
Planning in Small vs. Large Businesses: Do Managers Prefer Different Tools?

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ABSTRACT

Evidence that large and small businesses approach problems differently has raised questions concerning the validity of applying large business prescriptions to small businesses. This issue was addressed by presenting both large and small business planners with planning problems differing in environmental volatility, system adaptation and nature of planning requirements. Different combinations of these factors were used to generate twelve distinct planning situations. Eight information processing aids were identified that have been described in the literature as planning tools. Each aid has been prescribed to be more appropriate for use in some planning situations than in others. The research tested hypotheses that planners in specific situations would use planning aids prescribed for those situations and that large and small business planners would approach the problems differently. Results are interpreted as indicating that use of planning aids does not correspond closely to the theoretical prescriptions but that other implicit theories may be operating and the implicit theories used in small businesses may be different than those used in large organizations.

PLANNING IN SMALL VS. LARGE BUSINESSES: DO MANAGERS PREFER DIFFERENT TOOLS?

There has been continuing discussion in the literature about management in large vs. small businesses, and an increasing recognition that there are differences in kind. Managing a small business does not necessarily involve doing the same things as in a large business (2, 7, 8, 12). Among the key factors which have been suggested as contributing to differences are need for managers of small business to become involved in all aspects of the business rather than to specialize (8), concentration on short-run, rather than long-run thinking (12), and the sense that the small firm is to a large extent at the mercy of an increasingly turbulent environment (15, 18).

A review of these differences leads to questions about how several traditional managerial functions should be performed in the small business, and it calls attention to the role of planning in the small business. Specifically, it seems reasonable to ask whether and/or what kind of planning is of value in a situation where there are no planning specialists, where the orientation is short-run, and where the environment is turbulent and perhaps unpredictable.

Two distinct and very different approaches have emerged in the small business planning literature. The first of these literature streams reviews the problems facing the small business and concludes that there is need for more, and more extensive, planning in the small business environment. Managers are told that they need to become deeply and personally involved in the process, using advisors as necessary to handle specialized functions (18). Furthermore they are told that formal planning and control procedures should be developed and incorporated into the everyday management of the organization (16). In general, this literature stream calls for planning in equal detail and scope as in a large business, and that "...in small firm specialized skills are usually in shortest supply. As a result, executives of small businesses should expect to invest more time than their counterparts in large firms to achieve the same amount and quality of planning output." (4)

The second literature stream draws different conclusions. It suggests that the differences which separate small businesses from large ones are major enough to question the applicability of planning as it is practiced in the large business environment. Cohn and Lindberg, who calling for increased emphasis on planning, point out that many small business managers would disagree with their ideas (4). These managers, they find, believe that the small firm's susceptibility to rapid market fluctuations make anything beyond short-range, operational planning infeasible. Thurston attempts to maintain a balanced view and holds that the best planning approach for any given small business depends upon the style and abilities of the top manager(s), the degree to which others are involved in managerial decisions, and the complexity of the business, as well as other considerations (19). He points out that top managers/owners in small businesses will, in many cases, have a more in-depth, "gut-level" understanding of market conditions, product, and customers than their counterparts in large organizations and that this knowledge can often preclude need for formal planning. Furthermore, the length of the planning cycle may need to be substantially reduced in the small business. However, more formal approaches to planning may be needed in cases of technological complexity (16, 19), or where uncertainty is of the type where planning can serve to provide enough data to permit at least partial control over the company's future (19).

Overall, the literature raises questions about the role of planning in the small business. It is apparent that considerable research will be required if the role of planning is to be understood. Unfortunately, as Cohn and Lindberg point out, there has been very little research devoted to the small firm. Instead, the attempt has been made to extrapolate from large firm findings to the small business (4). As the previous discussion suggests, this is risky. This study represents an initial attempt to begin to examine one of the questions about planning in the small business which was raised by the literature. The question considered in this study is whether planning is different in large versus small businesses.

In this study, the primary focus is on what available theory suggests decision makers should do to process information. Available theory, however, deals implicitly with large firms rather than with small ones. The assumption, which the previous discussion suggests may be incorrect, is that small businesses operate similarly to large ones except in terms of scale. The principles developed for large businesses should apply to small ones as well.

This study deals with planning and with the information processing aids which are available to assist the planner. While research, even for large businesses, is limited, theory suggests that decision quality can be improved to the extent that planners are able to call upon and use appropriate aids to information processing. Thus, it is necessary to examine the literature to determine what aids are available and how they should be used and then to examine actual use of the aids in specified situations.

THE PRESCRIPTIVE · LITERATURE: PLANNING ENVIRONMENTS AND AIDS TO PLANNING

Recent theory development by Hartman et al. will form an important part of the basis for this study (9). In examining the prescriptive planning and decision making literature, Hartman et al. identified a number of information processing aids which are..available to the planner. However, little theoretical work had been done to specify and hypothesize the circumstances under which any given technique should be used. The Hartman et al. article proposed a contingency model in which three sets of factors are used to determine the most appropriate aid. The three factors are: (1) environmental volatility, (2) system adaptation, and (3) level of planning. The environmental volatility dimension was dichotomized into two sources of environmental uncertainty. The first is market volatility, in which uncertainty arises from market conditions and in which the problem is relatively more structured in Emery and Trist's (1965) terms in that linkages are too observable, concrete factors in the market environment. The second is technological volatility, a less structured situation where uncertainty arises from less concrete and observable societal, cultural, or technological changes.

The second dimension suggested by Hartman et al. is system adaptation. Based on work by Miles and Snow (11) and Chakravarthy (3), this dimension deals with whether internal conditions in the organization permit it to function in a prospector-like role and actively seek out environmental information (dichotomized as stable/neutral adaptation) or whether internal conditions are such that the organization functions in a reactor-like role, screening out environmental information and directing attention to internal problems (dichotomized as unstable adaptation). Jauch and Kraft (10) point to the close link between perceptions of internal strengths and weaknesses and environmental perceptions. Bourgeois (1) points out that in cases corresponding to unstable adaptation, management tends to look inward and seek **consensus**.

The third dimension is type and level of planning. Three possibilities are considered: high level, long range, strategic planning; middle level, mid-range, tactical planning; and low level, short range, operational planning. When the three dimensions- environmental volatility, system adaptation, and type of planning- are considered simultaneously, twelve distinct planning situations result and it is possible to hypothesize that one or more of the available information processing aids would be most appropriate, from a contingency standpoint, in each situation. Hartman et al. provide a decision tree format, shown as Figure 1, as an aid in visualizing the linkages.

Figure 1 shows that combinations of the three factors lead to twelve possible planning situations. In each of the twelve situations, at least one of eight aids to planning is suggested as most appropriate. This study focuses on the eight aids shown in Table 1 and attempts to examine whether decision makers believe the aids would be useful in given situations.

FIGURE 1
Linkages among Enviromental Volatility, System Adaptation,
Planning Requirements, and Information-Processing Strategies.

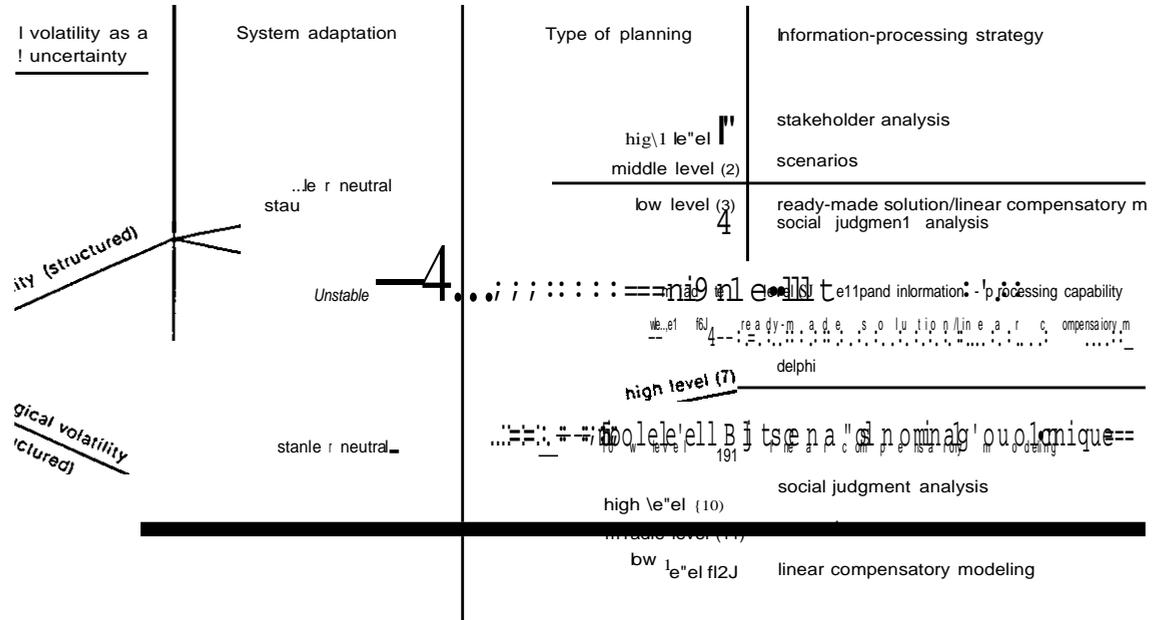


Table 1. Planning Aids

READY-MADE SOLUTION (Mintzberg et al., 1976): In this case, you decide to look for an approach which has been used in the past and which could be used or applied in the current situation.

NOMINAL GROUP TECHNIQUE (5): There are people available who could suggest approaches, but you are concerned that they will not contribute freely in an unstructured group discussion. You set up "nominal groups," where participants work independently in proposing solutions. After participants have listed their ideas, they are posted. Limited and controlled discussion follows, and a final decision is made through a ballot of group members.

LINEAR COMPENSATORY MODELING (13): You feel the situation is one where there are only a few alternatives to consider and only a few factors which need to be considered. You weigh each factor for each alternative (either in writing or mentally) and select the strongest alternative.

EXPAND INFORMATION PROCESSING CAPABILITY (6): You feel the situation is one where the number of possible approaches and factors to consider is greater than the number which you can deal with given your current resources. To come up with a solution, you believe you will need to expand your computer data processing capability to deal with the information to be processed.

STAKEHOLDER ANALYSIS (Nutt, 1982): You feel the situation is one where demands from groups outside the firm must receive attention. You identify representatives from the "stakeholder" groups and work with them to surface their assumptions and open a dialogue which permits their recommendations to be heard.

SCENARIOS (14): You are in a situation where you can specify most of the possible approaches which the firm could take. You consider each likely condition (i.e., state of the economy or degree of customer acceptance) and look for the approach which would work best under most or the most likely set of circumstances.

DELPHI (Dalky et al., 1972; Delbecq et al., 1975): You feel the situation is one where outside experts could make a substantial contribution. You ask several key experts, on an individual basis, how to approach the problem. Next, you assemble the recommendations of all the experts and ask each expert to comment and respond to the total list of ideas. You repeat this procedure as necessary until you feel you have an acceptable solution.

SOCIAL JUDGMENT ANALYSIS (17): You feel the situation is one where acceptance within the organization will be a critical factor. You also feel that those involved use differing rationales or differ in the importance that they assign to the factors involved. Therefore, you feel that primary attention needs to be directed toward getting those involved to reconsider how they approach the problem. You ask them to discuss and come to consensus on the approach to be used and the factors which are most important in the decision making process.

A review of Figure 1 and the Hartman et al. discussion of the rationale used to develop the linkages indicates that, first, there is little experimental evidence in the literature to show where any given aid would be best used. Therefore, in suggesting linkages, Hartman et al. were guided by several more general prescriptive planning principles. It was assumed that the higher the level of planning, the more need to obtain information from outside the organization. However, where organizational adaptation does not permit significant attention to the environment, primary attention must be given to obtaining consensus from within the organization. As planning becomes more short range, internal factors, generating alternatives and read-made solutions become more important. Finally, more and higher quality information is needed where the problem is less structured, as is the case with technological volatility.

Applied to small business, these ideas could require modification. If, as Rice (15) and Stevenson and Sahlman (18) point out, the small firm is more at the mercy of the environment than the large firm, environmental factors may be especially important in the process. Greene finds that in the small business, there are relatively few managers, and they are more often generalists than specialists (8). Where this is the case, internal adaptation may be relatively unimportant to the small business. Finally, if, as Murphy suggests, planning is predominantly short run, longer-range planning approaches may be seen as irrelevant (12).

This study involves simulated planning situations, using twelve variations of a case corresponding to the twelve situations outlined in Figure 1. The first hypothesis is: All planners presented with case situations corresponding to the twelve situations given by Hartman et al., will select planning aids generally in line with the prescriptions advanced by Hartman et al. The second hypothesis deals with differences between planners in large and small businesses. The second hypothesis is: Planners in large businesses will conform more closely to the prescriptions than those in small businesses. For example, the Hartman et al. prescriptions suggest that in situations involving high level strategic planning, internal consensus will be sought in cases of internal instability. Hypothesis 1 suggests that all planners will show evidence of doing this, but Hypothesis 2 indicates that the tendency will be most marked in the case of planners from large businesses.

Methodology

This study examines the idea that decision makers will make use of different information processing aids in different situations and that they will select aids in line with the Hartman et al. rationale and theory. It further examines the differences in preferences of small vs. large business planners.

Subjects

Subjects in this study were 165 planners from a wide variety of organizations throughout the United States. **Forty-nine reported working in manufacturing and eighty-three in service organizations**, with the balance reporting "other." One hundred fifteen reported that they were in staff jobs, with the balance being line managers. There was considerable range in the size of their organizations: 35 over 5,000 employees; 22 between 2,500 and 5,000; 26 between 1,000 and 2,500; 25 between 500 and 1,000; and 57 under 500. This study, using criteria suggested by Rinholm and Boag (16) and Greene (8) considers size to be based on number of employees and considers firms with fewer than 500 to be small businesses. Based on this criterion, 108 of the managers were in small and 57 were in large businesses.

Instrument and Study Design

Hartman et al. hypothesized that planning could be seen as falling into twelve planning situations, as shown in Figure 1, and that in each situation, some information processing aids are more appropriate than others. The authors developed twelve versions of a case by systematically varying the three Hartman et al. factors—environmental volatility, system adaptation, and planning level. The appendix shows one version of the case. Each subject received only one version of the case. Subjects were asked to read the case and then to indicate how likely they would be to use each of the eight information processing aids, using a five-point Likert scale ranging from "very likely" to "very unlikely." Subjects also received a definition sheet similar to Table 1 which briefly described each technique.

Assignment was random and made so that approximately equal numbers of planners would receive each of the twelve cases. The case data was analyzed using a 2 x 2 x 3 factorial design representing the two volatility situations, the two kinds of adaptation, and the three levels of planning.

Pretest/Manipulation Check

Before the study was begun, it was necessary to insure that the twelve versions of the case which had been prepared would actually be recognized by subjects as corresponding to the twelve environmental volatility/system adaptation/planning level combinations suggested by Hartman et al. Roughly 100 student subjects from a large Southern university participated in pretesting the twelve cases. Each student subject was given one version of the case and a list of definitions of technological versus market volatility, stable/neutral vs. unstable adaptation, and strategic vs. tactical vs. operational planning. Subjects were then asked to classify the case they had been given in terms of the three dimensions. Nearly 98 percent of the cases were correctly categorized.

Results and Discussion

Several methods were used to analyze the data. First, the data were examined by developing 8 x 12 level multiple analyses of variance (MANOVAs) for the large vs. small business planners. In this design, variations among the eight information processing aids were examined or the 12 situations. Table 2 below reports tests of significance for the overall design for the two groups.

Table 2 indicates that the tests were significant for the planners in large, but not in small businesses. These results suggest that the model for planners in the large firms showed significant differences in use of the planning aids while no such differences were shown for the planners from the small firms. To permit understanding of this phenomenon, the next step was to break the design down into individual one-way analyses of variance for each information processing aid in each of the 12 situations. Table 3 reports means and significance for the large versus small business samples.

Table 2. Multivariate Tests of Significance

TEST	SIGNIFICANCE LEVEL	
	LARGE FIRMS	SMALL FIRMS
PILLAIS	.036*	.248
HOTELLINGS	.040*	.292
WILKS	.038*	.268

* - $p < .05$

** - $p < .01$

Examination of Table 3 provides several interesting findings. For large businesses, results are significant for one of the eight information processing aids, linear compensatory modeling. This finding suggests that large business planners did, in fact, make differing use of this aid in different situations. However a comparison to the Hartman et al. prescriptions, indicated by the asterisks, does not provide evidence that these planners were conforming to the prescriptions. The most likely conclusion is that the planners were making different use of the aids but were apparently doing so according to some logic heuristics of their own, not in line with the prescriptions advanced by the Hartman et al. theory. A review of the corresponding breakdowns for the small business planners shows little variation with the columns and therefore little evidence that this group of planners is making different use of aids among situations. Thus, Hypothesis 1 is rejected for both groups of planners. Planners in large business give evidence of making differential use of one planning aid, but not in line with Hartman et al., a small business planners do not show evidence of making differing use of aids in different situations.

Table 3. Use of Planning Aids in Twelve Situations

LARGE FIRMS								
	RMS	NGT	LCM	IPC	SA	SCEN	DELP	SA
MSH	3.75	3.50	3.83	3.33	2.42	2.42	2.58	2.83
MSM	3.45	3.36	2.55	3.45	2.82	2.00•	3.45	2.27
MSL	2.50	3.50	1.75•	2.50	4.25	1.50	3.75	3.25
MUH	3.44	2.78	3.67	3.78	2.67	2.00	2.89	2.33"
MUM	3.88	3.13	2.63	2.50	2.38	2.13	2.38	1.38
MUL	3.90	3.20	3.40•	3.70	2.60	1.70	2.60	2.20
TSH	2.80	3.20	3.40	3.80	1.60	1.60	2.60	3.40
TSM	3.20	3.00•	3.90	3.00	2.40	2.30•	2.30	2.60
TSL	2.56	3.33	2.78•	3.22	3.11	2.22	2.67	2.78
TUH	3.33	2.50	3.50	3.17	2.83	1.83	2.67	1.50"
TUM	3.40	3.10	3.10	3.60	3.10	2.20*	2.20	2.30
TUL	2.63	3.25	3.13*	2.50	2.25	1.75	3.13	1.88
MEAN	3.31	3.17	3.21	3.25	2.67	2.03	2.73	2.36
SIG.	0.18	0.89	0.01	0.27	0.23	0.59	0.34	0.06
SMALL FIRMS								
MSH	3.00	3.33	2.50	2.50	2.67"	1.50	2.17	1.67
MSM	3.00	2.00	2.00	3.50	3.00	2.00•	2.00	3.00
MSL	3.50•	2.75	3.25	2.25	2.00	1.75	2.50	2.75
MUH	3.13	2.75	3.00	3.50	2.13	1.63	3.38	1.50"
MUM	3.33	3.33	3.33	3.17	3.17	1.50	3.00	2.00
MUL	3.00•	3.33	2.67"	3.00	2.67	2.00	1.33	3.67
TSH	3.20	3.40	3.80	2.40	2.20	2.00	2.20*	2.40
TSM	3.00	3.71•	3.43	3.43	2.86	1.86•	3.00	2.86
TSL	2.00	4.00	4.00"	2.00	5.00	1.00	5.00	1.00
TUH	3.50	2.00	4.25	2.50	2.50	2.50	1.50	1.75*
TUM	4.33	4.00	3.33	3.33	2.00	3.00•	2.00	1.00
TUL	3.00	4.00	2.25*	2.75	3.25	1.25	3.25	2.50
MEAN	3.21	3.21	3.15	2.94	2.62	1.81	2.60	2.17
SIG.	0.98	0.43	0.36	0.68	0.34	0.49	0.06	0.11

NOTE 1 - THE COLUMNS ARE THE PLANNING AIDS DESCRIBED IN TABLE 1.

NOTE 2 - THE ROWS ARE THE TWELVE SITUATIONS INDICATED IN FIGURE 1. M - MARKET VOLATILITY, T - TECHNOLOGICAL VOLATILITY, S - STABLE/NEUTRAL ADAPTATION, U - UNSTABLE ADAPTATION, H - HIGH LEVEL, M - MIDDLE LEVEL, L - LOW LEVEL.

NOTE 3 - THE CELL ENTRIES ARE THE MEANS OF RESPONSES RANGING FROM 1 (VERY LIKELY TO USE THE PLANNING AID IN THE SITUATION) TO 5 (VERY UNLIKELY TO USE THE PLANNING AID).

NOTE 4 - THE ASTERISKS ARE THE HARTMAN ET AL. PRESCRIPTIONS.

NOTE 5 - # AND ## INDICATE STATISTICALLY SIGNIFICANT VARIATION AMONG MEAN RESPONSES FOR THE PLANNING AID (1 - SIGNIFICANT AT THE .05 LEVEL, #1 - SIGNIFICANT AT THE .01 LEVEL).

Further examination of the grand means for each aid for the two groups of planners, in Table 3, provides another finding of interest. While the small business planners show little variation of means among situations for any one aid, there is considerable variation in means from aid to aid. The range is from 1.81 for scenarios, indicating a marked preference for this aid, to 3.21 for nominal group technique and ready-made solutions, indicating much less preference for these aids. One possible reason for the preference for scenarios is that this group of planners may have seen them as a familiar, "doable" technique. Generally, more exotic techniques such as the nominal group technique were not preferred by this group of planners. Perhaps, in line with Greene's views, the control exerted by top managers/owners and the degree of consensus among managers in the small firm, who are often in a situation of having to work closely together, make techniques such as nominal group technique which are aimed at gaining internal consensus largely irrelevant in the small business (8). The use of ready-made solutions was rejected as well, a finding which seems to contrast with the general preference of this group of decision makers for less exotic, more practical techniques. Possibly, they believed the case itself was too complex for this technique.

One additional possibility discussed previously is that environmental volatility, internal stability, and planning type, the three factors incorporated into the Hartman et al. model, may operate differently for large vs. small businesses. To consider this question, a series of 2 x 2 x 3 factorial designs were developed for each information processing aid, with technological vs. market volatility, stable/neutral vs. unstable adaptation, and long, medium or short-range planning as the levels. Table 4 below provides the results.

Table 4 offers some support for the idea that Hartman et al. factors may not be equally applicable to large and small businesses. All of the differences with $p < .05$ involve the large business planners. Planners in large firms preferred ready-made solutions in cases of technological volatility (mean = 3.00 for technological compared to 3.59 for market volatility), social judgment analysis was preferred for unstable adaptation (mean = 1.98 for unstable, compared to 2.75 for stable/neutral adaptation), linear compensatory modeling was preferred for lower level planning (mean = 2.94 for low, 3.05 for middle and 3.66 for high level planning). Taken together, these findings indicate that the planning specialists found in large firms tend to apply specific techniques to specific situations more than the small business generalists, a finding supporting Hypothesis 2. The small business planners showed preferences for specific aids and tended to use them across situations.

Table 4. Comparison of Significance Levels From Factorial Design Analyses of Volatility/Stability/Planning Level for Each of Eight Planning Aids For Large Firms and Small Firms

Sources of Variation	RMS	NGT	LCM	IPC	SA	SCEN	DELP	SJA
Main Effects								
VOL								
LARGE FIRMS	0.020	0.384	0.184	0.781	0.578	0.830	0.163	0.703
SMALL FIRMS	0.827	0.261	0.091	0.623	0.744	0.204	0.856	0.936
STA								
LARGE FIRMS	0.185	0.152	0.636	0.935	0.784	0.393	0.339	0.001..
SMALL FIRMS	0.502	0.787	0.825	0.277	0.934	0.559	0.808	0.143
PLAN								
LARGE FIRMS	0.242	0.559	0.007* *	0.432	0.344	0.367	0.468	0.347
SMALL FIRMS	0.879	0.392	0.573	0.167	0.323	0.644	0.759	0.054

• $p < .05$

•• $p < .01$

NOTE 1 - THE COLUMNS ARE THE PLANNING AIDS DESCRIBED IN TABLE 1

NOTE 2 - THE ROWS ARE THE VARIABLES INDICATED IN FIGURE 1. VOL - VOLATILITY, STA - STABILITY, PLAN - PLANNING LEVEL.

SUMMARY AND CONCLUSIONS

The results of the study are interpreted to suggest that there are differences in kind between planning as it is done in large vs. small businesses. Small business planning may no simply be large business planning on a reduced scale. The small business planners appear to approach planning somewhat differently from the large business planners. Rather than using different aids in different situations, they appear to have overall preferences for certain aids and the aids they select appear to be less complex and ones which reflect the specific needs of the small business.

Further study will be required to determine whether these initial findings can be replicated in other situations. For example, this study did not consider factors such as type of business or ownership which could potentially affect results. Even if future study replicates these initial findings, a number of issues and questions remain. Assuming that large and small business planners approach the planning process differently, a major unanswered question is whether their approaches should differ. Both large and small businesses appear to be departing from theoretical prescriptions, as offered by Hartman et al., and it is possible that their planning processes and/or effectiveness could be substantially improved if they were to follow the guidelines established by the theory. Alternatively, perhaps the theory itself needs to be reconsidered in light of what planners actually do. Finally, questions need to be asked about whether there is need for theory development which deals specifically with the small business environment.

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APPENDIX

Case A

You are a consultant hired by a large locally-owned audiovisual retailer. The organization resembles Sound Trek but is only local. It has a main office in the largest retail store and, in addition, there are three branch locations. Management has told you that the organization has been successful in past years and that it is showing steady growth. However, management feels that they need special assistance with planning and have brought you on as a consultant to head up the planning process. Management gives you the following information which they feel is most important to the planning process:

The company has been competing successfully on a price basis, but large national firms such as Sound Trek, which have greater economies of scale, are moving into the market area. Unfortunately, the customer base is extremely fickle and price conscious, and management fears disruption of the customer base. In addition, many of the customers are fickle in that

they are extremely "fad conscious" and it is difficult to predict the lines and brands they will prefer at any given point. Management is also concerned because the low price strategy they have pursued has led to reliance on Japanese and other foreign imports. With frequent change in both import regulation and the government's tariff policy, the future availability and cost of supplies are uncertain. These appear to be the major problems to deal with in planning. Other changes are not expected in the immediate future.

Another set of factors to consider relates to the company's ability to adapt to change. You talk to top management as well as to a broad group of employees and outsiders. There is a substantial agreement that the company is in a good position. Specifically, the company appears to be "on top of things": contacts with national trade organizations and similar groups leave them feeling that they have a good handle on what's going on, and these same industry trade groups have strong effective lobbyists to protect their interests. Management and employees at various levels work well together and feel it is important to anticipate and respond to change. The company also has solid supplier relationships which should provide flexibility in dealing with uncertainties.

Your task is to formulate a strategic, long-range plan for the company. Your plan will guide the company's overall activities over a period of several years.