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# Explorations in the development of a descriptive model of strategic business planning

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# EXPLORATIONS IN THE DEVELOPMENT OF A DESCRIPTIVE MODEL OF STRATEGIC BUSINESS PLANNING

by

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The intent of this exploratory case study was:

1) to compare a model of expected formal business plan content with the content of actual business plans developed within a single company,

2) to develop a modified model of formal business plan content which recognizes organizational influences on plan content,

3) to propose a method for evaluating business plans based on this modified model.

The firm studied was Fast Delta Corporation, a "Fortune 500" multidivisional manufacturing company in a high technology industry. The business plan content analyzed in this study was produced through a planning system similar to those implemented by other multidivisional companies.

In this study, planning by middle managers rather than top management was the primary focus. The study method was based on the analysis of formal plan content rather than direct observation or inquiry about the planning process.

Study steps included:

1) test of goodness of fit between a simple model of expected business plan content and the actual content of business plans produced through the Fast Delta Corporation planning system.

2) analysis of deviations of the actual content from the expected content model. This analysis included comparison of actual formal plan content with non-content characteristics of the formal plans, with the content of business strategy case studies from other firms, and with the the content of Fast Delta Corporation managers' responses to case studies in business strategy.

The results of this study showed that Fast Delta Corporation formal business plan content was influenced by several factors. These included short-term corporate-wide concerns; shared assumptions among managers about the strengths and limitations of the study firm; and constraints on strategy which may be characteristic of other firms with similar structure, at a similar life cycle stage, or within the same industry.

From these results a modified model of business plan content was developed which considered these influences. The validity of this model suggests that the plan analysis techniques used in this study were effective techniques for identifying the planning assumptions which underlie business plan content produced through a firm's formal business planning system.

The results and conclusions of this study are significant for top management, middle management, corporate planning staff, and those doing research in strategic planning.

## ACKNOWLEDGEMENTS

I wish to thank Drs. Bellerby, Clarkson, Goslin, and Moseley for their suggestions on the design and presentation of the dissertation. I wish to thank Drs. Linstone, Maruyama, and Sahal for the ideas they've presented through the Systems Science Program which I was able to draw on in the preparation of this dissertation. Tom Long and Cal Smith of Fast Delta Corporation deserve my gratitude for their interest in this project. Finally, my deepest appreciation to my husband for his patience, support, and encouragement in this long-term project.

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# CHAPTER I

## INTRODUCTION

Topics covered in this chapter include: background, purpose and significance of this study, overview of a model of expected strategic plan content, description of the study firm, description of the business planning process at the study firm, and limitations of this study.

## BACKGROUND, PURPOSE AND SIGNIFICANCE OF THIS STUDY

### Background

During the past 15 years, both process and content models of strategic planning (See glossary, Appendix A, p. 123 ) have been developed which assume that organizations and their plans and activities can be evaluated in terms of efficiency or rationality. These models are reviewed in the first section of Chapter II (p. 24).

These models have been widely adopted and implemented in large complex business organizations despite the simplistic assumptions on which they are based. Managers have learned to rely on these models in their attempts at rational achievement and control and simplification of their increasingly complex environments. (Business Week December 18, 1978, 62) At the same time, other models of organization activities as problem-solving efforts have been developed. These may be more descriptive of actual behavior under the ambiguous values and incomplete

knowledge which characterize strategic business planning. These models have not been used explicitly in the design and analysis of formal planning systems. (Sarrazin 1978) The second section of Chapter II (p. 27), discusses three major objections to the simple strategy evaluation models and several alternative perspectives on strategy setting which are based on organizational behavior models.

Purpose

The objectives of this exploratory study were threefold:

1) to compare a model of expected plan content with the actual business plan content developed in the study firm,

2) to develop a modified model of formal plan content which recognizes organizational influences on plan content,

3) to propose a method for evaluating business plan content based on this modified model which can be used at The Fast Delta Corporation and other similar companies.

The preliminary step in this exploratory study was a comparison of the content of the business plans produced through the formal planning system at Fast Delta Corporation (The Corporation) with an expected content model. The similarity of the planning system at Fast Delta Corporation to those implemented by other multidivisional decentralized corporations is discussed in the following sections of this chapter (p. 4).

Significance

The chief reason for attempting such a model building effort was the potential for improving the effectiveness of current decentralized

strategic planning systems. Developing a more accurate or complete model of business plan content would:

1) provide additional insights which can aid middle managers in the development of business strategy and top managers in the development of corporate strategic direction.

2) provide guidance to the corporate staff who design and implement planning processes by making explicit the impact of a particular organization's characteristics and limits on its formal plan content.

3) facilitate the evaluation of information conveyed through formal plans. This is important for both staff and top management in evaluating plans and for top management in making decisions based on plans.

This model building exercise is unique in several ways:

1) The primary focus of this study is the content of business unit plans developed through the formal decentralized planning system of a single large multinational, multidivision, high-technology industrial products manufacturer. This focus is based on two considerations:

a) that the planning process and planning logic can be deduced from the analysis of plan content; and,

b) that in a decentralized "bottom-up" planning system corporate strategy appears not as a single top management business plan, but as a portfolio of business investment opportunities described by the plans of business units.

This approach is different from most descriptive studies of strategic business planning in that:

a) most studies are based on the direct observation of planning activities or on interviews with those involved in decision-making; and

b) most studies of strategic business planning focus on the role and activities of top management. The new and significant role of middle managers as entrepreneurs and strategic planners has only recently been noted and commented on.(Business Week December 18, 1978, 62)

2) This study attempts to make deductions about the impact of non-formal planning logic on formal planning logic. A major premise behind this model building effort is that the organizational problem solving activities impact the results or content of the planning process in consistent ways. These impacts can be measured in terms of deviations from a model of expected plan content. The particular deviations can be studied further for regular patterns. Most studies in strategic planning have been efforts in normative rather than descriptive model building; or, they have been aimed at building more effective content models of successful business strategy which better characterize marketplace laws. Descriptive studies of strategic business planning have generally been confined to anecdotal illustration of planning concepts or to assessments of the status and effectiveness of normative planning systems in selected groups of companies.

## OVERVIEW OF THE MODEL OF EXPECTED PLAN CONTENT

### Description of the Expected Content Model

The expected content model must be based on the contingency theory of business strategy. This theory assumes that since the organization's

objective is survival, business organizations adapt in consistent predictable ways to environmental conditions by adjusting their survival strategy or business strategy. (Hofer, 1975)

Contingency theory suggests that a business plan can be effectively analyzed as a set of assumptions about conditions and a set of proposed actions or strategy. Under certain conditions, certain action sets are more likely than others to result in organization survival or success. (Hofer 1975) The proposed expected content model summarizes associations between condition assumptions and proposed actions which have been identified by business researchers as resulting in success. This model is shown in Figure 1, (p. 6), as a matrix associating a list of common business conditions with actions from a list of common business strategies. Table I (p. 7) provides references for these proposed associations among variables. While the two-dimensional matrix model of expected plan content shown in Figure 1 (p. 6) is simplistic, it captures the essence of both the normative planning process and the notion that business plans can be evaluated in terms of consistency with general marketplace laws.(Schoeffler 1975, 1) This simple matrix provides a yardstick against which deviations in plan content can be measured. The simplicity of this model, however, prevents evaluation of deviations as "bad planning".

Objections to Expected Content Model

Descriptive literature on decision-making processes and informal interviews with practicing managers suggest two reasons why this model may be neither valid nor useful in practical planning situations.

Question of validity. Objections to the validity of this model

| CONDITION NAME | CONDITION DESCRIPTION | ACTION NAME | decrease costs v18 | increase marketing effort v19 | increase vertical integration v20 | increase quality v21 | current products to new markets v22 | new products to current markets v23 | broaden product line v24 | new product to new markets v25 | restructure market v26 | divest v27 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| v1 | high market growth rate | | | | - | - | | + | - | + | | |
| v2 | high market share | | + | | + | + | | + | | + | - | |
| v3 | fragmented competition | | + | + | | | | - | | + | | |
| v4 | strong technological competition | | | | - | | | - | | - | | |
| v5 | customers' technologies as market driver | | | | - | | | | | | | |
| v6 | objective: increase profits | | + | | | + | - | - | | - | | + |
| v7 | objective: increase growth | | | + | | + | + | + | | + | | |
| v8 | strong technological position | | | | | | | + | - | + | | |
| v9 | strong market position | | | | | | | + | + | - | | |
| v10 | strong financial position | | | | | | | | | + | | |
| v11 | design skill strength | | | | | | | + | - | | | |
| v12 | component manufacturing strength | | | - | | | + | - | | | | |
| v13 | first to market strength | | | | | | | | - | | | |
| v14 | high quality product strength | | | | | + | | | | | | |
| v15 | highly differentiated strength | | | | | | + | | - | | | |
| v16 | broad product line strength | | | | + | | | | | | | |
| v17 | high contribution margin products | | | | | - | | | + | | | |

Figure 1. Summary of Business Literature as the Expected Content Model. This matrix illustrates the principle that: certain assumptions about business conditions and certain action plans should be consistently associated in business'plans. (+) indicates the pairs of variables used in this study which literature suggest should be associated. Variables are identified by the above numbers throughout the study and are described in Table I, (p. 7). Although the goodness of fit test used in this study addresses only positive associations between variables, variables which should be negatively associated are also shown above. (-) indicates variable pairs which should not occur together.

TABLE I

SUMMARY OF KEY VARIABLES WHICH CHARACTERIZE THE EXPECTED CONTENT MODEL

| NAME | DESCRIPTION | SOURCES | PAIRED WITH | EXAMPLE |
|---|---|---|---|---|
| v1 | high market growth rate equal or greater than 20%/year (real) | PIMS, BCG Cooper, Levitt Tilles, Hofer | v23, v25 | "The market is estimated to grow in the future at a 35% rate." from: "HP enters..." Electronic Business, 9/79, p.75 |
| v2 | high market share - equal or greater than 30% in pursued markets | PIMS, BCG Hofer | v20, v21, v23, v18, v19, v25 | "In the...market,...is entrenched with 80% market share. from: business plan 103 |
| v3 | fragmented market - no competitor has relative market share greater than 2x nearest | Cannon, BCG | v19, v22, v18 | "competitors are specialized to a single segment of the business. segment are often specialized." from: business plan #105. |
| v4 | technological innovation by competitors is an important contributor to market change | PIMS Cooper A & S Tilles | no correlations expected | "microprocessor supplier quickly responded with aids to help the engineers." from: "HP enters ..", Electronic Business, 9/79, p.75. |
| v5 | customer technological change is an important contributor to market change | PIMS | no correlations expected | "introducing its system, HP is addressing a large and booming market that resulted from the development of the microprocessor itself." from: "HP enters ...", Electronic Business, 9/79, p.75 |
| v6 | a major business objective is to increase profitability - up 20% over current level | PIMS | v18, v21, v27 | "Profit goals are just as ambitious: bring them up to the industry leaders (17% return on equity). from: "Perkin Elmer, Electronic Business, 9/79, p.83. |
| v7 | a major business objective is to gain market share - up at least 20% over current level | PIMS | v19, v21, v22, v23, v25 | "In all, instrument companies accounted for 11% of development sales last year ... They could sell 40% in 1983 largely as a result of HP's entry." from: "HP enters ..." Electronic Business, 9/79, p.75. |

TABLE I (CONTINUED)

| NAME | DESCRIPTION | SOURCES | PAIRED WITH | EXAMPLE |
|---|---|---|---|---|
| v8 | technological skills, barriers are a major business strength | PIMS,Cannon Cooper,Ansoff | v23,v25 | "In developing these systems, engineers started with an OEM HP mini computer ...". from: "HP enters ..." Electronic Business, 9/79, p.75. |
| v9 | a major business strength is a marketing strength - reputation,service,distribution | Cannon Cooper,Ansoff | v23,v24 | "any engineering manager who looks at the capital investment required won't want to lock himself into a single semi- conductor manufacturer when he can turn to two major instrument manufacturers." from: "HP enters ...", Electronic Business, 9/79, p.75. |
| v10 | a major business strength is financial, ability to support business expansion | Ansoff Tilles | v25 | "M/A maintains an extremely conservative financial position ... that strong financial position gives them the borrowing power for future acquisitions." from: "M/A Com ...", Electronic Business, 6/79, p.62. |
| v11 | design skills, engineering knowledge are a significant strength | Cannon A & S | v23 | "these barriers come from the cummulative experience of developing #1C7. |
| v12 | a significant strength is ability to manufacture components, vertical integration | PIMS,Cannon A & S | v22 | "M/A Com makes almost everything from silicon wafers to the sattelite subsystems that incorporate M/A fabricated chips ... Market analysts ... consider its vertical integration ... strong points." from: "M/A Com ...", Electronic Business, 6/79, p.62. |
| v13 | ability to bring new product to market first is a business strength | PIMS,Cannon Cooper | no correlations expected | |

TABLE I (CONTINUED)

| NAME | DESCRIPTION | SOURCES | PAIRED WITH | EXAMPLE |
|---|---|---|---|---|
| v14 | product line is characterized by high quality relative to competitors - viewed as a business strength | PIMS | v21 | (this business) "...has historically supplied ... customers with high performance ..." from: business plan #112. |
| v15 | product line is highly differentiated from competitors' - offers unique features and this is viewed as business strength | PIMS Cooper | v22 | "HPs system differs substantially from the majority of the microprocessor development systems in use today." from: "HP enters p.75. |
| v16 | a broad product line provides an important advantage | PIMS | v20 | "the barriers ... result from offering a complete line addressing all segments." from: business plan #94. |
| v17 | product contribution margin is relatively high | PIMS | v24 | "due to the product design ... a high gross margin in excess of 75%." from: business plan #107. |
| v18 | action-strategy: decrease manufacturing costs or increase productivity | PIMS,BCG | v2,v3,v6 | "Improve profits (by)..."fine tune manufacturing operation." from: business plan #26. |
| v19 | action-strategy: increase marketing/sales effort | PIMS,Cannon Cooper | v3,v7 | "a vigorous sales/marketing campaign to increase our market share." from: business plan #95. |
| v20 | action-strategy: increase vertical integration (forward or backward) | PIMS | v2,v16 | "develop our own ... assembly capability". from: business plan #94. |
| v21 | increase perceived product quality | PIMS | v2,v6,v7,v14 | "the initial product will have assembly language programming but HP claims it will offer PASCAL by the first of the year." from: "HP enters ...", Electronic Business, 9/79, p.75. |

TABLE I (CONTINUED)

| NAME | DESCRIPTION | SOURCES | PAIRED WITH | EXAMPLE |
|---|---|---|---|---|
| v22 | market current product line to new market segments | Cannon | v7,v12,v15 | "focus on a succession of niches at the upper end and more selectively than before ... specialize in those applications." from: "Perkin Elmer 83. |
| v23 | market new product line to currently addressed markets | PIMS,Cannon Cooper | v1,v2,v7,v8,v11 | "the new system is a natural for HP, a major supplier of both mini computers and design and development aids for the engineer." from: "HP enters ...", Electronic Business, 9/79, p.75. |
| v24 | broaden product line to current market | Cannon Hofer | v9,v17 | "... product diversification ... in ... segment." from: business plan #105. |
| v25 | market new products to new market segments | PIMS,Cannon Cooper,Ansoff | v1,v2,v3,v7,v8 v10 | "the 3220 ... is aimed at OEMS and end-users in high performance commercial transaction applications, a market Perkin Elmer hasn't vigorously pursued." from: "Perkin Elmer ...", Electronic Business, 9/79, p.83. |
| v26 | create new market segments or change market structure | PIMS,Hofer | no correlations | "add another dimension to the market, awakening the need for ..." from: business plan #107. |
| v27 | discontinue product line | Cannon | v6 | "expect sales to roll off as they (product line) age technologically." from: business plan #107. |
| | | | | "the...which had been our major product was abandoned ... we have no other plans to address ..." from: business plan #95. |

SOURCES:

PIMS: (Gale 1977), (Schoeffler et al 1977)
Cannon: (Cannon 1968)
Ansoff: (Ansoff 1969)
A & S: (Ansoff, H. I., and John Stewart 1967)
Levitt: (Levitt 1965)
Tilles: (Tilles 1966)
Cooper: (Cooper 1979)
BCG: (Boston Consulting Group 1974), (Hedley 1976)
Hofer: (Hofer 1975)

relate to the fact that business planning takes place within the operating environment of the organization. The managers responsible for the plan content are the same managers responsible for the current activities of the business. The historical continuity of the business and the essentially conservative nature of the business planning process mean that in order to maintain stability, managers are tied to proposing planned activities that are the same as or a continuation of current activities. (Quinn 1978) Thus, instead of predicting organization actions based on conditions, one is more likely to be able to predict the conditions planned for and the proposed actions if one knows current activities. Business planning may take place in the mode of searching for a problem for which an in-hand solution is valid.

Question of utility. Objections to the utility of this model center on the idea that the organizational context in which planning takes place influences plan content. Particular organizations have their own character, culture, or logic.(Sarrazin 1977) General company strengths, weaknesses, policies or history may dictate certain alternate action solutions or eliminate optimal action solutions for particular business conditions. The top management goal of integrating a decentralized company increases the likelihood that business strategy for a particular business will be less than optimal.

Organization structure and character may result in both conflicting objectives and inadequate or conflicting planning data bases. Individuals and suborganizations have often specialized for addressing specific organization problems. (Lawrence and Lorsch 1967) Data essential for planning are often fragmentary or unavailable.

Organization priorities may be such that collecting these data, if they can be collected, is too expensive.(Leyshorn and Paul 1976)

This argument says that the model isn't useful because the major difficulty is in determining the conditions and objectives (the strategic assumptions), not in proposing actions. A more useful model would be a model which describes the crystalization of strategic assumptions when knowledge is incomplete and goals are ambiguous. (Thompson 1964)

Intent of this Study

The intent of this study was to compare actual content of the business plans produced through the formal planning system at The Corporation with the content predicted by the model shown in Figure 1, (p. 6). By further examination of deviations in actual content from this model, the utility and validity of this model could be evaluated and/or a more useful or valid model may be suggested.

## DESCRIPTION OF THE STUDY FIRM

The firm studied in this exploratory effort was the Fast Delta Corporation, a 'Fortune 500' manufacturer of industrial electronics. The Corporation operates in a rapidly changing, complex environment. Corporation structure is a complex multidivisional structure which includes several foreign subsidiaries and joint ventures, centralized research and sales organizations, and a centralized vertically integrated manufacturing operation. Growth rate during the study period was exponential, in excess of 20%/year, and reaching almost $ 1 billion by the end of the period. During the study period, Fast Delta

Corporation product lines and markets were heavily impacted by the substantial technological innovations and changes characteristic of the electronics market over the last 15 years.

During the study period The Corporation was organized as a multidivisional decentralized company. As Chandler (1964) reported, a survey of fifty of the largest industrial companies showed that

> what may be called the multidivisional type of organization has become generally used by industrial firms carrying on the most diverse economic activities. In this type of organization a general office plans, coordinates, and appraises the work of a number of operating divisions and allocates to them the necessary personnel, facilities, funds, and other resources. The executives in charge of these divisions in turn, have under their command most of the functions necessary for handling one major line of products or set of services over a wide geographical area, and each of these executives is responsible for the financial results of his division and for its success in the market place.(p. 2)

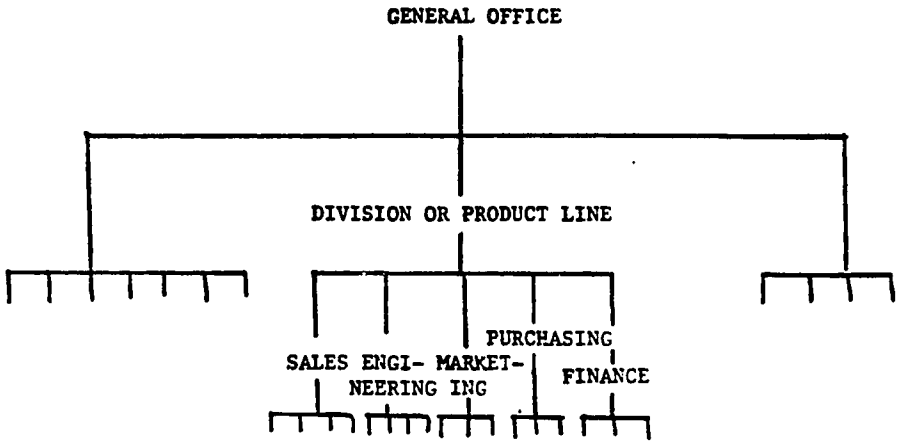
This multidivisional or decentralized structure was widely accepted by three industries including the electrical and electronic industry. Leaders in these industries have relied primarily on diversification as an expansion strategy, and as noted by Chandler, the multidivisional form both allows and encourages the diversification strategy. The Corporation, like General Electric and Westinghouse, adopted the multidivisional form in order to facilitate diversification. In the six years since adoption of the multidivisional structure, The Corporation evolved from a company dominated by a single product line to a corporation consisting of 19 businesses, only two of which were in the original product line during the period under study.

The general multidivisional structure (Chandler 1964, 10) is comparable to the multidivisional structure as implemented by The

Corporation. (See Figure 2, p. 15 ) At The Corporation, the central office includes central manufacturing, central research and development, central sales, and central finance and administration offices and operations. The operations organization includes four major divisions. Each of these is further subdivided into several marketing-engineering organizations or business units and a manufacturing organization. Divisions are generally organized by product type. Engineering and manufacturing concerns within each division are similar. Business units are also generally based on similar product type although some businesses address a vertical market with several different product types and others are based on similar distribution channel.

The strategic planning structure at The Corporation, like those at other large multidivision companies, is based on the business unit. (See glossary, Appendix A, p. 123 ). The strategic business unit form of organization was initially formalized by General Electric.(Taylor 1976) At G.E., a strategic business unit consists of a single product line or market. A business strategy is developed for each business unit. The corporation for strategic purposes is assumed to consist of a collection of separate investment opportunities. The managers of each strategic business unit compete with each other for corporate resources via business plans. Each plan takes on the nature of a "business prospectus."

Because of this decentralized organization structure, top management and middle management roles in strategic business planning have evolved over the last 15 years. Formerly, 'top-management' and 'strategic' planning were synonymous (Steiner 1969), and middle managers



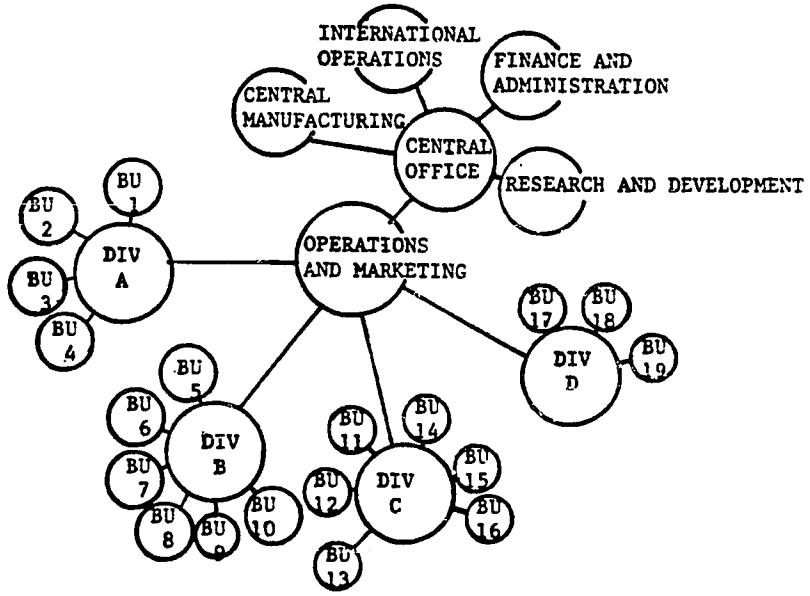




Figure 2. Comparison of General Multidivisional Company Structure (above) with Fast Delta Corporation Structure. General multidivisional structure example is taken from Chandler (1964, p. 10). Both structures illustrate the decentralization of operations and specialization of organizations around markets and products rather than around functional structures.

concerned themselves with operational planning and budgeting. The top management strategic role now focusses more on the task of "unifying all the business lines of a company and pointing them toward an overall goal."(Business Week December 18,1978, 62) In the simplified strategic portfolio model, the top management task is one of managing a portfolio of business investment opportunities, while middle management is responsible for the more entrepreneurial task of developing the optimal business strategy for their sub-organizations.

The framework within which the business planning system was established evolved over several years following the establishment of a multidivision structure.(Technology Report, April, 1980) The first planning conference developed statements on corporate values, purpose, and de facto objectives. Two years later a statement of corporate intent was developed. In the following year corporate objectives and strategic policies were developed and the first business plans were written. The Corporation management information systems allow staff and management at the central office, division, and business unit levels to monitor operating performance vs. plan and budget. Management at division level is held accountable for expenses, contribution income statement performance, order volume, inventory levels, and net sales.

## DESCRIPTION OF BUSINESS PLANNING AT THE CORPORATION

The business planning process at Fast Delta Corporation, like those at other similar multidivisional corporations, offers three key features:

1) the information flow between corporate and divisional levels,

2) the annual frequency with which strategic plans are developed and reviewed,

3) the ties to other more operational planning processes particularly budgeting.

These three features are illustrated in Figure 3, (p. 18). A more detailed flow chart of the strategic planning process at The Corporation is shown in Figure 4, (p. 19) which also illustrates these features.

The period covered by this study included the first six years after the establishment of a formal decentralized business planning system. Business unit management was annually required to submit a written plan covering a five year plan horizon in a format specified by a corporate planning staff and corporate management. These plans were reviewed by the planning staff and corporate management and in some cases returned for changes and revisions.

In the first two years of the six year period under study, middle management was given little formal guidance in terms of performance objectives. In one year, planners were asked to provide both maintenance and growth-oriented plans.

In the last three years of the study period, the planning process more closely resembled Figure 3, (p. 18). Direction became more "top-down" and corporate management became more specific about both financial and market performance objectives. In the later years of the study period, The Corporation planning system also more closely resembled Figure 3 (p. 18), in that the formal business planning process became more tightly coupled with other corporate planning processes. Initially, business planning was regarded primarily as a management

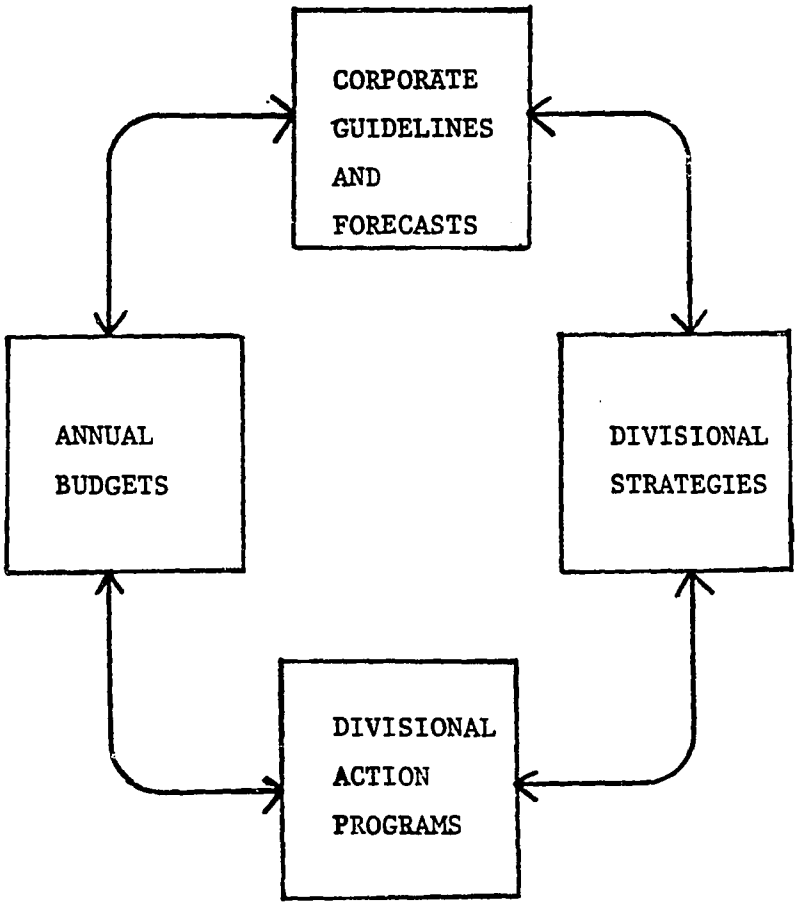



Figure 3. Overview of Strategic Planning Process Illustrating Three Key Features. The three key features are 1) annual cyclic process; 2) connection between business strategy planning and other operational planning processes particularly budgeting; and 3) cross-level communication between corporate and divisional offices. Diagram from Taylor (1976).

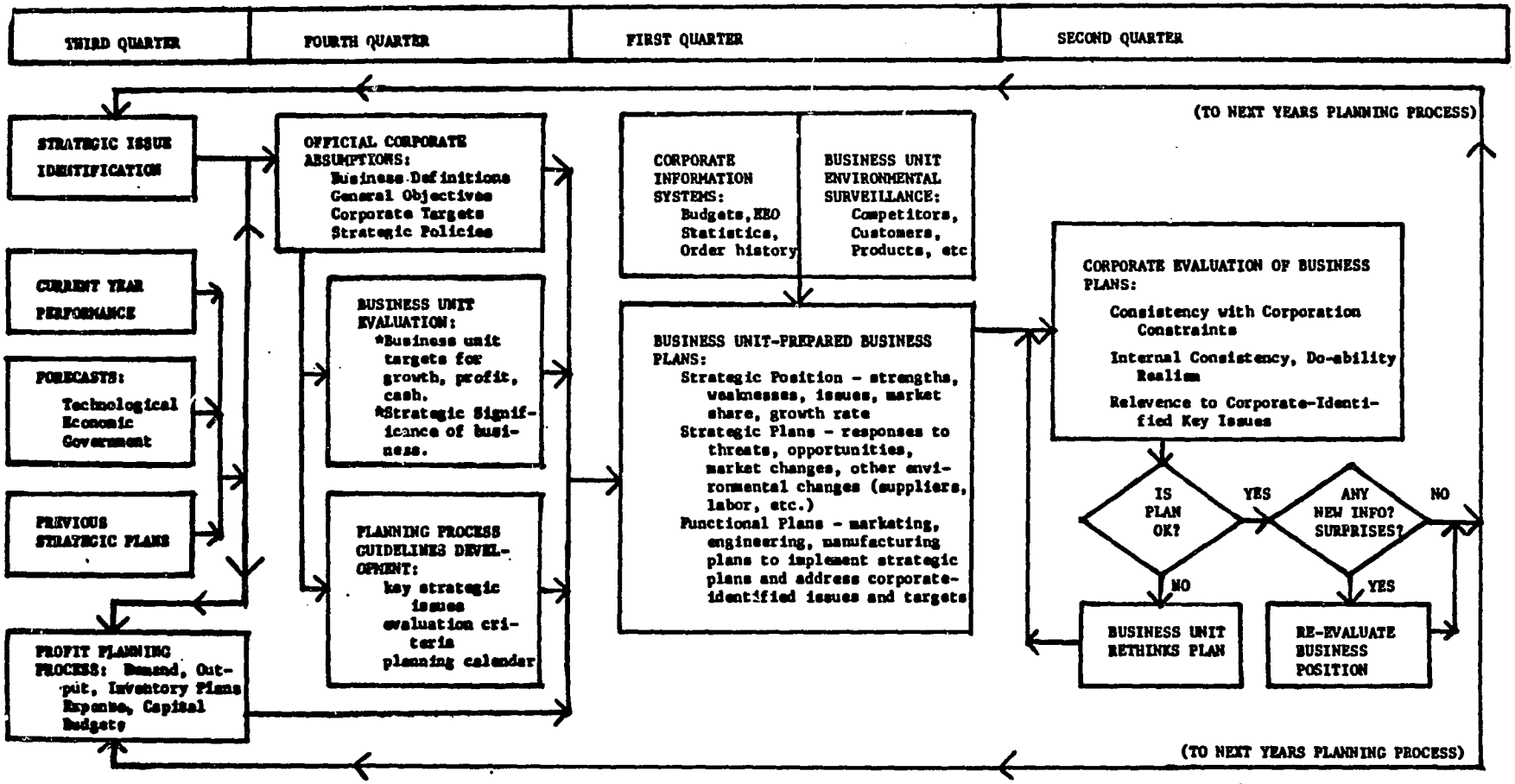



Figure 4. Overview of The Corporation Strategic Planning Process. This figure illustrates the same three key features as the more general Figure 3, (p. 13). The annual cycle begins at the left side of Figure 4 with corporate issue identification and guidelines. Process proceeds toward the right with business unit and division staff input during the first quarter. Corporate staff and officers evaluate business plans, and the results provide the input to the following year profit planning process.

development exercise and a communication process. In later years, these purposes remained important, but the two year expense and capital requirements forecasts developed as part of the five year plan were used in planning expense and capital budgets in the following year.

The Corporation plan content and plan evaluation criteria are similar to those used by other companies. Figure 4 (p. 19), which includes an overview of the business unit plan development process at The Corporation appears very similar to the process shown in Figure 5 (p. 21), which illustrates the Sperry Rand process for developing "momentum plans" or long range plans for existing businesses. (Gedrich 1976)

Although business unit management was required to address special themes or areas of corporate concern during some years and although the reporting format for financial performance and objectives varied from year to year, plans generally were required to cover the same topics. The following list of required sections in a Corporate business plan from the Corporate Strategic Planning Manual (1977) appears very similar to the list of essential elements of corporate planning provided by Taylor (1976): business definition including strengths, weaknesses, synergy with company, market and customer analysis, competitor analysis, economic analysis, strategic targets with respect to growth, profitability, market share, and cash flow, strategy and action plans, and financial statements.

## LIMITATIONS OF THIS STUDY

This study was characterized by several limitations:

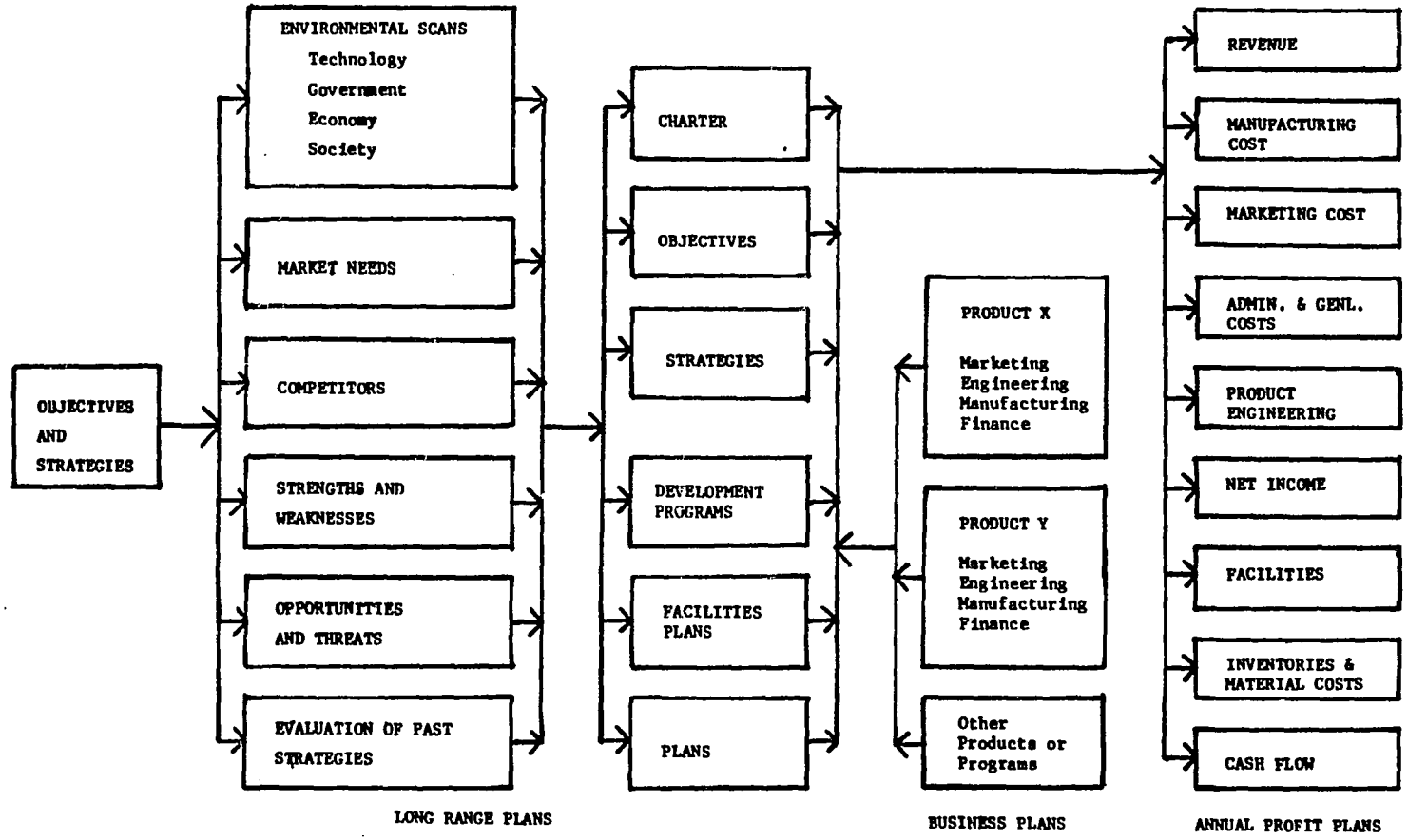



Figure 5. Overview of the Strategic Planning Process for "Momentum Plans". This diagram (Gedrich 1976) illustrates the process used by Sperry Rand for developing momentum plans, or strategic business plans for existing businesses. Figure 5 focusses on the business unit role in translating internal operating assumptions (objectives, charter) and external operating assumptions (market, competitors) into action strategies and resource requirements.

1) The study was confined to the examination of a single company. The strategic planning process and structure implemented by this company were similar to those implemented by other companies as described in the literature referenced above. However, the results, conclusions and recommendations from this study can only be applied with caution to other companies. Since this effort was an exploratory study aimed eventually at developing a better description of business plan content and improved techniques for evaluating plan content, the results of this single-company study could be tested further in other companies.

2) During the research project, the researcher was employed as the business unit planning manager for one of the Fast Delta Corporation business units. In this position, the researcher was responsible for coordinating strategic and operational planning processes in that business unit. The major advantages of the researcher's employee status were increased access to highly confidential business plan content and increased access to middle management ideas on appropriate planning logic. Employee status may, however, have introduced bias in the judgment required to code data on plan content and planning logic. Every effort was made to reduce this bias through reducing the judgment required to code data. The coding process was nearly mechanical and no analysis was performed until coding was complete so that preliminary results did not bias further coding. These efforts to reduce coding bias are discussed further in Chapter III (p. 40).

Bias which may have been introduced by the researcher's personal acquaintance with interviewees or by personal commitment to organization direction was reduced since the researcher was a new employee of The

Corporation during the study period. As a new employee, the researcher was unacquainted with most of the management interviewees and also unacquainted with the particular problems and characteristics of most of the businesses and sub-organizations with which interviewees were affiliated.

Researcher bias in this study was a real danger to the validity of these results and is a problem which is likely to occur in any further research. Because of the confidential nature of much of the data analyzed in this study, further testing of the models suggested here or implementation of new plan evaluation methods will most probably be done by employees with the company under study.

## SUMMARY

Study objectives were identified as those of testing an expected model of plan content, developing a modified model of plan content, and developing a modified method for evaluating plan content based on this modified content model. Significance and unique aspects of this study were discussed. A matrix of expected plan content was introduced as the yardstick against which plan content would be measured. Reasons why plan content may vary from this model were discussed. The study firm was identified as a high technology, multidivisional company. The company's organization structure and strategic planning process were described with the intent to show that this company's planning structure and process are generally similar to those described in the literature as characteristic of other large firms. The researcher's position as an employee of the study company was discussed as both an advantage (access

to highly confidential information) and a disadvantage (source of bias). Efforts to reduce this bias were discussed.

# CHAPTER II

## REVIEW OF THE LITERATURE

The purpose of this review is to examine the model of expected strategic plan content developed for this study, the objections to the assumptions on which this model is based, and an indirect method for studying these objections.

## EXPECTED CONTENT OF FORMAL PLANS

### Corporate Strategy and Strategic Plan Content

Tilles (1963) writing on the benefits and purposes of formal strategic planning, stated that a major purpose of the formal process is to make strategy explicit. Even those authors who complain of a gap between the content of formal strategic plans and corporate reality agree that the content of formal strategic plans should reflect a 'slice-in-time' image of management strategic perspective.(Quinn 1977,Quinn 1978, Koontz 1976, Hobbes and Heany 1977)

Formal plan content should thus represent organization strategy. Contingency theory, based on an open systems model of the organization, says that organization strategy can be predicted. This was the function of the model of expected plan content introduced in Chapter I. The origins of the model of expected plan content were in the open systems models of organizations developed by Thompson (1967), Lawrence and Lorsch (1967). The rationale for this model can be summarized as

follows: Organizations aim at an adaptive match of environment and organization characteristics. For a set of organization and environment conditions there is an action set or strategy which might best enhance the organization's survival objective.

In the following discussion of normative models of strategy, the authors referenced all used financial measures for organization success or survival. The strategies suggested were successful with respect to some objective financial measure.

Normative Models of Strategic Plan Content

Hofer and Rumelt developed contingency theory specifically for business strategy development. Hofer (1975) summarized research supporting a contingency theory of business strategy. Rumelt (1979) covers similar ground in reviewing what he called frame-based evaluation criteria for business strategy. The message from both authors was:

1) Successful strategies are based on a successful match between the organization and environment context.

2) Once the context is known, the success of alternate approaches can be predicted.

3) Useful evaluation criteria are those which check the proposed strategy against its context.

More specific evaluation criteria are based on guidelines for effective strategy developed by the Strategic Planning Institute's PIMS (Profit Impact of Market Strategy) study effort. (Schoeffler 1974, Schoeffler 1977) The PIMS perspective and research provide the primary support for the expected content model shown in Figure 1 (p. 6). Chief finding of the PIMS effort was that "business situations generally

behave in a regular and predictable manner." This means:

> that we can estimate the approximate results (within 3-5 points of ROI) of most businesses (about 90%) over a moderately long period (3-5 years) on the basis of observable characteristics of the market and of the strategies employed by the business and its competitors. . . . Business situations can be understood by an empirical scientific approach, and therefore the process of formulating business strategy is becoming an applied science.(Schoeffler 1977, p.1)

PIMS research identified a list of nine major influences on profitability: investment intensity, productivity, market position, growth of the served market, quality of the products and/or services offered, innovation, differentiation, vertical integration, cost push, and current strategic effort. Although the PIMS staff admitted that the "operation of the nine major strategic influences is complex", they also showed that "the laws of the marketplace determine about 80% of the observed variance in operating results across different businesses."(Schoeffler 1977, 2)

The relative specificity of the PIMS marketplace laws allow the relation between conditions and strategic actions to be broken down into a series of expected associations between condition and action sets.

Other sources for strategic planning guidelines included the Boston Consulting Group (Boston Consulting Group 1974, Hedley 1976) research on market share, relative competitive position, and experience curve; empirical studies of specific product-market problems such as Cooper's study of new product introductions (1979); and surveys of business experience such as J.T. Cannon's Business Strategy and Policy (1968). The specificity of these marketplace laws suggested that the business conditions and strategic action should be explicitly associated

within the context of the formal plan.

Because these marketplace laws apply to all businesses one would expect to find similar pairs of conditions and actions in all effective business plans. Table I (p. 7) lists key variables describing common business conditions and actions and the expected bivariate relations between these conditions and actions based on the above business studies. This set of bivariate relations provided a minimum set of logically related pairs of variables describing plan content. Fast Delta Corporation plans were expected to contain these pairs of variables if this model was characteristic of the Corporation's strategic planning logic. The matrix model shown in Figure 1 (p. 6) summarizes these relations.

Implications of Expected Plan Content Model for Planning Process

The contingency theory of organization behavior listed above implied a two step planning process: first conditions must be specified; and second, strategy and action plans must be developed. This process is shown in a simple block diagram in Figure 6, (p. 33).

This process is also implied by the order in which information was presented in the business unit plans as required by the Corporate Strategic Planning Manual. (1977) This process was explicit in the description of this and other formal planning processes discussed in Chapter I as well as explicit in the strategic planning guides developed by Steiner (1969) and Ansoff (1965).

## OBJECTIONS TO THE EXPECTED CONTENT MODEL

Objections to the expected content model were based on three arguments:

1) the expected content model was too simple.

2) the process model implied by the expected content model isn't valid.

3) the expected plan content model isn't useful.

### Expected Content Model Simplicity

Characterizing business strategy as a list of relatively simple business context and action variables was a difficult task. Two problems appeared immediately:

1) the difficulty of choosing a list of characteristics which were both simple and complete, and

2) the limitations of viewing only bivariate relations between variables.

Miller (1979) pointed up that bivarate-based (ie product-moment correlations) contingency theory research has resulted in contradictory findings. He concluded that bivariate relations are insufficient to capture the complexity of organizations' environments and suggests that more useful results could be attained by studying more closely specified contexts.

Hofer (1975) addressed Miller's concerns in his article when he chooseses a relatively complex, synthetic concept such as product life cycle phase as the key determining factor in business strategy. His own normative business strategy propositions listed six context descriptors

in addition to life cycle phase before prescribing actions. As he pointed out, however, extending this approach would mean countless thousands of propositions for each combination of significant context descriptors.

The model, based on bivariate relations shown in Figure 1 (p. 6), and Table I (p. 7), allowed a simple comparison of actual plans with the results of descriptive business research. However, the absence of appropriate matches between context and proposed actions in Corporation plans may simply have indicated as Miller (1979) suggested that strategy is too complicated to capture as a combination of bivariate relations. For this reason further analysis of deviations in actual plans from the plan model relied on techniques which identify more complicated relationships among variables.

Process Model Validity

The argument that the implied process model wasn't valid centered on an alternative view of the strategy setting process. In this view, introduced in Chapter I (p. 4), strategy is fixed and the organization searches for an environment for which a particular specific strategy is successful. This is exactly the opposite of the expected model which says that strategy is based on an analysis of the environment. Sahal (1976) developed this model of organization adaption in general systems terms. He concluded that "conditions = f(strategy proposed)" is a viable alternative model of organization planning. Business strategy literature offers several examples of this approach. The most common examples dealt with the task of defining targeted market segments. In "Strategies for Low Market Share Businesses," Hammermesh et al (1978)

argued that small share businesses needn't always try to grow. An alternative strategy is changing the environment by resegmenting the market. Redefining the environment means that strategies which couldn't succeed in the larger environment may succeed in a more restricted environment. The key role that market share estimates play in business strategy literature makes market redefinition and resegmentation particularly important when the organization is constrained by current conditions that it is unable or unwilling to change.

Both the literature and informal comments from managers suggest that this approach is widely used. They agreed that strong considerations in strategy setting are current position, current momentum, and current activities of the organization. (Drucker 1973, 123)

Cyert and March's behavioral theory of the organization (1963, 34) and Quinn's concept of logical incrementalism (1976) stressed the importance of learning from current activities and precipitating events. The benefits of the incremental approach are that it "improves the information content and the process aspect" of decision-making by allowing participants to test assumptions and build support and comfort among others.

According to Fast Delta Corporation managers, the major step in the annual strategic planning process was an assessment of current activities and a testing of these activities against a personal model based on experience, expectations, and analysis of data. The strategy development process was based on the sum of experience which one general manager called "gut feel". These informal comments suggested that one of

the best sources for explicit assumptions stated in plans is the experience generated by current activities.

The above literature and informal comments suggested the modified block diagram of the planning process shown in Figure 7, (p. 33 ).

Both Figure 6 (p. 33) and Figure 7 (p. 33) depict planning as a unidirectional process. This view may be too simple. Most authors on the normative planning process emphasize the importance of iteration, or checking results against analysis of conditions. Neither the normative planning process model nor the model shown in Figure 7 (p. 33) should be more dominant. The addition of "iteration" to the initial uni-directional model is the essence of the concept of "adaptive planning" (Mintzberg 1973). However, in practical planning applications, the iterative process may not be implemented. Informal comments from Fast Delta Corporation managers indicated that under time, resource, and process constraints, they simplified the formal process to a uni-directional non-iterative process. It was not clear which process model was more descriptive of planning at The Corporation and what impact this might have on plan content.

Model Utility

Guth (1976) summarized the work of Ansoff (1965), Steiner (1969), and others when he identified the basic intellectual tasks of strategy formulation as:

> 1) the assessment of environmental conditions and trends and identification of opportunity and threat 2) the determination of comparative strengths and weaknesses of the organization for competing in particular product, market areas 3) the identification of the objectives, goals, and values to be served by the organization 4) the identification of the requirements of

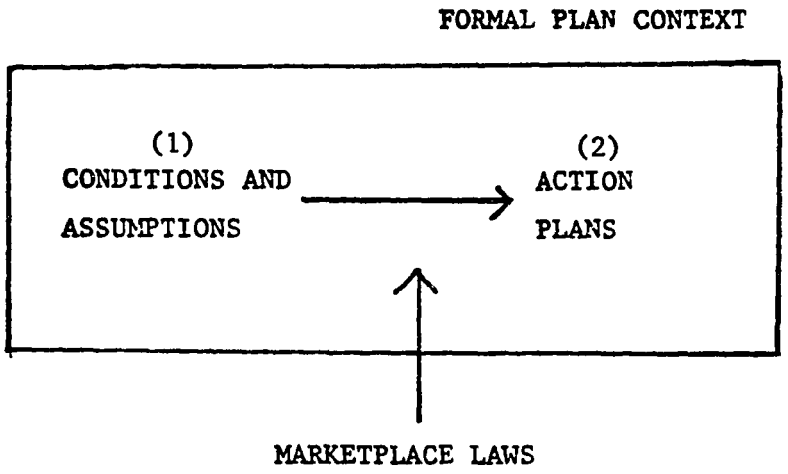



Figure 6. Model of Normative Planning Process. This simplified block diagram illustrates the normative planning process as implied by the Corporate Strategic Planning Manual (1977). First, business conditions are specified. Second, based on these conditions and on marketplace laws, actions are proposed. This process should produce results consistent with those predicted by the expected content model.

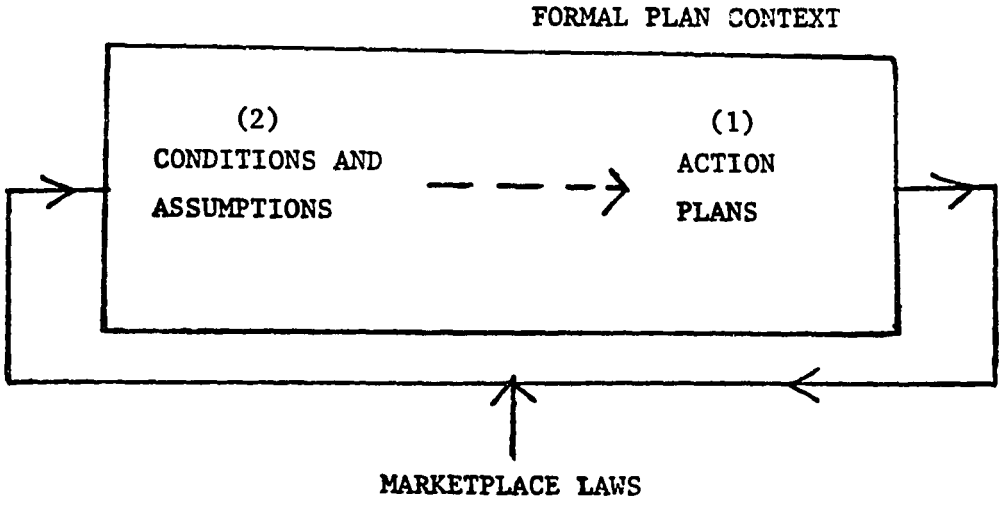



Figure 7. Model of Modified Planning Process. This model is based on the suggestion that current activities and strategies play a major role in strategy formulation. First, action plans or strategies are specified. Second, assumptions about business conditions which are consistent with these current activities are developed. Because the format of the formal plan was fixed as required by the Corporate Strategic Planning Manual (1977), the format of the plan continues to imply that the process used was that shown in Figure 6.

a chosen strategy on the particular management structure in order to implement that strategy effectively and efficiently.

The expected content model is what Thompson called an "efficient" model (1967, 86) and what Allison (1971) called a "rational actor" model. By efficient, Thompson meant that plan content can be evaluated in terms of "relative perfection."(1967, 86) That is, "was the effect produced for least cost?" or "was the greatest result produced for a given amount of resources?" The rational actor model assumes not only efficiency evaluation criteria but a structured problem solving process. In the rational actor model, the tasks described by Guth are achieved easily because of two key simplifing assumptions:

1) The planner or decision-maker is rational. That is, the filter between "reality" and the development of explicit assumptions is transparent and the strategy is based on complete information about the real world.

2) The plans and decisions are made by a unitary decision-maker. "Standards of desirability" or values are crystalized and unambiguous. (Thompson 1967)

Under these simplifying assumptions or premises, Guth's condition specification processes are trivial tasks of collecting data.

The argument that this model is not useful centers on the work by Allison, Thompson, Guth, Cyert and March and others who suggested that these premises are too simple. Knowledge is never complete nor are values crystalized.

Incomplete Knowledge. The difficulties of planning with incomplete knowledge are well documented. Leyshon (1976) and Paul, Donavan, and Taylor (1967) identified the practical problems in

gathering information on current conditions, integrating this as a set of assumptions in a timely way and forecasting in a changing world. The decentralized business unit-based planning system partially addressed these difficulties. This is because this structure allowed the individuals who are experts in a particular business to develop the plans. The technical tools of analysis and forecasting are more appropriate to the business planning task of developing an optimum business plan than to the more difficult corporate planning task of trying to balance and integrate the investment portfolio of corporate businesses. (Business Week December 18,1978, 62)

Despite the business unit structure which involves more "experts" in plan development, differences in individuals' knowledge bases can contribute even at the business unit level to different "standards of desirability." Lawrence and Lorsch (1967) have studied what might be called centrifugal forces operating on organizations against unity and integration. They identified a chief difficulty in integrating different functional areas. They concluded that differences among functional groups are basic (differences in goal orientation, time orientation, and interpersonal orientation). These differences are unresolvable since they are adaptive to solving the functional problems which must be addressed if the organization is to survive. The impact of differences in functional perspective on strategic planning perspectives is unclear since functional problems are typically regarded as more operational and less strategic.

Ambiguous and Conflicting Values and Objectives. While the business unit structure partially addresses the incomplete knowledge

problem, it introduces new complexities into the problem of planning with ambiguous objectives and values. With more individuals and more suborganizations involved, the task of resolving differences and integrating conflicting objectives is more difficult.

The Business Week report on the "New Planning" (December 18,1978) reinforced this perception of the expected content model as inadequate. Even though the new planning may allow the development of more "efficient" business plans, corporate planners must still integrate these plans in order to develop a corporate strategy. The logic behind a particular business plan which can be easily integrated with corporate level strategy is not necessarily the same as "efficient" logic. Efficient logic may dictate aggressive product development effort and heavy resource use for a business which is not high on the corporate list of business priorities. Without the resources available for product development the business must opt for another less optimal strategy.

Literature offered two alternate views of the impact of conflicting objectives on strategy planning. Both views, however, agreed that the simple efficient model is not useful in predicting the outcome of the strategic planning process.

1) One view was that conflicting objectives among suborganizations and individuals mean that an organization does not operate as an integrated whole. Cyert and March (1963, 36) concluded that the organization may appear integrated even while suborganizations are aimed at achieving conflicting goals. This is because there is enough organization "slack" so that suborganizations can pull in different

directions without pulling the organization apart. Allison (1971) summarized both this model and an alternate "bureaucratic politics" model which assumes conflicting objectives among individuals. Both models described the dynamics behind what is included in a strategic or any other plan and how the plan is used and evaluated by its readers. Neither model depended on the quality or efficiency of the plan content because both assumed that other reasons outside the formal plan logic better explain plan content and evaluation.

2) A second view supported by Emshoff and Mitroff (1979, 1978), Vancil (1976), and Sarrazin (1977-78) was that organization dynamics can be addressed and controlled so that an integrated strategy can be developed and implemented. These authors offered three complementary suggestions for improving the process by which objectives and the logic relating conditions with appropriate actions are developed.

a) Mitroff and Emshoff developed a formal strategic assumption analysis based on a Hegelian debate process which assumes conflict and bias among participants.

b) Vancil developed a conceptual model of integrated organization strategy which involves management at all levels through "an intricate web of personal statements."

c) Sarrazin suggested an informal but deliberate apprenticeship program for managers in the corporate strategic logic.

The first view suggested that formal plans are unlikely to reflect either the efficient logic of the expected content model or any other logical pattern. The second view suggested that if the corporation has attempted to integrate strategy the business plans may well demonstrate

a consistent approach even if it is not the efficient logic of the expected content model. In either case, the efficient model is not useful in predicting plan content because other processes dominate the normative planning process.

## TECHNIQUES FOR STUDYING ASSUMPTION SETS

While the task of studying assumptions-strategy match was initially a straightforward comparison of actual against model, the task of explaining deviations from the model was more complicated. Wilcox (1972) pointed this out in his study of decision assumptions. He viewed assumptions as a "network of causal relationships" linking goals and the perceived situation to the consequences of decision. In a non-optimizing decision process, such as the decision of what strategies to propose in a formal plan, he identified two ways to determine the relevant assumption set. The first was via direct modeling of the decision net. This required direct observation of what Newall, Shaw and Simon (1958) called the problem-solving protocols and has been used extensively in management studies.(Cyert et al 1956, Mintzberg et al 1976) Clarkson (1962), in his effort to predict trust officer investment decisions, used this approach very successfully.

The second way of determining the assumption set was the indirect method used in public opinion polling, market research, and cognitively oriented psychology. Participants made a large number of independent choices and these data were analyzed via factor analysis or multi-dimensional scaling to determine the underlying attributes or dimensions of the positive choice objects. Wilcox' indirect approach was

similar to the factor analysis and similarity coefficient approaches used here to search for complex plan logic.

## SUMMARY

This chapter reviewed the background literature relevant to the problems of describing and evaluating strategic business plan content. Normative plan content models suggested that plan content should convey a logical and consistent association between the assumptions about the organization's environment and planned or proposed strategies and actions to address these assumptions. Implied in this model of plan logic was a two step process of identifying these assumptions and proposing strategies based on these. This chapter also included a review of business research on the consequences of specific assumptions for organization strategies. Selected results of this research were summarized as the expected plan content model used in this study. Literature suggesting that this model was not adequate was also reviewed. Various authors have argued that bivariate-based models are too simple for describing a complex subject such as strategy setting; that the implied process model is neither used nor is it the only appropriate planning process; and, that efforts to model the strategy setting process and predict strategic content must focus on strategic assumption development, not strategy selection. Two alternate techniques were reviewed for studying assumption sets. This study relies on indirect rather than direct methods for identifying underlying strategic logic.

# CHAPTER III

## STUDY METHOD

This chapter includes an overview and description of the methods used to gather and analyze data about the strategic planning logic used at Fast Delta Corporation. The two primary data sources were the actual content of The Corporation business plans and the questionnaires on strategic planning completed by Fast Delta Corporation managers. The rationale for the data sources and statistical tests chosen is presented in the "Overview of Method" (p.40). A flow chart summarizing the study procedure is shown in Figure 8 (p.41). The remainder of the chapter provides a more detailed description of each data collection and analysis step.

## OVERVIEW OF METHOD

The preliminary technique used to evaluate the Fast Delta Corporation business planning content was a goodness of fit test of actual Corporation plan content against the expected content model. The model, shown as a matrix in Figure 1 (p. 6), associates certain actions with certain assumptions in a strategic plan. If a condition assumption is present, certain action plans should also be present. Each business unit plan was checked for the presence of the condition and action pairs shown in Figure 1 (p. 6). The reasons behind the results of this comparison between expected and actual plan content may

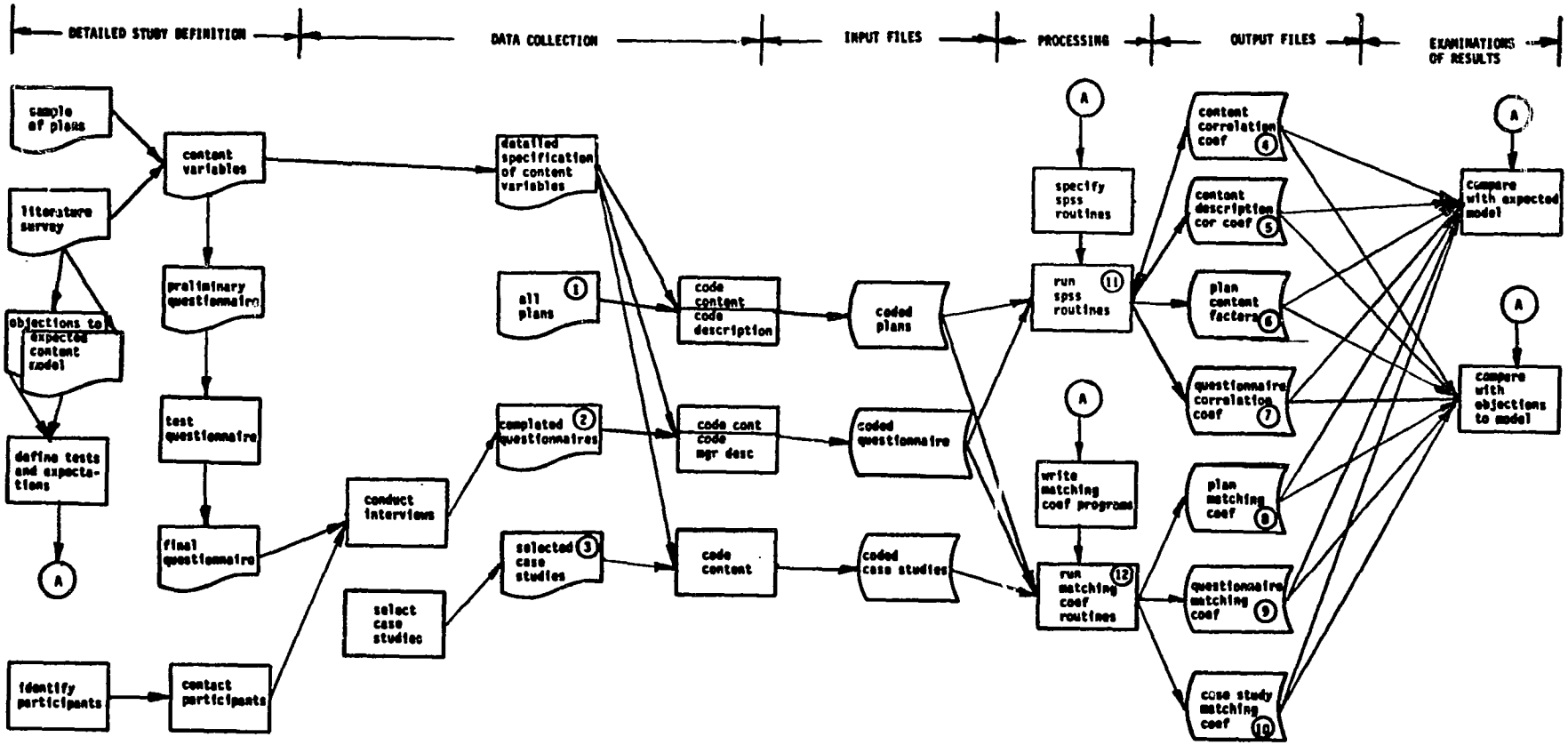



Figure 8. Flow Chart Summarizing Study Method. This flow chart describes the functional steps in this study process. Major steps were study definition, data collection, input file development, data analysis, output file development, and examination of results. The two major data sources were Fast Delta Corporation plans (1) and managers' completed questionnaires (2). A third data source was business strategy case studies (3). Output files containing the results of statistical routines are shown as (4) - (10). The two sources for statistical routines were the SPSS package (11) (Nie et al 1974) and BASIC routines shown in Appendix C (p. ).

be identified with further analysis. This further analysis, based on objections to the expected content model discussed in Chapter II (p. 29 ) may suggest both a modified model and content evaluation methods based on this modified model.

Description of this process is discussed in "Model Comparison" (p. 45 ) and the results are discussed in Chapter IV, "Goodness of Fit Test" (p. 65 ).

Objections to the Expected Content Model Based on its Simplicity

Because strategy may be more complicated than simply paired conditions and action plans, two other tests for consistent association of conditions with actions were developed:

1) The first was a test of similarity among strategic plans listing the same condition of business. Even if strategy were more complex than paired association between a condition and an action, plans which agreed on the presence of a condition should agree more on proposed actions than plans which did not agree on the presence of this same condition. Development of this similarity measure is discussed in the second section of Chapter III, "Corporate Consistency" (p. 49). The results are discussed in the second section of Chapter IV (p. 68).

2) The second was a factor analysis test. Factor analysis of plan content was used to explore for more complex associations among variables describing plan content. If the expected content model is correct, factors identified should consist of the paired associations among variables as shown in Table I (p. 7). This approach is discussed in "Factor Analysis", (p. 52). The results are discussed in the third section of Chapter IV (p. 71).

The discussion in Chapter II suggested several reasons why these expected pairs of condition and action variables may not be found. These included constraints imposed by the operating context of planning, and constraints imposed by the organizational context. The fourth and fifth sections of Chapter III and Chapter IV examine the influence of operating context. The sixth and seventh sections of Chapter III and Chapter IV examine the influence on plan content of organizational constraints.

Objections to the Expected Content Model based on Operating Context

Two approaches were used to study the influence of operating context or current activities on strategic plan content:

1) Information about the plans other than content was collected. This information included the year the plan was written and recent performance history and performance forecasts for the strategic business unit. Content variables were checked for significant association with these non-content descriptors.

2) Corporation managers were asked to participate in an experiment. A two part questionnaire was distributed to managers who had participated in the formal business planning process the previous year. In part A of the questionnaire managers were asked to develop action plans when a set of condition assumptions was provided. In part B, managers were asked to develop an assumption set when an action plan was provided. Questionnaire responses were coded and analyzed using the same procedures as those used for analyzing plans. One would expect the results from part A to match the expected results predicted by the expected content model. If the results from part B were more similar to

the results of the formal plan content analysis, one would expect that current activities played a significant role in determining formal strategic plan content. The fourth section of Chapter III, "Non-Content Descriptors" (p.53) discusses the method for gathering data on the non-content characteristics of plans. The result of this analysis is discussed in the fourth section of Chapter IV, (p.75). The development of the planning exercise and questionnaire, procedure, and analysis is discussed in the fifth section of Chapter III, "Planning Exercise", (p. 55) and the results are discussed in "Planning Exercise", Chapter IV, (p. 79).

Objections to the Expected Content Model based on Organizational Content

If organizational factors affect plan content, there should be more similarity in strategic content among Corporation plans than among the strategic plans of businesses from different companies. Case studies in strategic planning were substituted for actual strategic plans since data from plans of different companies would be difficult to collect. The similarity measure discussed above was applied to data on the content of these case studies and the results were compared with similarity coefficients from Corporation formal plans. This process is described in "Relative Corporate Consistency", Chapter III, (p.59), and the results are discussed in the sixth section of Chapter IV, (p.82).

Discussion in Chapter II suggested that if organizational constraints affect strategic planning logic, individuals with longer length of service and higher organizational position should agree with each other more in strategic perspective. On the other hand if functional training determined strategic perspective, content variables

selected in the planning experiment should be closely associated with professional background of planners. Agreement should be higher within similar professional groups than between these groups.

Method for gathering and analyzing data on the individual characteristics of managers who participated in the planning experiment, for comparing individual planning experiment response with professional characteristics and for developing agreement measures within similar groups is discussed in the last section of Chapter III (p.61). Results are discussed in the last section of Chapter IV (p.87).

## MODEL COMPARISON: EXPECTED CONTENT VS ACTUAL STRATEGIC PLAN CONTENT

Steps in comparing the Fast Delta Corporation business plan content with the expected content model included:

1) the development of an expected content model. This included the selection and definition of the variables shown in Table I (p. 7) as the expected content model and the identification of expected relationships between these content variables as shown in Figure 1 (p. 6).

2) coding business unit plans for the presence of these variables

3) identification of significant joint frequencies of condition and action variables

4) comparison of significant joint frequencies found in Corporation strategic business plans with expected pairs of conditions and actions suggested by the expected content model.

### Variable Selection

The list of conditions and action descriptors suggested in the

expected content model is shown in Table I. (p. 7) Criteria for the variables selected to describe plan content were:

1) Variable was suggested as important or relevant by one or more references from business literature review above.

2) Variable frequently appeared in a preliminary study of seven business plans from three business units within Fast Delta Corporation. In this preliminary study, key topics, issues, areas of concern, and proposed actions were listed and organized under such categories as market position, market characteristics, objectives, business strengths, actions impacting financial position, marketing actions, and engineering actions.

3) Variable contributed to relative "completeness" in describing business strategy. While it was clearly impossible to describe all possible business assumptions and action plans using a combination of statements, this list was selected as a best effort to cover these alternatives as completely as possible.

4) Variable was easy to detect as "present". Because only assumptions and actions which could be coded as definitely present in the document were included, only very specific statements of conditions, objectives, and strategies were chosen. This proved particularly limiting in the selection of strategies (see v18-v27). Strategies were usually stated in either a very general or global way or else in a way unique to the particular business. For this reason, what frequently appeared as a "strategy package" was described as a combination of fairly specific action plans which could be coded as "present" or proposed in the plan.

This criterion was especially important in order to address the potential effects of researcher bias in coding business plan content and in order to assure that the experiment could be duplicated with comparable results in other firms.

Seventeen variables describing conditions were selected (v1-v17). Ten variables describing strategies were selected (v18-v27).

Variable Coding

One-hundred-nineteen formal business plans were examined and coded for the presence of the variables described in Table I (p. 7). These plans represented 100% of the formal plans produced through the formal planning process over a six-year period. These plans ranged from three to almost 100 pages in length but generally followed the format described in Chapter I (p.20). Each plan described a single business, as that business was conceived in the plan year. During the study period The Corporation was organized into an average of 20 businesses but the specific businesses and the number of businesses varied from year to year. In few cases was it possible to trace longitudinally a business during the entire six years.

A variable was coded as present only if an explicit statement matching the variable description appeared in the document.

Appendix B (p.125) offers an example of the coding process. Included in Appendix B is the management summary from a real business plan. In this study, the entire plan was examined, not just the management summary. Inclusion of the summary is intended to substitute for the more lengthy business plan while still providing some insight into the coding process. The summary is censored for confidentiality.

Key items are underlined. The underlined items are then coded on the data collection form.

As ambiguities became apparent, variables were more closely defined and new coding conventions were added so that further coding was consistent. For example, even a fairly explicit variable such as high market growth rate or market growth rate over 20%/year (v1) appeared ambiguous when it wasn't clear whether the growth rate was stated in real or inflated dollars. Coding convention was revised so that growth rates were assumed to be in real terms unless otherwise stated and inflation was assumed at 8%/year unless otherwise stated.

The practice of coding simple presence of a variable limited the types of interpretation that can be made from this data in two ways:

1) While presence of a variable means that the condition, objective or action plan is explicitly stated, absence may mean that the opposite is true, that the particular variable is not mentioned, or that the particular variable was mentioned but discounted explicitly as being irrelevant to the actions taken or planned.

2) There is no time frame associated with the coding of the presence of a variable. It is therefore impossible to distinguish long-term strategies, objectives or changes in conditions. This limitation in variable coding required some additional coding conventions. For example, if the proposed strategy is "we will do a and after 3 years, we will do b", both a and b were coded as present unless some condition(s) were stated as triggering conditions for implementing b.

Data Tabulation

Data collected on the occurrence of variables 1-27 were tabulated

for frequency and conditional frequency using the SPSS crosstabs program.(Nie et al 1975, 218)

Data Analysis

For each data set, the chi-square statistic was used to identify significantly related paired associations between conditions (v1-v17) and actions (v18-v27). (Mendenhall 1975, 284) Those joint frequencies for Chi-square with $a<.1$ were selected as significant and an SPSS computed $\phi$ statistic was examined for these joint frequencies. $\phi$ statistic measures strength of relationship and approaches 0 if the relationship appears significant due to chance. (Nie et al 1975, 224)

## CORPORATE CONSISTENCY: CONTENT SIMILARITY AMONG BUSINESS PLANS

Rationale for Similarity Coefficient Calculation

The following similarity test addresses the objection raised in Chapter II: analysis of paired associations among condition-strategy sets doesn't capture the complexity of strategic plan logic.

The similarity test used was called a coefficient of relationships, matching coeffient, or coefficient of asscciation. This coefficient measures resemblance or similarity among selected pairs of entities. In this test, resemblance of strategies is measured among those plans which share common condition variables. Resemblance among condition sets is measured for plans which propose the same actions.

If the model is correct, plans which share the same condition set should be more similar than those which don't. The most significant condition variables in planning actions should show the most similarity among the action sets of plans which include this condition. The

similarity coefficient for the most significant condition variables should be lowest when similarity of action sets is measured for plans which don't agree on the presence of these condition variables. The expected content model shows the most actions positively associated with market growth rate and growth objective (v2, v7). These variables are expected to show the most difference in similarity coefficients between the pairs of plans which agree on the presence of these conditions and those which don't agree.

A key assumption in the expected content model is that conditions serve as the planning premises for proposing actions. The similarity measure can also be used to examine the first objection to this model: since current activities play a dominant role in developing actions, actions serve as the premises on which assumptions about conditions are developed. Similarity coeffients measuring condition set similarity among plans which agree on a particular action can be compared with similarity coefficents measuring action set agreement for condition variables. If commitment to a particular action is the basis for plan content, similarity coefficents measuring the condition set similarity should be higher.

Similarity Coefficient Calculation

Several different coefficients of similarity have been developed for different applications. All are based on a pairwise comparison of cases. Each case is compared with every other case along a number of variables or characteristics.

In this test, cases can only be called similar with respect to a particular variable (v1-v27) when they agree on its presence. In

addition, there is no reason to weight positively matched pairs any differently than other pairs. The similarity coefficient which meets these criteria is the Coefficient of Jaccard (Sneath) which Sokol and Sneath (1963, 196) argue is the most promising for most taxonomic work. The Coefficient of Jaccard expresses similarity as the proportion of positive matches relative to all potential matches. Or,

$$Sj = Njk / (Njk + U)$$

where Njk is positive matches and U is all unmatched.

In order to facilitate comparison of similarity coefficients among data sets, Sj is further expressed relative to average the average frequency with which variables in the character set appeared. Or,

$$Sj(p) = Njk / (Njk + U) * F$$

where

$$F = P / n * m$$

where n=number of characters, m=number of cases, P=number of positive responses.

BASIC programs which selected and compared cases which agreed on the presence of a particular variable (v1-v27 above) and calculated similarity coeffients for the response set associated with that variable are shown in Appendix A (p.123). Similar programs were used to calculate both "agreement scores" and "disagreement scores". The "agreement score" for a premise variable is the similarity coefficient calculated for those plans which agreed on the presence of this premise variable. The "disagreement score" for a premise variable is the similarity coefficient for those plans which disagreed on the presence of this premise variable.

## FACTOR ANALYSIS: IDENTIFYING COMPLEX COMPONENTS OF STRATEGY

A general assumption behind the expected content model is that strategy setting is based on a consistent association among key variables. The expected content model is more specific in that it proposes the consistent association between pairs of variables, one of which is a condition and the other an action. Factor analysis is used as an exploratory model building tool to identify other possibly stronger associations among variables which aren't pairwise and don't depend on a distinction between conditions and actions. (Rummel 1976)

If the expected content model is correct, the variables clustered on a particular factor should reflect the matrix shown in Figure 1 (p. 6). More complex clusters of variables on a particular factor would indicate a more complex approach to strategy formulation.

Because factor analysis is intended here as a technique for clustering variables rather than for fitting a linear model, factor analysis could be applied to raw data which was nominal (0 or 1 indicating either presence or absence of a character). Joint frequencies calculated earlier using the SPSS crosstabs program were substituted for correlation coefficient, and the matrix of joint frequencies was submitted in SPSS matrix format to the SPSS factor routine. PA1 factor routine (makes no assumptions about data structure) and varimax rotation (simplifies factor matrix columns) were used. (Nie et al 1975) This factor analysis application is not dissimilar to the clustering application of factor analysis discussed by Sokol and Sneath. (1963) They suggest that factor loading results be interpreted as the

higher the factor loading, the more typical the variable of the factor.

## NON-CONTENT DESCRIPTORS OF CORPORATE PLANS

If plan content were heavily influenced by the short-term operating context in which planning takes place, one would expect a close association between plan year, past performance and short-term forecasts, and the presence of variables describing content. One would expect an especially close relationship between plan year and plan content if short-term corporate-wide concerns dominated the planning process. If short-term business unit operating concerns were dominant, one would expect that recent performance and short term forecasts would be closely associated with content variables.

Seven additional variables were selected to describe the formal plans. These variables are summarized in Table II (p.54). Variables, v29-v34 describe past performance and forecast performance for sales growth and profitability. These variables were introduced in order to check whether recent performance or plan objectives contributed to variations in plan content. These performance measures and objectives were included in all plans, although plans from the first year that the business was organized as a business unit typically did not include data on past performance (v29,v30). Because the specific measures of past and forecast growth and past and forecast profitability varied from year to year, business plans were ranked relative to other business plans for the same year and coded as follows:

1 high growth or profitability (top fifth of businesses for that year)

TABLE II

SUMMARY OF NON-CONTENT VARIABLES DESCRIBING PLANS

| NAME | DESCRIPTION | EXAMPLE |
|---|---|---|
| v28 | year in which plan was prepared | year 1 - year 6 |
| v29 | past year per cent change in net sales level | +11% change: below average |
| v30 | next year forecast per cent change in net sales level | +15% change: below average |
| v31 | 5 year forecast average per cent annual change in net sales level | +10% change: below average |
| v32 | past year income as a per cent of net sales | +9.9%: average income |
| v33 | next year forecast income as a per cent of net sales | +10.5%: average income |
| v34 | income as a per cent of net sales in fifth year of plan | +11.4%: average income |

2 above average growth or profitability (2nd fifth of businesses for that year)

3 average growth or profitability (middle fifth of businesses for that year)

4 below average growth or profitability (4th fifth of businesses for that year)

5 lowest growth or profitability (bottom fifth of businesses for that year)

The SPSS crosstabs program was used to tabulate the joint frequency with which each content variable appeared with each of the six plan years and with each of the five rankings of the seven variables describing past and forecast performance. As in the previous section, SPSS-computed tests for significance and strength of relationship were used. Chi-square test was used as a test of significance. Cramer's V test was used to determine strength of significant relationships. Cramer's V is based on the $\phi$ test described earlier and adjusts for tables larger than 2x2. (Nie et al 1975, 224)

## PLANNING EXERCISE: PLANNING PROCESS VS PLANNING LOGIC

The intent behind involving Fast Delta Corporation managers in this planning exercise was to compare the content of plans developed using two different processes. The first process is that implied by the expected content model. The second is dependent on manager commitment to current activities. Results of this experiment were compared with both the expected content model and with actual formal plan content. In addition, data collected on the professional backgrounds of managers allowed further analysis of the organizational constraints imposed on

planning logic.

Planning Exercise Participants

Business unit general managers, functional managers and staff directly reporting to business unit managers typically participate in the business planning process. Therefore, these managers were selected for participation in this exercise. These managers were identified through the corporate roster. Approximately 80% of this study population was asked to complete two exercises in planning and to answer three questions about their professional background and position. The reasons the remaining 20% were not asked to complete the questionnaire are discussed in a following section (p. 57 ).

Questionnaire Development: Part A and Part B

A preliminary questionnaire asking managers to plan using two different processes was developed and tested on five managers. Because responses to the exercise requiring that managers ignore the normative process could not be coded using condition variables 1-17, this portion of the questionnaire was revised to require more specific answers.

A sample of the final questionnaire is shown in Appendix D (p.140).

In the first exercise, part A, respondents were provided with a description of a hypothetical business' current conditions. The case study could be characterized as the presence of high market growth rate, low relative market share, profit growth objective, market share growth objective, design skill strength, and high quality products (v1, v3, v6,v7,v11,v14, see Table I, p. 7.) Variables were chosen in order to

create a realistic case and in order to test the expected content model.

Respondents were asked to suggest appropriate action strategies which matched these conditions. If the expected content model were relevant to managers' planning logic most participants should respond with the same action suggestions: to increase productivity, increase marketing effort, increase product quality, market new products to current markets, or divest (v18, v19, v21, v23, v25, v27, see Table I, p. 7 ).

In part B, respondents were provided with an arbitrary set of action strategies and asked to suggest the conditions under which this action set might be successful. The strategy was characterized as the presence of actions to increase productivity, market new products to current markets and market new products to new markets. ( v18, v23, v25, see Table I, p. 7.) The expected content model suggests that some condition variables (v1, v2, v3, v6, v7, v8, v9, v10, v11) should be paired with these action variables. However, since the process required to complete part B is backwards from the normative process, responses should show little pattern compared to the responses to part A. Part C is discussed in the last section of Chapter III (p.62 ) and requests information about participant background. Response format in parts A and B was open-ended but response time for all parts was limited to ten minutes.

Administering Questionnaires

Participants were asked individually or during business unit staff meetings to participate in this study. All those who were asked completed the questionnaire. The questionnaire was administered to

participants individually or in small groups of less than five managers. In order to provide some individual anonymity, questionnaires were identified by group (business unit) code only. The managers who did not complete questionnaires were those who were absent from the staff meeting on the day questionnaires were distributed or those who proved unreachable by phone after several tries. Managers from each of the Fast Delta Corporation business units were included in this study. Participants who completed the questionnaire in small groups completed it without discussion among each other. All participants completed the questionnaire within ten minutes.

Coding Questionnaire Responses

Case study content and participants' responses were coded for the presence of strategic content variables using the coding method described in the first section of Chapter III,(p. 45 ). In part A, case study condition variables were coded as presence of v1,v3,v6,v7,v11, and v14, and participants' responses were coded for v18-v27. In part B, participants' responses were coded for v1-v17, and case study-specified action variables were coded as presence of v18,v23,v25.

In some cases participants requested additional information. These requests were noted separately. For example, in part A, participants sometimes requested more information about overall technological position. Other participants indirectly requested more information by making action plans conditional on the presence of some condition variable which had not been addressed in the case study. Coding difficulties were similar to those encountered in coding plans.

Responses which could not be matched with variables were ignored.

If a response overlapped two variables both variables were coded as present.

Appendix D (p. 140) includes an example of a completed questionnaire and coding for this response.

Analysis of Questionnaire Results

SPSS crosstabs programs were used to summarize the frequency with which each variable appeared in each part of the questionnaire. Chi-square statistic was used to indicate significant joint frequencies and Cramers V was used to indicate strength of relationship for those joint frequencies for chi-square with $a<.1$.

## RELATIVE CORPORATE CONSISTENCY: COMPARISON OF FORMAL PLAN CONTENT VS BUSINESS CASE STUDY CONTENT

Comparison of formal plan content with the strategic logic evidenced in case studies allows the identification of the degree of constraint imposed on plan logic by The Corporation. If Fast Delta Corporation were completely diversified, there should be no difference in similarity coefficients between plans from the same company and plans from a variety of different companies.

Case Study Selection

Data describing the coincidence of assumptions about conditions with actions taken or action plans were collected from business strategy case studies. A sample of 105 case studies was collected from the business strategy sections of Business Week and Electronic Business. These case studies represent nearly 100% of the case studies presented

in Electronic Business during 1977-1979 which were longer than about 800-1000 words. Case studies from Business Week represented about 70% of case studies printed in 1978-1979 which dealt with industrial products manufacturing companies. See Appendix E (p.146) for case study references.

Differences Between Case Studies and Formal Plans

It was expected that case studies from popular magazines would differ from Corporation business plans. First, the case studies were shorter. Second, case studies were written for a different purpose and for a different audience than the purpose and audience for the Corporation business plans. Generally, the case studies were intended to illustrate a business success story. Because the audience for case studies was the public, key variables may have been omitted. Finally, the case studies described assumptions which proved correct and actions which were taken rather than tentative assumptions and planned actions.

Similarity Coefficient Calculation

Data from these sources were coded using the same procedures as described in the previous sections. Appendix E (p. 146) also includes the results of this coding process. Similar difficulties were encountered. The same similarity calculations described previously were performed with data describing case studies. Similar BASIC programs were used. (See Appendix C, p.128.)

## PLANNING EXERCISE: PLANNING LOGIC AND MANAGERS' PROFESSIONAL CHARACTERISTICS

The expected content model does not deal with differences in strategic logic based on organizational experience or organizational culture and processes. Objections to the expected content model suggest that this makes the model less useful. Relationships identified between the manager professional characteristics collected in part C of the questionnaire and the strategic logic identified in parts A and B could throw some light on the deviations of strategic plan content from the expected content model.

As in the examination of strategic plan content, managers' responses were examined in two alternative ways. First, significant joint frequencies between variables describing the strategic content of managers' responses and variables describing the managers' professional characteristics were identified. Second, similarity among groups of managers with respect to strategic logic was examined.

If the expected content model described the strategic logic used by Corporation managers, there should be no significant association between content and professional characteristics. Similarity should be higher in part A than in part B, and there should be no differences in similarity between groups. Discussion of objections to this model suggests that: either similarity should be higher with longer length of service and with higher management level; similarity should be higher within professional groups; and/or similarity should be higher in part B than in part A. In addition, significant joint frequencies of professional characteristics and content variables should occur.

Part C of the questionnaire submitted to participants asked managers to supply the following information on their professional background: length of service, training, and management level. Questionnaire format for Part C was multiple choice with choices intended to develop three approximately equal groupings of managers for each of the three questions. Response categories and coding are shown in Table III (p. 63).

SPSS crosstabs program was used to tabulate joint frequencies of each category with the 27 plan content variables characterizing managers' answers to parts A and B. Significance and strength of relationship were calculated using the SPSS Chi-square and Cramers V tests as described in previous sections.

Similarity coefficients for parts A and B were also calculated for each of the nine subgroups of managers identified through part C. BASIC programs similar to those used above to calculate similarity coefficients are shown in Appendix C, (p. 128)

## SUMMARY

This chapter discussed the methods used in this study. Preliminary steps included the selection and definition of content variables and the development of an expected content model. Fast Delta Corporation strategic business plans were coded for presence of content variables and compared against content expectations. Matching coefficient and factor analyses were also used to examine plan content. Other tests used to explore planning process and content in the study firm were aimed at examining the impact of planning process and

TABLE III

VARIABLES USED TO DESCRIBE PROFESSIONAL EXPERIENCE OF QUESTIONNAIRE RESPONDENTS

| NAME | DESCRIPTION | EXAMPLE |
|---|---|---|
| v35 | Length of Service at The Corporation | 1 less than 8 years<br>2 8 - 15 years<br>3 more than 15 years |
| v36 | Primary Functional Background | 1 engineering<br>2 manufacturing<br>3 marketing<br>4 general business<br>5 other |
| v37 | Management Level | 1 general manager<br>2 functional manager<br>3 other (staff) |

organizational constraints on content. These tests included comparison of plan content with other plan characteristics, comparison of plan content with the strategy content of business case studies and examination of the results of interviews with Fast Delta Corporation managers. Interview format consisted of a questionnaire which asked managers to plan business strategy using two different processes. The content results of each process were compared with the expected plan content model. Planning exercise content and manager background were also compared using correlation coefficient and matching coefficient analysis.

# CHAPTER IV

# RESULTS

## GOODNESS OF FIT TEST: EXPECTED CONTENT MODEL VS ACTUAL PLAN CONTENT

Significant paired relationships among variables describing assumptions and actions in Fast Delta Corporation formal plans are shown in Table IV (p.66). The expected content model predicted that certain pairs of action and assumption variables should be present in the business unit plans. Table IV is divided into a list of those variables which were present as predicted by the model and those pairs of variables which were identified as strongly associated but were not predicted by the model. Table IV also includes discussion of individual pairs of variables. Alternative explanations for the absence of some variable pairs and the presence of others are discussed in following sections.

Of the 28 significant joint frequencies predicted by the model, this approach checked for only 17. Only significant joint frequencies for variables occurring with more than 15% frequency were checked for. The 15% frequency cut-off was chosen to compensate for relatively small sample size and very low joint frequencies for pairs where variables occurred less than 15% of the time. This meant that even though product high contribution margin and actions to increase vertical integration, market new products to new markets, change market structure, and divest

TABLE IV

SUMMARY OF CONTENT VARIABLE PAIRS WITH SIGNIFICANT JOINT FREQUENCIES

EXPECTED - BASED ON BASIC MODEL

| NAME | $\chi^2$ | $\phi$ | DISCUSSION |
|---|---|---|---|
| v1-v23 | .05 | .20 | expected |
| v2-v21 | .07 | .19 | expected |
| v7-v21 | .02 | .24 | expected |
| v12-v22 | .01 | .28 | expected |

NOT EXPECTED - BASED ON BASIC MODEL

| NAME | $\chi^2$ | $\phi$ | DISCUSSION |
|---|---|---|---|
| v14-v19 | .06 | .19 | Competitors' technological strength and action to increase marketing effort. Suggests competing in another dimension in order to avoid "trying to beat competitor at his own game." |
| v1-v22 | .01 | .28 | Fast growing market and action proposal to market current products to new markets occur together more frequently than expected. This may have occurred because plan format requires that plans describe future markets rather than current market. Thus, in plans, the fast growing market is the new market toward which current products will be aimed. This is consistent with Boston Consulting Group Advice. (Hedley 1976) |

TABLE IV (CONTINUED)

NOT EXPECTED - BASED ON BASIC MODEL

| NAME | $\chi^2$ | $\phi$ | DISCUSSION |
|---|---|---|---|
| v8-v21 | .02 | .23 | Assumption of technology strength occurs more frequently than expected with action strategy to increase quality. |
| v8-v22 | .00 | .30 | Assumption of major technology strength occurs more frequently with action to market current products to new markets. |

(v17, v20, v25, v26, and v27) were coded, this analysis did not address expected pairs which included these variables. Of the 17 remaining expected joint frequencies, four actually appeared and four other significant joint frequencies which were not expected appeared.

The results of chi-square and $\phi$ tests for significant and strongly related variable pairs are also shown in Table IV (p. 66 ).

Missing expected variable pairs were spread throughout the matrix of expected pairs (See Figure 1, p. 6). Associations with absolute and relative market share(v2 and v3), profit objective (v6) and with product characteristics (v13-v16) were not present as expected. The unexpected pairs related to the assumption of technology strength (v8).

## CORPORATE CONSISTENCY: SIMILARITY COEFFICIENTS FOR CORPORATION PLANS

This section discusses test results of corporation plans for association between a premise variable and a package of resultant variables.

Table V (p.69) shows the agreement score (similarity coefficient for plans which agree on a premise variable) and disagreement score (similarity coefficient for plans which don't agree on a premise variable) for each variable. Table VI (p.70) groups variables by relative difference in similarity coefficient. Although all similarity coefficients were higher under agreement on the presence of the premise variable, differences between agreement and disagreement were not very large. Only five of 14 showed differences of more than 10%. None showed a difference larger than 20%. Only three of five condition similarity coefficients showed differences larger than 10% and none

TABLE V

COMPARISON OF SIMILARITY COEFFICIENTS UNDER AGREEMENT AND DISAGREEMENT FOR CONDITION AND FOR ACTION VARIABLES FOR FORMAL PLANS

| NAME | AGREE | DISAGREE |
|---|---|---|
| v1 | .437 | .378 |
| v2 | .396 | .363 |
| v3 | .378 | .367 |
| v4 | .404 | .356 |
| v5 | .411 | .351 |
| v6 | .400 | .367 |
| v7 | .357 | .363 |
| v8 | .415 | .359 |
| v9 | .385 | .355 |
| v11 | .319 | .351 |
| v12 | .393 | .378 |
| v14 | .374 | .370 |
| v15 | .381 | .367 |
| v16 | .430 | .378 |
| (Average frequency of actions = .27) | | |
| v18 | .535 | .506 |
| v19 | .496 | .499 |
| v21 | .569 | .501 |
| v22 | .647 | .538 |
| v23 | .577 | .504 |
| v24 | .506 | .499 |
| (Average frequency of conditions = .39) | | |

TABLE VI

SUMMARY OF RELATIVE AGREEMENT-DISGREEMENT SCORE DIFFERENCES

| RELATIVE DIFFERENCE | NAME |
|---|---|
| variables showing 20% difference | -- |
| variables showing 10-20% difference | v1,v4,v5, v8,v16,v21 v22,v23 |
| variables showing less than 10% difference | v2,v3,v6, v7,v9,v11 v12,v14,v15 v18,v19,v24 |

showed differences larger than 20%.

While this approach suggested that some variables were more important than others in predicting action set, broad product line strength (v16) did not appear as a significant variable in the expected content model and did appear as a significant variable in this test of the formal plans. High market share and action to broaden line to current market (v2 and v24) were expected to show larger relative differences in similarity and showed no differences instead. Actions to increase perceived product quality, market current products to new segments and market new products to current segments (v21, v22, v23) were expected to show larger relative differences and instead ranged only 10-20% difference.

## STRATEGIC FACTORS: FACTOR ANALYSIS OF PLAN CONTENT

Factor analysis was used to detect other patterns in the strategic content of plans which didn't conform to the expected content model.

Nine factors accounted for nearly 90% of the variation in the sample. Table VII (see p.72) summarizes the factors including eigen values, percentage of variance explained, and variables associated with each factor. Figure 9 (p. 73) shows the relationship between the expected content model and the results of the factor analysis. Significant paired associations are marked if two variables appeared heavily loaded on the same factor. Only eight of the expected 28 relationships appeared and many more unexpected associations are identified. Two of the major factors identified include condition assumptions only.

TABLE VII

RESULTS OF FACTOR ANALYSIS OF PLAN CONTENT

| FAC | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|
| EIG | 12.3 | 2.0 | 1.8 | 1.6 | 1.4 | 1.3 | 1.2 | 1.0 | |
| VAR | 45.5 | 7.4 | 6.5 | 6.1 | 5.8 | 5.3 | 4.9 | 4.5 | 3.7 |
| V | | | | | | | | | |
| 1 | .02 | .12 | .25 | .45 | .12 | .49 | .17 | .02 | .00 |
| 2 | .43 | .70 | .18 | -.03 | .22 | .29 | .15 | .16 | .27 |
| 3 | .20 | .09 | .42 | -.11 | .20 | .29 | .03 | .10 | .71 |
| 4 | .30 | .48 | .24 | .67 | .28 | .14 | .21 | .19 | .13 |
| 5 | .42 | .30 | .37 | .34 | .20 | .23 | .43 | .29 | .16 |
| 6 | .40 | .51 | -.13 | .07 | .18 | .20 | .08 | .36 | .36 |
| 7 | .11 | -.00 | .47 | .46 | .32 | .10 | .44 | .23 | .35 |
| 8 | .19 | .24 | .11 | .26 | .34 | .45 | .60 | .18 | .24 |
| 9 | .43 | .29 | .55 | -.02 | .33 | .24 | .27 | .53 | -.09 |
| 10 | .14 | .11 | .10 | .07 | .08 | .06 | .09 | .07 | .09 |
| 11 | .17 | .05 | -.09 | .31 | .10 | .02 | .22 | .12 | .84 |
| 12 | .19 | .25 | .09 | .25 | .16 | .46 | .68 | .01 | -.09 |
| 13 | -.00 | .07 | .13 | .04 | -.03 | -.01 | 1.0 | .03 | .18 |
| 14 | .35 | .40 | .29 | .15 | .45 | .43 | -.01 | -.05 | .19 |
| 15 | .07 | .22 | .20 | .46 | .29 | .30 | .08 | .45 | .09 |
| 16 | .09 | .49 | .24 | -.14 | .07 | .47 | .08 | .38 | .15 |
| 17 | .01 | 1.0 | .08 | .20 | .02 | -.02 | .15 | .00 | -.07 |
| 18 | .53 | .18 | .22 | .04 | .25 | .11 | .04 | .49 | .09 |
| 19 | .27 | .03 | .25 | .31 | .78 | .07 | .01 | .17 | -.03 |
| 20 | .00 | .12 | .04 | -.02 | 1.0 | .15 | .13 | .07 | .25 |
| 21 | .73 | .06 | .23 | .22 | .04 | .47 | .04 | .05 | .04 |
| 22 | .20 | .04 | .08 | .23 | .14 | .90 | .15 | .02 | .15 |
| 23 | .23 | .11 | .68 | .20 | .12 | .12 | .11 | .32 | .02 |
| 24 | .89 | .11 | .13 | .06 | .09 | .01 | .09 | -.00 | .20 |
| 25 | .12 | .08 | .94 | .14 | .09 | .09 | .10 | -.06 | .06 |
| 26 | .09 | .03 | .11 | .91 | .04 | .17 | .11 | .12 | .11 |
| 27 | -.00 | .02 | .05 | .20 | .03 | -.05 | .04 | .99 | .13 |

ACTION VARIABLES

| CONDITION VARIABLES | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | F | F | B | | B | F | |
| 2 | B/F | | B | B/F | | B | F | B | | |
| 3 | B | B | | | | F | | B/F | | |
| 4 | | | | | | | | | F | |
| 5 | F | | | F | | F | F | F | | |
| 6 | B/F | | | B/F | | | F | | | B |
| 7 | | B/F | F | B | B | B/F | | B/F | F | |
| 8 | | F | F | F | F | B | | B | | |
| 9 | F | F | F | F | | B/F | B/F | F | | |
| 10 | | | | | | | | B | | |
| 11 | | | | | | B | | | | |
| 12 | | | | F | B/F | | | | | |
| 13 | | | | | | | | | | |
| 14 | F | F | F | B/F | | | F | | | |
| 15 | F | | | | B | | | | F | |
| 16 | F | | B | F | F | | | | | |
| 17 | | | | | | | B | | | |

Figure 8. Comparison of Factor Analysis Results with the Basic Model from Figure 1. (B) indicates a pair of condition - action variables expected from the basic model. (F) indicates variable pairs which appeared heavily loaded on the same factor. (B/F) indicates variable pairs which were both expected based on the basic model and identified through factor analysis.

While factor 2 and 7 (p.72) didn't include action variables, they do include profit and market share growth objectives (v6, v7). Six of the seven factors explaining the most variance included significant loadings on at least one of these variables describing objectives. Sarrazin's (1977) suggestion that objectives and forecasts are more important plan content than action proposals is in part supported.

Ideally, one would have expected each factor to consist of very few heavily loaded variables. Instead:

1) Most factors included more than a few heavily loaded variables. Factor 1 (p.72), for example, (45.5% of the variance), loaded heavily on the largest number of variables. It characterized a business with large market share and customer technological need as major market driver. Major objective was increased profit and strengths were market strength and product quality. Major actions were to decrease costs, increase quality, and broaden the product line. Rather than describing business planning principles, factor 1 and others appear as descriptive summaries of the types of business in which The Corporation participates.

2) Most condition variables loaded at or above .4000 on more than one factor. This suggests that variables studied here as simple content variables actually had more complex content for strategic planning purposes. For example, high market growth rate (v1) was almost equally loaded on factors 4 and 6 (p.72). Factors 4 and 6 shared no other common variables and "high market growth" appeared to have different implications for each factor.

## NON-CONTENT DESCRIPTORS: PLAN CHARACTERISTICS AND PLAN CONTENT

Table VIII (p.76) summarizes variables which were significantly correlated with plan year and performance. Criteria for inclusion in this chart was that variables appear with greater than 15% frequency over sample, and $a<.1$. 0 tests indicating strength of relationship ranged from .25 to .40.

Significant variable frequency changes with time exhibited two patterns. The first was that pattern characteristic of high product quality strength and action to increase marketing effort (v14 and v19). During the six-year period v14 and v19 appear at a significantly different frequency in one of the six years. This suggests either a one-time event such as a training program or a one-time corporate concern. Design skill strength and action to broaden product line to current market (v11 and v24) exhibited gradual changes in frequency over time in what was more likely a change consistent with the expected content model. V11 and v24 were predicted by the model to be closely associated and results here and in "Goodness of Fit Test" (p.65) confirm this. Profit growth objective (v6) was associated with plan year only. This suggests that profit objective statements were tied to short term corporate goals and concerns.

Table IX (p. 77) summarizes content variables which were significantly associated with past performance and performance forecasts included in the business unit plans.

Correlations of market growth rate, market share (v1, v2) with profitability and growth performance and forecasts were expected. The correlation of the growth objective (v7) with the five-year growth

TABLE VIII

CONTENT VARIABLES SIGNIFICANTLY ASSOCIATED WITH PLAN YEAR

| NAME | $\chi^2$ | V | DISCUSSION |
|---|---|---|---|
| v6 | .05 | .30 | The ratio of businesses listing this objective to those not listing changes dramatically from as high as 1:4 in one year to as low as 1:2.5 in other years. This objective (increase profit) appears closely tied to annual changes in financial objectives. |
| v11 | .01 | .36 | This highly significant correlation was based on a variation of from 5% to 50% of the businesses including design skill as a major strength. No one explanation is satisfactory since planners may have valued this quality more in some years, competitive position may have changed, business mix may have changed, or corporate values may have changed. |
| v14 | .05 | .30 | This significance score appears high because in one year, the number of businesses including this assumption (high product quality) was about one-third the average of other years. |
| v19 | .10 | .2[illegible] | This significance score appears high because in one year, action to increase marketing effort appeared in twice as many plans as in other years. This suggests a corporate-wide concern for market position. |
| v24 | .10 | .28 | The per cent of plans including this activity ranges from 28% to 62%. Broadening product line represents a comparatively conservative approach for this industry. Data pattern suggests that if more history was available, this variable may follow a cyclic pattern. |

TABLE IX

CONTENT VARIABLES SIGNIFICANTLY ASSOCIATED WITH PAST PERFORMANCE AND PERFORMANCE FORECASTS

| NAME | $\chi^2$ | V | DISCUSSION |
|---|---|---|---|
| v22-v29 | .08 | .30 | Past relative sales growth and proposed action to introduce a current product to a new market. Almost half of the plans proposing this action indicated previous year's growth at slightly above average. |
| v3-v30 | .03 | .33 | 1 year growth forecast and assumption that market was fragmented. More than a third of the plans including this assumption forecast above average growth the following year. However, a much smaller protion forecast very high growth. |
| v16-v30 | .03 | .24 | 1 year growth forecast and assumption that a broad product line provides a major business strength. More than a third of the plans including this assumption forecast slightly below average growth. |
| v22-v30 | .02 | .34 | 1 year growth forecast and action proposal to introduce current products to new markets. More than two-thirds of the plans including this proposal forecast above average or highest growth forecasts for the following year. |
| v1-v31 | .04 | .31 | 5 year growth forecast and assumption that market was growing at a rapid rate. More than half of the businesses including this assumption forecast slightly above average or highest growth over 5 years. |
| v7-v31 | .00 | .43 | 5 year growth forecast and major objective of market share growth. More than half of the businesses including this assumption in their plans forecast highest or above average growth over the five year period. |

TABLE IX (CONTINUED)

| NAME | $\chi^2$ | V | DISCUSSION |
|---|---|---|---|
| v2-v33 | .00 | .47 | 1 year profit forecast and the assumption of high market share. One third of the businesses indicating this market characteristic forecast above average profitability. Three-quarters forecast average to highest profitability. |
| v4-v33 | .00 | .42 | 1 year profit forecast and the assumption that competitors' technological pressure was a major market driver. Less than 10% of the businesses reporting this assumption forecast the highest profitability for the following year. |
| v21-v34 | .02 | .33 | profit forecast for the fifth year of the plan and action proposal to increase quality. Almost two-thirds of those businesses who planned to increase product quality forecast above average or or average profits for the fifth year of the plan. |
| v15-v34 | .12 | .27 | profit forecast for the fifth year of the plan and assumption that highly differentiated products provide a business strength. Almost three-quarters of the businesses indicating this also indicated above average profitability. |
| v16-v34 | .12 | .27 | profit forecast for the fifth year of the plan and assumption that a broad product line was a business strength. Almost half of the businesses indicating this assumption forecast above average profitability. |

forecast was also expected; although if forecasts were more key than content both profitability and growth objectives (v6, v7) should have been associated with more forecast measures. Because more variables were associated with five-year forecasts than with past performance, these results suggest that past performance was less relevant than forecast content to plan content. Of the 10 variables associated with forecasts, half were associated with short term forecasts and half were associated with long term forecasts. Of those variables associated with long-term forecasts, market related variables were associated with long-term growth forecasts and product related variables were associated with long-term profitability forecasts. This relationship was just reversed with respect to variables associated with short-term forecasts. Two of the three variables related to short-term growth were product strengths, and both variables related to short term profitability forecasts were market related variables.

## PLANNING EXERCISE: PLANNING PROCESS AND PLANNING LOGIC

Tables X (p. 80) and XI (p. 80) compare questionnaire responses with model and with plan results. The expected content model was predictive for part A results if one assumes as the Cyert and March (1963) organizational process model does that conditions or problems were ranked in significance and responded to sequentially in that order. These results suggested that most participants ranked market growth rate and market share growth objective (v1 and v7) as most important. The model suggested that v7 was associated with three of the top eight highest frequency responses. A model of expected response based on the

TABLE X

COMPARISON OF PART A RESULTS WITH BASIC MODEL AND WITH FORMAL PLAN RESULTS

| V | FREQUENCY OF RESPONSE | EXPECTED BASED ON BASIC MODEL | EXPECTED BASED ON FORMAL PLANS |
|---|---|---|---|
| 18 | 32% | v1,v3,v6 | v3 |
| 19 | 65% | v1,v3 | v7 |
| 20 | 11% | none | none |
| 21 | 27% | v6,v7,v14 | v7 |
| 22 | 49% | v7 | v1 |
| 23 | 40% | v1,v7 | v1,v7 |
| 24 | 11% | none | v11 |
| 25 | 27% | v1,v3,v7 | none |
| 26 | 13% | none | none |
| 27 | 5% | v3,v6 | none |

TABLE XI

COMPARISON OF PART B RESULTS WITH BASIC MODEL AND WITH FORMAL PLAN RESULTS

| V | FREQUENCY OF RESPONSE | EXPECTED BASED ON BASIC MODEL | EXPECTED BASED ON FORMAL PLANS |
|---|---|---|---|
| 1 | 36% | v23,v25 | v23 |
| 2 | 31% | v18,v23,v25 | none |
| 3 | 18% | v18,v25 | none |
| 4 | 10% | none | none |
| 6 | 29% | none | none |
| 7 | 13% | v23,v25 | v23 |
| 8 | 15% | v23,v25 | none |
| 9 | 44% | v23 | none |
| 10 | 41% | v25 | none |
| 11 | 16% | v23 | none |
| 14 | 11% | none | none |
| 17 | 52% | none | none |

analysis of actual business plan content associated market share growth objective (v7) with three of the top six. The expected content model associates market growth rate (v1) with four of the six highest frequency responses. A model based on actual business plan content associates two of the six highest frequency responses with v1. High relative market share (v3) also appears as a significant variable in that the model associates v3 with three of the highest frequency responses and one of the lowest. Few, however, responded as if profit objective (v6) were significant. The profit objective was also insignificant in the formal plan analysis.

One is left with the question, however, "what was the basis for the ranking of significant premises to planning?" Why did the growth objective (v7) appear significant and the profit objective (v6) ignored by most? The expected content model could not predict which variables would be ranked as most significant.

A model based on actual content of strategic business plans was more helpful than the expected content model in predicting the results of part A. As in the expected content model, market growth, relative market share, and market growth objective (v1, v3, and v7) were significantly associated with highest frequency responses. This suggests that the exercise offered in part A can produce results similar to those which appeared in the results of the formal strategic planning process. This means:

1) formal plans may be developed using the normative process model required in part A; and,

2) there was little difference between the content which resulted

from the formal process and that resulting from informal and individual exercise required in part A.

The results of part B suggest no such consistent pattern. Neither the expected content model nor a model based on actual plan content was predictive of the highest frequency response set in part B. The process of evaluating current activities did not generate results similar to either the expected content model or a content model based on actual plan content.

While the purpose of this experiment was to identify and compare strategic planning content under two different planning processes, these differences may have been obscured or distorted by a less effective premise set in part B. Informal participant comments suggested that this exercise was less strategic, less interesting, and more difficult. In part A, 17 of 40 participants added additional assumptions or wanted more information. In part B, only eight added alternative action proposals or wanted more information. Two suggested that the exercise was impossible and that the action proposal would be unsuccessful under any circumstances. In general, answers to part B consisted of fewer words. This may have been because the question was second and participants were operating under a time limit, or it may have been because participants found the question too simple and less strategically focussed.

## RELATIVE CORPORATE CONSISTENCY: SIMILARITY AMONG BUSINESS CASE STUDIES VS SIMILARITY AMONG FORMAL PLANS

Tables XII (p.83), XIII (p.84), and XIV (p.85) compare similarity

TABLE XII

COMPARISON OF SIMILARITY COEFFICIENTS UNDER AGREEMENT AND DISAGREEMENT FOR CONDITION VARIABLES BETWEEN FORMAL PLANS AND CASE STUDIES

| | BUSINESS PLANS | | CASE STUDIES | |
|---|---|---|---|---|
| NAME | Agree Score | Disagree Score | Agree Score | Disagree Score |
| 1 | .437 | .378 | .281 | .222 |
| 2 | .396 | .363 | .236 | .191 |
| 3 | .378 | .367 | .214 | .232 |
| 4 | .404 | .356 | .295 | .236 |
| 5 | .411 | .351 | .331 | .281 |
| 6 | .400 | .367 | .327 | .210 |
| 7 | .357 | .363 | .355 | .168 |
| 8 | .415 | .359 | .345 | .259 |
| 9 | .385 | .355 | .309 | .232 |
| 10 | .548* | .437* | .382 | .285 |
| 11 | .319 | .351 | .150 | .228 |
| 12 | .393 | .378 | 0** | .536** |
| 13 | .300* | .307* | .214 | .281 |
| 14 | .374 | .370 | .291 | .289 |
| 15 | .381 | .367 | .218 | .228 |
| 16 | .430 | .378 | .405 | .263 |
| 17 | .281* | .311* | 0** | .582** |
| AVE FREQ | .272 | | .224 | |

* Frequency less than 15%
** Frequency less than 10%

TABLE XIII

COMPARISON OF SIMILARITY COEFFICIENTS UNDER AGREEMENT AND DISAGREEMENT FOR ACTION VARIABLES BETWEEN BETWEEN FORMAL PLANS AND CASE STUDIES

| | BUSINESS PLANS | | CASE STUDIES | |
|---|---|---|---|---|
| NAME | Agree Score | Disagree Score | Agree Score | Disagree Score |
| 18 | .535 | .506 | .268 | .204 |
| 19 | .496 | .499 | .306 | .207 |
| 20 | .538* | .525* | .630 | .309 |
| 21 | .569 | .501 | .196 | .222 |
| 22 | .647 | .538 | .177 | .219 |
| 23 | .577 | .504 | .298 | .226 |
| 24 | .506 | .499 | .423 | .271 |
| 25 | .468* | .478* | .227 | .207 |
| 26 | .481* | .468* | .517** | .313** |
| 27 | .228* | .395* | .309 | .241 |
| AVE FREQ | .385 | | .265 | |

* Frequency less than 15%
** Frequency less than 10%

TABLE XIV

SUMMARY OF RELATIVE AGREEMENT-DISAGREEMENT SCORE DIFFERENCES

| | BUSINESS PLANS | CASE STUDIES |
|---|---|---|
| Variables showing more than 20% difference | -- | v1,v2,v4,v6, v7,v8,v9,v10, v16,v18,v19, v20,v23,v24, v27 |
| Variables showing 10% - 20% difference | v1,v4,v5,v8, v16,v21,v22, v23 | v5,v25 |
| Variables showing less than 10% difference | v2,v3,v6,v7, v9,v11,v12, v14,v15,v18, v19,v24 | v3,v11,v13, v14,v15,v21, v22 |

coefficients for case studies with similarity coefficients for formal Corporation business plans. Tables XII and XIII show a similarity coefficient under agreement for each assumption variable and action variable in columns 1 and 3 of these tables. The similarity coefficient disagreement score for each assumption variable and action variable is shown in columns 2 and 4. Scores for Corporation formal plan cases are shown in columns 1 and 2. Scores for business case studies are shown in columns 3 and 4. Table XIV summarizes these results by grouping variables by the relative difference between similarity coefficients under agreement and disagreement.

Each data source shows variables with higher coefficients for agreeing premise variables than for disagreeing premise variables. Case studies showed bigger relative differences among agreement and disagreement similarity coefficients for more variables. Formal plans showed much smaller relative differences. In general, case studies appear to conform more closely with the expected content model. Most variables which were expected to appear as significant actually showed the expected larger relative differences among similarity coefficients.

On the other hand, Tables XIII (p.84) and XIV (p.85) showed that for Corporation plans, both action and condition scores were generally higher whether they were based on agreement or disagreement. This suggests that no matter what assumptions, Corporation formal plans tended to include similar packages of actions.

## PLANNING EXERCISE: MANAGERS' PROFESSIONAL CHARACTERISTICS VS PLANNING LOGIC

Analysis of the influence of managers' professional characteristics on planning logic took two forms: the first was a single comparison of background and content variable joint frequencies; and the second was the development of agreement scores for specific subgroups of managers.

### Content Variables and Managers' Characteristics

Questions 1-3 asked participants to indicate (1) length of service at The Corporation, (2) background or discipline, and (3) organization level. The following discussion summarizes significant joint frequencies between these characteristics (v35-v37) and plan content logic (v1-v27).

Question 1: "How many years have you worked at The Corporation?"

Forty percent of the respondents reported that they had worked at The Corporation for less than eight years; 25% had worked at the site for 8-15 years and 35% had a length of service longer than 15 years. Assumption descriptive variables market fragmentation (v3), and company technological strength (v8) and action descriptive variables offer new products to current market (v23) were significantly related to the participants' length of service. See Table XV (p.88).

Question 2: "In which area do you feel you have the most experience and training?" Engineering provided the their background and experience 35% of the respondents; 17.5% reported a manufacturing background; 40% reported a marketing background; 5% reported a general

TABLE XV

SUMMARY OF CONTENT VARIABLES SIGNIFICANTLY RELATED WITH LENGTH OF SERVICE

| NAME | $X^2$ | V | DISCUSSION |
|---|---|---|---|
| V3 | .09 | .17 | A much smaller percentage of those with less than 8 years experience indicated this condition as important (13%) compared to 56% of those with 8-15 years experience and 24% of those with more than 15 years experience who indicated this condition as a key prerequisite to pursueing actions described in part B. |
| V8 | .09 | .22 | While there was no significant difference on part B responses between these three groups, 21% of those with more than 15 years experience added this condition to the conditions listed in part A. 0% of those with 8-15 years experience added this condition. |
| V23 | .01 | .24 | Only 19% of those with less than 8 years experience suggested that offering new products to a current market was an appropriate action for conditions listed in Part A. 30% of those with 8-15 years experience and 64% of those with more than 15 years esperience suggested this action. |

business background, and 2.5% reported "other". Assumption-descriptive variables company strong technological position (v8), product quality or performance as a business strength) (v14), and high contribution margin (v17) and action descriptive variables increase marketing/sales effort (v19) and increase vertical integration (v20) were significantly related to the background reported by participants. See Table XVI (p.90).

Question 3: "What position do you now hold?" General managers accounted for 22.5% of the respondents; 60% were managers of functional areas such as marketing, manufacturing or engineering; 12.5% reported "other" such as staff positions within a general business or functional area. Only two action descriptive variables were significantly associated with differences in reporting level described by the responses to this question: restructure market segments or market (v26) and divest or discontinue product line (v27). See Table XVII (p. 91 ).

In general, reporting level (question 3) appeared to make little difference to the frequency with which participants suggested particular actions and conditions. Those with more experience (question 1) gave more significance to overall technological position and strength and suggested introducing new products to current markets as a more relevant action strategy. Those with medium experience expressed more concern about competitive position, especially relative market share.

Background (question 2) appeared to affect conditions and actions proposed in more ways than experience. The association of background with particular variables in part explained the variation in management response reported in "Planning Exercise: Planning Process" (p.79). Managers responded with concerns in part B and with plans in part A

TABLE XVI

SUMMARY OF CONTENT VARIABLES SIGNIFICANTLY RELATED WITH FUNCTIONAL EXPERIENCE

| NAME | $\chi^2$ | V | DISCUSSION |
|---|---|---|---|
| V8 | .00 | .40 | 28.6% of those with engineering backgrounds indicated that a strong technological position was an important necessary condition for pursuing the actions proposed in part B. 0% of those with manufacturing and general business included this condition and 12.5% of those with marketing backgrounds included this assumption. In part A, all participants with general business and other backgrounds added this condition to the list of conditions specified and 7.1% of those with engineering backgrounds and 6% of those with marketing backgrounds added this assumption. |
| V14 | .10 | .15 | 25% of those with marketing backgrounds included this condition that product quality be a business strength. 0% of those in other groups included this condition in part B. |
| V17 | .04 | .32 | 42.8% of those with an engineering background specified high contribution as a condition required for pursuing the actions proposed in part B. 57.1% of those with manufacturing backgrounds and 50% of those with marketing backgrounds included this condition. This variable probably appears as significant because 14.3% of those with engineering backgrounds also added this condition in part A while 0% of the other groups did. |
| V19 | .01 | .37 | 50% of those with engineering backgrounds, 57% of those with manufacturing backgrounds, and 68.8% of those with marketing backgrounds suggested increasing marketing efforts in response to conditions listed in part A. |
| V20 | .05 | .36 | 0% of those with marketing backgrounds suggested vertical integration (forward) as a response to conditions described in part A. 42.8% of those with manufacturing backgrounds and 7.1% of those with engineering backgrounds suggested this approach. |

TABLE XVII

SUMMARY OF CONTENT VARIABLES SIGNIFICANTLY RELATED WITH MANAGEMENT LEVEL

| NAME | $\chi^2$ | V | DISCUSSION |
|---|---|---|---|
| V26 | .05 | .25 | 40% of those in other than general or functional management suggested revising market structure as a response to conditions in part A. 11.1% of those in general management and 8.3% of those in functional management positions suggested this approach. |
| V27 | .03 | .26 | 22.2% of those in general management positions said that the approach proposed in part B couldn't work under any conditions. One of nine in general management positions said that conditions in part A could not allow any action proposals to be successful. Only one participant in functional or other management categories suggested that conditions in part A could not allow a successful action plan. |

which reflected their professional training and experience. Responses tended either to deal with support needed for their particular area (i.e., marketing approach to increase marketing effort or engineers' concern for technological position) or with activities they can do little to control (i.e., marketing concern for product quality and manufacturing concern for sales).

Variations in individual responses from the model may have some implications for the variation in actual plan content from the expected content model as discussed in "Goodness of Fit Test" (p. 65). Technological position (v8) appeared as more significantly associated with action variables than the model predicted. The strong concern for v8 among those with more experience and among those with engineering background may explain the significant association of v8 with other variables in the formal plans.

Similarity Among Managers

Similarity coefficients for condition variables are based on the results of part A of the questionnaire. Similarity coefficients for action variables are based on the results of part B.

Table XVIII (p.93)summarizes the results of agreement score calculations for subgroups of managers for both parts A and B. Agreement scores are not adjusted for average variable frequency and are not comparable to previous agreement scores.

These results suggest that organizational constraints do impact strategic logic. Agreement among those with longer length of service was higher than any other subgroup. On the other hand, management level seemed to make little difference to agreement although those at the

TABLE XVIII

RESULTS OF SIMILARITY COEFFICIENT CALCULATIONS
FOR SUB-GROUPS OF MANAGERS

| NAME | | RESPONSES PART A | RESPONSES PART B |
|---|---|---|---|
| V35 | LENGTH OF SERVICE | | |
| | less than 8 years | .080 | .046 |
| | 8 - 15 years | .086 | .101 |
| | more than 15 years | .120 | .071 |
| V36 | PROFESSIONAL GROUP | | |
| | engineering | .101 | .068 |
| | manufacturing | .096 | .066 |
| | marketing | .108 | .068 |
| V37 | MANAGEMENT LEVEL | | |
| | general | .089 | .066 |
| | functional | .098 | .063 |
| | other | .078 | .132 |

"other" level agreed less with each other in part A and much more with each other in part B. This suggests that if there is an apprentice program in strategic logic, it is associated with corporate service length rather than management position. The association of similarity with service length suggests a more informal, possibly more subjectively-based apprenticeship program than similarity associated with management level would suggest.

Similarity of perspective within functional groups was confirmed for those with marketing and engineering backgrounds. Managers with marketing backgrounds appeared to agree with each other more than other groups. This may be because marketing-trained managers have had more experience with exercises such as this one.

The largest differences in similarity coefficents lie between agreement on part A and agreement on part B. This may be because scores were not adjusted for average frequency. Results in part B were not consistent with the expected content model or any modifications to the model. The highest agreement was among those who are at some management level other than general or functional managers. The second highest was among those with medium length of service. This result is similar to findings in "Planning Exercise: Planning Process" (p. 79) which identified little pattern to the response frequencies in Part B. Although this may be due to the inadequacy of the questionnaire, the process which relies on evaluation of current activities as the key planning process appears ineffective.

## SUMMARY

This chapter described the results of the effort to compare actual strategic plan content with expected content; the results of further analysis aimed at developing a more complete model of plan content; and the effectiveness of several tests for achieving these results. Four of 17 expected pairs were present, and four additional unexpected pairs appeared. Similarity coefficient analysis showed that in Fast Delta Corporation plans, content results of the planning process did not depend on the inclusion of particular premise variables. Similar analysis of business strategy case studies showed that content was much more dependent on the inclusion of particular premise variables. Factor analysis identified clusters of content variables which appear to characterize strategic content for the company as a whole. The major factor or cluster explains 45% of the variance and includes a large number of variables. Several variables load heavily on more than one factor. Several content variables appear associated with forecasts in a logical way. Plan content was not associated with past performance, although several content variables were associated with the year the plan was written. Results of manager interviews showed planning results similar to both expected and formal plan content when the normative planning process was used. Particular content variables were significantly associated with each of the nine subgroups of managers. More content variables were more closely associated with length of service and functional background than with management level. These results were confirmed by the results of similarity coefficient analysis of manager responses. Highest agreement on strategy was among those

with longest length of service.

# CHAPTER V

# SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

## SUMMARY

The intent of this study was to evaluate the content of Fast Delta Corporation business plans against an expected content model, develop a modified model based on the comparison of expected with actual plan content, and develop alternative methods for evaluating plan content based on this modified model.

A goodness of fit test was used to measure actual plan content against the expected content model. Alternative explanations for plan content were sought by examining plan content for patterns other than those predicted by the expected content model, and by examining several objections to the expected content model.

### Pattern of Strategic Logic

Study method examined actual plan content for 17 variable pairs. Of the 17 expected pairs, the goodness of fit test identified four pairs as actually occurring in Fast Delta Corporation plans. Low frequency of some variables prevented testing for about one-third of the expected variable pairs. Coding limitations meant that the absence of these 13 significant pairs was difficult to interpret. Four additional pairs of variables appeared as significant. Each additional pair can be rationalized within the context of the Fast Delta Corporation planning

system.

Similarity coefficients for condition sets were higher when plans agreed on the presence of actions. The presence of an action appears associated with a consistent set of condition assumptions. The similarity of action sets for a particular condition does not show such a consistent pattern. High market share (v1), profit objective (v6), and market share growth objective (v7) do not appear as significant determinants of action plans in this test while the expected content model suggests that they should be among the most significant variables. The presence of a particular condition does not seem to imply a consistent action package.

Factor analysis identified plan content factors which were broader than simple pairs of actions and conditions. This analysis produced several interesting results:

1) Action variables loaded heavily on separate factors while condition variables, particularly those relating to objectives, loaded on several factors. In this population, action variables are more predictive of condition sets. The condition variables are not simple variables but contain more complex strategic implications.

2) All factors included heavy loadings by more than simple pairs of variables. This suggests that strategic factors are quite complex. These complex factors appear to describe types of businesses rather than marketplace laws.

3) One very heavily loaded factor accounts for more than 45% of the variance. This suggests that business strategy or strategic logic communicated through the plans is relatively homogeneous although

complex.

Role of Current Activities

The strong relationship between plan year and profit objective (v6), product quality (v14), and action to increase marketing/sales efforts (v19) when these variables appeared unrelated to other content variables suggests that annual changes in corporate-wide policy or perspective affected these variables. There was only one content variable related to past performance. The strong associations between content variables and performance forecasts support the notion that forecasts provide a synthesis of the impact of a variety of action plans and conditions. The content-forecast associations showed regular patterns which could be explained in expected content model terms.

The results of the planning exercise in part A of the questionnaire are similar to the results of the strategic plan analysis. Managers appeared both more successful and more familiar with a planning process which begins with the analysis of conditions. Despite the simple loading of action variables on strategic factors, managers appear to rely heavily on the recommended strategic planning process from the Corporate Strategic Planning Manual (1977) in developing business plans. There is no support for the idea that the planning process explicitly begins with a commitment to and focus on current activities.

Organizational Impacts on Plan Content

Analysis of similarity coefficients for case studies identified key variables which were predicted by the expected content model. These results confirm the validity of both similarity coefficient

analysis and the expected content model.

The comparison of similarity coefficients under agreement and disagreement between business plans and case studies showed that the Corporation plans were considerably more similar to each other than those of other companies were similar to each other. Business plans from The Corporation showed more similarity among both condition and action sets even when they disagreed on the presence of the premise variables. Some variables are consistently included in the formal plans whether or not the logic represented in the expected content model supports the inclusion of these actions and conditions.

Analysis of significant variables associated with manager background showed content variables associated with length of service and functional background. These results offer some insight into formal plan content analysis results. The significant association of strong technical position (v8) with the responses of managers with the longest length of service and of managers with engineering training suggests a possible explanation for the unexpected appearance of v8 as a significant variable in formal plans. These managers probably have a strong voice in strategic business plan development.

Similarity coefficient analysis of manager responses supported the notion that a company perspective is characteristic of managers' strategic thinking. Similarity was highest among those with the longest length of service. Similarity was also high among those with similar functional training, although not as high. Surprisingly, the responses of managers at higher management levels were no more similar than those at lower levels. Similarity analysis results for part B of the

questionnaire support the conclusions above: the process required in part B was clumsy and difficult for participants. Results showed very little pattern.

## CONCLUSIONS

Conclusions based on these results relate to the three-part intent of this study:

1) to compare a model of expected plan content with actual business plan content developed in the study firm.

2) to develop a modified model of formal plan content which recognizes organizational influences on plan content.

3) to suggest a method for evaluating business plan content based on this modified model.

### Comparison of Actual with Expected Plan Content

The results of several tests allow the conclusion that the model concept is basically correct but incomplete. At Fast Delta Corporation, managers' planning logic is based on the analysis of conditions, the development of a condition set, and the relation of these conditions with an action set. The planning process recommended by the formal system appears to be used even in informal exercises. The condition variables have more complex strategic implications which suggests that this process is not simple. The absence of some variable pairs and the presence of others as well as the failure of the similarity coefficient test to distinguish significant variables must be explained through the use of a modified model.

Development of a Modified Model of Plan Content

Plan content as evaluated by this method appears based on additional planning principles besides the general principles in the expected content model. These principles are characteristic of the corporation as a whole. These additional principles can be further identified as based on:

1) short-term concerns, that is, plan content characteristic of the company in a particular year;

2) logical concerns, that is, plan content characteristic of a class of companies similar to the particular company;

3) historical or cultural concerns, that is, plan content characteristic of the company in the sense of "unique to the company."

Figure 10 (p.102) shows a modified version of the normative model which includes these additional dimensions. Each of these is discussed below.

Short-Term Corporate Concerns. Although the five-year planning window used in Fast Delta Corporation business planning suggests a longer perspective, this study showed that significant short-term conditions and issues are recognized in formal plans.

Of those content variables significantly related to plan year, some are integrated into the formal plan using the general plan logic of the expected content model. Others, for example, increase profit objective (v6), and appear associated with plan year but not to other content variables. These variables are not integrated logically into plan content.

Inclusion of short-term and locally arbitrary issues in business

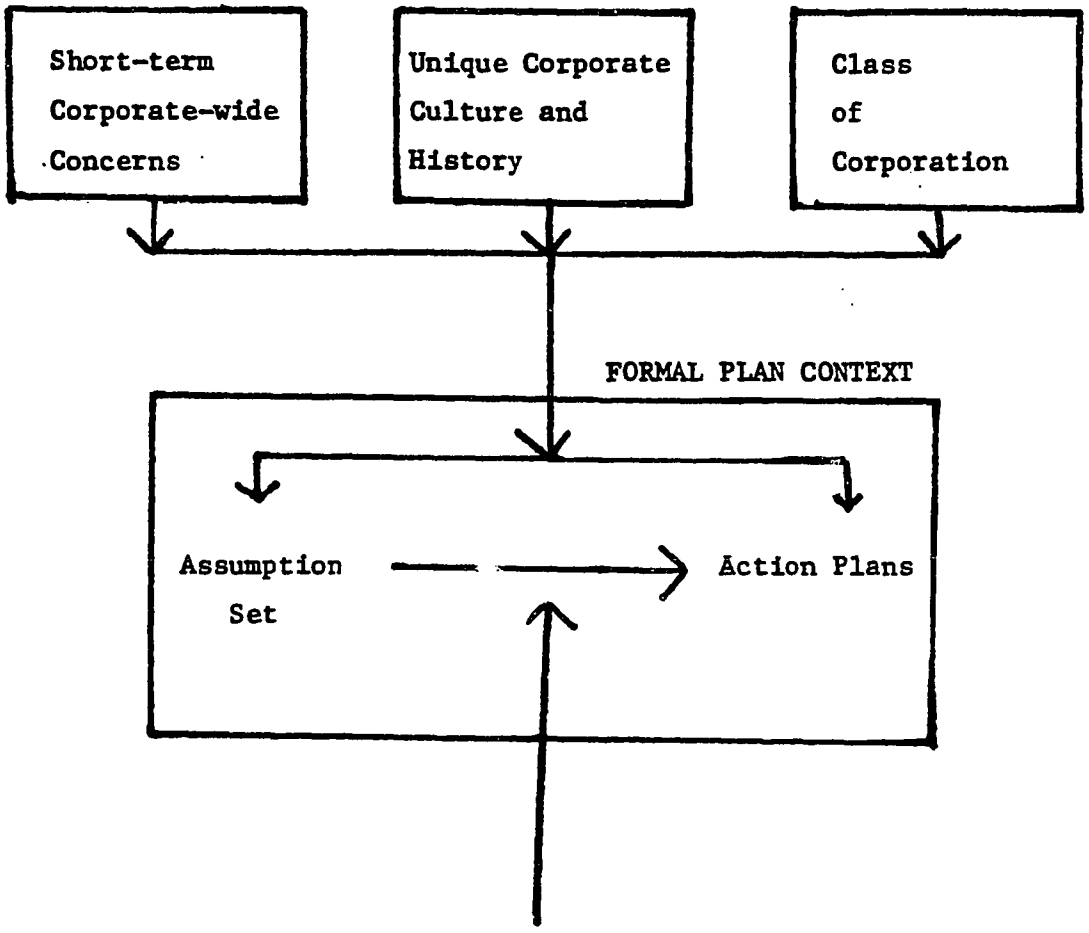



Figure 10. Modified Model of Formal Business Plan Content. This model illustrates the impact of three other types of factors from outside the formal plan context. These factors include short-term corporate-wide concerns, unique aspects of corporate history and culture, and corporate characteristics which are those of a class of companies such as companies at a particular life-cycle stage, companies in a particular industry, etc. These factors appear to impact plan content independently, in some cases, of the logic of marketplace laws which relate an assumption set and proposed action plans.

plans is not counter to the intent of the strategic planning process. Strategic concerns appropriate for business plans are not necessarily long-term. The business planning process serves as an effective communication process for disseminating any general corporate concern. Content variables related to plan year only may be immediate concerns imposed by top management. Corporate directives also provide one way of unifying and integrating otherwise divergent business plans. The degree to which these are integrated into the logic of an individual business plan may depend on the planning skill of middle management.

In general, corporate-wide issues which must be included but which cannot be integrated immediately into long term logic will modify the logical contents of formal plans as measured by these evaluation methods. It is expected that the more the business planning exercise is used as a decision-making tool rather than simply a management development exercise, the more pressure to incorporate short-term corporate-wide factors into the logic of plans.

Logical Concerns Characteristic of a Class of Corporations. Corporations can be classified in various ways. Discussion below focusses on the following alternative classifications: industry type (such as SIC code used by the U.S. Department of Commerce), market or industry life cycle stage (Hofer 1975), corporate life cycle stage (Greiner 1972), and corporate structural type (for example, degree of centralization) (Chandler 1964).

The particular integrative intent of the formal process suggests that the business plans of all companies which rely on top-down as well as bottom-up communication will be impacted by the short-term corporate

concerns discussed above. The extent to which planning direction is top-down and the extent to which business planning is coupled to the annual budgeting processes may determine the impact of short-term concerns. The planning skill and experience of a particular company may determine the extent to which these concerns are incorporated into longer-term, local plan logic.

The above results suggested that a surprisingly homogeneous strategic approach was characteristic of this company. While the company's characteristic strategic factors identified through factor analysis may be unique to the company, the principle of measuring corporate diversity or homogeneity in this way is established. Some relative degree of homogeneity may be characteristic of companies at different life cycle stages. This company established a decentralized structure relatively recently. If this concept is valid, this approach might be used to track the increasing diversity of this or any other company with a decentralization policy.

The processes suggested above for corporate integration or maintenance of homogeneity may also be characteristic of a particular class of corporations. The identification of strategic training as informal and long-term suggests a matrix of alternative approaches to developing managers' strategic logic. (See Figure 11, p.106) This matrix may suggest associated corporation types which rely on these training approaches. The training program in this recently decentralized, relatively young company appears informal and corporate-oriented. A more mature and highly diversified company may rely on a business-oriented, formal training program. The tests used

| TRAINING ORIENTATION | | TRAINING STYLE: FORMAL | TRAINING STYLE: INFORMAL |
|---|---|---|---|
| | CORPORATE-ORIENTED | centralized companies. structured promotion path within the organization. | centralized companies. no structured promotion path within the organization. |
| | BUSINESS-ORIENTED | decentralized companies. structured promotion path within the organization. | decentralized companies. no structured promotion path within the organization. |

Figure 11. Matrix of Alternative Approaches to Strategic Logic Training Program. The results of this study suggested the above typology of management development approaches to strategic planning. The Corporation was shown to have used an informal, corporate-oriented approach.

here could distinguish the results of these two approaches. In the hypothesized company, similarity would be highest among managers at the highest management level. The formal plans in such a company would show a relative difference pattern for similarity coefficients under agreement and disagreement more similar to that of the case study population.

The unexpected appearance of significant variables relating to technological position and market characteristics may be characteristic of strategic thinking for corporations within this particular industry. The significance of these variables among case studies, over half of which were from the electronics industry, confirms this.

The close integration of the growth objective with nearly all strategic factors is more difficult to classify. The significance of this objective may be characteristic of the class of all electronics companies, of all companies in relatively fast growing markets, of all companies at a particular life cycle stage, or of industry in general.

The role of certain professional groups in planning may also be characteristic of an industry-based class of companies. The significant relationship between key variables and managers with engineering training is probably characteristic of the electronics and other high technology industries. This relationship may also be characteristic of companies in this life cycle stage. The extent to which operational product or engineering concerns dominate financial or more general concerns may diminish as this industry matures and as individual companies grow, mature, and diversify.

These conclusions are not inconsistent with the results of other

research (Schoeffler et al 1974, Hofer 1975, Chandler 1964) which relates strategy and company structure. Previous work does, however, discount the significance of industry type and tends to emphasize the market structure of the particular business a company is in rather than the general market environment of the company as a whole.

Historical or Cultural Concerns Unique to a Particular Organization. The results of this study suggest that an organization imposes constraints on strategic thinking. If this were not true, plans for a single company would show the same similarity coefficient pattern as case studies and the variance explained by factor analysis would be more evenly spread over the factors identified.

The similarity of individual managers' responses to plan content suggests that degree of homogeneity is a reflection of corporate culture and history. This analysis suggests a mechanism whereby corporate strategic logic remains internally consistent and homogeneous despite the corporate intent to diversify. The similarity of responses among those with longer length of service rather than with higher management level suggests an informal rather than a formal training program. The implied long-term, experience-based and informal program for individuals' strategic development suggests that corporate integration through a common strategic perspective is not directly managed for in this company.

The study approach used here leaves key questions open about the significance of plan content for identifying strategic logic. The logic behind a company's strategic plans may not be unique at all. Instead, the planners may share a unique company planning language. Variables

such as "strong technological position" and "high product quality" may carry unique company definitions. The list of unexpected key variable pairs in this corporation's plans may reflect more conventional logic once planners define these terms.

Supplemental Evaluation Methods for Strategic Plans

This modified model requires that plan content be evaluated not only against the expected content model but against other expectations as well. The expected content model provides a generally recognized standard for plan logic against which short-term and unique corporate concerns can be balanced.

Clearly if short-term, corporate-wide concerns were effectively being integrated into plan logic, these variables would be coupled with others as predicted by the expected content model. If top managers did not use the business planning process for short term concerns, there would be few variables associated with plan year. If top managers were attempting over the years to develop a more diverse strategic approach, the variables should load strategic factors differently with time. This evaluation method allows a measure of the impact of strategic thinking which is not consistent with an expected content model. Once the relationship of actual content to this expected content is established, managers and staff can ask which short-term and unique corporate concerns should dominate general logic. This evaluation technique allows staff to pinpoint which logic is inconsistent and possibly which groups share this logic. This helps identify which procedures should be changed, which training programs for which audiences must be implemented, and which top management leadership

efforts have been successful in changing middle management strategic attitudes.

Techniques from this exploratory effort which appear viable in evaluating these expectations include: the identification of significant variable pairs, the identification of strategic factors, the characterization of corporate homogeneity relative to the diversity reflected in case studies, and the comparison of manager planning logic with unique aspects of corporate strategy.

## RECOMMENDATIONS

Recommendations are aimed at the several major audiences identified in the introductory section: top management, middle management, corporate planning staff, and those doing further research in strategic planning. Recommendations are based not only on the specific findings of this study of a single firm, but on the exploratory nature of this study. Because this study is exploratory, recommendations emphasize opportunities for further study and the value of plan evaluation methods which address these additional dimensions of planning.

### Top Management

Current "new planning" models place top managers in the role of "ringmasters" or portfolio managers attempting to integrate and balance a number of diverse businesses. A recent Business Week article (December 18, 1978, 62) highlighted top management's need for tools which would change this role from a passive balancing act to a more positive leadership role.

Developing a more positive leadership role may require developing a more global strategic perspective which is more that the sum of the separate business strategies. Current tools for integrating business plans (for example, the "spot and dot" chart (Boston Consulting Group 1974)) which depend on the portfolio management model of the top management function are inadequate in at least three ways:

1) Tools based on the portfolio management model are often inappropriate for the majority of companies which are not completely decentralized and diversified. For example, the portfolio model assumes that poorly financially performing businesses can be divested without impacting other businesses. This is often not the case in a company which is only partially decentralized.

2) These tools are useful only for addressing financial integration. Other resources including time, people, experience, technology, market image, and market position are addressed indirectly if at all. These are often the most difficult resources to use or develop synergistically.

3) These methods are based on data which are often unavailable, inaccurate, or biased in favor of a politically correct answer or wishful thinking. It is impossible within the context of these tools to evaluate the validity of the assumptions behind the figures since the figures are presented as facts, and the assumptions are not presented at all.

The proposed evaluation model addresses these problems: it assumes that the study company is not completely decentralized; it addresses non-financial issues; and it depends on information about

attitudes, not financial forecast data. Because the proposed evaluation model allows the measurement of additional dimensions of corporate position, it provides a supplement to the above types of analysis.

By trying to pinpoint the ways in which plan content and logic produced by middle managers do not meet expectations, a picture of current management strategic perspective can be established. To the extent that this perspective represents top management perspective, these results can be used in evaluating current corporate business definitions and new business opportunities. To the extent that this perspective is not coincident with top management perspective, these results identify opportunities for top management leadership.

Middle Management

This modified evaluation model suggests three dimensions for evaluating plans in addition to the expected content model. These suggest a new perspective for the evaluation of the short- and long-term viability of a particular business. This is, of course, important at the top management level, but it is also important at the middle management level for career planning and for establishing resource expectations. These dimensions help explain top management decisions to support some businesses while divesting others counter to the recommendations of conventional financial analysis.

The classification of plan content into that required by general business planning practices, that required for short-term corporate reasons, and that required for corporate or industry cultural reasons is an aid in sorting and balancing plan assumptions and logic which may seem contradictory. This classification scheme for plan content

provides an aid for the individual manager in the development of his own strategic logic model.

The analysis of managers' planning logic may be particularly useful to middle management in career planning. This analysis suggested that with length of service in a particular company, managers developed more similar strategic logic. This more local planning perspective, while useful in the quick solution of functional problems, may make the search for alternative strategies more difficult for those with longer length of service.

The strategic planning effort at the division or business unit level is parallel to, if more constrained than, the process required to develop a corporate definition. Plans developed at this level directly reflect the strategic perspective of the business management team. This study confirms that at least some functional concerns impact business strategy. General managers are faced with the task of assembling a team for strategy formulation which reflects the desired level of homogeneity or diversity of perspective. This is particularly important in the many strategic situations where accurate data are unavailable.

Corporate Planning Staff

Corporate staff often attempt to apply general planning logic such as the expected content model in evaluating business plans. Staff are often frustrated when their comments are ignored or dismissed with: "We're different. Those rules don't apply to us." Frustration mounts because managers often can't state explicitly which rules do apply. This method helps identify explicitly the ways in which managers feel

their company does not need to conform to general business rules. Logic based on these unstated rules which is potentially out-of-date or internally contradictory can be examined more carefully. The valid strategic relations can be incorporated into the staff's expected content model of expectations.

The results and conclusions of this study suggest that this evaluation approach is viable and provides some additional information about corporate strategy which is not available through other methods. The techniques for analyzing plan content are simple with the aid of the standard SPSS package.(Nie et al, 1974)

The experience with this study suggests some modifications in the evaluation process:

1) It was difficult to draw conclusions about the plan process from the plan content. The planning process appears as a complex iterative process with no single one-way logic detectable. Part B of this questionnaire was not useful.

2) Content variables should be chosen relative to corporate concerns and expectations for what variable linkages should be included in formal plans. The expected content model shown in Table I (p. 7 ) represents a first cut at a generally acceptable model for industrial products manufacturers in a high technology market. Other expected significant variables and linkages may be more relevant to other companies and industries.

3) The results of this technique should be evaluated against a specific set of expectations. In this study, the expected content model provided that set of expectations. Once plan content has been

evaluated, these results provide a benchmark or a new set of expectations against which later evaluation results can be compared.

For Further Study

Topics for further study based on this research include:

Specific Variables. This study raised several questions about the complex nature of key condition variables. It is not clear whether the particular variables chosen were not defined closely enough or whether these common strategic planning concepts are really more complex than supposed. For example, when high market growth rate (v1) loads heavily on two major factors, is this because one factor is describing a growth rate of 25% and the other a growth rate of 35%? Or is this because any market growth rate assumption poses complex questions for business strategists?

Explicitness of Planning. This study was distinctly limited by the evaluation method which identified positive correlations and positive matches only. This approach meant that the whole topic of "generally understood and accepted but not explicitly stated" strategic logic could not be directly addressed. If content variables had been evaluated as either absent, false, or present, (instead of just present), plan evaluation may have revealed a richer pattern of strategic logic.

Classes of Organization and Strategy. This study provides little direct evidence which allows the distinction among strategic logic characteristics of different classes of company. It is unclear whether the relationship between growth and profit objectives is characteristic of all electronics companies, all companies in growing markets, or all

companies. Comparative studies of other companies using this method would allow more definite conclusions.

Planning Process and Strategy. Despite the necessary conclusion about the validity and widespread use of the normative planning process, the issues raised by Sahal (1976) about the process of organization adaptation are significant. A deeper case study of a particular planning effort may address the question of the extent to which organizations choose their environments rather than adapting to environmental pressures. Study techniques such as direct decision observation are required in order to examine these issues.

Optimum Corporate Strategic Perspective. While a measure of corporate homogeneity of perspective was established through factor analysis and similarity coefficient exercises, this study has offered little guidance to managers or staff in recommending an optimum mix of strategic factors or plan similarity. Additional studies comparing these results with results of other companies would be necessary to identify the relationship between these characteristics and other company characteristics such as size, sales, and asset levels.

Strategic Planning Training. The matrix illustrating alternative approaches to strategic planning training (Figure 11, p.107)suggests ideas about strategic perspective development which might be tested in a comparative study of large corporations. Results of such a study may suggest which of the three approaches discussed in Chapter II (p.37) for developing corporate "coherence" (Sarrazin 1977) is most effective under which conditions.

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# A P P E N D I C E S

# APPENDICES

## APPENDIX A

## GLOSSARY

Terminology relating to planning, especially business planning, is still not rigidly specific despite the nearly 25 years of planning literature. Below are some recent definitions and distinctions among terms which were used in this paper.

Business (strategy) planning: typically strategic planning at the business level (see business unit). Toward goals set at the corporate level, business strategy planning analyzes the strengths, weaknesses, threats, and opportunities in developing the strategy for a firm's approach to a particular business. (Business Week December 18, 1976, 62), (Hofer, 1975)

Business unit (or strategic business unit): "a unit of the company with its own mission and its own competitors and capable of developing an independent long term strategy". (Taylor, 1976) A business unit may or may not be the same as the unit used for operating or administrative purposes. At Fast Delta Corporation strategic business units are administrative units for operating as well as strategic purposes.

Corporate (strategy) planning: typically strategic plannning at the corporate level (involving top management or corporate officers). Toward the goal of unifying business lines and aiming them at a common goal, corporate strategic planning considers alternative investment

programs in its portfolio of businesses and the development (or acquisition) of new businesses. (Business Week December 18, 1978, 62), (Hofer, 1975)

Entrepreneurial planning: "concerns itself with creating the profit potential for the firm." (Ansoff 1978) That is, entrepreneurial planning deals with areas of opportunity such as new products, new markets, etc. Ansoff includes strategic planning as a type of entrepreneurial planning in that 1) the emphasis is on the search for and analysis of alternatives; and 2) forecasts and plans in strategic planning are not necessarily extrapolative and assume discontinuities and change.

Long range planning: in long range planning, "the future is made explicit through environmental forecasts." (Ansoff, 1978) Based on a forecast, goals, action programs, and budgets are set. Typically, long range planning does not include consideration of alternative futures or contingencies.

Strategic planning: Typically a process for setting strategy which takes place on a periodic basis, focusses on a particular organization or set of organization, and deals with products, markets, and technology. Strategic planning includes consideration of organization strengths, weaknesses, threats, and opportunities with the emphasis on analyzing alternatives. (Ansoff 1978), (Ansoff 1965)

Strategy: "set of decision-making rules for guidance of organization behavior." (Ansoff 1978) Typically strategy includes a set of goals and major policies (Tilles 1963) and provides a "primary source of cohesiveness " to an organization. (Vancil 1976)

# APPENDIX B

## SAMPLE PLAN AND CODING ILLUSTRATION

TABLE OF CONTENTS



Management Summary

- Profitability Objectives: Increase income (after component allocations/ before taxes) from [redacted]% of net sales (FY000) to [redacted]%. Maintain current Income/Assets and Sales/Assets ratios. (6) (7)
- Growth Objectives: Grow orders at [redacted]% (CAGR) over FY[redacted] FY[redacted] plan window.

In order to reach our growth objectives we intend to

- maintain our market position ([redacted]x relative market share) in our current core businesses ([redacted] producers, distributors, equipment manufacturers and associated [redacted] segments). (2)
- establish a similar position with users in emerging [redacted] segments. (22)
- establish ourselves as the end users' preferred vendor of state-of-the-art [redacted] instruments in these segments; and, as the OEM's ([redacted]) major supplier of [redacted] components.
- Build on potential synergy between [redacted] Products and other [redacted] groups by working with [redacted] to apply [redacted] technology outside the [redacted] market and by marketing [redacted] Products to the vertical [redacted] Market.

In order to meet profitability objectives, we intend to

- maintain engineering and marketing cost of sales at current % of net sales
- reduce manufacturing cost of sales from [redacted] of net sales to [redacted] (18)
- plan for business unit asset growth at slower than projected sales and income growth rates.

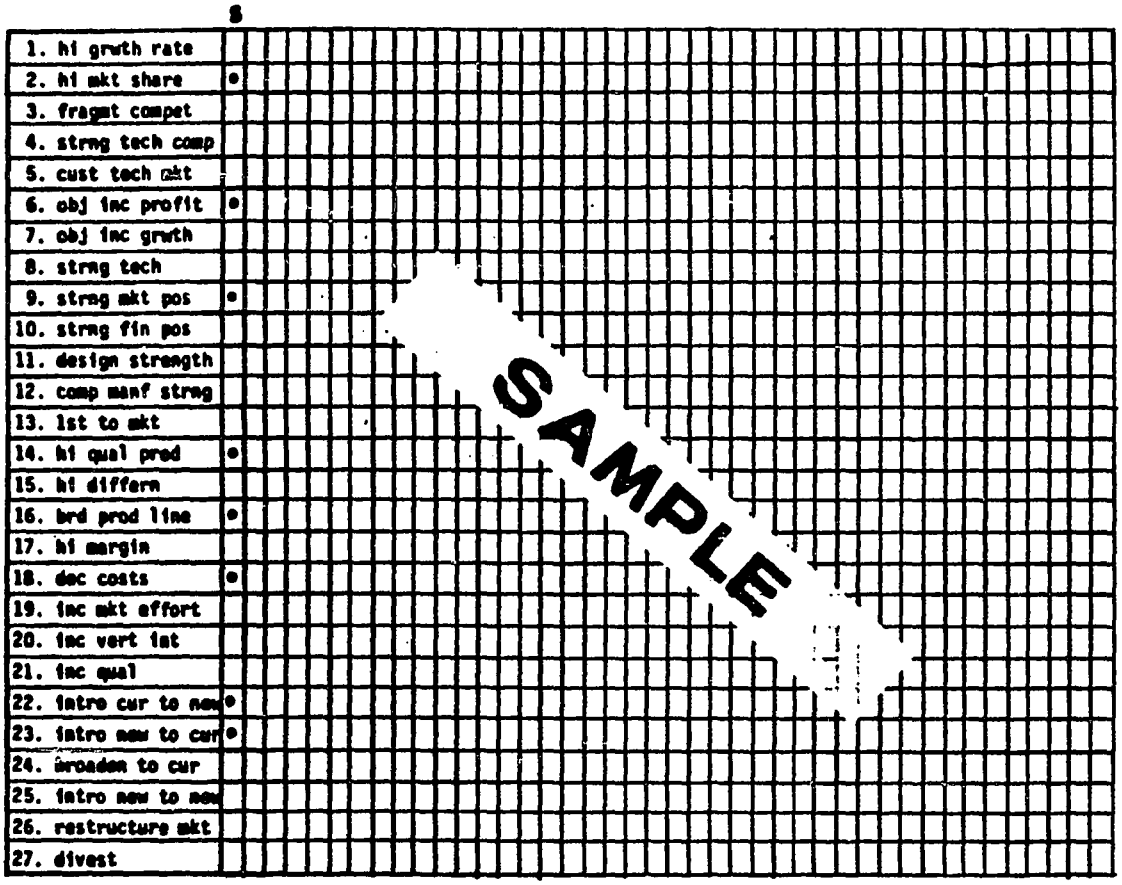
Market and Product/Market Strategies

[redacted] industries will continue as our core market over the next five years. Due primarily to new distribution technologies ([redacted]), [redacted] producers and distributors are becoming a larger portion of our potential market. (est. 35% market growth rate). We plan to address these markets

- by maintaining our traditional market strengths (strong field engineer and service force, a broad line of high quality, reliable products, active industry participation, and close high-level ties with system and original equipment manufacturers); (14) (9) (16)
- by extending these strengths to new markets within the [redacted] industry.

[redacted] technologies have opened the [redacted] industry to new [redacted] equipment which corrects or enhances [redacted] rather than just testing, measuring and monitoring the [redacted]. During [redacted] we plan to introduce products which address this relatively new opportunity. (23)

Sometime in the 5-10 year time frame, [redacted] systems will become both economically desirable and technically feasible. We expect that our work in [redacted] processing and [redacted] for today's [redacted] markets will position us to enter these new [redacted] application areas.


S
1. hi grwth rate
2. hi mkt share
3. fragmt compet
4. strng tech comp
5. cust tech mkt
6. obj inc profit
7. obj inc grwth
8. strng tech
9. strng mkt pos
10. strng fin pos
11. design strength
12. comp manf strng
13. 1st to mkt
14. hi qual prod
15. hi differn
16. brd prod line
17. hi margin
18. dec costs
19. inc mkt effort
20. inc vert int
21. inc qual
22. intro cur to new
23. intro new to cur
24. broaden to cur
25. intro new to new
26. restructure mkt
27. divest
SAMPLE

# APPENDIX C

## BASIC PROGRAMS

```
5 DIM A%(119,32)
20 OPEN 'NEWTKAIT.RPT' FOR OUTPUT AS FILE #1
25 OPEN 'NEWTKAIT.DAT' FOR INPUT AS FILE #2
29 FOR I=1 TO 119
30 FOR J=1 TO 27
35 INPUT #2,N%
40 A%(I,J)=N%
45 NEXT J \ NEXT I
55 FOR N=1 TO 17
60 PRINT N \ PRINT #1,N
80 FOR I=1 TO 119
90 FOR J=1 TO 119
92 IF I=J THEN 180
150 IF A%(I,N)=1 THEN IF A%(J,N)=1 THEN 160
155 GO TO 180
160 M=M+1
165 FOR K=18 TO 27
170 IF A%(I,K)=1 THEN IF A%(J,K)=1 THEN Y=Y+1
175 NEXT K
180 NEXT J
200 IF Y=0 THEN 225
205 C=C+1
210 Y=Y/(M*10)
225 PRINT #1,USING '#.##',Y;
230 W=W+Y
240 Y=0 \ M=0
250 NEXT I
275 IF C=0 THEN C=1
276 PRINT #1,W/C;W
280 C=0 \ W=0
295 NEXT N
300 PRINT #1
320 CLOSE  \ END
```

```
5 DIM A%(119,32)
20 OPEN '2TKATT.RPT' FOR OUTPUT AS FILE #1
25 OPEN 'NEWTKATT.DAT' FOR INPUT AS FILE #2
29 FOR I=1 TO 119
30 FOR J=1 TO 27
35 INPUT #2,N%
40 A%(I,J)=N%
45 NEXT J \ NEXT I
55 FOR N=1 TO 17
60 PRINT N \ PRINT #1,N
80 FOR I=1 TO 119
90 FOR J=1 TO 119
92 IF I=J THEN 180
150 IF A%(I,N)<>A%(J,N) THEN 160
155 GO TO 180
160 M=M+1
165 FOR K=18 TO 27
170 IF A%(I,K)=1 THEN IF A%(J,K)=1 THEN Y=Y+1
175 NEXT K
180 NEXT J
200 IF Y=0 THEN 225
205 C=C+1
210 Y=Y/(M*10)
225 PRINT #1,USING '#.##',Y;
230 W=W+Y
240 Y=0 \ M=0
250 NEXT I
275 IF C=0 THEN C=1
276 PRINT #1,W/C;W
280 C=0 \ W=0
285 NEXT N
300 PRINT #1
320 CLOSE  \ END
```

```
5 DIM A%(119,32)
20 OPEN '8TKATT.RPT' FOR OUTPUT AS FILE #1
25 OPEN 'NEWTKATT.DAT' FOR INPUT AS FILE #2
29 FOR I=1 TO 119
30 FOR J=1 TO 27
35 INPUT #2,N%
40 A%(I,J)=N%
45 NEXT J \ NEXT I
55 FOR N=18 TO 27
60 PRINT N \ PRINT #1,N
80 FOR I=1 TO 119
90 FOR J=1 TO 119
92 IF I=J THEN 180
150 IF A%(I,N)=1 THEN IF A%(J,N)=1 THEN 160
155 GO TO 180
160 M=M+1
165 FOR K=1 TO 17
170 IF A%(I,K)=1 THEN IF A%(J,K)=1 THEN Y=Y+1
175 NEXT K
180 NEXT J
200 IF Y=0 THEN 225
205 C=C+1
210 Y=Y/(M*17)
225 PRINT #1,USING '#.##',Y;
230 W=W+Y
240 Y=0 \ M=0
250 NEXT I
275 IF C=0 THEN C=1
276 PRINT #1,W/C;W
280 C=0 \ W=0
285 NEXT N
300 PRINT #1
320 CLOSE  \ END
```

```
5 DIM A%(119,32)
20 OPEN '7TKATT.RPT' FOR OUTPUT AS FILE #1
25 OPEN 'NEWTKATT.DAT' FOR INPUTAS DILE #2
29 FOR I=1 TO 119
30 FOR J=1 TO 27
35 INPUT #2,N%
40 A%(I,J)=N%
45 NEXT J \ NEXT I
55 FOR N=18 TO 27
60 PRINT N \ PRINT #1,N
80 FOR I=1 TO 119
90 FOR J=1 TO 119
92 IF I=J THEN 180
150 IF A%(I,N)<>A%(J,N) THEN 160
155 GO TO 180
160 M=M+1
165 FOR K=1 TO 17
170 IF A%(I,K)=1 THEN IF A%(J,K)=1 THEN Y=Y+1
175 NEXT K
180 NEXT J
200 IF Y=0 THEN 225
205 C=C+1
210 Y=Y/(M*17)
225 PRINT #1,USING '#.##',Y;
230 W=W+Y
240 Y=0 \ M=0
250 NEXT I
275 IF C=0 THEN C=1
276 PRINT #1,W/C;W
280 C=0 \ W=0
285 NEXT N
300 PRINT #1
320 CLOSE  \ END
```

```
5 DIM A%(119,32)
20 OPEN '7TKATT.RPT' FOR OUTPUT AS FILE #1
25 OPEN 'NEWTKATT.DAT' FOR INPUT AS FILE #2
29 FOR I=1 TO 119
30 FOR J=1 TO 27
35 INPUT #2,N%
40 A%(I,J)=N%
45 NEXT J \ :NEXT I
55 FOR N=18 TO 27
60 PRINT N \ PRINT #1,N
80 FOR I=1 TO 119
90 FOR J=1 TO 119
92 IF I=J THEN 180
150 IF A%(I,N)<>A%(J,N) THEN 160
155 GO TO 180
160 M=M+1
165 FOR K=1 TO 17
170 IF A%(I,K)=1 THEN IF A%(J,K)=1 THEN Y=Y+1
175 NEXT K
180 NEXT J
200 IF Y=0 THEN 225
205 C=C+1
210 Y=Y/(M*17)
225 PRINT #1,USING '#.##',Y;
230 W=W+Y
240 Y=0 \ M=0
250 NEXT I
275 IF C=0 THEN C=1
276 PRINT #1,W/C;W
280 C=0 \ W=0
285 NEXT N
300 PRINT #1
320 CLOSE  \ END
```

```
5 DIM A%(119,32)
20 OPEN 'STKATT.RPT' FOR OUTPUT AS FILE #1
25 OPEN 'ALLCASE.DAT' FOR INPUT AS FILE #2
29 FOR I=1 TO 118
30 FOR J=1 TO 27
35 INPUT #2,N%
40 A%(I,J)=N%
45 NEXT J \ NEXT I
55 FOR N=18 TO 27
60 PRINT N \ PRINT #1,N
80 FOR I=1 TO 118
90 FOR J=1 TO 118
92 IF I=J THEN 180
150 IF A%(I,N)=1 THEN IF A%(J,N)=1 THEN 160
155 GO TO 180
160 M=M+1
165 FOR K=1 TO 17
170 IF A%(I,K)=1 THEN IF A%(J,K)=1 THEN Y=Y+1
175 NEXT K
180 NEXT J
200 IF Y=0 THEN 225
205 C=C+1
210 Y=Y/(M*17)
225 PRINT #1,USING '#,##',Y;
230 W=W+Y
240 Y=0 \ M=0
250 NEXT I
275 IF C=0 THEN C=1
276 PRINT #1,W/C;W
280 C=0 \ W=0
285 NEXT N
300 PRINT #1
320 CLOSE  \ END
```

```
5 DIM A%(119,32)
20 OPEN '3TKATT.RPT' FOR OUTPUT AS FILE #1
25 OPEN 'ALLCASE.DAT' FOR INPUT AS FILE #2
29 FOR I=1 TO 118
30 FOR J=1 TO 27
35 INPUT #2,N%
40 A%(I,J)=N%
45 NEXT J \ NEXT I
55 FOR N=1 TO 17
60 PRINT N \ PRINT #1,N
80 FOR I=1 TO 118
90 FOR J=1 TO 118
92 IF I=J THEN 180
150 IF A%(I,N)=1 THEN IF A%(J,N)=1 THEN 160
155 GO TO 180
160 M=M+1
165 FOR K=18 TO 27
170 IF A%(I,K)=1 THEN IF A%(J,K)=1 THEN Y=Y+1
175 NEXT K
180 NEXT J
200 IF Y=0 THEN 225
205 C=C+1
210 Y=Y/(M*10)
225 PRINT #1,USING '#.##',Y;
230 W=W+Y
240 Y=0 \ M=0
250 NEXT I
275 IF C=0 THEN C=1
276 PRINT #1,W/C;W
280 C=0 \ W=0
285 NEXT N
300 PRINT #1
320 CLOSE  \ END
```

```
5 DIM A%(119,32)
20 OPEN '4TKATT.RPT' FOR OUTPUT AS FILE #1
25 OPEN 'ALLCASE.DAT' FOR INPUT AS FILE #2
29 FOR I=1 TO 118
30 FOR J=1 TO 27
35 INPUT #2,N%
40 A%(I,J)=N%
45 NEXT J \ NEXT I
55 FOR N=1 TO 17
60 PRINT N \ PRINT #1,N
80 FOR I=1 TO 118
90 FOR J=1 TO 119
92 IF I=J THEN 180
150 IF A%(I,N)<>A%(J,N) THEN 160
155 GO TO 180
160 M=M+1
165 FOR K=18 TO 27
170 IF A%(I,K)=1 THEN IF A%(J,K)=1 THEN Y=Y+1
175 NEXT K
180 NEXT J
200 IF Y=0 THEN 225
205 C=C+1
210 Y=Y/(M*10)
225 PRINT #1,USING '#.##',Y;
230 W=W+Y
240 Y=0 \ M=0
250 NEXT I
275 IF C=0 THEN C=1
276 PRINT #1,W/C;W
280 C=0 \ W=0
285 NEXT N
300 PRINT #1
320 CLOSE  \ END
```

```
5 DIM A%(119,32)
20 OPEN '6TKATT.RPT' FOR OUTPUT AS FILE #1
25 OPEN 'ALLCASE.DAT' FOR INPUT AS FILE #2
29 FOR I=1 TO 118
30 FOR J=1 TO 27
35 INPUT #2,N%
40 A%(I,J)=N%
45 NEXT J \ NEXT I
55 FOR N=18 TO 27
60 PRINT N \ PRINT #1,N
80 FOR I=1 TO 118
90 FOR J=1 TO 118
92 IF I=J THEN 180
150 IF A%(I,N)<>A%(J,N) THEN 160
155 GO TO 180
160 M=M+1
165 FOR K=1 TO 17
170 IF A%(I,K)=1 THEN IF A%(J,K)=1 THEN Y=Y+1
175 NEXT K
180 NEXT J
200 IF Y=0 THEN 225
205 C=C+1
210 Y=Y/(M*17)
225 PRINT #1,USING '#.##',Y;
230 W=W+Y
240 Y=0 \ M=0
250 NEXT I
275 IF C=0 THEN C=1
276 PRINT #1,W/C;W
280 C=0 \ W=0
285 NEXT N
300 PRINT #1
320 CLOSE  \ END
```

```
5 DIM A%(80,32)
20 OPEN 'QATT28.RPT' FOR OUTPUT AS FILE #1
25 OPEN 'NEWQATT.DAT' FOR INPUT AS FILE #2
28 FOR I=1 TO 80
30 FOR J=1 TO 32
35 INPUT #2,N%
40 A%(I,J)=N%
45 NEXT J \ NEXT I
50 P=1
52 FOR R=28 TO 30
55 N=1
60 PRINT #1,N
61 PRINT N
75 FOR Q=1 TO 3 \ PRINT #1,Q
80 FOR I=1 TO 80
82 IF A%(1,31)<>P THEN 250
90 FOR J=1 TO 80
92 IF I=J THEN 180
95 IF A%(1,31)<>P THEN 180
100 IF A%(I,R)=Q THEN IF A%(J,R)=Q THEN 150
105 GO TO 180
150 IF A%(I,N)=1 THEN IF A%(J,N)=1 THEN 160
155 GO TO 180
160 M=M+1
165 FOR K=18 TO 27
170 IF A%(I,K)=1 THEN IF A%(J,K)=1 THEN Y=Y+1
175 NEXT K
180 NEXT J
200 IF Y=0 THEN 225
205 C=C+1
210 Y=Y/(M*10)
225 PRINT #1,USING '#.##',Y;
230 W=W+Y
240 Y=0 \ M=0
250 NEXT I
275 IF C=0 THEN C=1
276 PRINT #1,W/C;W
280 C=0 \ W=0
300 PRINT #1
305 NEXT Q
310 NEXT R
320 CLOSE  \ END
```

```
5 DIM A%(80,32)
20 OPEN 'QATT28.RPT' FOR OUTPUT AS FILE #1
25 OPEN 'NEWQATT.DAT' FOR INPUT AS FILE #2
28 FOR I=1 TO 80
30 FOR J=1 TO 32
35 INPUT #2,N%
40 A%(I,J)=N%
45 NEXT J \ NEXT I
50 P=2
52 FOR R=28 TO 30
55 N=18
60 PRINT #1,N
61 PRINT N
75 FOR Q=1 TO 3 \ PRINT #1,Q
80 FOR I=1 TO 80
82 IF A%(I,31)<>P THEN 250
90 FOR J=1 TO 80
92 IF I=J THEN 180
95 IF A%(I,31)<>P THEN 180
100 IF A%(I,R)=Q THEN IF A%(J,R)=Q THEN 150
105 GO TO 180
150 IF A%(I,N)=1 THEN IF A%(J,N)=1 THEN 160
155 GO TO 180
160 M=M+1
165 FOR K=1 TO 17
170 IF A%(I,K)=1 THEN IF A%(J,K)=1 THEN Y=Y+1
175 NEXT K
180 NEXT J
200 IF Y=0 THEN 225
205 C=C+1
210 Y=Y/(M*17)
225 PRINT #1,USING '#.##',Y;
230 W=W+Y
240 Y=0 \ M=0
250 NEXT I
275 IF C=0 THEN C=1
276 PRINT #1,W/C;W
280 C=0 \ W=0
300 PRINT #1
305 NEXT Q
310 NEXT R
320 CLOSE \ END
```

# APPENDIX D

## SAMPLE QUESTIONAIRE AND CODING ILLUSTRATION

QUESTIONNAIRE
Please return to Laura Doyle
x4820 del. sta. 58-667

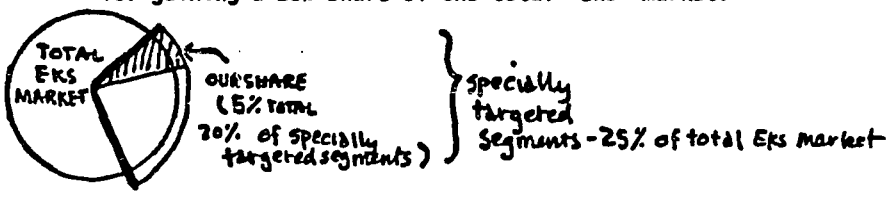
The following questions are part of a PhD thesis on business strategy planning. Please don't spend more than 10 minutes reading and answering the following questions. Thank you for participating.

---

The following paragraphs describe two situations and ask for your input or advice. Please read each paragraph and note your suggestions or response.

**A** The situation is this:

"We estimate the overall"eks" market is growing at about 25%/year. Our share is about 5% in the overall market and about 20% in the segments we specially target. These segments are also growing at 25%/year. The competition is small, specialized and fragmented. Our customers are two basic types: 70% OEM and 30% end-user. Our primary business strengths are the skill and experience of our product design team and our reputation for high quality products, and our strategic position within the company. The company expects us to put together a long range business plan which will describe a strategy for becoming more profitable and for gaining a 20% share of the total "eks" market."




WHAT STRATEGIES SHOULD WE LOOK AT FOR POSSIBLE INCLUSION IN OUR PLAN?

QUESTIONNAIRE-p2
please return to
Laura Doyle 58-667

**B** A direct report comes to you with the following proposal:

"We could develop a state-of-the-art 'isodriver' which we would market not only to our current customers but also to the liner and filler industry. We could pay for this development effort by reducing manufacturing costs on our current line."

Your response is: "That approach could work - but only if we were operating under the following conditions: ..."

WHAT CONDITIONS WOULD YOU LIST?

---

1. How many years have you worked at _____

   _____<8 years _____ 8-15 years _____>15 years

2. In which area do you feel you have the most experience and training?

   ____ engineering ____ manufacturing _____ marketing
   ____ general business _____other (what? _____)

3. What position do you now hold?

   ____ general manager
   ____ manager of a functional area (ie. marketing, manufacturing, etc.)
   ____ other (what? _____)

QUESTIONNAIRE
Please return to Laura Doyle
x~~4020~~ 6334 del. sta. 58-~~667~~ 691

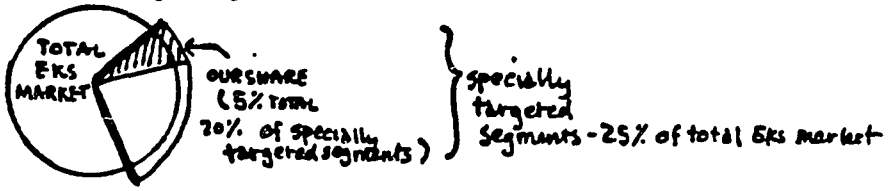
The following questions are part of a PhD thesis on business strategy planning. Please don't spend more than 10 minutes reading and answering the following questions. Thank you for participating.

---

The following paragraphs describe two situations and ask for your input or advice. Please read each paragraph and note your suggestions or response.

**A** The situation is this:

"We estimate the overall "eks" market is growing at about 25%/year. Our share is about 5% in the overall market and about 20% in the segments we specially target. These segments are also growing at 25%/year. The competition is small, specialized and fragmented. Our customers are two basic types: 70% OEM and 30% end-user. Our primary business strengths are the skill and experience of our product design team and our reputation for high quality products, and our strategic position within the company. The company expects us to put together a long range business plan which will describe a strategy for becoming more profitable and for gaining a 20% share of the total "eks" market."




WHAT STRATEGIES SHOULD WE LOOK AT FOR POSSIBLE INCLUSION IN OUR PLAN?

Pick product opportunities closest to our skills and experience in the rest of the market keeping in mind also our marketing channels' and sales channels' match to those new product opportunities vs the ones we are already in. (conservative approach.)

(25) Liberal approach (my preference) pick a totally new segment and design a product better than anyone elses. Because of our strengths and unbiases it will most likely be a succes

QUESTIONNAIRE-p2
please return to
Laura Doyle 58-667
671

**B** A direct report comes to you with the following proposal:

"We could develop a state-of-the-art 'isodriver' which we would market not only to our current customers but also to the liner and filler industry. We could pay for this development effort by reducing manufacturing costs on our current line."

Your response is: "That approach could work - but only if we were operating under the following conditions: ..."

WHAT CONDITIONS WOULD YOU LIST?

(17) (6) new product profit should be larger than the old products profit + the development cost of the new product (~~calculate~~ calculate old profit with newly reduced manufacturing cost)
If the total profit (including the reduced mfg cost) is more than the new profit product it is not worth d

---

1. How many years have you worked at Tektronix?

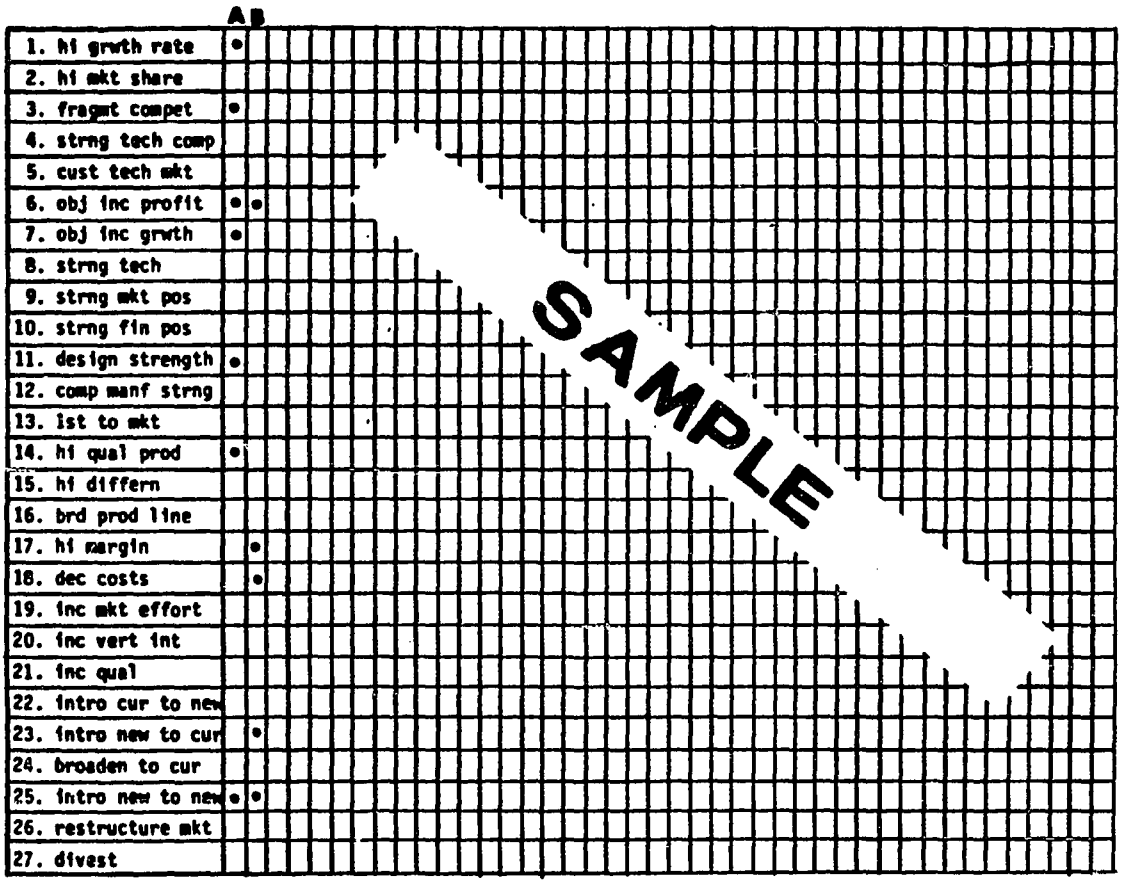
(2) _____ <8 years ___X___ 8-15 years _____ >15 years

2. In which area do you feel you have the most experience and training?

(1) ___X___ engineering ____ manufacturing _____ marketing
____ general business _____ other (what? _____)

3. What position do you now hold?

(2) ____ general manager
___X___ manager of a functional area (ie. marketing, manufacturing, etc.)
____ other (what? _____)


A B
1. hi grwth rate
2. hi mkt share
3. fragmt compet
4. strng tech comp
5. cust tech mkt
6. obj inc profit
7. obj inc grwth
8. strng tech
9. strng mkt pos
10. strng fin pos
11. design strength
12. comp manf strng
13. ist to mkt
14. hi qual prod
15. hi differn
16. brd prod line
17. hi margin
18. dec costs
19. inc mkt effort
20. inc vert int
21. inc qual
22. intro cur to new
23. intro new to cur
24. broaden to cur
25. intro new to new
26. restructure mkt
27. divest
SAMPLE

# APPENDIX E

## CASE STUDY REFERENCES AND CODED CONTENT DATA

CASE STUDIES FROM ELECTRONIC BUSINESS

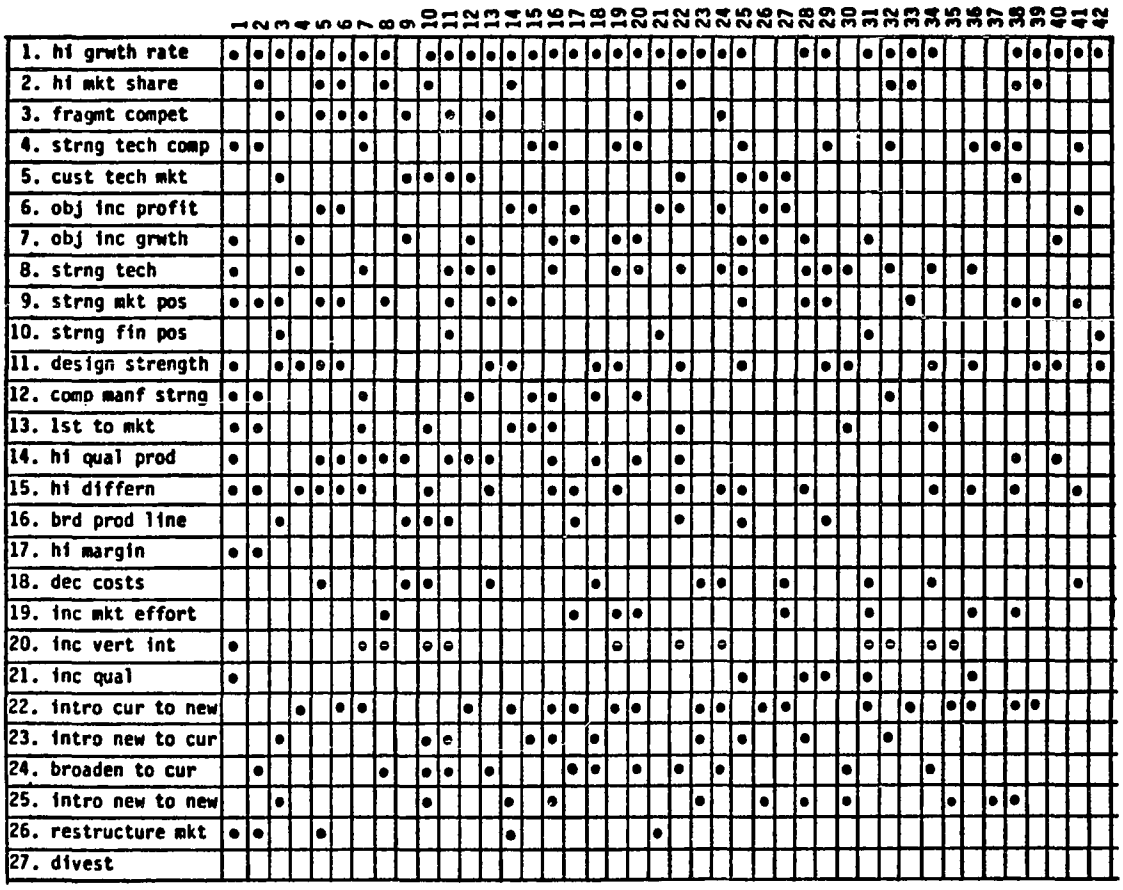
| COMPANY | ISSUE | DATE | PAGE |
|---|---|---|---|
| 1) Amdahl | vs. IBM | 3/79 | 30 |
| 2) Tektronix | graphics | " | 33 |
| 3) Cutler Hammer | semi-conductors | " | 36 |
| 4) Printronix | technology | " | 46 |
| 5) Rohm | risk | 4/79 | 44 |
| 6) Modicom | electronics | " | 49 |
| 7) Semi | RAMS | " | 52 |
| 8) NCR | cash registers | " | 68 |
| 9) Siemans | components | 6/79 | 48 |
| 10) Augut | new products | " | 59 |
| 11) M/A Com | telecommunications | " | 62 |
| 12) Synertek | technology | " | 67 |
| 13) LH research | growth | 11/78 | 46 |
| 14) Wavetek | competition | 12/78 | 36 |
| 15) Rockwell | microelectronics | " | 42 |
| 16) Storage Tech. | minicomputers | 1/79 | 37 |
| 17) | job shop | " | 40 |
| 18) Lear Siegler | terminals | " | 44 |
| 19) Prime | computers | " | 18 |
| 20) NEC | semiconductors | 6/78 | 22 |
| 21) | growth | 8/78 | 40 |
| 22) Qume | growth | 8/78 | 52 |
| 23) INTL Rectifier | growth | " | 57 |
| 24) Intersil | planning | " | 58 |
| 25) Hewlett Pack | | 9/79 | 71 |
| 26) Perkin Elmer | | " | 83 |
| 27) | new ferrites | " | 88 |
| 28) Xerox | future office | 7/79 | 68 |
| 29) Wang | word processing | 7/79 | 75 |
| 30) Hazeltine | | " | 79 |
| 31) Adda | | " | 77 |
| 32) National Semi | | 2/79 | 47 |
| 33) Data Products | | " | 52 |
| 34) Centronics | printers | " | 62 |
| 35) TRW | electronics | 5/79 | 42 |
| 36) Hewlett Pack | minicomputers | 8/79 | 54 |
| 37) Memorex | communications | " | 71 |
| 38) LTX | | " | 74 |
| 39) IMED | medical electronics | " | 79 |
| 40) Inboton | transistors | " | 80 |
| 41) Honeywell | minicomputers | 10/79 | 74 |
| 42) Durango | printers | " | 82 |
| 43) Comprint | printers | " | 87 |

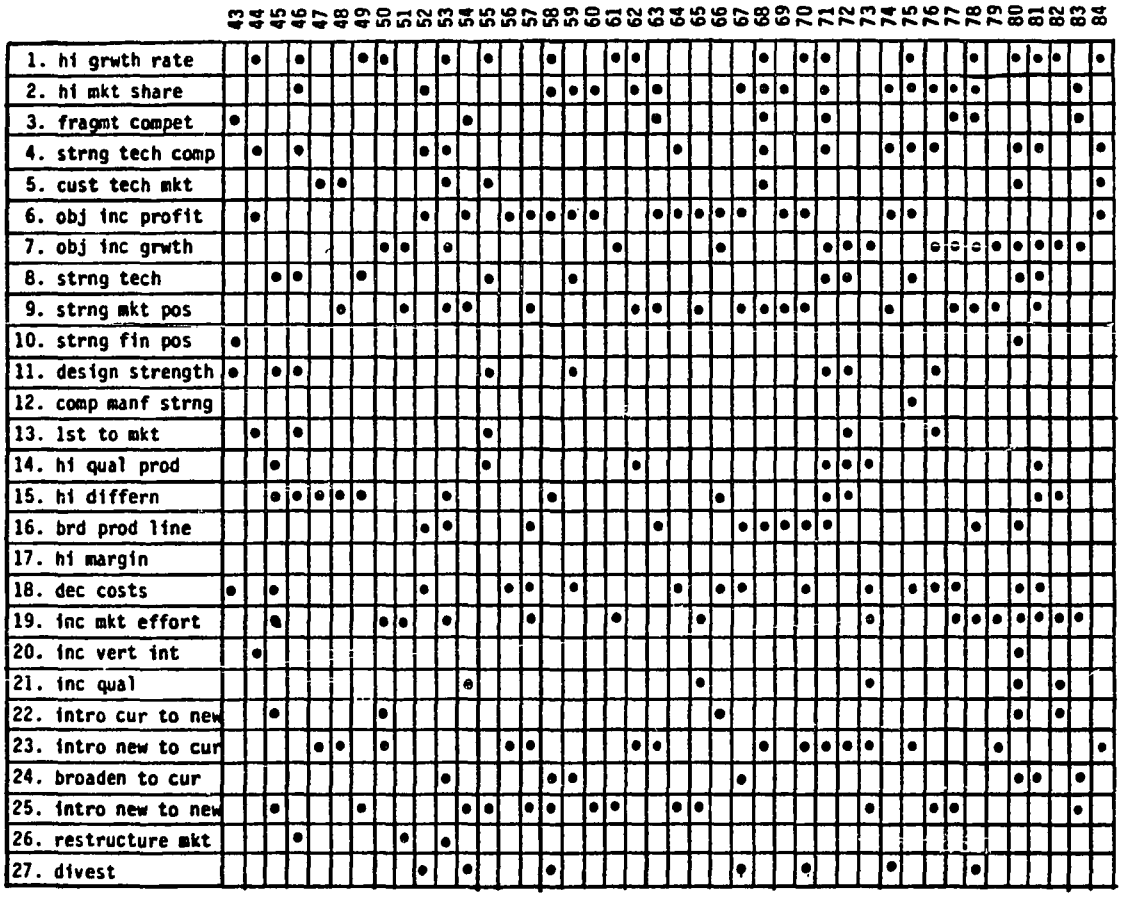
| | | | | |
|---|---|---|---|---|
| 44) | | innovation | 9/78 | 18 |
| 45) | Unitrode | | " | 23 |
| 46) | Biomation | medical electronics | " | 30 |
| 47) | Cipherdata | | 10/78 | 37 |
| 48) | Remex | new Markets | " | 44 |
| 49) | Sanders | printers | " | 46 |
| 50) | Univac Electric | | 12/79 | 94 |
| 51) | Fluke Trendar | | " | 98 |

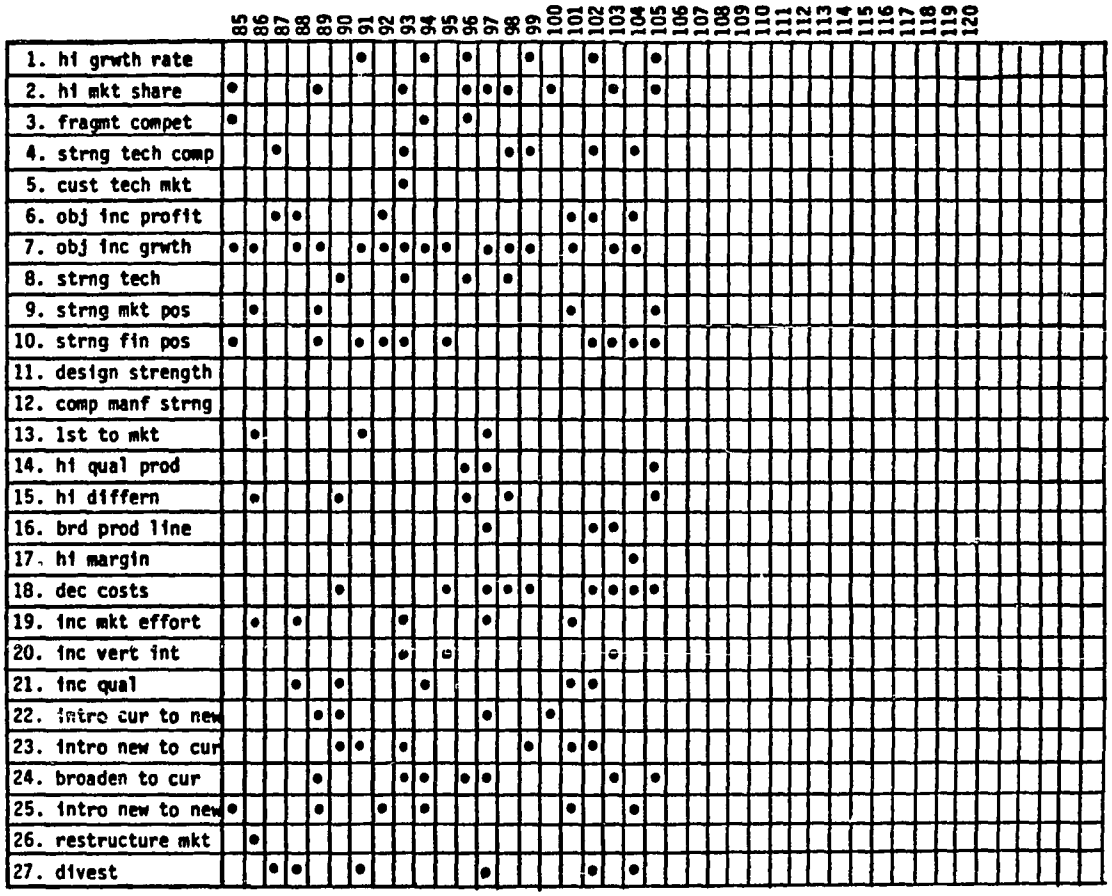
CASE STUDIES FROM BUSINESS WEEK

| COMPANY | DATE | PAGE |
|---|---|---|
| 52) Allen Group | 5/21/79 | 108 |
| 53) Philip Morris | 4/2/79 | 66 |
| 54) Hercules | 4/3/78 | 94 |
| 55) Gillette | " | " |
| 56) Kaufman Broad | 10/29/79 | 120 |
| 57) Gerber Scientific | " | " |
| 58) Phillips | 10/2/78 | 64 |
| 59) Green Giant | " | " |
| 60) Narco | 11/5/79 | 145 |
| 61) McDonnel Douglas | 10/23/78 | 88 |
| 62) US Steel | 10/9/78 | 68 |
| 63) DiGiorgio | " | " |
| 64) Waterford Glass | " | " |
| 65) Gerber | 10/16/78 | 82 |
| 66) Celanese | 10/8/79 | 116 |
| 67) Puritan Fashions | 8/13/79 | 68 |
| 68) World Airways | 6/25/79 | 110 |
| 69) Amstar | " | " |
| 70) Pitney Bowes | " | " |
| 71) Hoover | 6/18/79 | 110 |
| 72) Holiday Inn | 7/18/79 | 158 |
| 73) Dunn Bradstreet | 8/27/79 | 72 |
| 74) Jennaire | 12/18/78 | 73 |
| 75) Dean Foods | 12/18/78 | " |
| 76) US Steel | 9/17/79 | 78 |
| 77) Texas Instrument | 9/18/78 | 66 |
| 78) Bell & Howell | 7/30/79 | 88 |
| 79) Consolid. Cigar | " | " |
| 80) Ralston Purina | 9/10/79 | 112 |
| 81) Toro | " | " |
| 82) Diners Club | 1/15/79 | 100 |
| 83) Checker Motors | " | " |
| 84) Olivetti | 2/12/79 | 93 |
| 85) Alexander Baldwin | " | " |
| 86) Perrier | 1/22/79 | 64 |
| 87) GAF | " | " |
| 88) Peoples Drug | " | " |

| | | | |
|---|---|---|---|
| 89) | Hersheys | 1/29/79 | 118 |
| 90) | Kawasaki Steel | " | " |
| 91) | Storer Broadcast | " | " |
| 92) | Am. Nat Res | 2/5/79 | 90 |
| 93) | General Electric | " | " |
| 94) | Varlen | " | " |
| 95) | Boise Cascade | 2/19/79 | 54 |
| 96) | Service Master | " | " |
| 97) | Stanley Works | 2/26/79 | 125 |
| 98) | Metpath | " | " |
| 99) | G.D. Searle | 3/19/79 | 150 |
| 00) | Allendale Insurance | " | " |
| 01) | Woodward Lothrop | " | " |
| 02) | ESB Rayovac | 3/12/79 | 116 |
| 03) | Sigma Motor | " | " |
| 04) | Guardian Industries | " | " |
| 05) | Readers Digest | 3/5/79 | 98 |


1. hi grwth rate
2. hi mkt share
3. fragmt compet
4. strng tech comp
5. cust tech mkt
6. obj inc profit
7. obj inc grwth
8. strng tech
9. strng mkt pos
10. strng fin pos
11. design strength
12. comp manf strng
13. 1st to mkt
14. hi qual prod
15. hi differn
16. brd prod line
17. hi margin
18. dec costs
19. inc mkt effort
20. inc vert int
21. inc qual
22. intro cur to new
23. intro new to cur
24. broaden to cur
25. intro new to new
26. restructure mkt
27. divest
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42


43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84
1. hi grwth rate
2. hi mkt share
3. fragmt compet
4. strng tech comp
5. cust tech mkt
6. obj inc profit
7. obj inc grwth
8. strng tech
9. strng mkt pos
10. strng fin pos
11. design strength
12. comp manf strng
13. 1st to mkt
14. hi qual prod
15. hi differn
16. brd prod line
17. hi margin
18. dec costs
19. inc mkt effort
20. inc vert int
21. inc qual
22. intro cur to new
23. intro new to cur
24. broaden to cur
25. intro new to new
26. restructure mkt
27. divest


85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120
1. hi grwth rate
2. hi mkt share
3. fragmt compet
4. strng tech comp
5. cust tech mkt
6. obj inc profit
7. obj inc grwth
8. strng tech
9. strng mkt pos
10. strng fin pos
11. design strength
12. comp manf strng
13. 1st to mkt
14. hi qual prod
15. hi differn
16. brd prod line
17. hi margin
18. dec costs
19. inc mkt effort
20. inc vert int
21. inc qual
22. intro cur to new
23. intro new to cur
24. broaden to cur
25. intro new to new
26. restructure mkt
27. divest