Strategic Management Journal
Strat. Mgmt. J., **20**: 889–913 (1999)

LEARNING TO PLAN AND PLANNING TO LEARN: RESOLVING THE PLANNING SCHOOL/LEARNING SCHOOL DEBATE

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This paper resolves the long-standing debate between the two dominant process schools in strategy. Analysis of the planning practices of 656 firms shows that formal planning and incrementalism both form part of 'good' strategic planning, especially in unstable environments. Environment neither moderates the need for formal planning nor the direction of the planning/performance relationship, but does moderate firm planning capabilities and planning flexibility. In unstable environments planning capabilities are far better developed and formal plans more amenable to change. The planning/performance relationship is, however, moderated by planning duration: at least four years of formal planning are required before external performance associations are noted.

INTRODUCTION

A recent bitter debate between two prominent strategy academicians considers a question vital to the theory and practice of strategy: what types of planning should firms utilize in their strategy formation behaviors? Ansoff, flying the Planning School flag, contends that formal planning is beneficial in both stable and unstable environments (Ansoff, 1991, 1994) while Mintzberg, articulating the Learning School view, favors logical incrementalism, especially in unstable environments (Mintzberg, 1991; 1994a, 1994b). This paper presents a resolution to the debate, and reports on a study investigating whether environmental conditions moderate the type of planning firms employ in their strategy formation activities. The impact of the length of time a planning regime has been employed at a firm on the planning/performance relationship was also explored, together with other Learning School critiques of the Planning School. After reviewing prior research, the key constructs utilized in the study are presented and discussed. Then, hypotheses are presented, followed by the study methodology and a report of the findings. Once the study limitations are acknowledged, a discussion of the key implications of the findings, for research and practice, concludes the paper.

THEORY DEVELOPMENT

Prior research

Few issues have attracted more attention in strategy research than the relationship between the mode of strategic planning adopted by the firm and the economic performance of the firm. Regrettably, decades of planning/performance research have yielded inconsistent findings. A review of 18 empirical studies testing the effect of formal strategic planning on economic performance concluded the link was 'tenuous'

Key words: formal strategic planning, logical incrementalism, environmental stability, firm performance
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CCC 0886–9383/99/100889–25 $17.50

Received 10 June 1998
Final revision received 21 April 1999

(Pearce, Freeman and Robinson, 1987). A meta-analysis of 21 studies found that the formal strategic planning/performance link was weak, with a correlation of 0.1507 (Boyd, 1991). More recently, a meta-analysis of 26 studies concluded that strategic planning positively influenced firm performance (Miller and Cardinal, 1994), while a similar analysis of 14 studies investigating the effects of planning on small firm financial performance concluded that the relationship, though small, was significant and positive (Schwenk and Schrader, 1993). The inconsistencies in findings, and the weak planning/performance relationships observed have been key in the rejection of formal planning as the 'one' best way to plan (Mintzberg, 1994d).

One methodological explanation for the inconsistencies and perhaps the most serious indictment of early planning/performance research stems from the poor conceptualizations and measurement protocols utilized to operationalize the planning construct (Boyd, 1991). Crude dichotomous or trichotomous classifications of planning behaviors were employed: comparing formal, long range planners with non-formal, long range planners (Thune and House, 1970) or comparing non-planners with incomplete planners and complete planners (Kudla, 1980). Following the inconsistent and often counterintuitive findings emerging from the first two waves of planning/performance research (Pearce *et al*., 1987) more sophisticated Guttman scaling techniques (Guttman, 1944) were employed to measure the planning construct in the so-called 'third wave' of planning/performance research (Pearce *et al*., 1987). These more sophisticated methodologies (see for example Wood and LaForge, 1979, 1981; Fredrickson and Mitchell, 1984) have in general produced stronger planning/performance relationships than the earlier work (Priem, Rasheed and Kotulic, 1995).

A second substantive explanation for the inconsistencies relates to the impact of environment on the type of planning employed by firms. Some studies (for example Eisenhardt, 1989; Goll and Rasheed, 1997; Hart and Banbury, 1994; Miller and Cardinal, 1994; Miller and Friesen, 1983; Priem *et al*., 1995) found that formal strategy making processes or planning are positively associated with firm performance in unstable, turbulent or dynamic environments. Other studies concluded formal strategic planning is best suited to stable environments (Fredrickson, 1984; Fredrickson and Mitchell, 1984; Fredrickson and Iaquinto, 1989; Mintzberg, 1973) but recommend incrementalism for unstable, complex, dynamic environments facing high uncertainty, discontinuity and/or rapid change. The impact of environment on the type of planning firms should employ in particular, and the environment's effect on the planning/performance relationship in general thus remains unclear.

This study utilized a measurement protocol consistent with the third wave of planning/ performance research, and controlled for environmental stability in its design. However, unlike Fredrickson (1984), Fredrickson and Mitchell (1984) and Fredrickson and Iaquinto (1989), strategic decision making activities or processes based on hypothetical 'decision scenarios' did not measure firm planning activities. Rather, a widely accepted conceptualization of strategy articulated in terms of ends and means formed the basis of the planning construct. The specificity of ends and means in firm level strategic planning processes was the independent variable of interest. Based on this conceptualization, a research instrument measuring the range of planning behaviors recommended by Planners and Learners alike was developed, suitable for use across different industries and firms.

Though this study's independent variable scaling was based on the planning/learning polarity, strategy formation is more complex than these two extremes represent. Other modes of strategy formation have been suggested (see for example Chaffee, 1985; Bourgeios and Brodwin, 1984; Shrivastava and Grant, 1985; Mintzberg and Waters, 1982), summarized and integrated by Hart (1992) into five distinct strategy making postures. Mintzberg's narration of ten schools of thought each describing different and discrete parts of the strategy formation puzzle further underlines this complexity (Mintzberg, 1990a). The planning versus learning dichotomy is reflected in Hart's Rational and Transactive modes and Mintzberg's Planning and Learning Schools of Thought respectively.

Strategic ends and means

Both Chandler (1962) and Andrews (1971) emphasize ends and means in their concepts of strategy. Hofer and Schendel (1978: 18–19)

compared thirteen authors' conceptualizations of strategy and strategy formulation, and all included ends and means, though defined in a number of fashions and under a variety of names. Clearly, ends and means are distinctive though related concepts widely used in the strategy literature, worthy of separate treatment in both research and practice (Dess, 1987; Schendel and Hofer, 1979). Ends relate to *what* an organization desires to achieve, while means relate to *how* an organization intends achieving these ends. Ends describe specified desired future states organizations aspire to, while means, in contrast, are action—oriented (MacCrimmon, 1988), typically defining the steps an organization intends to take to achieve or reach its desired objectives or goals. Synonyms for ends include mission, purposes, goals or objectives, while synonyms for means range from strategies or policies, to alternatives, programs or action plans, and even resource allocation activities or decisions made by firms.

Ends with varying specificity are found in the strategy formation process (Tosi and Carroll, 1968), implemented at different levels within organizations (Anthony, 1965). Ends may be hierarchically ranked from broad, higher level ends, i.e., the 'grand design' (Granger, 1964), mission, or 'strategic intent' (Hamel and Prahalad, 1989) of an organization, to lower level, more limited and specific operational objectives or goals (Granger, 1964; King and Cleland, 1987). Lower level operational goals or objectives were expressly excluded from this study, as firm behavior at the strategic, rather than the operational level was the area of focus. In keeping with the approach adopted by, inter alia, Chaffee (1985), Narayanan and Fahey (1982), and Mitroff and Emshoff (1979), 'strategic' was presumed to relate to unstructured, non-programmable, nonroutine problems, for which no predetermined explicit set of ordered responses existed in the organization. At the 'strategic' or higher level, strategic ends and means can include the definition of business purpose or mission, formalizing the firm's major objectives or goals, determining strategies to achieve these objectives, and defining the broad resource allocation commitments related to the strategies (Camillus, 1986; MacCrimmon, 1988). Congruent with these conceptualizations, 'ends' and 'means' in the study were defined for respondents as follows:

Ends: are the major, higher level purposes, mission, goals or objectives set by organizations, each of which (should there be more than one) significantly influences the overall direction and viability of the firm concerned.

Means: are the patterns of action which marshal/allocate organizational resources into postures that, once implemented, increase the probability of attaining organizational ends.

To ensure respondent understanding, synonyms for ends and means were included on the front of the questionnaire as follows: 'Synonyms for ends include a firm's mission, purpose, goals, or strategic objectives, while synonyms for means include strategies, policies, alternatives, programs or action plans.' Respondents were also cautioned: 'Since the research focuses on *strategic ends or means*, only *major or important ends or means* should be considered part of the study.'

Ends and means specificity, firm performance, and environments

Conceptualizations of strategic planning range from the formalized processes of the 'Synoptic' Model (reflective of the Planning School) to the disjointed processes of the 'Incremental' Model (favored by the Learning School). According to the Synoptic Model planning is a deliberate, rational, linear process (Chaffee, 1985) where ends are specified first, followed by means (Dess, 1987; Fredrickson and Mitchell, 1984; and Schendel and Hofer, 1979). 'Deliberate' means emerge from the strategy formation process fully specified, ripe for implementation through detailed attention to objectives, programs, and operational plans of ever increasing specificity (Mintzberg, 1990b). Synoptic Formalism is considered best suited to predictable, stable contexts where uncertainty is low (Fredrickson, 1984; Mintzberg, 1973, 1990b), as fully specified plans emerging from synoptic processes promote conception and thinking rather than learning, a vital process in unstable conditions (Mintzberg, 1990b). In stable, predictable contexts multiple, quantified, enduring ends can be developed (Quinn, 1980) facilitating control in a tightly coupled system (Chaffee, 1985).

In contrast, strategy formation according to the Incremental Model is an adaptive, incremental,

complex learning process (Lindblom, 1959; Mintzberg, 1978; Mintzberg, 1990a; Quinn, 1980) where ends and means are either specified simultaneously, or are intertwined (Fredrickson and Mitchell, 1984). Unlike the Synoptic approach, ends are rarely announced or recorded in a formal planning document, and when they are announced, they remain broad, general, and non-quantified (Quinn, 1980). Means, rather than emerging from the planning process fully formed and ripe for implementation, develop and evolve over time as organizations learn from environmental interaction (Mintzberg, 1990a). In contrast to Synoptic Formalism, Incrementalism is recommended for unstable, complex, dynamic contexts with high uncertainty, or environments facing discontinuity or change (Fredrickson and Iaquinto, 1989; Fredrickson and Mitchell, 1984; Mintzberg, 1990a). The increased uncertainty of unstable environments requires less formalization and more flexible, organic structures (Burns and Stalker, 1961; Lawrence and Lorsch, 1967). The articulation of strategy in a formal plan is unsuited to unstable environments as such activities 'implicitly assume conditions of stability or predictability' (Mintzberg, 1990b: 184), suggesting the following four hypotheses:

Hypothesis 1: There will be a positive relationship between the specificity of ends and performance among firms operating in stable environments.

Hypothesis 2: There will be a negative relationship between the specificity of ends and performance among firms operating in unstable environments.

Hypothesis 3: There will be a positive relationship between the specificity of means and performance among firms operating in stable environments.

Hypothesis 4: There will be a negative relationship between the specificity of means and performance among firms operating in unstable environments.

Planning specificity and planning flexibility

Critics assert formal planning introduces rigidity and inflexibility into organizations (Bresser and Bishop, 1983; Mintzberg, 1990a; 1990b; 1994a). Described as Planning's 'change pitfall' (Mintzberg, 1994a) planning is feared to set organizations on pre-determined, inflexible paths (Mintzberg, 1990b) thereby creating resistance to change (Mintzberg, 1990a). If this 'rigidity hypothesis' (Hart and Banbury, 1994) holds, more specific plans should display greater inflexibility, suggesting the following two hypotheses:

Hypothesis 5: There will be a negative relationship between the specificity of ends and planning flexibility among firms, regardless of environmental stability.

Hypothesis 6: There will be a negative relationship between the specificity of means and planning flexibility among firms, regardless of environmental stability.

Since no prior work linked planning flexibility with environment, environment was not expected to moderate the planning specificity/planning flexibility relationship.

Planning duration and the planning/performance relationship

A lapse of time is required before the performance effects of a strategy or new strategy regime are noted. Boyd (1991: 366) asserts that 'strategic decision making today may not show up in the balance sheet for several years,' while Robinson and Pearce (1983) contend strategic planning typically improves economic performance by the end of a three- to five-year period. Bracker and Pearson (1986) in one of the few studies explicitly controlling for planning duration, divided the planning history of the firms in their sample into two periods: less than 5 years, and 5 years or more. Significant performance differences between the two periods were noted, with long planning history firms outperforming short planning history firms by an average of 125%. Fulmer and Rue (1974) after finding no positive planning/performance relationship concluded that as 50 percent of their sample had implemented planning systems within two years of the study, insufficient time had passed for the benefits of planning to be enjoyed. In contrast, Gup and Whitehead (1989) found no statistically signifi-

cant relationship between the length of time banks had engaged in planning, and their financial performance. Given the uncertainty surrounding the impact of planning duration on the planning/performance relationship, the following two hypotheses were investigated:

> *Hypothesis 7: There will be a positive relationship between the specificity of ends and firm performance, regardless of planning duration.*
>
> *Hypothesis 8: There will be a positive relationship between the specificity of means and firm performance, regardless of planning duration.*

RESEARCH METHODS

Measurement of variables

Ends and means specificity

A review of the literature revealed a need to develop items and scales for the independent variables of interest in the study. Though ends and means *consensus* has been measured in past research (West and Schwenk, 1996; Bourgeois, 1980) no investigation of ends and means *specificity* was discovered. Accordingly, five closed-ended Guttman type scales measuring ends specificity, and four measuring means specificity were developed. Statements ranging in choices from unspecified to very specific were presented, and in every scale but one respondents indicated which *one* statement/item best described their firm (see Appendix for scales and the scoring protocols employed). Individual scale scores were summed to obtain the overall ends and means specificity scores. Scale statements were constructed to capture the differing properties of ends and means as characterized by the Synoptic and Incremental Models respectively, with low specificity scores indicating ends and means typical of the Incremental Model, and high specificity scores denoting ends and means characteristic of the Synoptic Model.

Accordingly, organizations with very specific ends would possess many, precisely quantified, formally documented, time-limited ends, ranging from a statement of firm mission to statements of specific market share/sales growth targets and other key result areas. Very specific means would be reflected in plans that set out exact plans and/or programs for implementation, describing in detail the actions and steps required for implementation. These specific means would be used to direct firm action and behavior and measure timely performance against plan. They would also be formally documented and distributed among firm members. Conversely, few broad ends that change and evolve as conditions dictate would characterize less specific ends, while unspecific means would be broad and unstructured, evolving as circumstances warrant and acting as loose guides only. Such unspecific ends and means would rarely be announced, and if so, in broad terms.[1]

Environmental stability

Prior research has employed two principal methods to categorize environmental stability. Lawrence and Lorsch (1967) used *subjective respondent ratings* to categorize environmental volatility, while Tosi, Aldag, and Storey (1973) developed three *objective measures* of environmental volatility (market, technological, and earnings volatility). Other objective measures of volatility include Dess (1980), who used multiple objective measures such as the degree of change in industry sales, cost/price margins, and value added as criteria to measure the stability/instability of industries. Hart and Banbury (1994), following Dess and Beard (1984), characterized firm competitive environments across four dimensions: change, unpredictability, complexity, and munificence. Because of the multi-industry, multinational nature of the sample, objective indicators of environmental stability were inappropriate. Respondents self-selected one of four industry/business environments that most

[1] Though we measure a narrower construct than the 'strategic planning' construct validated by Boyd and Reuning-Elliot (1998) we include five of the seven key planning indicators of strategic planning identified by Boyd and Reuning-Elliot (1998). These five planning indicators are mission statement, long term goals, annual goals, short term action plans, and ongoing evaluation. Unlike the Boyd and Reuning-Elliot measurement model, the utility of ours is not restricted to measuring formal planning only. We measure both formal and incremental planning. Boyd and Reuning-Elliot do acknowledge this limitation in their model. As recommended by Boyd and Reuning-Elliot, our model is 'parsimonious, uses indicators which are well grounded in theory, and represents different aspects of the strategic planning process' (ibid.: 188).

Table 1. Respondent self-categorization of industry/business environment stability (n = 426)

Industry/Business Environment	Number selecting category	Group IS score mean
Group 1: A mature, stable industry or context, where change is relatively little/slow, the technology is mostly stable and known, and in general trends can be forecasted. Though some uncertainties exist, stability and predictability are more present than change. New entrants into the industry are infrequent, as are exits of current competitors. Both the rules of competition, and the positions of current competitors are reasonably well established, and stable. (Choice 1)	104	33.72
Group 2: A mature industry or context which in the past was stable, but is currently experiencing considerable change and realignment, due to factors such as deregulation, technological change, or new entrants of powerful competitors. Industry rationalization and realignment are now occurring, under conditions of change, uncertainty, and discontinuity. The rules of competition, and the position of current competitors, are changing considerably. (Choice 2)	273	44.58
Group 3: An industry or context where technological change is rapid, and/or product obsolescence is quick, and/or competition to innovate is very high. Trends are difficult to forecast, and uncertainty is high. Most decisions are complex, made with imperfect information, under conditions of rapid, continual change. Though some established competitors exist, remaining competition is challenging, and competitive rivalry is intense. (Choice 3)	36	53.53
Group 4: A young industry in which the rules of competition are currently emerging and being established. Though industry leaders exist, technology and the rules of competition are still developing, and uncertainty is high. Trends are difficult to forecast, and uncertainty is high. Most decisions are complex, made with imperfect information, under conditions of rapid, continual change. (Choice 4)	13	49.77

Note: Scores for Groups 1, 2 and 3 differed at the 0.05 level. Scores for Groups 2 and 4 and Groups 3 and 4 did not differ at the 0.05 level.

closely described their firm's industry/business environment. Each choice described a different environment, ranging from mature and stable to young and highly unstable. Table 1 presents the four choices, and the number of respondents selecting each.

Since the categorization of environmental stability was vital to the study, additional data were gathered to validate that the four choices represented environments with clearly different stability conditions. In another section of the questionnaire respondents rated the stability of their firm's primary industry across ten industry stability factors, using a seven point rating scale. These industry stability factors are reported in the Appendix. To complete the validation of environmental stability, respondents were also asked to indicate which word of two in three pairs best described the business environment or industry of their firm: slow or rapid change; stable or unstable; and predictable or unpredictable. Where slow change, stable, or predictable was chosen, a score of −1 was given. Where rapid change, unstable, or unpredictable was chosen, a score of 1 was given. A third, 'not applicable' choice was also included for each pair, scored 0 when checked.

The industry stability ratings and the respective −1, 0, 1 scores received for the three pairs of words were summed to obtain Industry Stability scores (IS Scores) for each firm in the sample.[2] The IS Score mean of firms in each environment category was then calculated (reported in column 3 of Table 1) and compared to the means obtained for the other three choices. Each mean was expected to significantly differ from the other

[2] Regressing the sum of the three word pair scores (−1, 0, 1) on the IS Scores excluding the sum of the word pair scores produced a strong correlation with $r = 0.55$, $p < 0.001$.

three, in the following fashion: lowest for the Mature/Stable Context (Choice 1), and increasing sequentially for the next three choices.

Firm performance

Similar to the measurement of environmental stability, objective and subjective measures have calibrated firm performance in planning/performance research. Objective criteria include sales growth, in either gross or net terms (Fredrickson and Mitchell, 1984; Leontiades and Tezel, 1980; Pearce *et al*., 1987), growth in net income (Wood and LaForge, 1979), return on assets/sales (Fredrickson and Mitchell, 1984; Leontiades and Tezel, 1980; Pearce *et al*., 1987), abnormal stockholder returns (Kudla, 1980), stock price performance (Ansoff *et al*., 1970), dividend per share or earnings per share (Ansoff *et al*., 1970), or total return to investors (Rhyne, 1987). Subjective criteria include respondent ratings of planning system effectiveness (Chakravarthy, 1987), respondent rating in comparison to the firm's overall industry (Pearce *et al*., 1987), or respondent perceptions of their firm's current profitability, growth/share, future positioning, quality, and social responsiveness (Hart and Banbury, 1994). No one criterion or set of criteria dominates, with the outcome variables selected mostly reflecting the preferences of the researchers involved.

Because of the multi-industry, multinational characteristic of the sample, and the inability to reliably control for industry effects and/or other competitive groupings, objective measures of financial or business performance were unsuitable. Following and based on Pearce *et al*. (1987) and Chakravarthy (1987) two subjective perceptual measures of performance were developed: Overall Firm Performance (OFP), and Planning Performance (PP). OFP captured overall firm performance data relative to competitive peers and firm market share change over the past 5–10 years (an externally anchored performance measure) while PP captured the planning performance of respondent firms (an internally anchored performance measure evaluating planning capabilities and effectiveness). The OFP and PP scales are detailed in the Appendix. In the OFP scales, a 'Not Applicable' box was included for firms that did not have listed securities, or for divisions/business units that did not have any relevant stock performance to rate. When this box was checked, the average of the other two factors was used as a proxy for stock price performance. OFP scores were obtained by summing the three industry peer comparison scores with the market share change score. PP scores were obtained by summing the six individual item ratings provided by respondents.

Planning flexibility and planning duration

No prior research measuring planning flexibility was located. Accordingly, and similar to the scales measuring Ends and Means Specificity, a Guttman type scale was developed to measure the construct (see Appendix). To permit face validation of the flexibility scales respondents also indicated the flexibility of their firm's mission or business purpose using the same scale statements. Since firm mission or business purpose is supposedly the most stable or enduring of strategic ends (Hamel and Prahalad, 1989; Granger, 1964), and since means should be more flexible than ends (Hamel and Prahalad, 1989), the average flexibility scores of the three sets of flexibility data were expected to rank accordingly.[3]

Since no particular method was favored in past research to measure planning duration, a more fine-grained categorization of planning duration than previously employed was utilized. Respondents reported the period of time their firms had been conducting the planning as indicated in the questionnaire in one of five choices: Less than one year; 1–3 years; 4–7 years; 8–15 years; and more than 15 years. Comparing data obtained on firms with a planning duration of three years or fewer (choices 1 and 2) with firms reporting a planning duration of 4 years or more (choices 3 to 5) tested the impact of planning duration.

[3] We must recognize this journal's anonymous reviewer who pointed out that though we label our construct 'Planning Flexibility' we are really measuring the change in or alteration of plans. Since words such as flexibility or rigidity are pervasive in the literature, we adopted 'Planning Flexibility.' Furthermore, and pursuant to the same reviewer's comments, we must acknowledge that we obtain only average measures of flexibility. As illustrated in the three flexibility scores gathered in the study, 'flexibility' does differ depending on the type and level of the ends or means involved. Since lower level ends or means were excluded from the study, average measures of ends and means flexibility were sufficient though admittedly coarse-grained.

Hypothesis testing

The study investigated three contingent relationships: that the form and direction of the planning/performance relationship is contingent upon environmental stability; that the planning/performance relationship is contingent upon planning duration; and that the planning specificity/planning flexibility relationship is not contingent upon environmental conditions. Contingency relationships may be tested by two techniques: moderated regression, and sub-group analysis (Li and Simerly, 1998). Since the form and direction of the relationships were under investigation, moderated regression with dummy variables was utilized (Aiken and West, 1991). Sub-group analysis is more appropriate when the strength of the relationship is at issue (Venkatraman, 1989). However, where appropriate, t-tests or one way ANOVAs were also performed, with the moderator as the independent (grouping) variable and the five key study variables (Ends Specificity, Means Specificity, OFP, PP, and IS Scores) as dependent variables. Implicitly, the null hypothesis that the independent (grouping) sample means were all equal was tested against the alternative hypothesis that the means were not all equal. When the ANOVA provided a basis to reject the overall null hypothesis and accept the alternative hypothesis, a post-hoc multiple comparison of means was performed. Following Winer (1971) and Bracker and Pearson (1986) the Scheffe test was selected to conduct the post-hoc multiple comparisons. The lack of any significant difference in the dependent variable means was considered indication of the lack of moderator influence on the variables involved.

Sampling procedures and sample characteristics

Senior and mid-level executives attending 39 educational programs offered at three business schools and senior executives affiliated with two other private organizations provided data for the study.[4] While not as fine grained as interpretive methods (Eisenhardt, 1989) or scenario based methods (Fredrickson, 1984) the survey method was employed to obtain a large sample, often able to complement or clarify more interpretive methods (Lee, 1991). Though a convenience sample, the sample size and diversity add confidence and credibility to the study findings.

Respondents were either mailed questionnaires before their program and asked to bring the questionnaire with them, or handed questionnaires once in attendance and verbally requested to complete and hand back the instrument by the end of the program, always at least one week ahead. At distribution, three points were stressed: that participation was entirely voluntary; that strategy formation at the business unit, divisional, or SBU level was the focus of the study, and ideal respondents were thus members of a firm/business unit/division who were familiar with the strategic plans and strategy formation processes utilized by their firm/business unit/division; and that there were no correct or incorrect answers to any of the questions—the desired response to each question was the one which best described the practices or situation in the respondent's firm/business unit/division.

Additional data were gathered to control for firm age and size, respondent employment tenure, respondent country of residence, and respondent managerial level according to business title. Firm age and size were employed to quantify the sample characteristics, while respondent tenure was used to exclude responses from unreliable respondents. Grouping by respondent managerial level was used to test whether managerial level impacted the study findings, following work that has found middle management involvement in strategy formation improves organizational performance (Wooldridge and Floyd, 1990; Floyd and Wooldridge, 1992). Country of residence was

[4] Details on the breakdown of number of responses obtained per program are available from the first author. No single program contributed more than 9% of the sample and only two contributed more than 5%. One of the private organizations was an industry body for the hydraulic pump industry, who provided access to its address list, and the other private organization was The Executive Council (TEC), an international organization of CEOs of companies from different industries who meet periodically to discuss business issues. 24 cases in the sample are from these two sources. The hydraulic pump industry was approached to gather responses from a single industry, and TEC was included to increase the number of small and medium size enterprises in the sample. Exclusion of the 24 cases from the sample has no noticeable effect on the study findings. The response rate from the hydraulic pump industry was insufficient to permit any statistical testing of the research instrument or findings, for either instrument validation purposes, or for investigation of any specific industry effects.

used to validate the study findings across different countries.

In total, 668 responses were collected. Questionnaires from respondents at their firms for a year or less were excluded, reducing the sample to 656. Apart from these twelve cases, respondent employment tenure was impressive: 89 percent had been at their firm four years or longer, and 73 percent indicated tenures of longer than seven years. Fifty percent reported more than 10 years of service. The exclusion of firms with a planning duration of three years or less (choice 1 or 2 in the planning duration categorization) reduced the final sample size by 230 to 426 cases.

Firms from 20 countries are represented, though 47 percent are United States based, and 44 percent South African in origin. Though firm size and age varies, the findings are most relevant to large, mature organizations in business for a long period of time—73 percent of firms employed more than 500 and 59 percent employed more than 1000. 95 percent were more than seven years old, with 92 percent being older than ten years. A wide range of industries is also represented, indicated in Table 2 below.

The IS Score mean per industry category is also included in Table 2. The relative values and range of these means adds face validity to the IS Score methodology: telecommunications has the highest (50.53, $n = 19$) while more stable industries such as mining or metals extraction, tourism, or utilities have the lowest means. Owing to the relatively few respondents who selected environment Choices 3 or 4 as indicated in Table 1 (n = 36 and 13 respectively) these were merged into a single, 'high instability' category. The similarity in IS Score mean of Choices 3 and 4 made combining these two choices into a single 'Very Unstable' category reasonable. The IS Score mean of the combined 'Very Unstable' group was 52.53 (see Table 5), significantly different from the IS Score mean of the other two groups. A trifurcated categorization of environmental stability was thus utilized: Mature/Stable; Mature/Unstable; and Very Unstable.

The data on managerial level permitted division of the sample into three groups: *Top Management* ($n = 65$) which included Chairman, CEO, COO, President, CFO, and Managing Director/Deputy Managing Director (mainly for South Africa, where Managing Director is equivalent to President); *Senior Management* (n = 137) which included EVP/SVP, SBU Director, Divisional Manager, Partner, Director, Principal, and General

Table 2. Sample industry representation (n = 425)

Industry Categorization	Count	IS Score mean	Percent of all Cases*
Wholesaling and/or retailing	34	41.29	8
Mining and/or metals extraction	20	37.75	5
Heavy manufacturing	63	43.08	15
Light manufacturing	71	42.13	17
Financial services: banking	22	46.91	5
Financial services: insurance	27	41.85	6
Financial services: other	12	43.75	3
Engineering	18	43.89	4
Consulting services	8	49.13	2
Other services	27	42.11	6
Commercial/industrial construction	11	41.27	3
Residential construction	5	47.00	1
Agriculture or farming	4	36.75	<1
Travel and tourism	5	34.80	1
Pump manufacturing	8	36.75	2
Telecommunications	19	50.53	5
Railroad Transportation	7	39.29	2
Utilities	8	37.13	2
Other	56	44.43	13

One respondent failed to report industry data.
*Totals more than 100, due to rounding.

Manager/Assistant GM (mainly for South Africa); and *Middle Management* (n = 191) which included Vice President, Sales Manager, Manager, and Assistant Vice President. Broadly speaking, almost half of the sample were Top/Senior management (n = 202). Thirty-three respondent titles could not be easily categorized into the three management groups. Moderated regression and one way ANOVA with management level as the dummy/grouping variable indicated management level did not moderate or impact any of the study findings.[5]

Construct Validity

Cronbach's Alpha was calculated for each variable measured by multi-item scales. The computed alpha coefficients (reported in Table 3) range from 0.77 to 0.93, indicating adequate reliability and internal consistency. The three planning flexibility score means for mission/business purpose, ends in general, and means in general ranked as expected (Mission Flexibility Score mean = 4.22; Ends Flexibility Score mean = 3.42; and Means Flexibility Score mean = 2.66). Each of these differed from the other two at $p < 0.001$.[6]

RESULTS

Descriptive statistics and Pearson correlations are presented in Table 3. Four base models reflecting the planning specificity/firm performance relationships for the entire sample net of moderator effects are included for comparative purposes. All four models are significant, and each planning specificity/performance beta coefficient is significant and positive.[7]

Table 4 reports the regression results testing Hypotheses 1–4, first with Ends Specificity as the independent variable, followed by Means Specificity.

All four models are significant, and in each case β_3 (the planning specificity/performance coefficient for Very Unstable environments) is significant and positive, ranging from 0.38 to 0.43. Particularly remarkable are the strong planning specificity/OFP relationships noted in Models I and III, both of which are stronger than the planning specificity/PP relationships noted in Models II and IV, and the average relationships reported in the planning specificity/OFP Base Models in Table 3. In addition, no significant negative relationships are noted in the fourth and fifth terms of any model, which test the moderating effects of environment on the planning/performance relationships. Accordingly, Hypotheses 1 and 3 are accepted, and Hypotheses 2 and 4 are rejected. However, in Models II and IV significant β_4s indicate that the planning specificity/PP relationships are moderated by environmental stability, though not in the case of Mature/Unstable environments. Though remaining positive throughout, the planning specificity/PP associations are strongest in Mature/Stable Environments, and not significant in Mature/Unstable environments.[8]

One way ANOVA with environment as the independent (grouping) variable indicated that the ES Score, MS Score, PP Score and IS Score means were statistically different. The result of this analysis is reported in Table 5.

Table 5 indicates that the ES Score mean for firms operating in Mature/Stable environments is the lowest, and differs significantly from the mean of firms operating in Mature/Unstable environments. A similar pattern is displayed across MS Score means. In addition, the PP Score means grow with environmental instability, and the high

[5] Details of this analysis are available from the study authors.
[6] Some firms did not possess a specific mission statement/business purpose, reducing the sub-sample used to test whether the three flexibility scores differed to n = 367. This explains why the average scores for Ends and Means Flexibility reported here differs slightly from the data reported in Table 3, where n = 426.
[7] The models differ systematically across beta strengths and explanatory power, contingent upon the dependent variable. That the planning specificity/OFP models have weaker betas and less impressive R^2s than the planning specificity/PP models is unsurprising, given that many factors other than planning specificity influence external firm performance. Since planning specificity captures many dimensions of firm planning, stronger betas and greater explanatory power are to be expected. That the performance variable specification so materially effects the planning/performance relationship strength and model explanatory power emphasizes the importance of outcome variable selection in this line of research. Using external or internal measures of performance alone underrates the complexity of the planning/performance relationship. Similar patterns are noted in the data after controlling for the country of origin of respondents (United States, n = 202; South Africa, n = 182).
[8] The pattern of findings reflected in Table 4 are replicated in the data after controlling for country of origin (United States, n = 202; South Africa, n = 182).

Table 3. Descriptive statistics, Pearson correlations, and base models (n = 426)

Variables	Mean	SD	CA*	1	2	3	4	5	6	7
1. Ends Specificity	16.83	5.06	0.77	1.00						
2. Means Specificity	14.81	4.11	0.83	0.60	1.00					
3. Overall Firm Performance	13.77	3.43	0.81	0.33	0.36	1.00				
4. Planning Performance	28.00	7.05	0.93	0.56	0.66	0.52	1.00			
5. Environmental Stability	42.84	10.10	0.80	0.20	0.16	0.01n	0.17	1.00		
6. Ends Flexibility	3.33	1.26	–	0.01n	0.06n	0.01n	–0.01n	0.01n	1.00	
7. Means Flexibility	2.58	1.30	–	0.01n	0.18	–0.01n	0.08n	0.00n	0.36	1.00

Correlations are significant at $p < 0.05$ unless accompanied by an 'n', indicating not significant.
*Cronbach's Alpha.

Base models: Planning specificity/firm performance regressions (n = 426)

	Dependent Variables			
	Overall Firm Performance		Planning Performance	
Independent Variable: Ends Specificity	β	*t*	β	*t*
(Constant)		18.03***		15.12***
Ends Specificity	0.33***	7.29***	0.56***	13.85***
R^2	0.11		0.31	
Adjusted R^2	0.11		0.31	
$F_{(1,424)}$	53.14***		191.71***	

Base models: planning specificity/firm performance regressions (n = 426)

	Dependent Variables			
	Overall Firm Performance		Planning Performance	
Independent Variable: Means Specificity	β	*t*	β	*t*
(Constant)		15.82***		11.66***
Means Specificity	0.36***	7.94***	0.66***	18.18***
R^2	0.13		0.44	
Adjusted R^2	0.13		0.44	
$F_{(1,424)}$	63.11***		331.13***	

Beta coefficients are standardized.
*$p < = 0.05$; **$p < = 0.01$; ***$p < = 0.001$

PP Score mean noted among firms in Very Unstable environments differs significantly from the PP Score means of firms operating in the other two environments. As expected, the IS Score means differ.[9]

Table 6 reports the regression results testing Hypotheses 5 and 6.

Model V is significant, and provides some interesting findings. The coefficient for Ends Specificity surprisingly is negative ($\beta_3 = -0.44$, $t = -2.94$, $p < 0.01$) indicating that in Very Unstable environments specific ends are associated with greater flexibility.[10] Moreover, the significant coefficients for β_4 and β_5 indicate that

[9] Controlling for country of origin, the USA IS Score mean was higher than the South African mean, and the South African OFP mean was higher than the USA mean. The higher USA IS Score mean is understandable, given that the USA is probably the most competitive business environment in the world today, while South Africa is emerging from the decades of isolation and siege during apartheid, which caused a decline in competition in general in the country. The difference in OFP means is difficult to explain.

[10] Planning Flexibility is scaled so higher scores indicate greater inflexibility—a negative coefficient means high specificity with high flexibility.

Table 4. Planning specificity/firm performance relationships, moderated by environmental stability

Independent Variable: Ends Specificity	Dependent Variables: Overall Firm Performance (Model I) β	t	Planning Performance (Model II) β	t
(Constant)		5.52***		6.92***
Mature/Stable: $Dummy_1$	0.32	1.28	–0.59**	–2.70**
Mature/Unstable: $Dummy_2$	–0.11	–0.41	–0.42	–1.83
Ends Specificity	0.43**	3.06**	0.38**	3.10**
Ends Specificity by Mature/Stable	–0.33	–1.40	0.44*	2.10*
Ends Specificity by Mature/Unstable	–0.06	–0.20	0.26	1.07
R^2	0.14		0.33	
Adjusted R^2	0.13		0.33	
$F_{(5,420)}$	14.03***		42.10***	

Independent Variable: Means Specificity	Dependent Variables: Overall Firm Performance (Model III) β	t	Planning Performance (Model IV) β	t
(Constant)		4.58***		6.23***
Mature/Stable: $Dummy_1$	0.23	0.84	–0.71**	–3.16**
Mature/Unstable: $Dummy_2$	–0.14	–0.49	–0.63**	–2.66**
Means Specificity	0.43**	2.80**	0.41***	3.30***
Means Specificity by Mature/Stable	–0.26	–0.94	0.55*	2.51*
Means Specificity by Mature/Unstable	–0.03	–0.09	0.47	1.86
R^2	0.16		0.46	
Adjusted R^2	0.15		0.46	
$F_{(5,420)}$	15.96***		72.75***	

Beta coefficients are standardized.
*$p < = 0.05$; **$p < = 0.01$; ***$p < = 0.001$

environment moderates the ends specificity/ends flexibility relationship. In both mature environments (Mature/Stable and Mature/Unstable) ends specificity is positively correlated with ends inflexibility, though less strongly so in Mature/Unstable than in Mature/Stable environments—as environmental instability grows, so does ends flexibility. Model VI has no significant regression coefficients indicating that Means Specificity is neither related to Means Flexibility nor moderated by environment. Hypotheses 5 and 6 are accordingly rejected. The data clearly refute that planning specificity *by itself* is associated with planning inflexibility or rigidity. Rather, planning specificity is more associated with planning inflexibility in stable environments, with this association reducing in both strength and direction (for Ends Specificity) as environmental instability grows.[11]

Table 7 reports the regression results testing Hypotheses 7 and 8.

[11] Calculating Planning Specificity/Planning Flexibility Pearson correlations and controlling for environment display a similar picture. The strongest positive specificity/flexibility correlations are noted among firms operating in Mature/Stable environments (ES/EF $r = 0.17$, $p < 0.1$; MS/MF $r = 0.30$, $p < 0.001$, $n = 104$) and the weakest/most negative correlations are noted in the Very Unstable environments (ES/EF $r = –0.42$, $p < 0.05$; MS/MF $r = 0.00$, not significant, $n = 49$). The Mature/Unstable correlations lie in between (ES/EF $r = 0.01$, not significant; MS/MF $r = 0.15$, $p < 0.05$, $n = 243$).

Table 5. Key study variables and environmental stability (n = 426)

	Summary Table of Means				
Group	ES Score	MS Score	PP	OFP	IS Score
Group 1: Mature/Stable	15.65	13.91	26.83	14.18	33.72
Group 2: Mature/Unstable	17.18	15.12	27.96	13.46	44.58
Group 3: Very Unstable	17.36	14.96	30.73	14.63	52.53
All Groups	16.83	14.81	28.00	13.77	42.84

Analysis of Variance		
Variable	F	p
ES Score	3.79	0.02
MS Score	3.37	0.04
PP	5.24	0.01
OFP	3.44	0.03
IS Score	101.61	<0.001

Using the Scheffe Test, the Group 1 ES Score mean differed significantly from the Group 2 ES Score mean, and the Group 1 MS Score mean differed significantly from the Group 2 MS Score mean. The Group 3 PP Score mean differed significantly from the other two PP Score means.
All IS Score means differed significantly.

All four models in Table 7 are significant, and examination of the regression coefficients in each equation clearly illustrates the impact of Planning Duration. In Models VII and IX, β_2 is insignificant, showing that when planning had been underway for three years or less, Overall Firm Performance is not associated with Ends or Means Specificity. The strong positive coefficients for Ends and Means Specificity by Planning Duration of 4 years or more (Model VII: $\beta_3 = 0.40$, $t = 2.58$, $p < 0.01$; Model IX: $\beta_3 = 0.41$, $t = 2.37$, $p < 0.05$) indicates that OFP is positively associated with planning specificity once planning has been underway for at least four years. Models VIII and X display a different pattern. The significance of β_2 in both indicates Planning Performance is associated with Ends or Means Specificity, and the insignificance of β_3 in both indicates planning duration does not moderate the planning specificity/PP relationship. Accordingly, Hypotheses 7 and 8 are partially rejected. Planning duration clearly moderates the planning/OFP performance relationship, and from an external performance perspective excluding firms with a planning duration of three years or less is valid. Planning duration does not significantly impact the planning specificity/planning performance relationship.[12]

One way ANOVA using Planning Duration as the independent (grouping) variable indicated that the means of two of the five variables of interest (OFP and PP) differed significantly. The Scheffe Test confirmed that the Group 1 PP Score mean differed significantly from the Group 5 PP Score mean, while the Group 1 OFP Score mean differed significantly from all other Group OFP Score means. These results are reported in Table 8.

In the case of Model VI, though the Means Specificity/Means Flexibility correlations are significant for both Mature/Stable and Mature/Unstable environments when calculated individually, combining these with the lack of correlation noted in Very Unstable environments ($r = R^2 = 0$) swamp the significant individual correlations. Similar to Table 4, the pattern of findings reflected in Table 6 are replicated in the data after controlling for country of origin.

[12] The data testing planning duration's impact on the relationships and variables of interest in the study include the 230 cases initially excluded from the 426 case main sample.

Table 6. Planning specificity/planning flexibility relationship, moderated by environmental stability

Independent Variable: Ends Specificity	Dependent Variable: Ends Flexibility (Model V) β	t
(Constant)		7.79***
Mature/Stable: $Dummy_1$	–0.90***	–3.40***
Mature/Unstable: $Dummy_2$	–0.71*	–2.56*
Ends Specificity	–0.44**	–2.94**
Ends Specificity by Mature/Stable	0.86***	3.43***
Ends Specificity by Mature/Unstable	0.81**	2.77**
R^2	0.03	
Adjusted R^2	0.02	
$F_{(5,420)}$	2.61*	

Independent Variable: Means Specificity	Dependent Variable: Means Flexibility (Model VI) β	t
(Constant)		3.12**
Mature/Stable: $Dummy_1$	–0.38	–1.28
Mature/Unstable: $Dummy_2$	–0.25	–0.78
Means Specificity	0.00	0.00
Means Specificity by Mature/Stable	0.44	1.51
Means Specificity by Mature/Unstable	0.30	0.88
R^2	0.04	
Adjusted R^2	0.03	
$F_{(5,420)}$	3.32	

Beta coefficients shown are standardized.
*$p < = 0.05$; **$p < = 0.01$; ***$p < = 0.001$

LIMITATIONS OF THE STUDY

Though the study has some interesting and valuable findings, some limitations must be acknowledged. First, the study is based upon a single response per firm/division/business. Though the scales are valid and reliable between firms, multiple respondents from the same firm would permit within firm validation of the study scales. Second, subjective perceptual data are used to measure the variables of interest in the study. This is of most concern in the measurement of the independent variable, firm level planning. Previous research has confirmed subjective measures of performance typically correlate strongly with secondary objective measures (Dess and Beard, 1984; Dess, 1987; Hart and Banbury, 1994; Venkatraman and Ramanujam, 1987) and subjective measures of industry volatility have been found to correlate with other objective measures (Snyder and Glueck, 1982). Furthermore, the significantly different IS Score means per environmental category (Mature/Stable; Mature/Unstable; and Very Unstable) and the range of industry based IS Score means reflected in Table 2 provide additional confirmation that industry/environmental stability has been appropriately measured. In addition, the significant and as predicted differences in the three measurements of planning flexibility validate the flexibility measurement. Regarding the subjective measurement of Ends and Means Specificity, content analysis of actual planning documents may have provided a more accurate picture of the specificity of plans emerging from respondent firms. However, such a methodology is impractical over a large sample, and excludes firms with no plans at all. The third limitation relates to the limited number of small firms represented in the sample. To confirm the applicability of the findings to smaller firms, more small companies must be included in the sample. Finally, the use of cross sectional data to study an essentially longitudinal construct (the planning *processes* inherent in the notion of planning duration) must be acknowledged as a limitation.

DISCUSSION OF FINDINGS

Regarding environments, planning/performance, and the planning school/learning school debate

This study concludes environment does not moderate the *type* of planning firms pursue. External firm performance (OFP) and internal planning performance (PP) are clearly associated with formal, specific planning, regardless of environment. Furthermore, the key planning prescriptions of the Incremental Model received no support. In unstable environments, relying on a few broad, unspecified, unannounced ends, and leaving means to emerge as an organization interacts with its environment is inadvisable. Multiple specific ends, and specific, deliberate means are prefer-

Table 7. Planning specificity/firm performance relationships, moderated by planning duration

Independent Variable: Ends Specificity	Dependent Variables: Overall Firm Performance (Model VII) β	t	Planning Performance (Model VIII) β	t
(Constant)		12.73***		10.86***
Plandum: $Dummy_1$	–0.24	–1.69	–0.10	–0.77
Ends Specificity	0.09	1.32	0.45***	7.30***
Ends Specificity by Duration > 4 yrs	0.40**	2.58**	0.22	1.60
R^2	0.08		0.29	
Adjusted R^2	0.08		0.29	
$F_{(3,652)}$	18.88***		88.93***	

Independent Variable: Means Specificity	Dependent Variables: Overall Firm Performance (Model IX) β	t	Planning Performance (Model X) β	t
(Constant)		11.02***		8.83***
Plandum: $Dummy_1$	–0.26	–1.66	–0.19	–1.00
Means Specificity	0.10	1.70	0.55***	9.34***
Means Specificity by Duration > 4 yrs	0.41*	2.37*	0.22	1.59
R^2	0.09		0.40	
Adjusted R^2	0.09		0.40	
$F_{(3,652)}$	22.10***		147.48***	

Beta coefficients are standardized.
*$p < = 0.05$; **$p < = 0.01$; ***$p < = 0.001$

able. The findings do not, however, preclude the use of incrementalism in strategy formation. Clear evidence of the co-existence of formal, specific, *and* flexible planning was noted in Very Unstable environments: plans can be both specific and flexible. In fact, sound specific planning beforehand may limit the amount of incrementalism (and learning) a firm faces later, while firms operating without any specific planning may spend more time in experimentation and trial and error, thus affecting performance. Instead of being the antithesis of incrementalism, formal specific planning may be a necessary precursor to successful incrementalism. Stated in the terms of a strong supporter of the Incremental Model (Mintzberg, 1987) specific plans may represent the 'intended' strategy while the inevitable incremental changes that follow as intentions become reality represent the emergent, or 'realized' part of the firm's 'deliberate' strategy. Both are necessary and neither is sufficient. Such integration has been suggested before, both within the field of strategy (Camillus, 1982; Goold, 1992) and in other fields (Michael, 1973).

The strong planning/performance relationships noted in this study support recent studies that report a positive relationship between formal planning processes and performance (Eisenhardt, 1989; Goll and Rasheed, 1997; Hart and Banbury, 1994; Priem *et al.*, 1995). With the planning construct adequately specified and measured, strong and consistent planning/performance relationships are noted. However, the positive relationships noted in Very Unstable environments are inconsistent with the findings of Fredrickson and his colleagues (Fredrickson, 1984;

Table 8. Key study variables and planning duration (n = 647)

	Summary Table of Means				
Group*	ES Score	MS Score	PP	OFP	IS Score
Group 1: <1 year (n = 26)	14.65	13.50	24.19	10.60	41.00
Group 2: 1–3 yrs (n = 204)	17.54	14.83	27.22	13.29	44.20
Group 3: 4–7 yrs (n = 243)	17.09	15.13	28.17	13.65	43.08
Group 4: 8–15 yrs (n = 114)	16.91	14.79	28.09	13.91	42.88
Group 5: >15 yrs (n = 60)	16.63	15.47	29.18	14.30	42.73
All Groups	17.06	14.94	27.79	13.52	43.28

*9 respondents indicated 0 for Planning Duration as their firms possessed "No specifically developed strategic plans of any substance" and thus were prompted to skip the remainder of Section 2 (measuring Strategic Means Specificity and Planning Duration) and go onto Section 3 of the questionnaire. Since all these firms had been in business for longer than 4 years, they were included in the main study sample (n = 426) but excluded from the analysis reported in this table.

	Analysis of Variance	
Variable	F	p
ES Score	2.35	0.05
MS Score	1.65	0.16
PP	3.41	0.01
OFP	5.87	0.00
IS Score	0.87	0.48

Using the Scheffe Test, the Group 1 PP Score mean differed significantly from the Group 5 PP Score mean, and the Group 1 OFP Score mean differed significantly from all other group means.

Fredrickson and Mitchell, 1984; Fredrickson and Iaquinto, 1989). The inconsistency could be due to many factors including different research designs and conceptualizations of the planning construct, or different measurement of industry/environmental volatility. Alternatively, the findings of this study (and others contradicting the Fredrickson studies) may fail to capture the true nature of the relationships under investigation. However, after almost fifteen years, the Fredrickson studies remain to be replicated outside the firms and industries of the original studies (Priem *et al.*, 1995) and contrary results have been noted in a similar study of three other industries (Judge and Miller, 1991). In contrast, the Planning School prescriptions have now been the subject of considerable investigation over many years, and are receiving growing support from this and other recent work. The Learning School claims would benefit from similar intensive scrutiny.

The integration of synoptic formalism and incrementalism suggested in this paper questions the value of the recent Ansoff/Mintzberg debate, and indeed the general condemnation of formal strategic planning as a desirable firm behavior (Mintzberg, 1991; Mintzberg, 1994c). If anything, the dissatisfaction with formal strategic planning has surfaced the practices to be avoided in planning, rather than providing support for the proposition that the remedy for bad planning is no planning. For example, the first of Mintzberg's planning 'fallacies' (detachment) is avoided by placing planning responsibility in the hands of engaged line managers. The second fallacy (predetermination) is avoided by acknowledging, as this paper points out, that good planning is about both synoptic formalism and incrementalism. The third fallacy of 'formalization' (Mintzberg, 1994a) may not be fallacious after all: as this study illustrates, there is room for formal, specific planning in the work of managers, and no support for firms which rely on incremental processes alone. This more inclusive, both/and conceptualization of the strategy formation process is congruent with recent findings that suggest successful strategy-making requires multiple strategy formation modes or capabilities (Hart and Banbury,

1994). Forming and reforming specific plans and making incremental adjustment as implementation proceeds are probably two of the capabilities required. The remedy for bad planning is good planning, which includes incrementalism within its ambit.

Regarding planning duration and planning capabilities

The significant role planning duration plays in moderating the planning specificity/OFP relationship surfaces a variable that has received little attention to date. The failure to control for planning duration may explain some of the inconsistencies and brittle nature of past findings. Bracker and Pearson's (1986) findings are replicated, though 4 years, and not 5 years, appears the critical cut-off point. Two factors probably explain planning duration's impact on the planning/performance relationship. First, and as already pointed out above, a lapse of time is necessary before the fruits of good planning show up in externally oriented performance data. Implementation takes time, and the planning specificity/OFP relationship time lag provides clear indication of this. Second, the quality of planning probably improves with time—the lower PP score mean for firms planning for a year or less, and the increase in PP score means over time supports this notion. Anecdotal data from cases (see for example Simon and Weston, 1990; Porter and Dougherty, 1976) provide more fine grained corroboration that firm planning capabilities can and do improve over time. This interpretation accords with resource based theory that holds firms possess different combinations or levels of capabilities (Barney, 1991; Dierickx and Cool, 1989; Hart and Banbury, 1994; Wernerfelt, 1984). Planning duration may be a key factor contributing to the accumulation (or lack of accumulation) of firm level planning capabilities.

As much as firms plan to learn (i.e., specific planning *a priori* facilitates subsequent incrementalism) they probably in the early years of planning learn to plan. More research examining how firm planning processes/capabilities develop and are learned over time is needed, in particular specifying how this learning process unfolds. Research of this nature would accord with recent calls for more evolutionary or dynamic perspectives on strategy (Schendel, 1996; Barnett and Burgelman, 1996) though the emphasis here is on the evolution of strategy process rather than content. Regrettably, the strong and perhaps overstated condemnation of formal planning that has become the norm in some Learning School critiques may have unintentionally devalued planning 'process' research. This study's findings, hopefully, revive the need for such research and highlight some avenues for future research to rectify the imbalance.

Planning duration's impact on the planning/performance relationship also provides some basis to counter the concern that correlation does not 'prove' causation. An opposite causal specification has been proposed (see for example Hopkins and Hopkins, 1997 who assert that high firm performance promotes good planning) rather than sound planning contributes to high performance. That time must pass before systematic planning/external performance relationships are noted supports the latter causal model: improved planning accompanied by implementation capabilities that also may improve over time, both eventually contributing to superior external firm performance.

Regarding environments and planning

Rejecting environment as a moderator of the planning/performance relationship is not the only insight this study provides into the environment/planning nexus. The findings also support an alternative theory on the environment's impact on planning. Rather than being amenable to classic formal strategic planning (as has been argued by many to date) stable environments may in fact require less planning. Having refined the routines to operate in the stable environment, planning is not needed until the environment changes. Planning capabilities would thus remain dormant and/or underdeveloped. Three study findings support this interpretation: the lower ends and means specificity scores of firms in Mature/Stable environments, the lower PP score mean for firms operating in Mature/Stable environments; and the greater planning inflexibility exhibited by firms operating in stable environments. In short, stable environments may contribute to firm planning capability 'discounts'—environment may be another factor (in addition to planning duration) that moderates the planning capabilities accumulated by firms.

By demanding more sophisticated planning, unstable environments may force the development of planning capabilities reflected in planning capability 'premia.' This line of argument also explains Iaquinto and Fredrickson's 'surprising' recent finding that top management team agreement about planning comprehensiveness was negatively correlated with industry stability (Iaquinto and Fredrickson, 1997). Better planners (operating in unstable environments) should display closer agreement about comprehensiveness than poorer planners (who populate stable environments) should. Similar to early organization theorists (see for example Burns and Stalker, 1961; Lawrence and Lorsch, 1967; Bourgeois, 1985) the suggested causal sequence is environment determines organization, which determines effectiveness. Here the 'organization' component is firm level planning capabilities.

That environment moderates planning flexibility opens up an additional line of inquiry for planning/performance research. In the case of ends, the findings clearly show that as environmental instability grows, so does flexibility. In the case of means, though displaying a similar underlying structure in that the means specificity/inflexibility relationships weaken as environmental instability increases, no significant relationships were noted. At the very least, planning specificity is not systematically associated with inflexibility—the 'rigidity' hypothesis (Hart and Banbury, 1994) is not supported. Neither is the lack of any direct flexibility/performance association concerning. To note performance effects, plans must be both flexible *and* specific—poorly specified flexible plans will not enhance performance. However, since this is the first study to discover that environment moderates planning capabilities and flexibility, definitive conclusions should not be drawn. Further research is needed to confirm the findings presented here.

Implications for practice

The findings have four important implications for practitioners. First, the importance and value of formal, specific strategic planning is underlined. Second, though plans should be specific, they must also be flexible, especially in unstable environments. Once formed, firms must be prepared to rework and amend plans incrementally as implementation proceeds. At times, even full-scale abandonment may be necessary. Third, for firms new to specific planning, the importance of planning duration cannot be over-emphasized. Though the findings show that formal specific planning is an important and integral part of the management task, and that significant performance effects can and do accompany such activities, these results are usually only seen in time. Persistence in planning, as much as specificity and flexibility in planning is key to the realization of any performance enhancements. Similar to most activities or processes, the quality improves the more it is done. Firms new to planning must expect initial efforts to be somewhat off the mark, and procedures should be put in place to ensure that 'learning to plan' is accomplished as efficiently as is possible. Lastly, firms emerging from stable environments should be especially cautious. Since one possible outcome of operating in a stable environment is an underdeveloped planning capability, the learning curve faced by such firms when more sophisticated planning becomes necessary may be steep. This applies for example to firms facing deregulation, such as utilities, or firms facing increased competition from a prior position of oligopoly or comfortably regulated competition, such as banks or telecommunications providers. However, notwithstanding the disadvantages such firms may face, this study shows that the time and effort devoted to planning (a factor within management's control) rather than the volatility of the external environment (a factor mostly beyond management's control) is the moderator of importance. When the going gets tough, the tough go planning: formally, specifically, yet with flexibility and with persistence. And once they have learned to plan, they plan to learn.

ACKNOWLEDGMENTS

The authors would like to thank the many executives who provided the data for this study. The constructive comments of the referees are also gratefully acknowledged.

REFERENCES

Aiken, L. S. and S. G. West (1991). *Multiple Regression: Testing and Interpreting Interactions.* Sage, Newbury Park, CA.

Andrews, K. R. (1971). *The Concept of Corporate Strategy*. Dow Jones-Irwin, Homewood, IL.

Ansoff, H. I. (1991). 'Critique of Henry Mintzberg's 'The Design School: Reconsidering the basic premises of strategic planning'', *Strategic Management Journal*, **12**(6), pp. 449–461.

Ansoff, H. I. (1994). 'Comment on Henry Mintzberg's Rethinking strategic planning', *Long Range Planning*, **27**(3), pp. 31–32.

Ansoff, H. I., J. Avner, R. G. Brandenburg, F. E. Portner, and R. Radosevich (1970). 'Does planning pay off? The effects of planning on success of acquisitions in American firms', *Long Range Planning*, **3**(2), pp. 2–7.

Anthony, R. N. (1965). *Planning and Control Systems: A Framework for Analysis*. Division of Research, Harvard Business School, Boston, MA.

Armstrong, J. S. (1982). 'The value of formal planning for strategic decisions: Review of empirical research', *Strategic Management Journal*, **3**(3), pp. 197–211.

Barnett, W. P. and R. A. Burgelman (1996). 'Evolutionary perspectives on strategy', *Strategic Management Journal*, Summer Special Issue, **17**, pp. 5–19.

Barney, J. (1991). 'Firm resources and sustained competitive advantage', *Journal of Management*, **17**(1), pp. 99–120.

Bourgeois, L. J. (1980). 'Performance and consensus', *Strategic Management Journal*, **1**(3), pp. 227–248.

Bourgeois, L. J. (1985). 'Strategic goals, perceived uncertainty, and economic performance in volatile environments', *Academy of Management Journal*, **28**(3), pp. 548–573.

Bourgeois, L. J. and D. R. Brodwin (1984). 'Strategic implementation: Five approaches to an elusive phenomenon', *Strategic Management Journal*, **5**(3), pp. 241–264.

Boyd, B. K. (1991). 'Strategic planning and financial performance: A meta-analytic review', *Journal of Management Studies*, **28**(4), pp. 353–374.

Boyd, B. K. and E. Reuning-Elliot (1998). 'A measurement model of strategic planning', *Strategic Management Journal*, **19**(2), pp. 181–192.

Bracker, J. S. and J. N. Pearson (1986). 'Planning and financial performance of small, mature firms', *Strategic Management Journal*, **7**(6), pp. 503–522.

Bresser, R. K. and R. C. Bishop (1983). 'Dysfunctional effects of formal planning: Two theoretical explanations', *Academy of Management Review*, **8**(4), pp. 588–599.

Burns, T. and G. M. Stalker (1961). *The Management of Innovation*. Tavistock, London.

Camillus, J. C. (1982). 'Reconciling logical incrementalism and synoptic formalism – An integrated approach to designing strategic planning processes', *Strategic Management Journal*, **3**(3), pp. 277–283.

Camillus, J. C. (1986). *Strategic Planning and Management Control: Systems for Survival and Success*. Lexington Books, Lexington, MA.

Chaffee, E. E. (1985). 'Three models of strategy', *Academy of Management Review*, **10**(1), pp. 89–98.

Chakravarthy, B. S. (1987). 'On tailoring a strategic planning system to its context: Some empirical evidence', *Strategic Management Journal*, **8**(6), pp. 517–534.

Chandler, A. (1962). *Strategy and Structure*. MIT Press, Cambridge, MA.

Dess, G. G. (1980). 'The relationship between objective and subjective measures of manufacturers' competitive environments: Implications for firm performance', doctoral dissertation, University of Washington.

Dess, G. G. (1987). 'Consensus on strategy formulation and organizational performance: Competitors in a fragmented industry', *Strategic Management Journal*, **8**(3), pp. 259–277.

Dess, G. G. and D. Beard (1984). 'Dimensions of organizational task environments', *Administrative Science Quarterly*, **29**(1), pp. 52–73.

Dierickx, I and K. Cool (1989). 'Asset-stock accumulation and sustainability of competitive advantage', *Management Science*, **35**(12), pp. 1504–1511.

Eisenhardt, K. M. (1989). 'Making fast strategic decisions in high velocity environments', *Academy of Management Journal*, **32**(3), pp. 543–576.

Floyd, S. W. and B. Wooldridge (1992). 'Middle management involvement in strategy and its association with strategic type: A research note', *Strategic Management Journal*, Summer Special Issue, **13**, pp. 153–167.

Fredrickson, J. W. (1984). 'The comprehensiveness of strategic decision processes: Extension, observations, future directions', *Academy of Management Journal*, **27**(2), pp. 445–466.

Fredrickson, J. W. and A. L. Iaquinto (1989). 'Inertia and creeping rationality in strategic decision processes', *Academy of Management Journal*, **32**(3), pp. 516–542.

Fredrickson, J. W. and T. R. Mitchell (1984). 'Strategic decision processes: Comprehensiveness and performance in an industry with an unstable environment', *Academy of Management Journal*, **27**(3), pp. 399–423.

Fulmer, R. M. and L. W. Rue (1974). 'The practice and profitability of long range planning', *Managerial Planning*, **22**, pp. 1–7.

Goll, I. and A. M. Rasheed (1997). 'Rational decision-making and firm performance: The moderating role of environment', *Strategic Management Journal*, **18**(7), pp. 583–591.

Goold, M. (1992). 'Design, learning and planning: A further observation of the Design School debate', *Strategic Management Journal*, **13**(2), pp. 169–170.

Granger, C. H. (1964). 'The hierarchy of objectives', *Harvard Business Review*, **42**(3), pp. 63–74.

Gup, B. E. and D. D. Whitehead (1989). 'Strategic planning in banks: Does it pay?', *Long Range Planning*, **22**, pp. 124–130.

Guttman, L. A. (1944). 'A basis for scaling qualitative data', *American Sociological Review*, **9**, pp. 139–150.

Hamel, G. and C. K. Prahalad (1989). 'Strategic intent', *Harvard Business Review*, **67**(3), pp. 63–76.

Hart, S. (1992). 'An integrative framework for strategy-

making processes', *Academy of Management Review*, **17**, pp. 327–351.
Hart, S. and C. Banbury (1994). 'How strategy-making processes can make a difference', *Strategic Management Journal*, **15**(4), pp. 251–269.
Hofer, C. and D. E. Schendel (1978). *Strategy Formulation: Analytical Concepts.* West Publishing Company, St. Paul, MN.
Hopkins, W. E. and S. A. Hopkins (1997). 'Strategic planning-financial performance relationships in banks: A causal examination', *Strategic Management Journal*, **18**(8), pp. 635–652.
Iaquinto, A. L. and J. W. Fredrickson (1997). 'Top management team agreement about the strategic decision process: A test of some of its determinants and consequences', *Strategic Management Journal*, **18**(1), pp. 63–75.
Judge, W. Q. and A. Miller (1991). 'Antecedents and outcomes of decision speed in different environmental conditions', *Academy of Management Journal*, **34**(2), pp. 449–463.
King, W. R. and D. I. Cleland (1987). 'The choice elements of strategic management'. In W.R. King and D.I. Cleland (eds.), *Strategic Planning and Management Handbook*. Van Nostrand Reinhold, New York, pp. 63–69.
Kudla, R. J. (1980). 'The effects of strategic planning on common stock returns', *Academy of Management Journal*, **23**(1), pp. 5–20.
Lawrence, P. R. and J. W. Lorsch (1967). *Organization and Environment: Managing Differentiation and Integration.* Harvard Business School Press, Boston, MA.
Lee, A. S. (1991). 'Integrating positivist and interpretive approaches to organizational research', *Organization Science*, **2**, pp. 342–365.
Leontiades, M. and A. Tezel (1980). 'Planning perceptions and planning results', *Strategic Management Journal*, **1**(2), pp. 65–76.
Li, M. and R. L. Simerly (1998). 'The moderating effects of environmental dynamism on the ownership and performance relationship', *Strategic Management Journal*, **19**(2), pp. 169–179.
Lindblom, C. E. (1959). 'The science of muddling through', *Public Administration Review*, **19**(2), pp. 79–88.
Lindsay, W. M. and L. W. Rue (1980). 'Impact of the organization environment on the long range planning process: A contingency view'. *Academy of Management Journal*, **23**(3), pp. 385–404.
MacCrimmon, K. R. (1988).'Essence of strategy: Ends, means and conditions'. In J. H. Grant (ed.), *Strategic Management Frontiers*. JAI Press, Greenwich, CT, pp. 49–72.
Michael, D. N. (1973). *On Learning to Plan and Planning to Learn*. Jossey-Bass, San Francisco, CA.
Miller, C. C. and L. B. Cardinal (1994). 'Strategic planning and firm performance: A synthesis of more than two decades of research', *Academy of Management Journal*, **37**(6), pp. 1649–1665.
Miller, D. and P. H. Friesen (1983). 'Strategy making and environment: The third link', *Strategic Management Journal*, **4**(3), pp. 221–235.
Mintzberg, H. (1973). 'Strategy making in three modes', *California Management Review*, **16**(2), pp. 44–53.
Mintzberg, H. (1978). 'Patterns of strategy formation', *Management Science*, **24**(9), pp. 934–948.
Mintzberg, H. (1987). 'Crafting strategy', *Harvard Business Review*, **65**(4), pp. 66–75.
Mintzberg, H. (1990a). 'Strategy formation: Schools of thought'. In J. W. Fredrickson (ed.), *Perspectives on Strategic Management.* Harper Business, New York, pp. 105–235.
Mintzberg, H. (1990b). 'The Design School: Reconsidering the basic premises of strategic management', *Strategic Management Journal*, **11**(3), pp. 171–195.
Mintzberg, H. (1991). 'Learning 1, planning 0: Reply to Igor Ansoff', *Strategic Management Journal*, **12**(6), pp. 463–466.
Mintzberg, H. (1994a). 'Rethinking strategic planning, Part I: Pitfalls and fallacies', *Long Range Planning*, **27**(3), pp. 12–21.
Mintzberg, H. (1994b). 'Rethinking strategic planning, Part II: New roles for planners', *Long Range Planning*, **27**(3), pp. 22–30.
Mintzberg, H. (1994c). 'The fall and rise of strategic planning', *Harvard Business Review*, **72**(1), pp. 107–114.
Mintzberg, H. (1994d). *The Rise and Fall of Strategic Planning*. Free Press and Prentice Hall International, New York.
Mintzberg, H. and J. Waters (1982). 'Tracking strategy in an entrepreneurial firm', *Academy of Management Journal*, **5**, pp. 465–499.
Mitroff, I. I. and J. R. Emshoff (1979). 'On strategic assumption-making: A dialectical approach to policy and planning', *Academy of Management Review*, **4**(1), pp. 1–12.
Narayanan, V. K. and L. Fahey (1982). 'The micro-politics of strategy formation', *Academy of Management Review*, **7**(1) pp. 25–34.
Pearce, J. A., E. B. Freeman and R. B. Robinson (1987). 'The tenuous link between formal strategic planning and performance', *Academy of Management Review*, **12**(4), pp. 658–675.
Porter, M. E. and J. B. Dougherty (1976). 'EG&G, Inc. (A) Condensed'. *Harvard Business School Case, 9–377–027.*
Priem, R. L., A. M. A. Rasheed and A. G. Kotulic (1995). 'Rationality in strategic decision processes, environmental dynamism and firm performance', *Journal of Management*, **21**(5), pp. 913–929.
Quinn, J. B. (1980). *Strategies for Change: Logical Incrementalism*. Richard D. Irwin, Homewood, IL.
Rhyne, L. C. (1986). 'The relationship of strategic planning to financial performance', *Strategic Management Journal*, **7**(5), pp. 423–436.
Rhyne, L. C. (1987). 'Contrasting planning systems in high, medium, and low performance companies', *Journal of Management Studies*, **24**(4), pp. 363–385.
Robinson, R. B. and J. A. Pearce II. (1983). 'The impact of formalized strategic planning on financial

performance in small organizations', *Strategic Management Journal*, **4**(3), pp. 197–207.
Schendel, D. E. (1996). 'Evolutionary perspectives on strategy', *Strategic Management Journal*, Summer Special Issue, **17**, pp. 1–4.
Schendel, D. E. and C. W. Hofer (eds.) (1979). *Strategic Management*. Little, Brown, Boston, MA.
Schwenk, C. R. and C. B. Schrader (1993). 'Effects of formal strategic planning on financial performance in small firms: A meta-analysis', *Entrepreneurship Theory and Practice*, **17**(3), pp. 53–64.
Shrivastava, P. and J. Grant (1985). 'Empirically derived models of strategic decision-making processes', *Strategic Management Journal*, **6**(2), pp. 97–113.
Simon, R. and H. Weston (1990). 'Central Maine Power Company: Goals and objectives program (A)', *Harvard Business School Case, 9-190-065*.
Snyder, N. H. and W. F. Glueck (1982). 'Can environmental volatility be measured objectively?', *Academy of Management Journal*, **25** (1), pp. 185–192.
Thune, S. S. and R. J. House (1970). 'Where long range planning pays off', *Business Horizons*, **13**(4), pp. 81–87.
Tosi, H. L. and S. J. Carroll (1968). 'Managerial reaction to management by objectives', *Academy of Management Journal*, **11,** pp. 415–426.
Tosi, H. L., R. Aldag and R. Storey (1973). 'On the measurement of the environment: An assessment of the Lawrence and Lorsch environmental uncertainty sub scale', *Administrative Science Quarterly*, **18**, pp. 27–36.
Venkatraman, N. (1989). 'The concept of fit in strategy research: Towards verbal and statistical correspondence', *Academy of Management Review*, **14**, pp. 423–444.
Venkatraman, N. and V. Ramanujam (1987). 'Planning and performance: A new look at an old question', *Business Horizons*, **30**(3), pp. 19–25.
Wernerfelt, B. (1984). 'A resource based view of the firm', *Strategic Management Journal*, **5**(2), pp. 171–180.
West, C. T. and C. R. Schwenk (1996). 'Top management team strategic consensus, demographic homogeneity, and firm performance: A report on resounding nonfindings', *Strategic Management Journal*, **17**(7), pp. 571–576.
Winer, B. J. (1971). *Statistical Principles in Experimental Design* (2nd ed). McGraw Hill, New York.
Wood, D. R., Jr. and R. L. LaForge (1979). 'The impact of comprehensive planning on financial performance', *Academy of Management Journal*, **22**(3), pp. 516–526.
Wood, D. R., Jr. and R. L. LaForge (1981). 'Toward the development of a planning scale: An example from the banking industry', *Strategic Management Journal*, **2**(2), pp. 209–216.
Wooldridge, B. and S. W. Floyd (1990). 'The strategy process, middle management involvement, and organizational performance,' *Strategic Management Journal*, **11**(3), pp. 231–241.

APPENDIX: Questionnaire Items
(Bold numbers indicate scoring protocol)

Section I: Strategic Ends Specificity

1. Please indicate which one statement most closely describes your firm.

No ends have been developed for our firm in the strategy formation process.	**1**
A few (less than five) ends have been developed for our firm in the strategy formation process, but they remain undocumented and informal.	**2**
A few (less than five) ends have been developed for our firm and formally documented in the strategy formation process.	**3**
A number (greater than five) of ends have been developed for our firm in the strategy formation process, but they remain undocumented and informal.	**4**
A number (greater than five) of ends have been developed for our firm and formally documented in the strategy formation process.	**5**
Many ends have been developed for our firm and formally documented in the strategy formation proccess, including a statement of firm mission/purpose, and specification of strategic objectives/goals for different areas of the firm.	**6**

If you selected the first statement above (no firm ends), please go to Section II of this questionnaire.

2. Please indicate the approximate percentage of ends for your firm that have quantified measures included in their terms, allowing you to tell *fairly exactly* or to *determine with confidence* whether or not they have been achieved:

Less than 20%	More than 20%	More than 40%	More than 60%	More than 80%
1	**2**	**3**	**4**	**5**

3. Please indicate the approximate percentage of firm ends that have time limits included in their terms, stating an *exact time* by which they must be achieved:

Less than 20%	More than 20%	More than 40%	More than 60%	More than 80%
1	**2**	**3**	**4**	**5**

4. Indicate *in general* the specificity of your firm's ends. For example, very specific ends would be those which identify exact objectives (achieving sales growth of 10 percent per annum, or achieving a return on investment of 15 percent per annum) such that little need for interpretation or further explanation exists. A broad, unspecified end could be "to become the best electronics retailer in the world" or "the purpose of this firm is to develop competitive electronics products in its chosen market niche." Please indicate the *one* statement which best describes your firm's ends.

Very unspecified	Unspecified	Both Specific and Unspecified%	Specific	Very specific
1	**2**	**3**	**4**	**5**

5. Please indicate the types of ends which usually are included in your firm's strategic plan, or usually emerge from your firm's strategy formation process. **You may indicate more than one statement**:

A statement of your firm's mission or fundamental business purpose.	**0**
Broad statements of key strategic goals/objectives for the firm, which tend to change/evolve as circumstances warrant.	**1**
Broad, enduring statements of key strategic goals for the firm over the foreseeable future, which emerge fully developed from the planning process, and tend not to change until achieved.	**1**
Statements of specific financial targets to be achieved either annually, or over the foreseeable future, for example ROI targets, profitability targets, or other targets of financial performance.	**1**
Statements of specific market share/sales growth targets for the firm.	**1**
Statements of specific key result areas/objectives for many/all functions/operations of the firm, providing key measurement of vital firm activities. Achievement of these key results/objectives is considered important, and part of employee compensation is based on such achievement.	**1**

Section II: Strategic Means Specificity

1. Please indicate which *one* statement best describes your firm. Note that the last two statements differ only in the underlined sentences.

No specific strategic plans or policies have been developed to guide the firm. The firm's strategic direction is determined based chiefly on the intuition and experience of the firm's founder(s)/owner(s)/senior managers. This direction evolves as circumstances warrant, as the firm succeeds or fails in its activities. Firm strategies have tended to emerge as the firm learns from its experiences.	**1**
The firm has a broad strategic plan in place, but this plan is considered a loose guide and is not strictly adhered to, and tends to change as the firm succeeds or fail in its activities. This plan contains no specific, detailed action plans or programs that the firm is expected to implement. Strategies have tended to develop and emerge over time.	**2**
The firm has developed a strategic plan, which includes specifically developed means, but this plan is considered a loose guide, which is either ignored, or loosely followed. The plan contains no specific, detailed action plans or programs that the firm is expected to implement.	**3**
The firm has a carefully developed strategic plan, detailing on a step-by-step basis a number of specific actions and programs the firm is implementing, or will implement in order to achieve its objectives, and thus accomplish its ends. This plan, developed after careful deliberation, is typically fully formed and complete once the planning cycle is finished. The firm is currently implementing this plan, but expects (and allows for) non material changes as implementation proceeds.	**4**
The firm has a carefully developed, comprehensive strategic plan, detailing on a step-by-step basis a number of specific actions and programs the firm is implementing, or will implement in order to achieve its objectives, and thus accomplish its ends. This plan, developed after careful deliberation, is typically fully formed and complete once the planning cycle is finished. The firm is currently implementing this plan, as outlined.	**5**

2. Please indicate the one statement which *best describes* your firm's current strategic plan:

No specifically developed strategic plans of any substance.	**1**
A broad, general statement of firm plans and policies, with no detailed action plans or programs that can be or are used to direct firm activities or monitor firm performance. Plans are not considered complete once the planning cycle is finished, but tend to evolve as circumstances warrant.	**2**
Mostly a broad, general statement of firm plans and policies, but with some action plans or programs which are not detailed enough to direct firm activities or monitor firm performance.	**3**
A statement of firm plans and policies, with some detailed action plans or programs which are considered fully formed and complete at the end of the planning cycle, and are used to direct firm activities and/or monitor firm performance.	**4**
A comprehensive, written, detailed, complete statement of firm plans and policies, containing specific action plans and programs which are continually referred to to direct firm activities or monitor/measure firm performance. Plans and programs are linked to strategic goals and objectives, and compensation is partly based on performance against plan.	**5**

If you selected the first statement above "No specifically developed strategic plans of any substance", please go on to Section III.

3. Please indicate how your firm's means are communicated to firm members. Please select the *one* statement that best describes your firm:

No specific effort is made to communicate firm means to firm members. Only those directly responsible for developing the means need know of their contents.	**1**

Through informal discussion/word of mouth, in a broad, general fashion.	**2**
Through formal meetings, where firm means are communicated verbally.	**3**
Through the distribution of documents explicitly containing firm means.	**4**
Through the distribution and informal discussion of documents explicitly containing firm means.	**5**
Through the distribution and formal discussion of documents explicitly containing firm means.	**6**

4. Indicate *in general* the specificity of your firm's "means". For example, very specific means would describe exact plans or programs the firm must implement, and set out on a detailed basis the steps required to achieve implementation. Typically, management's major task (once the means are suitably developed and articulated) would be to measure performance against plan. Very unspecified means would be broad, general statements of a firm's strategic intention, with little detail or steps intended to guide specific firm action. Please indicate the *one* statement which best describes your firm's means.

Very specified	Unspecified	Both Specific and Unspecified	Specific	Very specific
1	**2**	**3**	**4**	**5**

Strategic Ends and Means Flexibility

Please select the one statement that indicates how often your firm's ends (or *means*, or *mission/fundamental business purpose*) are changed or altered:

Almost continuously, as conditions and circumstances warrant.	**1**
Often, say every six months or so.	**2**
Quite often, say every 1–5 years.	**3**
On a specific planning time cycle, for example annually, or every two years.	**4**
Occasionally, say every 5–10 years.	**5**
Seldom, say every 10–20 years or so.	**6**
Never. The firm's ends (or *means* or *mission/fundamental purpose*) have remained the same since the firm's inception.	**7**

Section III: Firm Performance Measures

Please select the *one* choice in each line which you feel *best* indicates how *your firm* currently compares to peers in your firm's primary industry. If not applicable, select the choice included for this purpose. Please be as accurate and objective as possible.

	(Compared to peers in your primary industry today)					
Characteristic	*Not Applicable*	*Lowest 20%*	*Next 20%*	*Middle 20%*	*Next 20%*	*Top 20%*
Overall profitability or financial performance	xxxxxxx	**1**	**2**	**3**	**4**	**5**
Stock price performance		**1**	**2**	**3**	**4**	**5**
Overall firm performance/success	xxxxxxx	**1**	**2**	**3**	**4**	**5**

Please rate your firm's performance according to the factors listed in 1–6 below, applying the following scale:

Very low or none	Low	Low to moderate	Moderate	Moderate to high	High	Very high
1	**2**	**3**	**4**	**5**	**6**	**7**

1._____Overall effectiveness of your strategy formation and strategic planning processes.
2._____Degree of satisfaction among top management with your firm's strategy formation/strategic planning processes.
3._____Degree of satisfaction among all the firm's members with your firm's strategy formation/strategic planning processes.
4._____Positive effects of your firm's "ends" and "means" on overall firm competitiveness.
5._____Degree to which your firm's "ends" provide goals to effectively guide and stimulate the firm's actions and behavior.
6._____Degree to which your firm's "means" provide effective competitive strategies to influence/direct the firm's behavior, and enable the firm to effectively and successfully compete.

Please indicate by how much your firm's market share has changed over the past 5–10 years. Select the one appropriate choice.

Decreased by more than 30 percentage points	Decreased by between 16–30 percentage points	Decreased by between 0–15 percentage points	Unchanged	Increased by between 0–15 percentage points	Increased by between 16–30 percentage points	Increased by more than 30 percentage points
–3	**–2**	**–1**	**0**	**1**	**2**	**3**

Section IV: Industry Stability/Instability Ratings

Please rate your firm's primary industry according to the factors listed in 1–10 below:
(*Note: the 1–7 scale used to rate planning performance (see above) was repeated here*).

1._____Volatility in sales, on an annual basis.
2._____Volatility in earnings, on an annual basis.
3._____Rate of change in technology, speed of technological developments.
4._____Degree of technological complexity.
5._____Rate of change in government regulation.
6._____Degree of pressure felt from current or prospective competitors.
7._____Rate of product obsolescence.
8._____Degree of pressure to research and develop new products, applications, etc.
9._____Degree of difficulty in forecasting industry/market trends/developments/changes.
10._____Degree of complexity of strategic decision making.