aggressive scale than those entering low

growth industries. Perhaps an 'aggressive growth strategy was perceived necessary to achieve a significant position in a rapidly growing industry. Since many high growth industries are characterized by high rates of new product introduction, it may not be surprising that smaller ventures entering there emphasize new product development regardless of whether their overall strategy is focus or broad breadth. Future small company research could examine these finding in ways that may be of theoretical and practical use. For example, while small firms in growing industry niches were significantly (statistically) more aggressive in their entry than similar firms in low growth niches, both groups reported relatively low levels of 'aggressive' entry. If confirmed in other samples, what are the implications for the prescriptions found in Biggadike's (1976) and MacMillan and Day's (1987) work? And regarding a high commitment to new product development, is this a reason for the relatively low commitment to patent/proprietary positions?

While not specifically examined in this study, future research should begin to explore patterns of emphasis on different strategic variables across each of the four industry/strategy groups. For example, the ventures with broad breadth strategies in high growth industry niches appeared to emphasize brand name identification, new product introduction, and new channels of distribution including forward integration. In contrast, ventures that pursued broad breadth strategies in low growth niches placed major emphasis on name recognition, low cost operations, the development of new channels, advertising, and required top management (perhaps out of necessity) to play a major marketing role. This latter group of ventures in low growth niches appeared to be 'trying harder and trying more tactics,' but exhibited less growth than the former group of ventures in high growth niches. Future research could help us to understand why such differences exist, thus refining our understanding of potentially successful strategies for new ventures.

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APPENDIX

I. The pairs of statements below relate to competitive dynamics within an industry. Considering only the sector(s) of the industry in which your business unit has chosen to compete, place an 'X' at the position on the scale that best describes the condition within your industry sector(s).

High growth in demand  No growth in demand

II. Each of the following items consists of a pair of statements which represent the two extremes of different methods by which businesses may compete. Place an 'X' at the position on the scale that best describes your business unit's emphasis on each competitive method when compared to other firms within your industry.

Emphasis on	Neither Emphasis	Emphasis on
Providing a narrow range of products		Providing a broad range of products
Serving limited or specific geographical markets		Serving broad markets
Sell products to one market segment		Sell products to numerous market segments
Small number of customers		Large number of customers
Single channel of distribution		Many channels of distribution