

THE IMPACT OF TRAINING AND DEVELOPMENT ACTIVITIES ON SMALL TECHNOLOGY ORIENTED ENTREPRENEURIAL FIRM PERFORMANCE

Jeffrey S. Bracker

University of Louisville

Debra J. Cohen

George Washington University

ABSTRACT

Based on prior research in training and development, planning and performance, and entrepreneurship, it was predicted that formal training and development would play an important role in shaping the strategic planning process and subsequent entrepreneurial firm performance. Data from 73 founder/managers of technology oriented electronic businesses were collected and analyzed to determine the impact of T & D on firm performance. More specifically, the study investigated the relationships between training and development, the perceived benefits of training and development, and the sophistication of a firm's strategic orientation to planning. Preliminary results indicate that training and development are related to firm performance.

To date, most studies of outside influence on established entrepreneurs' firm performance have centered on the impact of consultants on strategic plans and subsequent performance (Chrisman, Hoy & Robinson, 1987). This is certainly unfortunate in a country where over 30 billion dollars is spent annually on strategic management development through training and development (T & D) (Carnevale & Gainer, 1988). The few studies that have examined entrepreneurial education and firm performance have dealt with startup firms or university-led education of potential entrepreneurs (Brown, Christy & Banowitz, 1987; Hyatt, 1989; Vespar, 1985). No longitudinal empirical study has looked at the impact of T & D on strategic planning and subsequent performance in established firms run by entrepreneurs.

Strategic management development activities geared toward entrepreneurs and their firms can be broken down into two types: (a) programs that assist individuals in starting new firms through education on entrepreneurship, and (b) programs that assist established entrepreneurs in handling various managerial problems associated with growth.

The first approach, teaching individuals to be entrepreneurs, addresses the important question: Can one train a person to be an entrepreneur? Advocates of this approach answer this question affirmatively, but surprisingly there has been little empirical research to determine its efficacy. Moreover, anecdotal writings have hotly debated the results as to their potential contribution to participants and to the funding for such training.

Our proposed study builds on the second approach. Our interest is further justified by findings from recent empirical studies which have shown that many entrepreneurs lack skills requisite to managing ongoing companies to ensure their survival and growth. For instance, Miner (1990) found that successful "high tech" entrepreneurs lack managerial skills such as those necessary for planning and organization. Most often a viable patent or proprietary process enabled these entrepreneurs to secure funding to launch the businesses, but most of these firms did not require significant managerial expertise in the early years of their existence. The entrepreneurs dealt more with technical concerns than with finance, marketing or management. Once these administrative issues surfaced or the industry went into a retreat or a downturn, they had to deal with serious survival issues for the first time. Some entrepreneurs were forced out of management or had to sell their companies for far less than they would have desired. All too often, however, the harsher reality of failure was the only option.

Formal training and development in the area of strategic planning allows the entrepreneur not only to benefit from the expertise of the trainer but also to learn the "ropes to skip and ropes to know" of the process, not to mention the benefit of networking with other entrepreneurs. In light of the above statements, the Dun and Bradstreet study, and the deluge of strategic planning program training programs available to entrepreneurs, a select group of established entrepreneurs within the electronics industry was empirically examined.

LITERATURE REVIEW

What Is An Entrepreneur?

There is no clear consensus on the definition of the word "entrepreneur" in the literature. Carland, Hoy, Boulton, and Carland (1984) argue that researchers must at the very least be able to distinguish between entrepreneurs and non-entrepreneurs. They offer the following suggestion:

An entrepreneur is an individual who establishes and manages a business for the principal purposes of profit and growth. The entrepreneur is characterized principally by innovative behavior and will employ strategic management practices in the business (Carland et al., 1984).

The salient point here is that the entrepreneur establishes and manages the business for both profit and growth. This suggests that entrepreneurs carry out a process called entrepreneurship. For the purposes of this study firms were examined that were founder/managed, at least five years old, with fewer than 100 employees, all competing in the same industry, and whose founders possessed advanced degrees in science or engineering. These firms conform to the definition of an entrepreneur and entrepreneurship mentioned earlier, have survived the rocky start up period and should have an appreciation and desire for continual learning due to their own educational backgrounds. Regardless of the time or economic nature of a firm's environment, the authors hypothesize that entrepreneurs who engage in strategic planning should not only financially outperform other firms but also successfully weather severe downturns or structural changes in their industry.

The Role of Training and Development

It seems clear that entrepreneurs who participate in strategic planning training programs

may overcome some of the problems inherent in planning. It is further hypothesized that performance will be greater in firms whose founder/managers believed that training and development would be beneficial and took part in such activities. This hypothesis stemmed from the belief that entrepreneurs need to think these activities are going to help them in their strategic planning practices. Since these individuals are characteristically different from traditional managers, they might not believe that training would hold as much promise for them (Miner, 1990).

Some of the training literature suggests that the more voluntary a training program is perceived, the more motivated individuals will be to attend, participate, learn, and transfer learning to the work site (Cohen, 1990). Thus, if entrepreneurs believe that training will be beneficial, they may be more likely to want to attend and may also be more motivated in that training and development.

According to Keats and Montanari (1986), the ability to practice and integrate strategic planning practices into normal operations is a function of cognitive development. This process would take place in a series of stages dependent upon the appropriate environmental challenge and the entrepreneur's response to that challenge. Therefore, one might conclude that the training needs of an entrepreneur might be moderated by one's path to ownership, business and educational experience, or stage in the firm life cycle. Accordingly, a similar group of entrepreneurs with respect to education, business background, and industry and firm type is warranted for this study.

Hall (1984) contends that most organizations never examine how T&D can most effectively promote organization objectives or how development activities should be altered in light of business plans. The current study attempts to close this gap by examining organizational performance in light of its strategic training and development activities. For the purposes of this study strategic management development will be defined as "the identification of needed skills and active management of employee (entrepreneur) learning for the long-range future in relation to explicit corporate and business strategies" (Hyatt, 1989).

According to Mangum, Mangum, and Hansen (1990), the prevailing opinion is that too many variables may enter into profit determination to single out the impact of any incremental training expenditure. While it is true that there may be a number of variables which account for explained variance in firm performance, it may be important and relevant to know *if* T&D is one of the contributors and, if possible, to what extent training is responsible.

It is our contention that with the correct focus strategic management development should support a company's strategy. Berry (1990) stated that even when managers learn something new, it is rarely translated into increasing the organization's ability to compete. Hence, instead of just providing entrepreneurs with new skills, development needs to be strategic and to place learning in context, a long-range future, as Hall (1984) and Keats and Montanari (1986) suggest.

While training may be a necessary prerequisite to getting a job done, development may be something that is only desired by an individual or an organization. Development, however, cannot occur unless people participate in activities designed to introduce new knowledge, skills, and abilities (KSAs). In addition, development cannot occur unless individuals and organizations know what gap exists between the current level of KSAs and the desired level of KSAs.

Small firms usually experience little resistance to planning from employees. Given the size of the firm, organization members are more likely to be involved with the planning process

and thus to experience more ownership over its outcomes. Furthermore, employees in smaller firms may be more aware that resistance to planning may lead to non-employment.

Relating managerial compensation to the planning process, a major obstacle to successful implementation of plans in large firms, is rarely a problem in small firms. Senior managers in small firms are generally owners and reward themselves based on performance. Furthermore, the small size of these firms makes it easier to tie compensation to performance in an objective fashion, therefore making issues of non-equity moot.

If a needs assessment should uncover a problem, then training might be a solution. However, if a need, desire, interest, or deficiency is uncovered, then development might be the answer. The key here for entrepreneurs and their firms is that training and development is not always the solution. However, since training and development can provide the entrepreneur with needed KSAs and can fill the gap between some current set of circumstances and some desired set of circumstances, then it is likely to be an important tool for most entrepreneurs experiencing managerial problems associated with growth.

According to Bracker, Keats, and Pearson (1988), it seems evident that the process, not the plan, is a key component of performance in entrepreneurial firms. The introduction of and successful use of strategic planning practices are a function of the entrepreneur and his/her behavior. This, of course, favors the employment of training and development in the firm. The process of successful planning is often a result of continual refinement and adjustment of one's strategic plan. Without a clear desire to think about and anticipate future outcomes some entrepreneurs will accept the status quo of their firm (if it isn't broken, don't fix it), an attitude that may eventually lead to trouble. It might be fair to say that many entrepreneurs know one thing very well, the ability to invent and bring that invention successfully to the market.

This innovative behavior is characteristic of growth industries. However, as the industry becomes more dynamic and matures, this process becomes more difficult to implement (Pearson, Feldman, & Bracker, 1991). It might be appropriate to hypothesize that many entrepreneurs are hoping that invention and not the sound management of the firm will continue them on the road to prosperity. Therefore, training and development may play a central role in shaping the entrepreneur's perception of the planning process and his/her implementation of strategy.

The Importance of Planning

Chrisman and Leslie (1989) concluded that small firms benefit most when they conduct strategic planning with the help of an outside influence. They further point out that the type of outside assistance and firm performance have yet to be rigorously tested.

A review presented by Robinson and Pearce (1984) suggests a positive relationship between planning and financial performance in small firms run by entrepreneurs. In a recent study that examines smaller firms and planning process importance, Reid (1989) looked at firms' conformity with prescriptive planning literature by company size. He found that 20 companies (34% of his sample) with sales under 10 million English pounds showed high conformity with his model of strategic planning. He also found size a critical factor in strategic planning performance. It appeared that as the organization grows, so does the need to plan strategically. It also stands to reason that as a firm grows, so does the entrepreneur's need for T & D.

In a content analysis of the literature relating to small firm planning practices, Bracker

and Pearson (1986) identified eight planning components: (a) objective setting; (b) environmental analysis; (c) strength, weakness, opportunity and threat (SWOT) analysis; (d) strategy formulation; (e) financial projections; (f) functional budgets; (g) operating performance measures and (h) control and corrective procedures. These components, when operationalized, encompass the strategic, operational and functional components of the planning process. Based on these components, Bracker and Pearson identified four distinct levels of planning sophistication in order to study its relationship to performance. These levels were (a) unstructured (UP), (b) intuitive (IP), (c) structured operational (SOP) and (d) structured strategic planners (SSP). Sophistication of planning process was ascertained by looking at the degree of formality, comprehensiveness of process and length and time of planning cycle. The length and time of the planning cycle component enable one to identify the planning process employed over a continuous longitudinal time frame as opposed to a cross sectional look before or after the process.

The above-mentioned approach overcomes many of the identified weaknesses of past planning categorizations (Boyd, 1989; Pearce, Freeman, & Robinson, 1987). It further takes into consideration the strategic and operational nature of planning as called for by Robinson and McDougall (1985). Studies of small, mature firms in a relatively stable environment and small firms in a dynamic growth industry have revealed statistically significant financial performance differences between structured strategic planners and those in all other categories (Bracker et al., 1988; Bracker & Pearson, 1986).

Kalinowski, El Enein and Klasson (1989) studied mature wood product firms using the above-mentioned planning categorization. They found that both SSP and SOP categories outperformed unstructured planners with regard to average sales and average net income. Bracker and Methe (1988) also found the categorization to be effective in their cross-national study of Japanese, American and European "high tech" firms. These studies provide additional support for the Bracker and Pearson (1986) planning continuum.

Hypotheses

Based on research on training and development, planning and performance and entrepreneurship mentioned above, it seems reasonable to anticipate that training and development activities play an important role in shaping the strategic planning process and subsequent entrepreneurial firm performance. Therefore, it is important to know not only whether these firms participate in training but also whether they believe it to be beneficial.

In addition, the present research sought to investigate the impact of training not only on firm performance but also by strategic orientation. The literatures in both the training and development arena and the strategic planning arena imply that individually each will have an impact on firm performance. As an interdisciplinary study this investigation sought to determine if there was any sort of interaction between the two. Hence, the present research tests the following major hypotheses:

1. (a) There is a significant interrelationship between planning process sophistication and training and development as it relates to financial performance.
(b) There is a significant difference in financial performance between firms that employ training and development activities and those who do not.

-
- (c) There is a significant difference in financial performance between level of planning process employed and firm performance.
 2. There are significant differences in financial performance within each planning orientation (SSP, SOP, UP) between firms that have employed training and development activities and those that have not.
 3. (a) There is a significant difference in financial performance between entrepreneurs who believe strategic planning training programs are beneficial and those who do not.
(b) Of those firms that believe training is beneficial there is a significant difference in financial performance between those that trained and those that did not.
(c) Of those firms that believe training is not beneficial there is a significant difference in financial performance between those that trained and those that did not.

METHODS

Sample

The membership of the American Electronics Association (AEA) was chosen as an appropriate industry subgroup for this study. The electronics industry includes many small firms and is considered to be in the growth stage of life cycle as demand is growing at a rate in real terms greater than 10%, products and services are diverse, and the technology and competitive structure of the industry is dynamic (Zeithaml & Fry, 1984). The sample consisted of 217 founder/managers of electronic businesses who are members of the AEA. Names and addresses were obtained from the AEA membership guide.

Survey Instrument and Procedure

The questionnaire concerning sophistication of planning practices, participation in and perceptions of usefulness of strategic planning training programs, and background information on educational and business orientations of the entrepreneur was adapted from Bracker (1982). Members of a panel consisting of AEA members, experts in the electronics industry, and academics were interviewed to assist in adapting the questionnaire. In addition, structured and unstructured interviews of a subset of AEA members were conducted to ascertain the applicability of the questionnaire, and a pilot test for relevance, readability and completion time was undertaken before the final instrument was developed.

Dillman's (1987) total design method (TDM) was utilized in developing the format of the questionnaire and for conducting the mail survey. Following Dillman's method, the process consisted of three mailings at three-week intervals and follow-up phone calls after the third mailing. A test of demographics failed to reveal any significant differences between mailings.

Ninety-seven firms responded to the questionnaire for a total response rate of 45%. Of these 97 responses, 73 (34%) successfully completed the questionnaire. According to Norton (1986), a response rate of 20-25% is an acceptable rate of return for this industry subgroup. There was no indication of substantive differences between respondents and non-respondents.

Firm demographics for the five-year time frame were: Age, six years to 17 years ($x = 9.9$); Revenues, less than \$500,000 to over \$12,000,000 per year ($x = \$4,650,000$); Average net income before taxes, \$350,000. The number of employees ranged from seven to 100 ($x = 66$).

Measures and Classification

According to Dess and Robinson (1984), the consideration of organizational performance should be based on the identification of accurate, relevant and available measures. Here, measures of financial performance were developed based on interviews with experts in the electronics industry, entrepreneurs who own and manage electronic firms, and published industry data sources.

The resulting financial performance variables included the following: (a) growth in revenue; (b) net income growth; (c) growth in present value of the firm (including book value, patents and goodwill); and (d) CEO compensation growth over the five-year time frame. Growth in revenue was the average sales growth for the first five-year time frame. Net income growth was the average net income before taxes for the first five-year time frame. Present value growth of the firm was the average book value of the firm, patents and goodwill for the first five-year time frame. CEO compensation growth was the average growth in CEO cash compensation for the first five-year time frame. In order to determine the growth rates over the five-year time frame, we used the initial year value, subtracted from the next year value, divided by the initial year value, to obtain the growth rate for year. These data were summed, divided by five and multiplied by 100 to determine the percentage growth rate in performance during the five-year time frame. According to Bracker et al. (1988), "This approach to measurement of the dependent variables was used because it was more likely to reveal true discontinuities in year-to-year firm performance. An approach such as compound growth rates would obscure such information" (p. 595).

A multiple cut-off classification system was used to determine planning sophistication (Bracker & Pearson, 1986; Rue, 1973; Vesper & McMullan, 1988). A continuum of scores was obtained from each of the eight components identified by Bracker and Pearson (1986). The heuristic was then combined to form one of three categories: structured strategic planners, structured operational planners, and unstructured planners (Table 1). As noted by Bracker et al. (1988), no IPs were expected or found in this sample. Likert scales and yes/no responses were used to identify prior educational and business orientation and the employment of perceptions of usefulness of T & D activities.

Results and Discussion

Univariate ANOVA tests followed by Scheffe's multiple comparison technique, when appropriate, were undertaken to analyze the hypotheses. With respect to Hypothesis 1a a significant interaction effect was found between strategic planning and training and development activities ($F = 5.33$ $p \leq .01$) with the overall model being significant ($F = 4.85$ $p \leq .001$) for growth in sales and for growth in CEO compensation ($F = 3.46$ $p \leq .05$ and $F = 3.93$ $p \leq .01$) (Table 2).

It was predicted that entrepreneurs who took part in T & D activities would display greater financial performance than those that had not attended such training (1b). Forty-two entrepreneurs had taken part in some form of training and development in the strategic planning area, while

Table 1

Planning Orientations

Structured Strategic Planning (SSP). Formalized, written, long-range plans covering the process of determining major outside interests focused on the organization; expectations of dominant inside interests; information about past, current, and future performance; environmental analysis; and determination of strengths and weaknesses of the firm and feedback. Typically 3-15 years in nature.

Structured Operational Planning (SOP). Written, short-range operational budgets and plans of action for current fiscal period. The typical plan of action would include basic controls such as production quotas, cost constraints, and personnel requirements.

Unstructured plans (UP). No measurable structured planning in the firm.

31 had not. ANOVA tests failed to support hypothesis (1b) on any of the four dependent variables. However, the differences which did exist were in the predicted direction in all four cases.

What may be occurring is the lag effect that Montanari and Keats (1986) talked about. Bracker and Pearson (1986) indicated that two or three iterations of the planning process are necessary before significant financial results will become apparent. Then again, the training itself may not have been well conceived or extensive enough, thereby making it difficult to assess the true impact of training. The lack of significant findings may imply that the prevailing opinion that Mangum et al. (1990) cite is correct: too many variables enter into profit determination to single out the impact of any incremental training expenditure. However, since the results were in the predicted direction, the authors believe that this would be a premature conclusion.

Statistical analysis of hypothesis 1c revealed three sources ($p \leq .01$) of significant difference: growth in revenue, growth in the value of the firm and CEO cash compensation growth. The followup Scheffe analysis revealed that SSPs were more effective than any other type of planning. No differences were found among the other planning orientations (Table 2). The fact that no significant results were found with regard to growth in net income is not surprising. Since all these firms are privately held and founder-managed, a sound plan would stress tax avoidance through accelerated depreciation, use of tax credits when possible and increasing one's own compensation to reduce double taxation.

One might hypothesize that prior business and educational orientation, size of the firm, and length of planning history may contribute to the prior findings. ANOVA tests revealed no significant differences in business and educational orientation, size of the firm (sm/lg), or length of planning history (short/long) with regard to usage or non-usage of T & D activities. Hence, it may be safe to assume that the results presented were not due to differences in the above.

Hypotheses 2 revealed in the SSP group a significant difference with regard to growth in sales $F = 6.46$ $p \leq .05$ for those that employed T & D ($n=6$) activities versus those who did not ($n=5$). Entrepreneurs here experienced a yearly growth rate of close to 85% compared to

Table 2

(1b)	DID T&D (T) DID NOT T&D (NT)	
	(42)	(31)
	Mean	Mean
Average Growth Sales (AGS)	38.21	25.33
Average Net Income (ANI)	25.88	25.34
PV Growth (PVG)	37.59	22.98
CEO Growth (CEG)	36.56	26.18

(1c)	SSP (11)	SOP (29)	UP (33)
	Mean	Mean	Mean
(AGS)	78.00*	29.00	22.10
(ANI)	42.60	27.20	19.04
(PVG)	69.50*	41.56	11.60
(CEG)	78.76*	33.60	16.30

*p < .01
**p < .05
***p < .10

26% for those who did not employ T & D activities. No other significant differences were found in the other dependent variables (Table 3). However, once again the direction in these other dependent variables was toward T & D.

In the SOP group significant differences in financial performance were found in growth in sales $F = 2.76$ $p \leq .10$ and CEO cash compensation $F = 9.98$, $p \leq .01$ for those who took part in T & D ($n = 17$) versus those who did not ($n = 12$). No significant differences were found in the other two cases, but once again the direction was toward T & D. An examination of the orientation toward planning revealed that the firms who employed T & D activities for the most part were higher up on the planning continuum than those that did not. Though causality was not empirically shown, one might be inclined to believe that the implementation of T & D activities in these firms is a potential determinant of increased financial performance. The fact that many of these entrepreneurs' cash compensation grew at a rate of over 53% per year might reveal a sense of certainty and increased stability in the future due to the achievement of planned goals.

With regard to the UP orientation, none of the tests revealed statistically significant results. However, the results leaned in the opposite direction toward the 14 firms that had not undertaken T & D activities. This seemingly odd result was not a total surprise. When one looks at the reduced rate of cash compensation growth in the 19 firms that took part in T & D (9% compared to 26%) as contrasted with those that did not, it is clear that one of the most important results of SP training, the retention of asset base, is being practiced by these entrepreneurs. When the growth in the value of the firm, which is a representation of the total balance sheet, and intangibles in the firm were compared, no statistical difference is present. The protection of the balance sheet is crucial when the firm explores the secondary equity or debt markets. It seems clear that these 19 firms are implementing some of the components presented at an SP

Table 3

(2)	SSPT(6) Mean	SSPNT(5) Mean	SOPT(17) Mean	SOPNT(12) Mean	UPT(19) Mean	UPNT(14) Mean
(AGS)	84.30**	25.83	45.21***	21.77	18.72	28.19
(ANI)	35.00	34.15	32.43	25.75	17.14	21.84
(PVG)	89.10	40.95	49.10	28.54	11.00	11.80
(CEG)	73.45	53.59	53.57*	14.69	9.69	26.24

* $p \leq .01$

** $p \leq .05$

*** $p \leq .10$

training and development program. Of course, these firms may have gleaned this knowledge from other sources.

Results of ANOVA (3a) tests failed to reveal significant differences in financial performance between those that felt T & D was beneficial ($n=56$) and those that did not ($n=27$). This result was not unexpected since the total model was not significant when results of T & D activities were examined. Additional tests of the group (3b) of 56 who felt T & D was beneficial revealed no significant differences between the 37 firms that employed T & D activities and felt them to be beneficial and those 19 that did not but felt they were beneficial (Table 4). The results were moving in the direction of T & D. Firms that employed T & D activities and felt they were beneficial on average for growth in sales, growth in value of the firm and growth in CEO cash compensation increased at a rate of over 15% per year compared to those who had not participated.

Five entrepreneurs who had taken part in T & D activities found them not to be beneficial while 12 who had never been exposed to strategic planning T & D activities felt they would not be of benefit (3c). Though no significant difference was found on any of the financial performance measures between these two groups, the direction favored those that had taken part in training in three of the four variables. These margins were 19% greater for growth in sales, 31% greater for growth in value of the firm and 13% greater in CEO cash compensation. Average income growth was almost 12% per year higher in the group of firms that believed T & D was not beneficial and had never taken part in these activities. From a cash flow standpoint these entrepreneurs were taking home considerably less than the others due to double taxation. These entrepreneurs displayed a lack of knowledge in tax accounting that even a basic strategic planning T & D program would cover. This entire group of 17 entrepreneurs may feel that some breakthrough invention would carry them through hard times and that the formality they perceive in either T & D activities or planning restricts their creativity.

Limitation, Directions for Future Research, and Conclusions

Training and development as a discipline and as a practice has received a great deal of attention over the last decade in the assistance of entrepreneurs. Tying T & D activities to firm performance will benefit both researchers and practitioners. Tangible results can help researchers

Table 4

(3a)	T&D BENEFICIAL (T)	T&D NOT BENEFICIAL (NT)
	(56)	(17)
	Mean	Mean
(AGS)	32.47	35.13
(ANI)	23.66	32.19
(PVG)	26.55	47.30
(CEG)	31.27	35.07

(3b)	T&D BENEFICIAL (T)	T&D BENEFICIAL (NT)
	(37)	(19)
	Mean	Mean
(AGS)	37.46	22.75
(ANI)	26.23	18.68
(PVG)	32.36	15.27
(CEG)	35.60	22.84

(3c)	T&D NOT BENEFICIAL (T)	(NT)
	(5)	(12)
	Mean	Mean
(AGS)	48.86	29.41
(ANI)	23.33	35.88
(PVG)	76.33	35.20
(CEG)	43.67	31.49

*p < .01

**p < .05

***p < .10

and practitioners complete necessary and rigorous cost-benefit analyses. Rather than looking strictly at the individual or a group's performance, an organization's performance (relative to training) should also be investigated. The evaluation of such research on established businesses is important. These firms are the future Apple, Intel, Medtronic, Paychex's and MicroSofts of the future.

To date, very little research has attempted to do this. In today's competitive and dynamic environment, this is becoming increasingly important. The present research breaks new ground in this direction. There are, however, some limitations which cause us to be cautious about the results but which also raise some additional and very interesting questions. First, the sample, although representing a more than adequate response rate, is fairly small. Hence, exploratory analyses produced some small cell sizes, making it difficult to generalize from the data. Also, the data represent only one subset of one industry. Although this is an advantage from the perspective of a case analysis, it also makes generalization to other populations difficult.

In addition, since the study is based on entrepreneurs in only one industry, it may not be fair to claim that it was the training which had no impact. These firms and the individuals who

run them are typically characterized as innovative. Hence, training may not have as much of an impact on these individuals or in this type of setting. However, the fact that a difference does exist (in the predicted direction) gives hope to the fact that training might make a difference.

One alternative explanation of our study's findings is that for the most part strategic management development of entrepreneurs has been flawed in many respects. For instance, many professional trainers or academics take canned large firm programs and downsize them to entrepreneurs without taking into account the differences in orientation between professional managers and entrepreneurs. This practice may have resulted from a lack of qualified individuals, both academic and entrepreneur, to train entrepreneurs. Also, academics who had the ability to create meaningful learning experiences lacked firsthand knowledge of entrepreneurship necessary to communicate with entrepreneurs in most instances.

More specific information as to the background of the executives participating in the study needs to be known. While it is known that they are well-educated and experienced individuals, the exact extent and nature of their previous strategic management development was not known. While most strategic management training programs encompass similar topics and methods of presentation, the respondents in the current study did not all participate in the exact same training programs. Hence, in-depth speculation as to why these individuals responded as they did or why their firms performed as they did was not really possible.

Another area in need of research is the strategic management development process, that is, how and why does training have the impact it does. If we are to believe that there are many variables that impact the process, then we need to know more specifically what type of training (e.g, content and/or methodology) will positively impact an organization's profitability.

This research also raises interesting questions regarding an organization's planning orientation. Regardless of whether a firm is large or small, entrepreneurial or not, it will undoubtedly fall somewhere in the continuum of planning orientation presented in Table 1. The interaction effect found in this research indicates that it may be important to investigate organizations' strategic orientation as well as their training practices when doing research in training results. Organizations have become far more strategic in their orientations. Hence, the linkage between training results and the organizations' "bottom-lines" may be scrutinized more carefully.

In the past, trainers have been most concerned about imparting knowledge, skills and abilities. While this still remains important, it is clear that the criteria for successful T & D must be expanded to include how KSAs impact an entrepreneurs' organization performance. This level of analysis has been suggested in the past, but rarely has it been a factor in training evaluation. It is hoped that the current research will open these doors so that future research and training designs incorporate the necessary data collection.

REFERENCES

- Berry, J. (1990). Linking management development to business strategies. *Training and Development Journal* 4(8), 20-22.
- Boyd, B. K. (1989). Once more into the breach: A meta-analytic review of the relationship between strategic planning and firm performance. Paper presented at the Western Academy of Management Meeting.

-
- Bracker, J. S. (1982). Planning and financial performance among small entrepreneurial firms: An industry study. Unpublished doctoral dissertation, Georgia State University.
- Bracker, J., & Methe, D. (1988). Successful venture start-ups and growth in the United States, Western Europe and Asia: Patterns and practice. Paper presented at the Eighth Annual Strategic Management Society Conference, Amsterdam.
- Bracker, J., Keats, B., & Pearson, J. (1988). Planning and financial performance among small firms in a growth industry. *Strategic Management Journal*, 9, 591-603.
- Bracker, J. S., & Pearson, J. N. (1986). Planning and financial performance of small, mature firms. *Strategic Management Journal*, 7(3), 251-266.
- Brown, I., Christy, R. & Banowitz, A. (1987). Perceptions of success in business start-up and the impact of entrepreneurial education. *Proceedings, Babson Entrepreneurship Conference*, 600-603.
- Carland, J., Hoy, W. R., Boulton, W. R. & Carland, A. C. (1984). Differentiating entrepreneurs from small business owners: A conceptualization. *Academy of Management Review*, 9, 354-359.
- Carnevale, A. P., & Gainer, L. J. (1988). *The learning enterprise*. Interim report published by the U.S. Department of Labor and the American Society for Training and Development.
- Chrisman, J., & Leslie, J. (1989). Strategic, administrative, and operating problems: The impact of outsiders on small firm performance. *Journal of Business Venturing*, 13(3), 37-51.
- Chrisman, J., Hoy, F. & Robinson, R. B. (1987). New venture development: The costs and benefits of public sector assistance. *Journal of Business Venturing*, 2, 315-328.
- Chrisman, J., & Ortech, J. (1989). Strategic, administrative, and operating problems: The impact of outsiders on firm performance. *Entrepreneurship Theory and Practice*, 13(3), 37- 52.
- Cohen, D. (1990). The pre-training environment: A conceptualization of how contextual factors influence participant motivation. *Human Resource Development Quarterly*, 1(4), 387-398.
- Dess, A. G., & Robinson, R. B. (1984). Measuring organizational performance in the absence of objective measures. *Strategic Management Journal*, 5(3), 265-274.
- Dillman, D. A. (1987). *Mail and telephone surveys: The total design method*. New York: Wiley.
- Garnier, B., & Gasse, Y. (1990). Training entrepreneurs through newspapers. *Journal of Small Business Management*. 28(1), 70- 73.
- Hall, D. (1984). Human resource development and organizational effectiveness. In C. Fombrun, N. Tichy, & and M. Devanna (Eds.), *Strategic human resource management*. New York: John Wiley.
- Hyatt, J. (1989, August). Rewriting the book on entrepreneurship. *INC.*, pp. 86-93.
- Kailer, N. (1990). Further training in small and medium sized enterprises (Austria). *Journal of Small Business Management*, 28(1); 60-63.
- Kalinowski, J., Enein, G., & Klasson, C. (1989). *Planning sophistication, managerial belief system, and the performance of small, wood product firms in a mature industry*. Paper presented at the 49 Annual Meeting of the Academy of Management, Washington, D.C.
- Keats, B. W., & Montanari, J. R. (1986). *Stages of strategic sophistication: A developmental model*. Paper presented at the Decision Sciences Institute National Meetings, Honolulu.
- Mangum, S., Mangum, G., & Hansen, G. (1990). Assessing the returns to training. In L. Ferman, M. Hayman, J. Cutcher-Gershenfeld, & E. Savoie (Eds.), *New developments in worker training: A legacy for the 1990's*. The Industrial Relations Research Association Series.
- Miner, J. (1990). Entrepreneurs, high growth entrepreneurs, and managers: Contrasting and overlapping motivational patterns. *Journal of Business Venturing*, 5(4), 221-234.
- Norton, J. (1986, April 10). Personal Communication.
-

-
- Pearce, J. A., Freeman, E. B., & Robinson, R. B. (1987). The tenuous link between formal strategic planning and financial performance. *Academy of Management Review*, 12, 658-675.
- Pearson, J., Feldman, H., & Bracker, J. (1991). The impact of the product/production process interaction on the evolution of strategic response. *The Journal of Management Studies*, 28(2), 161-172.
- Reid, D. M. (1989). Operationalizing strategic planning. *Strategic Management Journal*, 10, 553-567.
- Robinson, R. B., & McDougall (1985). *Patterns of operational planning and business unit performance*. Paper presented at the 45th National Academy of Management Meeting, San Diego.
- Robinson, R. B., & Pearce, J. A. (1984). Research thrusts in small firm strategic planning. *Academy of Management Review*, 9, 128-137.
- Ruc, L. W. (1973). *Theoretical and operational implications of long-range planning on selected measures of financial performance in U.S. industry*. Unpublished doctoral dissertation, Georgia State University.
- Vesper, K. (1985). *Entrepreneurial education*. Welsley, MA: Center for Entrepreneurial Studies, Babson College.
- Vesper, K., & McMullan, W. (1988). Entrepreneurship: Today courses, tomorrow degrees? *Entrepreneurship Theory and Practice*, 13(1), 7-14.
- Wood, P. R., Jr. & LaForge, R. L. (1979). The impact of comprehensive planning on financial performance. *Academy of Management Journal*, 72, 516-526.
- Zeithaml, C., & Fry, L. (1984). *An empirical examination of mature businesses in four dynamic performance situations: Contextual and strategic differences*. Paper presented at the 44th Annual Meeting of the Academy of Management, Boston.