

PLANNED PATTERNS OF STRATEGIC BEHAVIOR AND THEIR RELATIONSHIP TO BUSINESS-UNIT PERFORMANCE¹

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This study examined the moderating role of planning sophistication on the strategy-performance relationship in 97 manufacturing firms representing 69 different industries. Cluster analysis was used to group the firms according to their strategic orientation. Five groups emerged. Significant differences in performance across selected groups were found establishing a 'baseline' strategy-performance relationship. Strategic orientations emphasizing product innovation or those incorporating 'efficiency' and 'differentiation' patterns of strategic behavior were associated with significantly higher performance levels than two other groups. The nature of each firm's planning process was then introduced via a two-way ANOVA procedure to determine if 'process sophistication' moderated the strategy-performance 'baseline'. Level of planning sophistication was found to significantly moderate the previously established strategy-performance baseline.

The primary purpose of this research was to *simultaneously examine* the impact of *intended strategies* (Mintzberg, 1978) and *planning processes* on business-unit *performance*. Intended strategies refer to the pattern(s) of strategic behavior prioritized by an organization's top management. Planning processes refer to the basic level of sophistication inherent in organizational activities designed to derive and facilitate the implementation of intended strategies.

Strategic management research in the 1960-75 time period focused heavily on the planning-performance relationship in business organi-

zations—a time when adopting and using a strategic planning *process* was a pervasive concern in top management circles. As Hofer noted in a comprehensive review of the strategic management literature at that time, 'much greater emphasis has been placed on the organizational process by which strategies are developed than on the content of the strategies themselves' (1975: 784). The focus of strategic management research underwent a major shift during the 1975-85 time period toward the study of the content of corporate and business strategies and the strategy-performance relationship in business organizations. As Fahey and Christensen recently noted, 'during the last decade the change [in the focus of strategic management research] has been dramatic: It is in the area of strategy content

¹ An earlier version of this research was presented in the Business Policy and Planning Division of the Academy of Management annual meetings in San Diego, CA.

that the field has made the most progress' (1986: 170). This academic shift has taken place at a time when *process*-knowledgeable top managers have become increasingly concerned with the *content* and implementation of competitive strategies.

A subtle but important distinction can be seen between the evolution of strategic management research and the concerns of practicing strategic managers. Strategic management research has evolved from a narrow, *process* focus to a similarly narrow, *content* focus as researchers have attempted to understand the strategic management-organizational performance relationship. The strategic management concerns of top managers have evolved incrementally from process considerations to a concern with *both* the content of strategies and the processes for deriving and implementing effective strategies. Figure 1 depicts this subtle but important difference. Strategic management research has moved somewhat arbitrarily from studies of one relationship (planning-performance) to studies of another relationship (content-performance) rather than incrementally incorporating both concerns (process and content) in the study of organizational performance.² White and Hamermesh (1981), in their article conceptualizing the need for, and elements of, an 'integrative' model of business unit performance, point out the lack of integration between content and process in research efforts:

To date, the theoretical development of these concepts [content and process] and the empirical testing of their relationship to performance have proceeded largely independent of one another. As a result, fairly rich theory and a considerable body of empirical research already independently link these concepts to performance. However, strong links and overlaps between the independent variables used by the different schools of thought have gone largely unstudied. (1981: 218).

The research reported in this paper attempts to explore the ramifications of this gap by integrating measures of the nature of a firm's planning process *and* the content of its strategy in a study of the strategic management-organization performance relationship.

Research overview

This study was conducted in three phases. The purpose of Phase 1 was to identify similarities in the strategic orientations of an interindustry sample of manufacturing firms. Orientations were defined by each CEO's report on the use of a variety of competitive methods by their firm. Central to the success of the research project was the emergence of a range of similar strategic orientations among business units across several manufacturing industries. These orientations were sought to serve as the basis for measuring (via grouping) the 'content' of a firm's intended strategy.

Once firms were classified into different strategic orientations, Phase 2 examined the content-performance relationship. The purpose of this step was two-fold. Conceptually we wanted to compare the content-performance relationship in our sample with the theoretical and empirical literature that comprises the current 'content' focus of strategic management research. Methodologically, we wanted to establish a statistical 'baseline' for the content-performance relationship within our sample, against which we would compare the broader content-process-performance model.

Finally, Phase 3 introduced a measure of the sophistication of each firm's planning process into this content-performance 'baseline'. This 'process' addition allowed the authors to simultaneously study process and content concerns in a more comprehensive operationalization of the relationship between strategic management and organizational performance.

² Two recent, extensive literature reviews are available which corroborate this point. Fahey and Christensen (1986) review and categorize major research related to strategy content. It is readily apparent, indeed a key point they make, that 'strategy content research is defined as research which examines the content of decisions regarding the goals, people, and/or competitive strategies of corporations or of one or more of their business units' (p. 168). Shrader, Taylor and Dalton (1984) review and categorize major research related to the strategic planning broadly defined-organizational performance relationship and show that most studies focused

on process-performance or structure-performance relationships. Both reviews recognize the lack of (and need for) research simultaneously incorporating process and content concerns. 'An appreciation of the interacting nature of business-level strategy . . . adds to the understanding of the planning-performance relationship' (Shrader, *et al.*, 1984: 159). And while 'the distinction [between process and content] is useful, [there are] . . . obvious interactions between the two in organizational life', (Fahey and Christensen, 1986: 168).

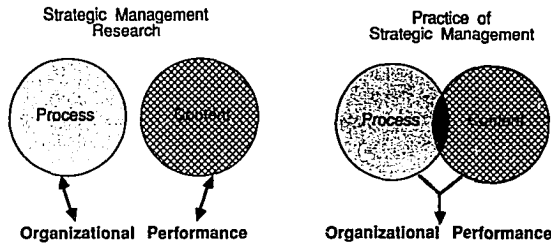


Figure 1. Process and content focus in strategic management research versus practice

THEORETICAL BACKGROUND AND EMPIRICAL RESEARCH

Strategy content and content-performance research

The field of strategic management has focused increased attention on the development of typologies as a means to study the concept of business-level strategy. These typologies attempt to offer a mechanism through which the *content* of different business strategies, or patterns of strategic behavior, can be measured or classified. More recently referred to as 'generic strategies', 'gestalts' or 'strategic archetypes', these typologies can be organized into three broad groups. Strategy categories in the first typology group are broad-based, qualitative characterizations of the 'strategic' behavior of business organizations. Utterback and Abernathy (1975), Miles and Snow (1978), Hofer and Schendel (1978), and Porter (1980) provide examples of these 'qualitative' typologies.

A second group, represented by studies such as Buzzell *et al.* (1975) and Zeithaml and Fry (1984), provide typologies that are based on the measurement of a few (usually two) indicators of the firm's strategic situation. For example, Zeithaml and Fry (1984) combined 'change in relative market share' and 'change in profitability' to create a two-dimensional typology matrix that identifies four strategy labels. The studies in this group build on the typologies developed in the previous group primarily by adding a limited number of tangible measures to operationalize different strategies.

Studies by Galbraith and Schendel (1983), Hambrick (1983c,d) and Dess and Davis (1984) are representative of a third group wherein

strategy typologies are derived from a factor-analytic (followed by clustering) examination of numerous (often 20 or more) and different measures of a firm's strategic behavior. This group represents perhaps the 'state-of-the-art' in operationalizing strategy by combining multiple measures of the strategy phenomenon with the ability to employ empirical techniques deriving a limited set of different strategic orientations.

Assessment of performance outcomes associated with different strategic orientations has been a regular component of studies employing the 'typology approach' to operationalizing strategy content. Each study of strategy content (reviewed above) that has addressed the content-performance association has offered evidence that supports an association or evidence that significantly different levels of performance are associated with different business-level strategies. While performance has been a regularly studied variable, the diversity of the typologies employed, and the limited number of studies to date, lead to two inductive observations summarizing (business-level) strategy content-organizational performance research.

First, strategies incorporating a major emphasis on product quality and/or product development consistently emerge among the top performers in each study. Hambrick's (1983a) study of Miles and Snow's prospectors found this to be a prominent functional attribute. Zeithaml and Fry (1984) found this to be a major strategic variable differentiating 'superstar' businesses—those able to simultaneously maintain increases in both profitability and market share—from lesser performers. Hall (1980) and Phillips, Chang and Buzzell (1983) found that product quality-based differentiation strategies and cost leadership

planning were both viable routes to superior profitability. They also reported superior performance when these two strategies were jointly pursued.

Another common thread across these studies is the consistent absence of any consideration of process-related variables as either independent or moderating variables in the content-performance relationship. The *F*-values reported in each study, while frequently significant, usually reflect a fairly large error variance in relation to the explained (strategy content) variance. The error variance implicitly includes 'process' considerations, as authors of selected studies have suggested. Galbraith and Schendel note that 'one important issue not addressed in this paper is that of the appropriate conditions for formulating and implementing the different strategy types' (1983: 172). Dess and Davis critique previous typology models and studies, suggesting that measures associated with those efforts 'may inhibit the recognition of the central threat or underlying logic of a firms' strategy by failing to consider the role of strategic choice as exercised by key organizational members' (1984: 471). These comments suggest the need to include measurement of 'process' considerations in the study of a strategic management-organizational performance relationship.

Strategy (planning) process and planning-performance research

It would be unwieldy to review all the planning and planning-performance literature applicable to this paper. Three recent, comprehensive reviews of the planning-performance literature are available and provide in-depth coverage of major studies (Shrader, Taylor and Dalton, 1984; Scott, Mitchell and Birnbaum, 1981; Pearce, Freeman and Robinson, 1985).

Three summary observations can be drawn from this literature that are pertinent to the research reported in this paper. First, much like the content research reviewed earlier, planning research has looked almost exclusively on the planning-performance relationship to the exclusion of other, most notably strategy content, considerations. Only a limited set of control variables (e.g. industry, environment volatility, firm size) have been considered. Second, process researchers have recently suggested that planning

should be studied as an exogenous variable influencing a perhaps more direct association between strategy content and organizational performance (Shrader *et al.*, 1984). Finally, common to most studies in the 'process' stream of research has been the reliance on measures of the degree of planning formality as the appropriate criteria for differentiating planners from non-planners. Most studies have specifically assessed the extent of written documentation (i.e. the 'plans'), the level of managerial involvement, and linkage of plans to managerial action as the basis for operationalizing planning formality.³

Content-planning-performance research

The literature review to this point has shown that previous studies have not integrated the two streams of content and process concerns when attempting to study the strategic management-organizational performance relationship. However, each 'separate' stream of research has started to argue for the need to conduct research that simultaneously considers content and process issues.

A recent study by White (1986) indirectly supports the value of an integrated approach in addressing the strategic management-organizational performance relationship. Addressing 'organizational context' implications for Porter's (1980) generic strategies, White found level of autonomy and sharing of functional responsibility to have a significant impact on performance associated with low cost and differentiation strategies across a subsample of SBUs in the PIMS data base. While generally seen as a structural considerations, his interpretation in this and a related paper (Bart and White, 1985) lend credence to the need to study planning as a moderator of the strategy-performance relationship. Bart and White observe that:

While the behavior of lower level SBU managers can be affected by formal organizational attributes, it is our contention that the *process of management* within these formal structures (i.e.,

³ The most common methodological procedure to do this has been the Guttman scaling procedure (Guttman, 1944). Planning researchers employing or recommending the technique include Wood and LaForge (1979; 1981); Shrader *et al.* (1984); Robinson and Pearce (1983); and Venkatraman and Ramanujam (1986).

senior managers' interactions with lower level managers in strategically different situations) is what really counts. . . . It is the *process of management* that should be differentiated based on business unit strategy (1985: 17).

Allowing a reasonable interpretation of Bart and White's 'process of management' as being interrelated with the process of strategic planning (see Steiner's (1979: 3) planning definition), Bart and White's conclusions reinforce the growing sentiment among content and process researchers that suggests the need for broad-based exploratory research of the content-planning-performance relationships (White and Hamermesh, 1981; Galbraith and Schendel, 1983; Dess and Davis, 1984; Schrader, *et al.*, 1984; Hamermesh, 1986).

While researchers have suggested the need to simultaneously study strategy content and process as determinants of organizational performance, research of this type has not been undertaken. The present study is an initial attempt to simultaneously explore the impact of strategy content and the strategy planning process on organizational performance. As an exploratory study the research design sought to use methods to operationalize *content* and *process* that represent the most prominent approaches in each research stream.

METHOD

Sample

The exploratory nature of this research necessitated strict parameters for sample selection. First we wanted to study single (independent) business units so that the interaction of content and process issues could be examined in its purest form independent of confounding, corporate-level considerations. Second, focusing on 'pure' business units necessitated an interindustry sample in order to ensure a sample size sufficient to afford the opportunity for variability in our measures of strategy *content* and planning *process*.⁴ Finally a regionally restricted field setting (a

predominantly industrialized southeastern state) was selected for three reasons: (1) to introduce greater control over external, non-industry factors (e.g. taxation, state regulation, and wage rates); (2) to be able to use a current industrial directory of the state (North Carolina) as the basis for drawing a random sample; and (3) because of resource limitations to support this research.

Field data were solicited from 609 manufacturing CEOs via the instrument described in the next section. Ninety-seven CEOs agreed to provide some or all of the information about their firms, producing a 16 percent response rate. Firms participating in the study represented 60 different manufacturing industries. Annual sales and employment figures ranged from \$8.7 million with 67 employees to \$68.9 million with 412 employees. The average firm had \$32.1 million in sales with 278 employees.

Instrument

A research instrument was developed to serve as the basis for the data-gathering phase of this field study that would accommodate interview and self-reported approaches to obtaining CEO responses about their firm's strategy, planning, and performance. The 'strategy' section included 27 competitive methods that might be used to characterize different strategic behaviors. The selection of these 27 competitive methods for inclusion in the instrument was accomplished through several procedures. Competitive dimensions associated with the strategy typologies of Miles and Snow (1978), Hofer and Schendel (1978), and Porter (1980) were extracted. Questionnaire items used by previous strategy researchers (Bourgeois, 1980; Dess and Davis, 1984; Hambrick, 1980 and 1983a) served as a second source. Finally, the list of competitive methods was reviewed for comprehensiveness and wording with a random set of five manufacturing CEOs within the target population.

strategies or planning activities. So we chose to select a sample of similar business units across a range of manufacturing industries. We included two methodological features in our research design to overcome the well-documented potential for confounding industry effects, particularly on profitability. First, we measured performance for each firm by ranking their performance 'relative to other competitors *within their same industry*'. Second, we obtained a random cross-section of manufacturing firms representing 60 industries with no more than four firms being in the same industry.

⁴ Eliminating business units in multi-business firms from our sample diminished the likelihood of getting a sufficient sample size in one of two industries, suggesting the need to seek firms across multiple, manufacturing industries. And focusing on single (independent) business units within one or two industries might also encounter a very limited range of

The 'strategy' section of the instrument asked CEOs to indicate the degree to which their firm emphasized each of the 27 competitive methods on five-point Likert scales. Their responses were subjected to a Spearman-Brown split-half reliability procedure as a final step in extracting reliable competitive method measures for subsequent analysis. This analysis yielded twenty-two measures (see Table 1) with reliability

coefficients greater than 0.90 that were selected for subsequent analysis.

The 'process' section of the instrument asked CEOs to describe their company's strategic planning activities. The CEO selected one of the six items on a Guttman scale of planning sophistication validated in previous research by Wood and LaForge (1979, 1981) and successfully employed by Robinson and Pearce (1983). See

Table 1. Competitive methods question

It is rather common for firms competing in the same industry to choose different methods through which to compete. The methods chosen usually reflect particular strengths of the firm, specific demands of particular target methods, and in general the chosen strategy of the firm. Listed below are several factors that might be used as methods of competing in your industry. Rarely if ever would any firm place a *major* emphasis on all of these. Rather, most firms *selectively* emphasize particular ones which top management feels best operationalize a chosen strategy.

Please indicate the degree to which your firm emphasized each competitive method *over the past 5 years*. (Circle *one* number beside each competitive method.)

Competitive method	Degree of emphasis over past 5 years				
	Not considered	Very limited emphasis	Some emphasis	Considerable emphasis	Major, constant emphasis
A. Pricing below competitors	1	2	3	4	5
B. New product development	1	2	3	4	5
C. Broad product range	1	2	3	4	5
D. Extensive customer service capabilities	1	2	3	4	5
E. Specific efforts to insure a pool of highly trained experienced personnel	1	2	3	4	5
F. Extremely strict product quality control procedures	1	2	3	4	5
G. Continuing, overriding concern for lowest cost per unit	1	2	3	4	5
H. Maintaining high inventory levels	1	2	3	4	5
I. Narrow, limited range of products	1	2	3	4	5
J. Building brand identification	1	2	3	4	5
K. Developing and refining existing products	1	2	3	4	5
L. Strong influence over channels of distribution	1	2	3	4	5
M. Major effort to insure availability of raw materials	1	2	3	4	5
N. Major expenditure on production process-oriented R&D	1	2	3	4	5
O. Only serve specific geographic markets	1	2	3	4	5
P. Promotion advertising expenditures above the industry average	1	2	3	4	5
Q. Emphasis on the manufacture of speciality products	1	2	3	4	5
R. Concerted effort to build reputation within industry	1	2	3	4	5
S. Innovation in manufacturing process	1	2	3	4	5
T. Products in higher priced market segments	1	2	3	4	5
U. Products in lower priced market segments	1	2	3	4	5
V. Innovation in marketing techniques and methods	1	2	3	4	5

Table 2 for this 'process' question. This scale was also selected because it was consistent with previous planning scales in the 'process' literature reviewed earlier. Both the planning and competitive method measures described above are consistent with the recommendations by Venkatraman and Ramanujam (1986, 1987) for the use of perceptual measures to operationalize strategic management concepts. They also build upon recent suggestions among content researchers (Dess and Davis, 1984; Galbraith and Schendel, 1983) to incorporate the notion of strategic choice in multimeasures of the strategy concept, while at the same time accommodating the purpose and nature of planning process activities.

The final section of the instrument solicited performance information on each firm in two

ways. First, each CEO was asked to provide information on firm sales, return on assets (ROA), and return on sales (ROS) for the beginning and ending years of the 5-year period under study. Forty-two firms provided most or all of this information. Second, each CEO was asked to provide a subjective, numerical evaluation of the firm's performance on four performance dimensions in comparison to its overall industry (see Table 2). These dimensions included the three named above, plus the firm's 'overall' performance.

All of the sample firms responded to this subjective, numerical evaluation question. As a validation procedure, the responses of the 42 firms which provided objective measures at two points in time were correlated with their responses

Table 2. Firm Comparison and Planning Sophistication

(a) Subjective performance criteria question

The purpose of this section of the questionnaire is to compare YOUR firm with firms of *similar sales volume in your industry and region* on five items.

To the best of your knowledge, please:

Circle the number (from 1 to 5) which you feel *best* estimates how YOUR FIRM currently compares to similar firms in your industry and region on each item.

Characteristics	Currently (Compared to similar sales volume firms in your industry today)				
	Top 20%	Next 20%	Middle 20%	Lower 20%	Lowest 20%
1. After-tax return on total assets	1	2	3	4	5
2. After-tax return on total sales	1	2	3	4	5
3. Firm total sales growth over past 5 years	1	2	3	4	5
4. Overall firm performance/success	1	2	3	4	5

(b) Planning sophistication question

Which one of the following best describes your company's strategic planning activities over the last 5 years?

- The company has a short-range (approximately 1 year) profit plan.
- The company has a planning process such that the final plans are accepted by those responsible for their attainment.
- There is a person or group whose time responsibility is to coordinate a company-wide strategic planning effort.
- The company's top management has developed a climate in the company which supports the planning effort.
- The company's top management has developed a formal statement of what business the company is in, or wants to be in.
- The company's plans are used to judge managerial performance.

on the subjective measurement scales. Spearman correlations ranged from 0.45 to 0.92, all significant at the 0.001 level or higher, offering strong support for the validity of the subjective measurement technique as a substitute for 'objective' data. The reliability and validity of this technique for 'subjectively' measuring these performance dimensions was strongly supported by Dess and Robinson (1984). It has also received support in recent work by Venkatraman and Ramanujam (1986, 1987).⁵

ANALYSIS AND RESULTS

The data on the 97 companies were analyzed in the three phases. Phase 1 established a set of strategic orientations (strategy content) across the sample firms. Phase 2 examined performance differences across different strategic orientations to establish a content-performance 'baseline'. Phase 3 then examined the moderating effect of planning (*process*) sophistication on the content-performance baseline.

Phase 1: Identify different strategic orientations across the sample firms

Phase 1 employed cluster analysis to group the sample firms into different strategic orientations.

⁵ The correlations reported above were derived as follows. CEOs provided objective sales figures at two points in time covering the beginning and ending 5-year period addressed in the subjective question about 'sales growth' (see Table 2). A percentage growth in sales was then computed across the two objective data points and this figure was correlated with the subjective sales growth ranking across the sample. 'Objective' profit-after-tax figures provided by each CEO were divided by 'objective' sales, averaged for the two periods provided, and then correlated with subjective rankings on after-tax return on sales. The subjective ranking, called 'Overall firm performance/success', was correlated with each 'objective' measure.

These procedures showed 'objective', self-reported measures of performance to be highly correlated with subjective, industry-related rankings. They also complied with suggestions in recent work (cited above) addressing ways to overcome bias in the use of subjective performance measures. At the same time, readers should recognize the potential for bias on discrepancy in 'self-reported' objective measures of performance correlated with subjective performance measures obtained from the same CEO. The same potential for bias is present in the use of self-reported, subjective measures of planning sophistication. No form of objective measure was obtained to corroborate each CEO's planning scale response. These measurement deficiencies present limitations future researchers should seek to overcome.

This approach has been strongly recommended by Hambrick (1983d: 706) and employed by several 'content' studies (e.g. Galbraith and Schendel, 1983; Hambrick, 1983b-d; Dess and Davis, 1984).

The responses from 97 firms indicating the degree to which they emphasized 22 competitive methods over the last 5 years were subjected to a factor analysis procedure. A varimax rotation of the initial factor matrix yielded four distinct factors with eigenvalues greater than two as shown in Table 3.⁶

The factors displayed in Table 3 are rank-ordered (left to right) according to proportion of explained variance.⁷ A total of 16 of the 22 competitive methods exhibited factor loadings greater than or equal to ± 0.46 on at least one factor. The factor loading of ± 0.46 was selected for two reasons. First, it may be considered to be a conservative criterion (Kim and Mueller, 1978). Second, it represents a natural breakpoint in the 'highest' factor loadings since the next highest loading is 0.398. Two of the competitive methods (V2 and V22) loaded highly on two factors, indicating that they may be relevant to more than one pattern of strategic behavior.

The four factors reflect four distinct, internally consistent patterns of strategic behavior across the interindustry sample. Four-to-five competitive methods loaded on each factor with only two methods (new product development and innovation in marketing techniques) loading on more than one factor. The factor loadings reveal four distinct, internally consistent patterns of strategic

⁶ Seven factors were present using eigenvalues greater than one. The three additional factors at this level were viewed as 'consistency check' factors because each included only two significant items and in each case they were positive and negative loading opposites (e.g. broad product line and narrow product line) that individually loaded on an earlier factor with an eigenvalue greater than two.

⁷ A common methodological weakness that might threaten the reliability and validity of the factor analytic results is the possible instability of the factor loadings. Instability of the factor loadings because of sampling error may result from the use of a relatively small ratio of subjects. However, in the current study the ratio of 4.4 (97 subjects over 22 measures) is well within the desirable but conservative ratio of four or five to one advocated by some authors (Hair *et al.*, 1979). The sample size also exceeds the minimum suggested by Lawley and Maxwell (1971) for the maximum-likelihood solution method of confirmatory factor analysis. They suggest that this test is appropriate if the sample contains at least 51 more cases than the number of variables under consideration. In the current study the difference was a more favorable 75.

Table 3. Competitive methods across industries: factor structure

Competitive methods	Factor loadings				Communalities
	Factor one: Efficiency	Factor two: Service/high price	Factor three: Product innovation and development	Factor four: Brand and channel influence	
A. Pricing below competitors	-0.03747	-0.49766	0.16471	0.66370	0.374800
B. New product development	-0.07374	-0.04691	0.54057	0.47758	0.649800
C. Broad product range	-0.00105	0.04051	0.23628	0.10443	0.760800
D. Extensive customer service	0.30130	0.65563	-0.04849	0.13493	0.557695
E. Insure trained personnel	0.64985	0.36827	0.10743	0.00925	0.599821
F. Strict quality control	0.77357	0.04567	0.02699	-0.01440	0.627557
G. Lowest cost per unit	0.63428	-0.37409	0.08654	0.09942	0.680940
H. Maintain high inventory	0.02350	0.02418	0.22029	0.12219	0.752859
I. Narrow range of products	-0.10685	-0.02936	0.11143	-0.06536	0.774233
J. Build brand identification	0.16143	0.06332	0.11513	0.82540	0.758262
K. Develop and refine established products	0.17510	0.07033	0.62699	0.16312	0.509441
L. Influence channels of distribution	-0.04746	0.19826	0.18266	0.74187	0.690142
M. Insure raw materials	0.27412	-0.05827	0.22199	0.18531	0.409208
N. Process-oriented R&D	0.11359	0.15675	0.58090	-0.35741	0.763272
O. Serve specific geographic markets	-0.02634	-0.03475	-0.13771	-0.02401	0.697567
P. Promote and advertise above industry	0.12105	0.04508	-0.10186	0.38202	0.610476
Q. Emphasis speciality products	0.06059	-0.05827	0.73433	0.11227	0.593342
R. Build reputation in industry	0.14405	0.66513	0.29021	0.18732	0.618902
S. Innovation in manufacturing process	0.57587	0.25006	0.28924	0.04233	0.646174
T. High-priced market segments	0.17450	0.56523	0.39849	0.15857	0.641475
U. Low-priced market segments	0.24660	-0.61556	0.07091	-0.00324	0.530433
V. Innovation in marketing techniques	0.57535	0.13853	0.02543	0.46377	0.721905
Eigenvalue	2.47340	2.26580	2.18560	2.14760	

behavior as interpreted by the authors in Table 4. We have named the four strategic behavior patterns 'efficiency', 'service', 'product innovation', and 'brand channel influence' based on our interpretation of the competitive methods that loaded on each respective factor. The relatively equal eigenvalues suggest that each pattern of strategic behavior is equally important in explaining the variability in strategic behavior among the sample firms.

Cluster analysis was used to group the sample firms into different 'strategic orientations' based on the nature of their emphasis on different patterns of strategic behavior. A five-cluster solution was found to maximize the distances between cluster means across the four factor patterns. The cluster means associated with each pattern of strategic behavior in the five strategic groups are shown in Table 5. The means suggest

that while one strategic group (cluster 4: emphasis on product innovation/development) predominantly emphasized one pattern of strategic behavior, one group (cluster 2) did not emphasize any particular pattern and three groups (clusters 1, 3 and 5) appear to have emphasized multiple patterns of strategic behavior. Table 6 describes the strategic orientation of each cluster in greater detail.

Phase 2: Establish a content-performance baseline

The cluster analysis indicated that firms in this sample can be classified into five strategic groups with different strategic orientations that reflect different levels of emphasis on the four underlying patterns of strategic behavior. Phase 2 of our research tested whether performance differences

Table 4. Four patterns of strategic behavior across six manufacturing industries

Pattern Classification ^a	Competitive methods associated with each pattern of strategic behavior	Comments and interpretation
Efficiency	<ul style="list-style-type: none"> —Seek to insure trained personnel —Pursue strict quality control —Emphasize lowest cost per unit —Push innovation in manufacturing processes —Innovation in marketing techniques 	Each competitive method is consistent with an effort to ensure efficient, cost-effective operations
Service	<ul style="list-style-type: none"> —(Negative loading) no concern for pricing below competitors —Extensive customer service —Build reputation in <i>industry</i> —Serve high-priced market segments —(Negative loading) avoid low-priced market segments 	Consistent concern with extensive service to customers in higher-priced markets with the development of an <i>industry</i> reputation ('Cadillac of the industry')
Product innovation and development	<ul style="list-style-type: none"> —New product development —Develop and refine existing products —Emphasize speciality products —Process-oriented R&D 	Seeks to emphasize specialized products and new developments or refinements based in part on process R&D
Brand/channel influence	<ul style="list-style-type: none"> —Build brand identification —Influence channels of distribution —New product development —Innovation in marketing techniques 	Focus on brand recognition and strong influence over channels through efforts like product development and new marketing techniques.

^a The authors' terminology is based on their subjective interpretation of the factor loadings.

Table 5. Five cluster solution: cluster means

Cluster (strategic group)	Cluster means: Four patterns of strategic behavior			
	Efficiency	Service	Product innovation and development	Brand/channel influence
1 (<i>n</i> = 14)	0.46856	0.45893	-0.49831	-1.23825
2 (<i>n</i> = 16)	-0.25870	-1.49350	-0.12673	0.09674
3 (<i>n</i> = 11)	-1.62447	0.39272	-0.43209	0.42994
4 (<i>n</i> = 20)	0.08793	0.48188	1.80605	0.11259
5 (<i>n</i> = 18)	0.63623	0.33439	0.67799	0.74152

existed among the five strategic groups. This allowed the authors to establish a content-performance 'baseline' against which the moderating effect of the firms' planning *process* could be compared. Performance differences were examined using the four subjective performance measures described and validated in the 'instrument' section of this paper.

Overall performance

Table 7 shows that firms in strategic groups 5 and 4 had significantly higher overall performance means than the firms in strategic groups 3 and 2. Strategic orientations characterized by either a balanced emphasis on two patterns of strategic behavior ('brand identification/channel influence'

Table 6. A summary of the strategic orientation of the five 'strategic' groups

Cluster 1: efficiency and service

The strategic orientation of this group is one that seeks to simultaneously emphasize an efficiency strategy (strict quality control/lowest cost per unit/trained personnel/manufacturing process innovation) and a service (extensive customer service/industry reputation/ high-price segments/no low-price segments) strategy. This group strongly rejects a brand/channel influence strategy and also rejects a product innovation/speciality products strategy. Although this strategic orientation appears somewhat inconsistent (efficiency/low cost on the one hand with customer service/high-priced markets on the other), it could readily be characteristic of smaller manufacturers that seek to build margins by serving higher-priced markets that are service-, not price-conscious, while seeking to keep tight control over production costs.

Cluster 2: no clear strategic orientation

This group is certain about *not* following a service strategy, but firms in this group do not appear to emphasize any distinct pattern of strategic behavior.

This strategic orientation reflects indecision and confusion. These firms appear to know what they don't want to do but are undecided about what to do.

Cluster 3: service/high-priced markets and brand/channel influence

This third strategic group is certain about *not* emphasizing an efficiency strategy. They also appear to reject strategic behaviors associated with a product development/speciality products strategy. Firms in this group appear to be only moderately but simultaneously committed to two patterns of strategic behavior: (1) building brand identification/influencing distribution channels/innovation in marketing techniques/new product development; and (2) extensive customer service/building industry reputation/high-priced market segments/avoid price competition/avoid low-priced market segments.

This strategic orientation, while somewhat more consistent than cluster 2, has similar dysfunctional characteristics. The firms are much stronger in their commitment to what they *do not* want to emphasize than they are in their commitment to either the 'service or brand channel influence' strategies. This may well be similar to what Porter (1980) characterized as a 'stuck in the middle' strategic orientation.

Cluster 4. product innovation/development

The strategic orientation of this group is simple and straightforward. Firms in this group place major emphasis on a 'product innovation/development' strategy. (new product development/developing and refining existing products/process-oriented R&D/emphasis on speciality products). In addition, there is some emphasis on the 'service' (extensive customer service/building industry reputation/high-priced market segments/avoid price competition/avoid low-priced markets segments) pattern of strategic behavior.

This is perhaps the most consistent and logical strategic orientation. The firms are quite strong in their commitment to one fundamental strategic orientation. They have some emphasis (stronger than any other cluster) on a second strategic behavior pattern that logically could be complementary and synergistic with their primary emphasis.

Cluster 5: brand identification/channel influence and efficiency

This final group has a strong, balanced emphasis on two patterns of strategic behavior: (1) brand identification/channel influence (building brand identification/influencing distribution channels/innovation in marketing techniques/new product development); and (2) efficiency (strict quality control/lowest cost per unit/trained personnel/manufacturing process innovation). This group is equally committed to avoid emphasizing competitive methods associated with a product innovation/development strategy.

This strategic orientation reflects a commitment to two patterns of strategic behavior that are logical, complementary strategies. Manufacturers committed to growth via brand identification, channel influence, marketing innovations and product developments could find profitable synergy from an efficiency-oriented strategy that emphasizes trained personnel, strict quality control, process innovation and lowest cost per unit.

and 'efficiency') or a primary emphasis on 'product innovation/speciality' with a secondary emphasis on the 'service/high price' had significantly higher overall performance than the strategic group with no clear strategic orientation and the group that had a marginal emphasis on

'brand/channel influence' and 'service'.

Strategic group 1, characterized by simultaneous emphasis on 'efficiency' and 'service', emerged as an averaging performing group not significantly below the high performers or significantly above the low performing groups.

Table 7. Comparison of "Overall Performance" among the five strategic groups

ANOVA Results	Mean Square	F	p>
Between groups	5.56	4.93	0.001
Within groups	1.13		

Duncan's follow-up on source of differences on mean overall performance

STRATEGIC GROUP	n	Mean overall performance ^a	Significant differences ^b
Cluster 5: Brand identification/channel influence and efficiency	18	1.61	
Cluster 4: Product innovation/development	19	1.73	
Cluster 1: Efficiency and service	14	2.28	
Cluster 3: Service/high-price markets and brand/channel influence	10	2.60	
Cluster 2: No clear strategic orientation	16	3.00	

^a Where 1 = top 20% of industry and 5 = bottom 20% of industry (see Table 1)

^b Significant at the $p>0.05$ level. Means 'covered' by the same line are *not* significantly different. Thus clusters 5 and 4 had a significantly higher overall performance than clusters 3 and 2.

Table 8. Comparison of return on assets, sales growth, and return on sales for the five strategic groups

MANOVA results	Mean square	F	p>
Between groups	4.67	3.71	0.009
Within groups	1.26		

Source of significant differences^a ($p>0.05$)

STRATEGIC GROUP	n	Performance means ^b		
		ROS	ROA	Sales growth
Cluster 5: Brand identification/channel influence and efficiency	16	2.16	2.11	2.16
Cluster 4: Product innovation/development	10	2.16	2.06	2.33
Cluster 1: Efficiency and service	14	2.79	2.57	2.57
Cluster 3: Service/high-price markets and brand/channel influence	18	3.20	2.88	2.80
Cluster 2: No clear strategic orientation	16	3.33	3.10	3.44

^a Duncan's multiple range test.

^b Where 1 = top 20% of industry and 5 = bottom 20% of industry (see Table 1). Means 'covered' by the same line are *not* significantly different. Thus, for ROS, ROA, and sales growth, clusters 5 and 4 have significantly higher performance than clusters 3 and 2.

ROA, sales growth, and ROS

A similar pattern of significant differences among the five strategic groups emerged when we examined self-reported industry rankings for

return on assets, sales growth and return on sales (see Table 8). For each of these measures, firms following either the 'brand identification/channel influence' and 'efficiency' strategic orientation or the 'product innovation/speciality and 'service/

high price' strategic orientation had significantly higher means on ROS, ROA and Sales growth rankings than the strategic groups with either no clear strategic orientation or with only marginal emphasis on brand/channel influence and 'service'. And the 'efficiency/service' strategic orientation (group 1) again fell between these two performance levels.

The results of this second phase establish a clear content-performance 'baseline' that product innovation-oriented strategies or strategic orientations combining a differentiation pattern of strategic behavior (e.g. brand identification/channel influence) and a low cost pattern of strategic behavior (e.g. efficiency) are the most effective strategic orientations. These results are also consistent with recent content-performance studies (Galbraith and Schendel, 1983; Zeithaml and Fry, 1984; White, 1986) that have found clear evidence of a content-performance association.

Since Phase 2 established a content-performance 'baseline' which suggests that certain strategic orientations are associated with significantly higher levels of performance than other strategic orientations, the final phase in our research addressed whether the nature of the firm's strategic planning process interacted on this content-performance 'baseline' in a significant manner.

Phase 3: To what extent does the nature of the firm's planning process moderate the content-performance 'baseline'

The final phase of this research focused on the extent to which the pattern of performance differences attributed to strategy content (the content-performance 'baseline') are altered when planning process sophistication is considered. To accomplish this we obtained a measure categorizing each firm's planning sophistication and then used an ANOVA model to examine its impact on the performance differences attributable to strategic orientation.

Each CEO was asked to characterize the sophistication of his firm's strategic planning process using a six-step Guttman scale validated in earlier research by Wood and LaForge (1979, 1981), and Robinson and Pearce (1983) and discussed earlier in the 'Instrument' section. Responses were subsequently categorized into three levels of planning sophistication: 'high'

($n=14$), 'moderate' ($n=34$), and 'low' ($n=27$).⁸

A three-way ANOVA procedure was used to examine variations in 'overall performance' attributable to strategic orientation (strategic groups), level of planning sophistication, and the interaction effect. Table 9 presents the overall ANOVA results. While strategic orientation was the most significant source of overall performance differences, planning formality and the planning-strategic orientation interaction were both significant at the 0.05 level. These findings suggest that the interaction of planning process and strategy content enhances our ability to differentiate levels of performance.

Table 10 provides follow-up test results on mean differences that help explain this interaction. Performance differences associated with each strategic orientation (five clusters) remained consistent with our earlier findings, but with an enhanced ability to distinguish significant differences due to the inclusion of planning and planning-strategy interaction in the ANOVA model. Supportive of a positive relationship between planning and performance, Table 10 shows that, overall, firms with high-to-moderate planning sophistication had significantly higher overall performance means than firms that were low in planning sophistication. Even more revealing are the findings shown in the interaction segment of Table 10, which pertain to the performance differences that result when planning sophistication and strategic orientation are considered simultaneously. Firms which engaged in

⁸ An important concern in operationalizing 'process' as well as 'content' was to employ the most pervasive and current measurement approaches from each body of literature. This provides the most compelling linkage to both sets of literature in an exploratory study of the potential explanatory power in such a linkage. Guttman scaling has been the most prominent approach for measuring process, much as cluster analysis has become most prominent in measuring content. We adopted the Guttman planning scale that has received the greatest validation attention in the process literature. This scale has the limitation of having been developed primarily in the banking industry. Three things were done to ensure its relevance to our manufacturing sample. First, we asked six manufacturing executives in our sample to comment on the accuracy of the working and Guttman steps in characterizing their planning. All responded favorably. Secondly, we randomly selected three executives with high, medium and low responses, and had a follow-up discussion about the planning activities to see if they indeed had different levels of planning. It was clear they did. Finally, we collapsed the six points on the scale to three levels of sophistication so as to minimize the potential for inappropriate classification.

Table 9. Three-way ANOVA on performance differences across strategic orientations, planning formality, and the strategy-planning interaction

	DF	Mean square	F	p>	R ²
Model	14	3.48	4.03	0.0001	0.485
Error	60	0.86			

Source	DF	SS	F	p
Strategic orientation	4	28.51	8.25	0.0001
Planning sophistication	2	5.35	3.10	0.0500
Strategy-planning interaction	8	14.88	2.15	0.0400

a high-to-moderate level of sophistication in planning *and* were committed to a consistent and effective strategic orientation (clusters 4 and 5) ranked in the highest performing group. Firms committed to an inconsistent or nonexistent strategic orientation (clusters 3 and 2), regardless of their level of planning sophistication, ranked in the lowest performing group or the low end of the middle performance group. Firms in cluster 1, characterized as marginally committed to a potentially consistent strategies orientation combining 'efficiency' and 'service/high price' strategic behaviors, differed systematically in overall performance depending upon their level of planning sophistication. Cluster 1 firms with high planning sophistication ranked highest in

overall performance; those with moderate sophistication ranked average in performance; and those with low planning sophistication were among the lowest performing firms.

DISCUSSION

The results of this study suggest a planning sophistication-strategic orientation interaction depicted in Figure 2. The horizontal axis in Figure 2, titled 'planning sophistication', reflects a global assessment of the status of the firm's strategic management *process* along three levels of sophistication. The vertical axis, entitled 'strategic orientation', reflects a global assessment

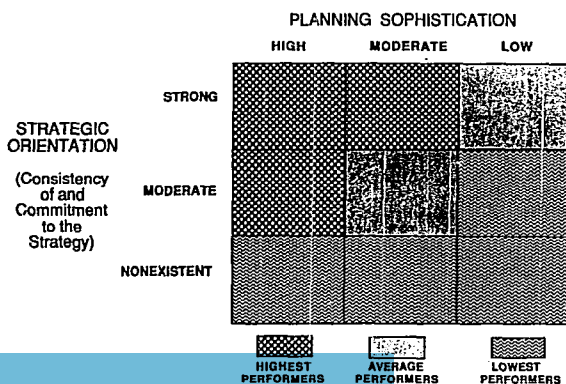


Figure 2. A proposed relationship between strategy content and planning process

Table 10. Follow-up to the three-way ANOVA examining performance differences associated with the interaction of strategy content and planning sophistication

Duncan's ^a	Strategic groups	Mean performance ^{b,c}	Duncan's ^a planning sophistication	Mean performance
Cluster 5:	Brand identification/channel influence and efficiency	1.61	High	1.78
Cluster 4:	Product innovation/development	1.74	Moderate	1.97
Cluster 1:	Efficiency and service	2.29		
Cluster 3:	Service/high price markets and brand/channel influence	2.60	Low	2.74
Cluster 2:	No clear orientation	3.29		

Interaction of strategic orientation and planning sophistication

Ranked performance groupings	Strategic orientation		Planning sophistication	n	Mean overall performance ^b
Group 1 (Highest relative overall performance)	Cluster 1:	Efficiency and service	High	3	1.00
	Cluster 5:	Brand identification/channel influence and efficiency	High	6	1.33
	Cluster 4:	Product innovation/development	High	2	1.50
	Cluster 5:	Brand identification/channel influence and efficiency	Moderate	7	1.57
	Cluster 4:	Product innovation/development	Moderate	12	1.66
Group 2 (average relative overall performance)	Cluster 1:	Efficiency and service	Moderate	6	2.00
	Cluster 5:	Brand identification/channel influence and efficiency	Moderate	6	2.00
	Cluster 4:	Product innovation/development	Low	5	2.00
	Cluster 3:	Service/high-price markets and brand/channel influence	Moderate	5	2.20
	Cluster 3:	Service/high-price markets and brand/channel influence	Low	4	2.50
Group 3 (lowest relative overall performance)	Cluster 2:	No clear strategic orientation	High	2	3.00
	Cluster 2:	No clear strategic orientation	Moderate	4	3.25
	Cluster 2:	No clear strategic orientation	Low	8	3.38
	Cluster 1:	Efficiency and service	Low	5	3.40
	Cluster 3:	Service/high price markets and brand/channel influence	High	1	5.00

^a Duncan's multiple range test ($p > 0.05$).

^b Performance means on 'overall performance' where '1 = top 20% of industry' and '5 = bottom 20% of industry'.

^c Differences are significant at the 0.05 level.

of the content of the firm's strategy. Content is assessed, paralleling our study, in terms of the consistency and level of commitment among the firm's patterns of strategic behavior. Again, three arbitrary levels were chosen to classify consistency and level of commitment. After the firms in the current study were classified on these two dimensions (based on Table 10), a systematic

performance pattern (depicted in Figure 2) emerged. The pattern suggests that firms with a high-to-moderately sophisticated planning process and a consistent pattern of strategic behaviors will be high performers. Firms with a moderately consistent pattern of strategic behaviors that engage in a highly sophisticated planning process will also be among the highest performers.

Perhaps the comprehensive planning process helps overcome dysfunctional conditions (e.g. conflicting objectives, communication, coordination) that might otherwise arise in pursuit of potentially inconsistent strategic behaviors. This supposition is further corroborated by the findings in our study that successively lower levels of performance among firms with moderately consistent patterns of strategic behavior. Firms with moderate planning sophistication and moderately consistent strategies were average performers, as well as firms with very consistent strategies but very unsophisticated planning processes. This latter group may perform adequately based on a well-conceived strategic orientation, yet deny itself superior performance as a result of the absence of greater sensitivity to implementation and control issues that emerge in a sophisticated planning system.

Firms that pursue inconsistent or nonexistent patterns of strategic behavior, regardless of their level of planning sophistication, are portrayed as the lower performers in Figure 2. The results of our study support this portrayal. Whether a firm pursues inconsistent strategic behaviors, or commitments that do not effectively match internal resources with environmental conditions, no level of planning sophistication will avert clear conditions for poor performance.

The results suggest a 'contingency' perspective for understanding the interactive impact of planning sophistication (process) and strategic orientation (content) on performance. Firms with high-to-moderate planning sophistication and logical, consistent strategic orientations (clusters 4 and 5) were the highest overall performers. Firms with the same strategies but low in planning sophistication were only average performers. Reinforcement for these results can be found in the fact that the performance of firms (clusters 2 and 3) with inconsistent or unidentified strategies (and, potentially, a lack of resources to support them) was not significantly enhanced by sophisticated planning activity. As Lorange (1980) has suggested, planning sophistication does little to enhance the performance of firms with ineffective or inadequately supported strategies.

Perhaps the most useful insight regarding the interactive impact of planning sophistication and strategy content on performance was found in the experience of the firms in cluster 1. These firms evidenced only moderate commitment to

two patterns of strategic behavior: efficiency/low cost and high service/high priced markets—which are quite different in the demands they place on the organization. Thus the potential for conflict and inefficiencies in the simultaneous pursuit of these two distinct patterns of strategic behavior is high. As a group, firms with this strategic orientation were only average performers among the five strategic groups in the study. But when the firms with this strategy were broken out by level of planning sophistication, a dramatic reinterpretation was possible. Firms with high planning sophistication were found to be the highest performing firms among all firms, regardless of orientation, in this study. Firms in this group with moderate planning sophistication were found to be average performers, and those with low planning sophistication emerged as virtually the lowest performers. Clearly, planning sophistication was essential to differentiate levels of success among these cluster 1 firms. With only a modest commitment to a potentially conflicting strategic orientation, the planning process may have enhanced understanding of the strategy, careful control of its implementation, and the effective utilization of a limited resource base.

One aspect of our research contains potential ambiguity that deserves greater attention in future research. While our study attributes power to more sophisticated planning processes to enhance consistent strategy, we cannot be definitive in whether sophisticated strategic planning helps makes strategy, implement strategy or both. The Guttman scale we used to measure planning (see Table 2) did not clearly guide the CEO raters to describe their planning on whether it was used for implementation as well as formulation. Our emphasis was on the use of a 'process' measure with an established publication base in the strategic management literature. But future researchers could build on the results of our study by employing enhanced process measures that clearly distinguish between the formulation and implementation concerns of business-unit strategists.

The results of this study and the interpretation portrayed in Figure 2 are consistent with Lorange's (1980) observations that the lack of consistency in planning-performance findings is quite possibly due to the nature of the firm's strategy and its resource capabilities in supporting it. The results also support White and Hamermesh's

(1981) argument that an integrative model in (process and content) is necessary to account for differences in business-unit performance. While clearly not conclusive, the findings in this study suggest a process-content relationship with performance implications that deserve expanded research attention.

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