

SBI INTERVENTION: AN OLD PROBLEM – A NEW PERSPECTIVE

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ABSTRACT

This research effort attempted to determine if SBI intervention would change the perception of business problems by not only the business owner but also the student consultants. This focus further to encompassed firms that could be classified in either Stage I or Stage II of development. Even though there were no changes in perception by student consultants, and mixed results of whether stage development affected perceptual differences, strong support was given to the proposition that owners, overall, did change their perception of existing problems after SBI intervention.

INTRODUCTION

The Small Business Institute Program (SBI), implemented in 1971, was designed to provide interaction between students/faculty of local universities and small businesses. Initially this interaction was intended primarily for the purpose of preventing further Small Business Administration (SBA) loan losses ("College Students May Teach You Something," 1973). It was also envisioned that the program would evolve to specifically address all small business problems (Burr & Solomon, 1977).

Even though there has been little debate over the benefit derived by the students involved in the case analyses (Burr & Solomon, 1977; Longnecker, 1977; Hicks, 1977; Judd, 1977), the value for the small businesses serviced has often been challenged. This challenge very often has related more to the ability to assess results than the performance of the SBI teams.

Criticism of government sponsored programs has not been limited to the SBI program. On the contrary, every program designed to provide counseling to the small business community has come under fire.

The purpose of this article is not to add to the long list of attempts either to applaud or condemn the SBI program. Rather it is an effort to place the issue of the SBI in proper perspective and at the same time provide an alternative approach to the program's evaluation. To accomplish this task, a review will be made of past and current research efforts made to appraise the program's worth. In addition, an exploratory research attempt will be presented that aspires to simplify the evaluation process.

LITERATURE REVIEW

SBI Program

Since its introduction in 1971 the Small Business Institute Program has received considerable attention. Initially this coverage was devoted primarily to the purpose of defining the relationship between the students and the small business owners (Burr & Solomon, 1977; Hicks, 1977). As the program evolved from one dedicated to maintaining survival of SBA loan recipients to a viable option for all small firms needing outside assistance, the focus of research has changed to one of evaluation.

Sonfield (1981) suggested that even though some early research efforts such as Stanley Smith's dissertation had found marginal results, most ". . . SBI student consulting programs [did] tend to provide beneficial [results] . . ." (p. 4). Similar positive results were evidenced in subsequent work (Hoy, 1982; Solomon & Weaver, 1983; Elbert, Anderson, & Floyd, 1983; Roitman, Emshoff & Robinson, 1984).

Hoy (1982), for example, praised the SBI as being even more effective with start-up firms than the SBDC. Even with mixed results, Solomon and Weaver (1983) and Kennedy, Leutzeheiser, and Chaney (1979) claimed the SBI teams were more effective with specific problem areas.

In a series of research attempts Khan and Rocha (1982) and Rocha and Khan (1984; 1985) concluded that there was a potential problem with implementation of SBI team recommendations. Others have explained these results away by suggesting that SBI teams ". . . may provide more satisfactory results yet lead to riskier recommendations" (Nahavandi & Chester 1988, p. 35) because some recommendations may need more time before it is feasible to implement them (Sonfield, 1981) or because the firm is not sophisticated enough to accomplish the tasks recommended (Mario & Schatz, 1980). Many other authorities offer general approval of the SBI program (Franklin & Goodwin, 1983; Elbert, Anderson, & Floyd, 1983). This has been especially true in recent practitioner literature (Robichaux, 1990; Forbes, 1990).

Related Programs

Even though the focus of this research is the SBI program, discussion would not be complete without a brief examination of the Small Business Development Center (SBDC) and other government sponsored programs. A comprehensive examination of literature on these programs is not possible within the scope of this paper (for a more comprehensive handling of the topic see Robinson, 1982; Chrisman & Leslie, 1989; Nahavandi & Chester, 1988).

The government sponsored program that has probably received the most attention (especially regarding its effectiveness) is the Small Business Development Center Program. This is not surprising considering the extensiveness of the program coupled with the SBA resources dedicated to the SBDC's operations.

An early attempt at establishing the effectiveness of the SBDC program on strategic planning was undertaken by Robinson (1982). The results of this study of 101 small business firms receiving planning assistance compared to two control groups indicated that outside consultants, focusing on planning, improved the profitability of the sample group. While some researchers such as Bracker and Pearson (1985) argued against this view, maintaining that

"extensive" outside intervention hindered planning, most researchers tended to agree with Robinson.

A central theme in much of the research on the government sponsored programs had focused on the need to identify the firm's problems (Alpander, Carter, & Forsgren, 1990; Kennedy, Loutzenhiser, & Chaney, 1979; Sonfield, 1981). While some researchers have focused on location of problems (internal or external), others have dealt with specific identification issues.

Alpander, Carter, and Forsgren (1990), for example, suggest that firms in their infancy are faced primarily with internal problems, "those which can be controlled and could perhaps be solved with the application of specific managerial skills" (p. 14). Similar opinions can be found in the work of Chrisman and Leslie (1989) as well as Kennedy, Loutzenhiser, and Chaney (1979). This well developed theme has often led to the discussion of managerial competence (or incompetence) relating to business failures (Miller, 1977; Cochran, 1981; Dun and Bradstreet, 1981). In essence, the commonly accepted rationale is that, unless outside assistance is provided, many small businesses will fail due to poor management.

Other researchers maintain that the importance of problems in small businesses relate to identification (Sonfield, 1981; Hafer & Ambrose, 1981), or as stated by Sonfield (1981), "Like the students, the business owner should work to separate symptoms from true causes or problems. An attempt should be made to define the real problem . . ." (p. 7).

This need for a focused approach is further highlighted by Kennedy, Loutzenhiser and Chaney (1979): "In order to do this, the team must draw on broad principles of management to provide the conceptual framework for problem analysis . . ." (p. 13).

If, then, as these and many other researchers suggest, problem identification is key to successful outside intervention, why is this process so often ignored when evaluating the effectiveness of consultants? Put another way, why should economic impact be the gauge of effectiveness rather than problem identification?

Even with the general consensus that outside intervention was indeed beneficial, whether it was from the SBDC or any other outside influence (Dadzie & Cho, 1989), researchers in the field were not content to study only the process. Instead, a trend of developing measurement instruments to gauge the "economic impact" emerged as the predominant concern (Elstrott, 1987; Chrisman, Hoy, Robinson, & Nelson, 1987; Lang & Golden, 1989; Chrisman & Leslie, 1989; Ward, 1990). Some of these recent research efforts have attempted to create "sophisticated" statistical models to "test" the effectiveness of outside consulting (Lang & Golden, 1989; Ward, 1990). Although the thoughtfulness of these authors in their attempt to use "theory-based measurement instruments [and] provide construct validity evidence for newly constructed measures" (Gartner 1989, p. 35) should be applauded, obvious shortfalls are evident.

Recent Research Models

Two specific models that have addressed measuring the performance of government sponsored programs will be discussed. The first model will be the SBI Economic Impact Model (Ward, 1990). A second model is the Data Envelopment Analysis (DEA) Model (Lang & Golden, 1989). Even though this model is recommended in the evaluation of Small Business Development Centers (SBDCs), it is included because of the frequent synonymous treatment of the two counseling programs.

Ward (1990) proposed a model to provide standardization for the effectiveness measurement of SBIs (Economic Impact Model). This model recommended isolating all environmental, outcome and results variables (as defined by constituents) in order to assess the programs. Even though there were obvious theoretical problems with the model, they will not be discussed in this paper. Rather, a matter of cost/benefit will be the primary concern of this work.

Measuring performance of SBDCs remains an even more frequently discussed topic. One recent attempt to measure the efficiency of these programs (not the effectiveness) (Lang & Golden, 1989) defines efficiency as "the ratio of outputs (results) to inputs (resources)" (p. 42). Lang and Golden's research relied upon a relatively sophisticated mathematical modeling technique - Data Envelopment Analysis (DEA). The DEA model suggests, in short, that given a certain level of resources, all other exogenous variables being held constant, a certain level of output (counseling contacts and training attendees) should be achieved.

Even though Lang and Golden freely admit that "Evaluation of the SBDC program appears to be a multi-dimensional endeavor that includes, at a minimum, client satisfaction, contribution to the economic environment of the state, and operational efficiency" (p. 48), they still praise the system as an "immediately useful management [tool] (p. 49). Criticism of this approach should not be taken as a refusal to see that efficiency is important but rather as a question about mathematical measurement. Furthermore, if efficiency becomes the target for evaluation, will effectiveness be forgotten?

An additional concern of this approach lies with the potential for misinterpretation of the DEA model results. For example, using their own results, Lang and Golden determined that "over the three-year period, four [of nine] SBDCs were found to be inefficient at one time or another" (p. 46). Ward (1990), on the other hand, using these same results, stated that "Lang and Golden studied three SBDCs and concluded each had been inefficient" (p. 66).

Stages of Business

Organizational life cycle research has focused primarily on the changes a firm goes through as it grows and matures. Much of the attention has centered on the number of stages in the life cycle (Greiner, 1972; Cooper, 1979; Churchill & Lewis, 1983; Hambrick & Crozier, 1985). Other notable contributions include the relationship of stages with planning (Vozikis & Glueck, 1980; Robinson, Freeman, & Littlejohn, 1984); performance (Robinson & Pearce, 1986); management of rapid growth (Hambrick & Crozier, 1985); and sequences of stages (Greiner, 1972; Quinn & Cameron, 1983).

It is not within the scope of this research to re-debate the issue of number of stages in the small business life cycle. Therefore, Cooper's (1972) well accepted typology will be used for classification of the sample. Cooper described three distinct stages: (a) stage I - "start-up"; (b) stage II - "early growth"; and (c) stage III - "later growth."

Stage I firms would be characterized as those firms that have either decided to enter the market or are in their initial development. These firms would be more acutely concerned with intensifying their product/market development than in profit maximization.

Stage II firms can be seen as those firms feeling their way through their initial product/market strategy. These firms would attempt to increase profitability, add capable employees and maintain steady growth.

The most advanced group would, of course, be represented by the Stage III firms. These firms would often have multiple sites or be somewhat diversified. Operational decisions would often be delegated through more levels of middle management. An emphasis on not only profitability but also enhanced productivity would be evidenced.

HYPOTHESES

To determine the impact of SBI counseling on small businesses and the students conducting the intervention, four major and four sub-hypotheses were formulated. These hypotheses examined not only overall problems but also specific problem areas and stages of the firms.

H1: There will be a significant decrease in the number of perceived overall problems by small business owners after the consulting intervention.

H1a: There will be a significant decrease in the number of perceived management/operations/finance/marketing problems by small business owners after the consulting intervention.

H2: Small business owners whose firms exhibit characteristics of a more advanced stage of development (Stage II) will have significantly fewer changes in the number of perceived overall problems after the consulting intervention than small business owners whose firms exhibit characteristics of a less advanced stage of development (Stage I).

H2a: Small business owners whose firms exhibit characteristics of a more advanced stage of development (Stage II) will have significantly fewer changes in the number of perceived management/operations/finance/marketing problems after the consulting intervention than those small business owners, whose firms exhibit characteristics of a less advanced stage of development (Stage I).

H3: There will be a significant decrease in the number of perceived overall problems by student consultants after the consulting intervention.

H3a: There will be a significant decrease in the number of perceived management/operations/finance/marketing problems by student consultants after the consulting intervention.

H4: After the consulting intervention there will be a significantly lower decrease in the number of perceived overall problems by student consultants of Stage II small businesses than student consultants of Stage I small businesses.

H4a: After the consulting intervention there will be a significantly lower decrease in the number of perceived management/operations/finance/marketing problems by student consultants of Stage II small businesses than student consultants of Stage I small business.

METHODOLOGY

Information was collected using two questionnaires. The first (Exhibit 1) was used to assess the owner's background and the firm's characteristics. This questionnaire served as the mechanism to determine the appropriate classification of stages for the individual firms and was administered only to the business owner.

The second questionnaire (Exhibit 2) was used to determine both the business owner's and student's perception of existing problem areas. Of the sixteen questions on the questionnaire, four questions each were directed at the area of management (questions 1,5,9, and 13), operations (2,6,10, and 14), finance (3,7,11, and 15), and marketing (4,8,12, and 16). Answers to the questions were subject to a yes/no dichotomy. The second questionnaire was administered to both the students and the owners before and after the intervention.

The only variable this study attempted to investigate was whether perception changed between initial measuring and subsequent measurement after student intervention. The presence of a significant relationship between the before and after perception was tested using a chi-square goodness of fit test.

In essence the important measure appeared to be whether perceptions of problems could or would change during this relatively brief period. Because the period of time between measurement was short (one academic quarter), it was assumed that there was a minimal chance that many actual corrective changes would be in place and therefore that "perceptions" would be a better indicator.

Sample

The focus of this study was on all SBI clients (small business firms) and those student teams performing the counseling intervention from a southwestern university during one academic term. In this case there were 91 such projects during the term under study.

Of those 91 cases there were numerous firms that were only considering starting a venture or that had only very recently commenced operations. These firms had little or no concept of their problems and were therefore omitted from the sample. Even though it is assumed that the SBI teams provided valuable assistance, their inclusion would serve only to cloud the issue. The remaining sample consisted of 54 existing businesses and student teams.

Of the sample firms a further division was made in relation to the stage of development in which each was. Stage I firms were represented by those businesses that could be classified in the "start-up" stage, Stage II those firms in the "early growth" stage, and Stage III those firms in the "later-growth" stage (Cooper, 1979; Robinson, Pearce, Vozikis, & Mescon, 1984), each stage characterized by unique problem sets. In the particular sample gathered there were 43 Stage I firms, 11 Stage II firms, and no Stage III firms.

Results

The first hypothesis suggested that after counseling intervention business owners would perceive significantly fewer overall problems for their firms. It was further suggested by H1a that the same would be true within individual problem areas (management, operations, finance, and marketing).

Results in Table 1 clearly support these hypotheses. With the exception of finance problems, all other areas including the overall perception of problems were found to be significant using Yates correlated chi-square with a 95% level of probability. A possible explanation of why the perception of finance problems remained unchanged is the fact that student consultants have

Table 1 *Owner's View of Overall Problems*

	Before		After		X2
	Yes	No	Yes	No	
Overall Problems	389	471	293	567	21.928**
Management Problems (Questions 1,5,9,13)	87	131	58	160	8.101**
Operation Problems (Questions 2,6,10,14)	81	133	55	159	6.736**
Finance Problems (Questions 3,7,11,15)	121	95	102	114	3.003
Marketing Problems (Questions 4,8,12,16)	100	112	78	134	4.270**

**Chi-Square significant at .05 probability

little or no control over arranging financing for their business clients. Furthermore, as has been pointed out by numerous researchers, small firms inherently function at a level of under capitalization.

Hypothesis 2 was offered to suggest that more sophisticated firms (Stage II) would change their perceptions of overall problems far less than the less sophisticated firms (Stage I). Hypothesis 2a further divided this rationale into individual problem areas (management, operations, finance, and marketing).

Results from Table 2 indicated support for the proposition of overall problem perception reduction (H2). However, limited and mixed results are indicated for the individual problem areas. Small businesses in Stage I perceived significantly fewer problems in the areas of management and operations as indicated by the chi-square results. However, Stage II firms demonstrated significantly fewer problems in the area of finance. There was no difference in the perception of marketing by either group of firms.

Table 3 provides a synopsis of the results of testing hypotheses H3, H3a, H4 and H4a. Surprisingly, there were no changes in perception of problems by students after their intervention with the small business firms.

A possible explanation of these results can be gleaned from examining Figures 1 and 2. Before discussing these figures, however, it is important to make two points. First, it is not within the scope of this paper to provide the theoretical background for perception concepts, nor is this the intent by presenting Figures 1 and 2. Rather, these graphic presentations are offered simply as "food for thought." Figure 1, the concept that small business owners are inherently optimistic, could provide the explanation that even though problems have not been resolved, just their identification bespeaks resolution. On the other hand, as is seen in Figure 2,

Table 2 *Owner's View of Overall Problems Classified by Stages of Development*

	Before		After		X ²
	Yes	No	Yes	No	
Overall Problems					
Stage I	317	378	254	441	11.426**
Stage II	72	93	39	126	13.901**
Management Problems (Questions 1,5,9,13)					
Stage I	70	106	50	126	4.564**
Stage II	17	25	8	34	3.645
Operation Problems (Questions 2,6,10,14)					
Stage I	67	106	47	126	4.723**
Stage II	14	27	8	33	1.553
Finance Problems (Questions 3,7,11,15)					
Stage I	98	77	89	86	0.735
Stage II	23	18	13	28	4.011**
Marketing Problems (Questions 4,8,12,16)					
Stage I	82	89	68	103	2.007
Stage II	18	23	10	31	2.657

**Chi-Square significant at .05 probability

students may feel it is much more reasonable to consider a problem resolved only after the problems are identified, corrective action has been implemented, and the problem has been completely removed.

Furthermore, in the case of SBI intervention students are seldom afforded the opportunity to witness the full impact of their counseling. That is to say, even if positive recommendations are made, whether or not the owner implements their suggestions is often not relayed to the students. In addition, due to the limited time involved in an SBI intervention, students are seldom if ever privy to the final outcome of their influence.

IMPLICATIONS AND DISCUSSION

In a majority of cases, when the SBI program is discussed, a very close comparison is made with the SBDC consulting effort. Consideration should be given to an alternative method of evaluation of the effectiveness of the SBI intervention for several reasons. First, unlike the

Table 3 *Students' View of Overall Problems Classified by Stages of Development*

	Before		After		X ²
	Yes	No	Yes	No	
Overall Problems					
All firms	479	493	439	3.139	
Stage I	404	409	380	433	1.303
Stage II	75	84	59	100	2.902
Management Problems (Questions 1,5,9,13)					
All firms	116	101	115	102	0.000
Stage I	96	81	96	81	0.000
Stage II	20	20	19	21	0.000
Operation Problems (Questions 2,6,10,14)					
All firms	108	143	95	156	1.191
Stage I	90	121	80	131	0.798
Stage II	18	22	15	25	0.206
Finance Problems (Questions 3,7,11,15)					
All firms	136	118	123	131	1.134
Stage I	116	98	109	105	0.337
Stage II	20	20	14	26	1.279
Marketing Problems (Questions 4,8,12,16)					
All firms	119	131	106	144	1.164
Stage I	102	109	95	116	0.343
Stage II	17	22	11	28	1.393

**Chi-Square significant at .05 probability

SBDC, the SBI relationship is usually for a defined period. This is true even though the number of hours dedicated to the intervention may exceed those applied in the SBDC consultation effort. This provides several obvious limitations such as lack of a continued relationship, difficulty in tracking the principles involved, and reliance on the written report as the sole source document describing the intervention.

The cost/benefit relationship of conducting an evaluation would represent a second differential for comparison. SBI interventions normally cost the SBA approximately \$500 per case. Even though some SBDC interventions cost less, the overall cost of administration for the program dictates a higher level of quality control. Therefore, it seems logical that "... a trade-off must be made between the accuracy of the estimates and the accessibility and cost of the information used to derive the estimates" (Chrisman et al., 1987).

Figure 1. A Partial Model of Owner's Perception of Problem Resolution.

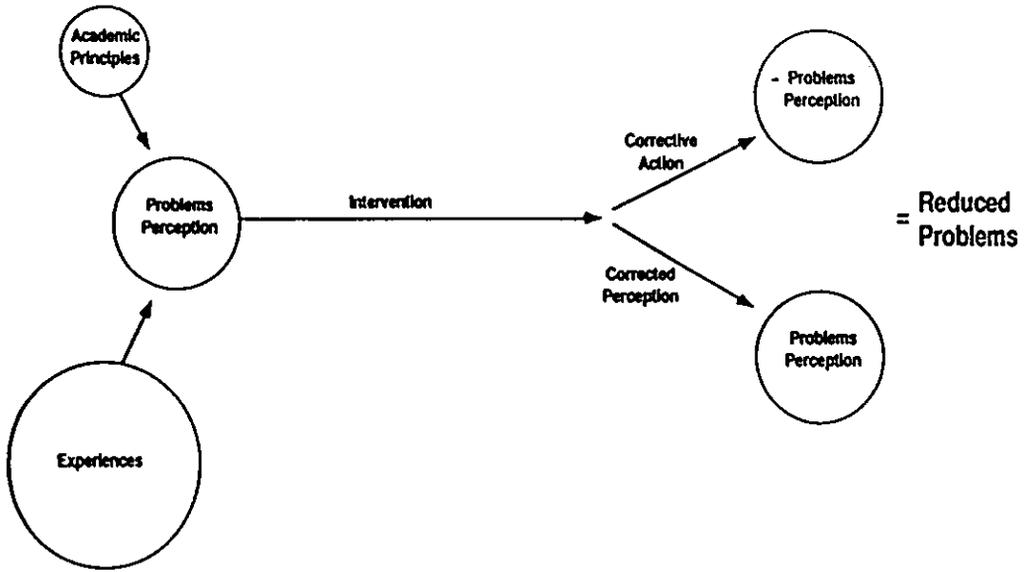
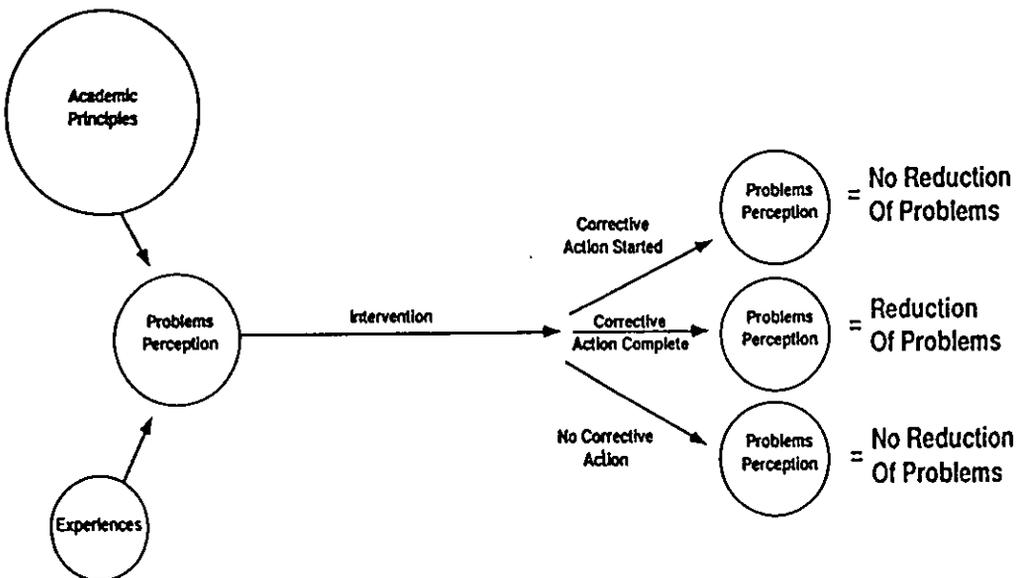


Figure 2. A Partial Model of Student's Perception of Problem Resolution.



Very closely aligned to the concern of the cost/benefit relationship in this case is whether mathematical models are appropriate at all in evaluating government sponsored programs. The answer to providing valuable research may be that bigger is not always better. Sophisticated mathematical models may not hold the key to understanding the small business owner. According to Bygrave (1989), researchers should be concerned with our preoccupation with these models:

... we look for causal relationships among our variables by using sophisticated statistical tools on powerful computers. The end result frequently is a regression model that appears to have the explanatory power of a law of physics. It is heady stuff. But in our elation, we must not forget that entrepreneurship models have to be rooted in psychology and sociology if they are to have theoretical validity. Those social sciences, lack fundamental principles such as the conservation laws of physics from which robust mathematical models can be deduced (p. 11).

This preliminary research offers several additional research implications. First, if, as many researchers have suggested, problem identification is so important, more attention needs to be given to this area. This research strongly suggests that even intervention at the student level can play a major role in perceptual changes. This influence was conceptualized by Sonfield (1981) almost a decade ago:

Even if the business owner has a college degree in business administration, the proximity and frequency of the "real world" problems faced tends to force him or her away from academic analytical frameworks and into more intuitive and practical ways of dealing with things. Thus the student can offer an alternative approach to a problem, which in combination with the owner's way of thinking results in a stronger total approach than either method by itself (p. 5).

Furthermore, problem identification may very well hold the secret to reduced business failure. That is to say, accurate problem identification is more important than the problem resolution to small businesses. This point is especially important for outside consultants who need to be aware that perceived problems may not be actual problems.

More research is obviously called for in the area of owner perceptions. This would highlight the fact that owners need to be more realistic than optimistic in their evaluation of their own potential success.

In measuring the effectiveness of SBI counseling on small business firm performance, the researcher should look very carefully at several key areas. First, can all the significant environmental variables be isolated and measured? If using time series data, has sufficient time elapsed for intervention to have made a difference? These two criteria suggest a critical trade-off.

When investigating effectiveness of intervention over time, the more time that has elapsed, the greater chance of "catching" the overall impact of intervention. However, the downside of this relationship would be the greater chance there will be other casual variables to identify and explain.

Therefore, the methodological approach of this study was to provide measurements immediately before and after intervention. Certainly the long-term effect of intervention could not be "quantified" using this approach, nor was it the intent. Rather, unless the small business owner can understand his or her problems, progress for improvement cannot be made. The

first step in this process would naturally be perception adjustment.

LIMITATIONS

Caution should be used when viewing the results of this preliminary research attempt for future research efforts. First, the sample itself has several limitations. The sample size was obviously limited based on the number of firms requesting assistance from one university's SBI program. In addition, the sample is one based on convenience (firms that actually sought counseling). The sample could also be criticized on its assumption that firms that request outside assistance are not similar to firms that do not request assistance. Furthermore, the research would have certainly been enhanced if any firms that met the criteria of Stage III had been included with the sample.

Another potential weakness of the study was the failure to include any other variables to explain the change in perception by the business owners other than SBI intervention. This was, however, an intentional (as previously discussed) design of the study.

A final criticism relates to perceived versus real problems. No effort was made by this study to determine if perceived problems were, in fact, real problems. Even though this area was not of concern in this study, it would present an interesting line of future research.

Exhibit 1

Questionnaire #1

1. Type of Business operated:
 - Retail
 - Service
 - Wholesaling
 - Manufacturing
 - Construction
 - Other
 - If other, specify _____

2. The age of Principal Owner/Manager
(President, Senior Partner or Prime Organizer)
 - 25 or under
 - 26 - 35
 - 36 - 45
 - 46 - 55
 - 56 - 65
 - over 65

3. Level of education of Owner/Manager
 - Under 12 years
 - High school diploma
 - Associate degree

Bachelor's degree
Above Bachelor's degree

4. Number of years Principal owned business:
Less than 1
1 - 3
4 - 6
7 - 9
10 or more
If more, specify _____
5. Number of years Principal worked in other business:
(not managing)
Less than 1
1 - 3
4 - 6
7 - 9
10 or more
If more, specify _____
6. Number of years Principal was in other business as a manager:
Less than 1
1 - 3
4 - 6
7 - 9
10 or more
If more, specify _____
7. Average number of paid employees in the firm *before* Small Business Institute counseling began:
10 or less
11 - 20
21 - 40
41 - 60
If over 60, specify _____

Exhibit 2

Questionnaire #2

Please circle whether the company does or does not have the particular problems listed below.

- | | | |
|--|-----|----|
| 1. Neglect of selection and supervision of personnel. | Yes | No |
| 2. Lack of operating experience in product buying, pricing, and handling finances. | Yes | No |
| 3. Lack of total capital. | Yes | No |

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- | | | |
|--|-----|----|
| 4. Non-aggressive selling, promotion, and advertising. | Yes | No |
| 5. Lack of planning and information. | Yes | No |
| 6. Poor record keeping and control. | Yes | No |
| 7. Lack of financial planning and use of financial information and ratios. | Yes | No |
| 8. Lack of concentration on result areas of products, markets, and technology. | Yes | No |
| 9. Lack of management development. | Yes | No |
| 10. Inventory mismanagement in terms of type and amount. | Yes | No |
| 11. Lack of working capital. | Yes | No |
| 12. Lack of research and development and product or service upgrading. | Yes | No |
| 13. Lack of management techniques and coordination. | Yes | No |
| 14. Wrong location. | Yes | No |
| 15. Poor credit practices and overextension of credit and bad debts. | Yes | No |
| 16. Inadequate sales. | Yes | No |
| 17. Other (please specify) | | |

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