# Top Team, Environment, and Performance Effects on Strategic Planning Formality

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This study examined hypotheses linking three categories of variables, top management team demography, environmental uncertainty, and firm performance, to the extent to which retail banks engage in a formal strategic planning process. The specific variables studied included: mean tenure, mean age, mean education level, functional background heterogeneity, and education major heterogeneity under team demography; environmental complexity and instability under environmental uncertainty; and performance level and volatility under firm performance. Results show that low tenure mean, functional heterogeneity, environmental complexity, and performance volatility all had positive effects on strategic planning formality.

The importance of strategic planning is one of the most basic notions in the strategic management literature, as it enables a firm's managers to create an alignment between the firm and its environment (Andrews, 1971; Ansoff, 1979). The nature of strategic planning processes has been shown to have an important effect on the performance of firms (e.g., Frederickson & Mitchell, 1984; Fulmer & Rue, 1974; Thune & House, 1970).

This study focuses on the influence of the top management team on strategic planning formality. The top team was selected for study because, as a small coalition of top-level executives, it essentially conducts the strategic planning process (Mintzberg, 1979). Evidence of the top team's roles in strategy formulation is its effect on the choice of strategy type (Gupta & Govindarajan, 1984), including diversification strategy (Michel & Hambrick, 1992), and in bringing about strategic change (Wiersema & Bantel, 1992) and innovation (Bantel & Jackson, 1989; Hage & Dewar, 1973; O'Reilly & Flatt, 1989).

Although the importance of the top team in relation to strategy outcomes is well-established, only one study has analyzed the underlying process by which these outcomes occur (Frederickson & Iaquinto, 1989). The lack of research on the top team-planning process link is consistent with conclusions reached by Huff and Reger (1987), who indicated in their extensive review

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that only several articles in the preceding 10 years examined the role of individuals in the strategy process. This study is designed to increase our understanding of the top team-planning process relationship by examining the formality of the planning process.

Planning formality pertains to the length of the planning horizon and the extent to which formal goals are set and programs and plans of action are developed to meet these goals (Rhyne, 1985); considered a highly rational process (Andrews, 1971), it is concerned with the integration of plans across organizational units and the control of resources and timetables (Lorange, 1980). Although emphasis here is on control, a formal planning process is also highly comprehensive, involving internal information gathering and integration. It is also proactive as members need to ensure that their plans reflect the current realities faced by the firm. Although some writers equate planning formality with rigidity (e.g., Lawrence & Lorsch, 1967), the position taken here is that the opposite is true of a formal process that is used as intended. Creativity and flexibility are needed as managers think through feasible long- and short-term goals and develop realistic plans for achieving them; this occurs within the context of the firm's strengths and weaknesses, departmental preferences, and political alliances and pressures.

Although the top management team is the primary focus of this research, two additional influences on planning formality will be examined: environmental uncertainty and firm performance. Managerial perceptions of the environment, and particularly environmental uncertainty, are considered critical input to the strategic planning process (Bourgeois, 1980). The influence of performance on strategic planning processes has not been widely investigated, as most research focuses on the opposite causal direction (Boyd, 1991). One exception is a study by Singh (1986), who found a negative relationship between poor firm performance and risk taking. As performance creates an important context within which strategic planning takes place, supported by various studies suggesting the influence of performance on strategy outcomes (e.g., Wiersema & Bantel, 1992), performance will also be investigated.

## INFLUENCES ON STRATEGIC PLANNING FORMALITY

Three categories of variables, top management team demography, environmental uncertainty, and performance, will be examined for their influence on strategic planning formality. The specific variables and their relationships with strategic planning formality are shown in Figure 1.

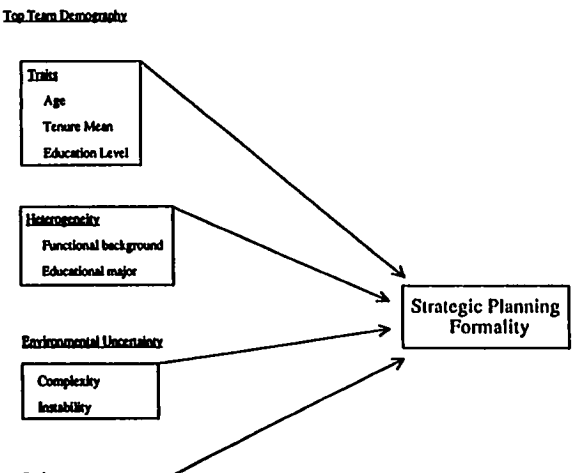


**Figure 1: Top Team Demography**

## TOP MANAGEMENT TEAM DEMOGRAPHY EFFECTS

The strategic decision-making process is a perceptual one involving the perspectives of involved members; managers' cognitive backgrounds and values serve as the foundation for these perspectives (Hambrick & Mason, 1984). Demographic characteristics are indicators of the experience and training that create an individual's cognitive background (Dearborn & Simon, 1958; Hambrick & Mason, 1984; Kahalas & Groves, 1979). As team members interact during the strategic decision-making process, the demographic composition of the top team is the focus. The use of demographic composition as an indicator of the nature and variety of perspectives represented on the top team has been used increasingly in recent years (e.g., Wiersema & Bantel, 1992). Both demographic traits and demographic diversity (heterogeneity) are important.

**Demographic Traits**

The level of individuals' demographic characteristics is an indicator of their interpretations and perspectives. For example, research on the effects of age has long-established roots in anthropology and sociology (Eisenstadt, 1956; Elder, 1975; Riley, 1987); age is used to classify individuals into roles, behaviors, and beliefs. The effects of three demographic traits, age, tenure, and education level, on strategic planning processes are described below.

*Age.* As described earlier, planning formality involves a high degree of comprehensiveness and integration. As older managers tend to do less well in integrating information in making decisions (Taylor, 1975) and in evaluating a variety of options while arriving at a decision (Hart & Mellons, 1970), they are expected to be less formal in their planning.

Hypothesis 1: Low age will be positively associated with planning formality.

*Organizational tenure.* Planning formality involves ongoing vigilance and thoroughness in the development of long- and short-term goals and in plans to achieve them; assessments must be made of the firm's relative success in achieving such goals, and amendments made to plans as appropriate. A tendency to assume that the past is representative of the future (Tversky & Kahneman, 1974) will occur among long-tenured managers, who will believe that such ongoing efforts are unnecessary. Further, there will be a tendency to constrict information, or to be receptive only to confirming information (Levine, 1971; Pruitt, 1961; Wason, 1960); this will block out any information that challenges complacency. These tendencies are inconsistent with planning formality.

Hypothesis 2: Low tenure will be positively associated with planning formality.

*Education level.* Planning formality involves the ability to be thorough and comprehensive in information gathering, to integrate decisions across organizational units, and to deal with the ambiguity of political pressures and alliances. The more highly educated managers will exhibit several qualities that will be an asset in this process: the ability to discriminate among a variety of stimuli, higher capacity for information processing (Schroder, Driver, & Streufert, 1967), higher boundary spanning, higher tolerance for ambiguity, and higher integrative complexity (Dollinger, 1984).

Hypothesis 3: High education level will be positively associated with planning formality.

## Demographic Heterogeneity

Research suggests that top team demographic heterogeneity will be linked to planning formality. Consistent with the comprehensive, broad, flexible, and creative approach represented by formality, demographic heterogeneity represents diversity in members' backgrounds, information sources (Dutton & Duncan, 1987; Hambrick & Mason, 1984), interpretations, and opinions; a larger variety of strategic issues will be analyzed (Dutton & Duncan, 1987). Increased creativity and innovation have also been shown (Bantel & Jackson, 1989; Katz, 1982; Wanous & Youtz, 1986), resulting from the ability of team members to challenge each other (Hoffman & Maier, 1961).

In contrast, demographic homogeneity suggests similarity among individuals in beliefs about the firm and how it operates (Tushman & Romanelli, 1985; Wagner, Pfeffer, & O'Reilly, 1984), higher communication frequency and integration (O'Reilly, Caldwell, & Barnett, 1989; Wagner et al., 1984; Zenger & Lawrence, 1989), a reduced receptivity to information, and a decrease in the ability of the team to use information (Whitney & Smith, 1983). Homogeneity is further linked to a higher commitment to prior courses of action (Janis, 1972) and higher consensus and continuity in decision making (Dutton & Duncan, 1987; Reed, 1978).

Heterogeneity on two demographic variables, functional background and educational major, are expected to link with planning formality; both were suggested by Hambrick and Mason (1984) as important indicators of managers' cognitive perspectives.

*Functional background.* Managers' functional experience will largely shape their attitudes, knowledge, and perspectives (Dearborn & Simon, 1958; Gupta & Govindarajan, 1984; Hambrick & Mason, 1984). The importance of functionally related perspectives in strategic issues has been demonstrated be several authors. Govindarajan (1989) found that managers' functional experience was linked to the success of certain strategy types; for example, general managers' experience in research and development (R&D) contributed to performance of strategic business units (SBUs) pursuing a differentiation strategy. Schilit and Paine (1987) linked managers' functional backgrounds to the nature of their strategic decision-making process. Evidence of top team heterogeneity on functional background being linked to creativity

and flexibility was found by Bantel and Jackson (1989), who found an association with strategic innovation.

Hypothesis 4: Functional background heterogeneity will be positively associated with planning formality.

*Education major.* Individuals' cognitive style, personality, and values will be reflected in their selection of educational major (Holland, 1973), whereas the pursuit of the curriculum further shapes perspectives. Executives' strategic decision perspective, for example, has been linked with educational major (Hitt & Tyler, 1991). Wiersema and Bantel (1992) found an association between heterogeneity on education major and strategic change, suggesting a more creative and flexible strategic decision-making process.

Hypothesis 5: Educational major heterogeneity will be positively associated with planning formality.

## ENVIRONMENTAL UNCERTAINTY EFFECTS

One of the most critical inputs into the strategic planning process is the environmental perceptions of managers (Aguilar, 1967; Anderson & Paine, 1975; Bourgeois, 1980; Dutton & Duncan, 1987). A research stream has developed focusing on the linkage between strategic planning processes and the environment (e.g., Hart, 1987; Hrebiniak & Snow, 1982; Miller & Friesen, 1983; Newport, Bodensteiner, & Dess, 1988), assuming that a match between the environment and strategic planning processes is necessary for the strategy to be optimal (Miller & Friesen, 1983).

A variety of studies has focused on the environmental dimension of uncertainty in analyses of the strategic decision process (Bourgeois, 1980; Downey & Slocum, 1975; Duncan, 1972). Environmental uncertainty represents a state in which critical information about organizations, activities, and events is not known (Huber & Daft, 1987), and cause and effect relationships among environmental elements are also unclear (Aldrich, 1979; Thompson, 1967). Duncan (1972) conceptualized environmental uncertainty as consisting of two dimensions: simple-complex, measuring the number of environmental factors that need to be addressed and the similarity among them; and static-dynamic, indicating the rate of change, or stability, in those factors. Both environmental complexity and instability are expected to influence planning formality.

## Environmental Complexity

To achieve an alignment with its environment, the firm needs to become more complex as the environmental complexity increases, including higher differentiation and integration (Lawrence & Lorsch, 1967) and more elaborated structures (Thompson, 1967) and planning systems (Woodward, 1965); planning formality is consistent with such elaboration. As decision makers are less able to forecast future events, they should be encouraged to develop contingency plans (Schwenk, 1984), also consistent with planning formality. Lindsay and Rue (1980) and Odom and Boxx (1988) found a link between environmental complexity and planning formality. Similarly, an association between environmental complexity and planning sophistication, which includes formality, was found by Rhyne (1985).

Hypothesis 6: Environmental complexity will be positively associated with planning formality.

## Environmental Instability

In stable environments, managers use established routines (Aldrich, 1979; Porter, 1980), including routinized problem solving (Eisenhardt, 1989), as there are minimal learning requirements (Tushman & Keck, 1990); those with stable environments will feel little need to change their strategies (Bourgeois, 1985). As managers perceive an unstable environment, on the other hand, they are less likely to rely on routine and the status quo and are more likely to make organizational changes (Aldrich, 1979; Pfeffer & Salancik, 1978). Managers will become more proactive and flexible in their planning processes (Hrebiniak & Snow, 1982; Lawrence & Lorsch, 1967; Miller & Friesen, 1983), accomplished by increasing the formality of the process. Thune and House (1970) found that the advantages of long-range planning, an element of planning formality, were more apparent for firms in industries undergoing rapid change.

Hypothesis 7: Environmental instability will be positively associated with planning formality.

## PERFORMANCE EFFECTS

There is an extensive literature in the strategic management field focusing on the linkage between planning processes and firm performance (see Boyd,

1991, for review). The results of these studies have been somewhat inconsistent, with some authors finding a positive (e.g., Thune & House, 1970) or negative relationship (e.g., Fulmer & Rue, 1974), or no relationship at all (e.g., Grinyer & Norburn, 1975). There are two aspects of performance that will be examined in this study: the relative level and the volatility of performance.

### Performance Level

Poor firm performance represents a threat to managers as various stakeholders will tend to question their competence in their stewardship role. As top managers are extremely concerned with earning external legitimacy, they will go to some length to give the appearance that they are providing the requisite expertise and leadership to the firm (Mitchell & Scott, 1987). More highly formalized planning processes, including the specification of goals and methods to achieve them, would add more external legitimacy than would an informal process lacking in such elements.

Hypothesis 8: High performance will be negatively associated with planning formality.

### Performance Volatility

Similar to low performance, performance volatility would be perceived by top managers as creating uncertainty and threat. Again, pressures to earn external legitimacy (Mitchell & Scott, 1987) suggest that performance volatility will be linked positively with planning formality.

Hypothesis 9: Performance volatility will be positively associated with planning formality.

## CONTROL VARIABLES

Two control variables—firm size and team size—are potentially relevant to this study and were controlled for. These are described below.

*Firm size.* The nature of strategic planning processes has often been thought to link with firm size (Hofer & Schendel, 1978; Lindsay & Rue, 1980), leading some researchers to treat small firms as a separate category in their theoretical and empirical work (e.g., Robinson, 1982; Robinson &

Pearce, 1984). The general expectation is that as the size of the firm increases, there is a higher need for coordination, integration, and control, consistent with planning formality.

*Team size.* As the size of the top management team increases, increased differentiation in perspective (Dearborn & Simon, 1958) and diversity of opinion (Bales & Borgatta, 1966) are also expected. Larger teams will also tend to reflect higher demographic heterogeneity. As larger teams reflect breadth of perspective, they are expected to exhibit the proactive behaviors consistent with planning formality.

## METHOD

### SAMPLE

The population selected for study was the 460 state-chartered and national banks above $50 million in assets located in the six midwestern states of Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin. This study was a follow-up to an initial study, in which 199 banks responded to questionnaires during which the demographic data on the top management team was gathered. Questionnaires were sent to the chief executive officers (CEO) of the original 199 banks; of these, 83 responses were received. Three cases were deleted because of missing data, resulting in a final sample of 80 banks. Chi-squares analysis of the 80 respondents compared to the original 199 banks showed no response bias by state and firm size.

### MEASURES

The questionnaire used for data collection for the environmental and planning variables was pretested with several banking executives in the roles of CEO and director of strategic planning. After the pretest, the CEO of each bank responded to the questionnaire.

*Team composition.* The initial study identified which executives are included in the top management team and gathered their demographic data. Those managers indicated by the CEO of each bank as active in the strategic planning process were included as top team members. The demographic data for each of the identified members was supplied by the human resources

manager from personnel records. The following information was collected for each individual: (a) current age, (b) year the person joined the bank, (c) educational level achieved, (d) the functional area in which the individual had the most experience, and (e) major field of study for the highest degree earned. For age, tenure, and education level, the mean was taken after aggregating across all individuals in the team.

*Heterogeneity.* Age and tenure heterogeneity were measured by calculating the coefficient of variation (the standard deviation divided by the mean). Allison's (1978) review indicates that, for interval data with a theoretically fixed zero point, the coefficient of variation is preferred because of its scale invariant properties. Blau's (1977) index of heterogeneity was used for functional background and educational major heterogeneity. It is calculated as $1 - \sum pi^2$ ($p$ = the percent of individuals in a category and $i$ = the different categories). Blau's index has been found to be very highly correlated with alternative indices of heterogeneity (Bantel & Jackson, 1989).

*Planning formality.* Planning formality was measured using items adapted from Odom and Boxx (1988) (see Appendix A for complete description). Six items were included; the mean of the items was used as the measure.

*Environmental complexity and stability.* Environmental complexity and stability were measured with a version of Duncan's (1972) instrument, with several modifications based on the work of Bourgeois (1985) and Rhyne (1985). This instrument incorporated Bourgeois's (1985) modifications in which strategic instead of subunit decisions were referenced and focused on only the external environment. Further modification based on Rhyne's (1985) work added depth to the measurement by incorporating an additional environmental component, industry, with several pertinent information items. (See Appendix B.)

*Performance.* The bank's average return on equity (ROE) for the 5 years preceding data collection (1983-1987) was used as the measure of performance. Venkatraman and Ramanujam (1986) observed that ROE is one of the most commonly used indicators of a firm's financial performance. Performance data were gathered from Sheshunoff Information Services, Inc. (1988a, 1988b, 1988c, 1988d, 1988e, 1988f), which publishes an annual analysis of banks by state, based on the Report of Condition and Report of Income from the Federal Reserve Bank.

*Performance volatility.* The volatility of the firms' performance was measured by taking the coefficient of variation of firm ROE over the 5-year period preceding data collection (1983-1987). The coefficient of variation is commonly used as a method to calculate volatility (e.g., Tosi, Aldag, & Storey, 1973).

*Firm size.* Total assets was selected as the most useful measure of bank size, based on interviews with bank executives. The log was used as it represents the accepted approach to measuring firm size in relation to organizational outcomes (Montgomery, 1979). Firm size data were collected from Sheshunoff.

*Team size.* The measure of team size is the total number of top team members listed by the CEO.

## RESULTS

The means, standard deviations, and correlations for all variables are shown in Table 1. Planning formality is significantly correlated positively with performance volatility, environmental instability, and both functional and education major heterogeneity; a negative significant correlation exists with age and tenure mean. All of these relationships were in the expected direction. Another interesting finding is the negative relationship between education mean and tenure mean; generally, managers hired more recently at these banks tend to be more highly educated, consistent with the trend in the United States toward higher educational attainment. The correlations also suggest that more highly educated managers tend to work for firms with higher environmental complexity and instability. This might indicate that more educated managers desire to work for firms competing in more dynamic and challenging environments, or perhaps these managers are more likely to perceive (and thus report) higher complexity and instability, consistent with their higher integrative complexity and tolerance for ambiguity (Dollinger, 1984). Also, it was not surprising to see an association between performance volatility and environmental instability; unstable environments require managers to be vigilant in making ongoing competitive changes to keep performance stable, a difficult task to achieve.

The research hypothesis were tested with two regression models, shown in Table 2. The first model included only the control variables, indicating that neither firm size (log) nor team size was significant. As they were not

## Means, Standard Deviations, and Correlations ($N = 80$)

| Variable | Mean | Standard Deviation | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Planning formality | 3.92 | .93 | .09 | .11 | −.13 | .24 | .16 | .20 | −.23 | −.36 | .11 | .26 | .18 |
| 2. Firm size (log)[a] | 516.31 | 1773.41 | | .40 | .15 | .07 | .02 | .22 | .16 | .02 | .48 | .27 | .20 |
| 3. Team size | 6.27 | 1.66 | | | .03 | −.08 | −.02 | .11 | −.13 | −.13 | .14 | .42 | .25 |
| 4. Performance (ROE) | 12.31 | 4.25 | | | | −.09 | .00 | −.03 | .07 | .07 | .08 | .05 | .05 |
| 5. Performance volatility | .14 | 1.43 | | | | | −.18 | .20 | −.09 | −.04 | .13 | −.08 | .15 |
| 6. Environmental complexity | 3.10 | .42 | | | | | | −.15 | .05 | −.01 | .24 | .07 | −.17 |
| 7. Environmental stability | 3.59 | .53 | | | | | | | −.16 | −.08 | .28 | .07 | .19 |
| 8. Age mean | 45.50 | 4.31 | | | | | | | | .54 | −.07 | −.06 | −.23 |
| 9. Tenure mean | 15.11 | 5.31 | | | | | | | | | −.30 | −.13 | −.20 |
| 10. Education mean | 3.97[b] | .81 | | | | | | | | | | .27 | .29 |
| 11. Functional heterogeneity | .30 | .09 | | | | | | | | | | | .32 |
| 12. Major heterogeneity | .46 | .24 | | | | | | | | | | | |

NOTE: For coefficients .18 and above, $p < .05$.

a. Measured in total assets in millions. The mean and standard deviation are reported for actual size, not log.

b. 4.0 is equivalent to a 4-year college degree.

**TABLE 2**
**Results of Regression Analyses ($N = 80$)**

| | *Controls Only* | *Full Model* |
|---|---|---|
| Controls | | |
| Firm size (log) | .11 | |
| | (.27) | |
| Team size | .06 | |
| | (.08) | |
| Performance | | |
| ROE | | −.02 |
| | | (.02) |
| ROE volatility | | .15* |
| | | (.07) |
| Environment | | |
| Complexity | | .43† |
| | | (.24) |
| Instability | | .27 |
| | | (.19) |
| Team | | |
| Age mean | | .00 |
| | | (.03) |
| Tenure mean | | −.05* |
| | | (.02) |
| Education mean | | −.09 |
| | | (.13) |
| Functional heterogeneity | | 1.82* |
| | | (.88) |
| Major heterogeneity | | .20 |
| | | (.49) |
| Constant | 3.30*** | 5.50*** |
| | (.61) | (1.52) |
| $R^2$ | .01 | .30 |
| $F$ | .57 | 3.31** |

NOTE: Unstandardized regression coefficients are reported.
Standard errors in parentheses.
† $p < .10$; *$p < .05$; **$p < .01$; ***$p < .001$.

important predictors, the second model included only the independent variables in order to gain degrees of freedom. This model shows that planning formality is significantly predicted by performance volatility, environmental complexity, low team tenure mean, and functional heterogeneity. The $R^2$ for this model is .30.

## DISCUSSION

This study should alert top managers, particularly human resources executives, to the importance of paying attention to the demographic backgrounds of executives promoted through the ranks to the level where strategic planning occurs. These backgrounds, including the extent to which they add heterogeneity in combination with other managers in the top ranks, will have some effect on the type of strategic planning process the top team engages in. In particular, teams with low average tenure and functional heterogeneity tend to have a more formal strategic planning process.

Teams with managers with relatively low tenure (15 years of tenure was average in this sample) seem to be able to resist falling into routine and stable patterns of strategic planning in which information processing is constricted and the team perseveres with outdated strategic actions. Instead, less tenured teams show a tendency to be more vigilant about reevaluating long- and short-term goals to ensure that they reflect the current strategic conditions for the firm, consistent with formality. These findings on tenure are also consistent with work by Wiersema and Bantel (1992), who found, in their sample of Fortune 500 firms, that firms most likely to undergo strategic change had top teams with short organizational tenure.

An important implication of this study, therefore, is that deliberate attempts should be made by senior managers and human resources executives to cultivate shorter average organizational tenure for members on the top management team. This is not an easy policy to develop and implement as there is a tendency in most firms to promote managers with seniority as at least one important criterion. Human resources executives will have an important impact on the firm if they are assiduous in their attempts to ensure that promotion occurs based on demonstration of superior abilities, including those traits pertinent to strategic thinking, rather than on job longevity. Periodically rotating senior managers out of the inner circle of the top team, without any formal loss of status, could also be used as an approach to cultivate fresher perspectives in the strategic decision-making process. Further, although there are benefits to having a highly tenured management work force (for example, low training costs), this research suggests that some selective turnover among managers is desirable and should be encouraged.

Functionally heterogeneous teams are also more likely to have a more formal strategic planning process. Such teams have representation from a broader range of functional viewpoints, bringing a thoroughness and richness to the planning process of the team. Not only can such a team be more

comprehensive in its information gathering, but it is also better able to internally manage the "big picture" in terms of departmental preferences and politics. The key implication of this finding is that senior executives, including human resources managers, should develop promotion policies that seek to create functional background diversity at the top. This, again, is not easy as many firms tend to have disparity in power across functions, based usually on the dominant concerns of the competitive setting (for example, marketing tends to be powerful in a consumer goods firm); the most powerful departments tend to get their managers promoted most readily, creating functional homogeneity at the top. Achieving a policy of functional diversity at the top might involve some direct confrontations with members from the powerful departments, during which the rationale and strategic planning benefits of this policy would need to be made clear. In addition to the strategic planning benefits, this policy will have a morale boosting effect on the less powerful departments.

It is also interesting to note which of the demographic variables studied here did not have any influence on planning formality. Low age mean did not have the expected effect, suggesting that it is not managers' absolute age that determines their approach to the strategic planning process, rather it is their number of years within the firm. The freshness of perspective, and the seeking of new approaches to achieving strategic success, appears to diminish with increasing tenure, not age. This might be particularly true for this sample of relatively young top managers (mean age of 45.5 and a standard deviation of 4.3; see Table 1); they are not sufficiently old as a group to have acquired some of the dysfunctional effects of aging on which this hypothesis was based. In fact, as the majority of these managers are in the 41-50 age range, they would be considered to be in their professional prime. A key implication is that as managerial candidates, from either inside or outside the firm, are evaluated for their potential to rise to high-level ranks within the firm, older age (at least at the upper end of this range) should not be held against them. This is consistent with laws against discrimination based on age.

The lack of findings on education is surprising, yet is probably more related to the low variance on this variable rather than to a lack of the expected effect. For this sample, the average education level was quite high—a 4-year college degree, with a standard deviation of less than 1 year (see Table 1). As the great majority of managers had 3-5 years of education, this difference was not enough for the expected effect to be significant. Relatively high education is more common in a professional service industry such as banking,

in which a high degree of technical/business education is necessary; the expected effect of education on planning formality might more likely be found in firms competing in industries in which such high education levels are not common. For human resources managers, the lack of findings on education should not, therefore, be interpreted as meaning that education does not assist managers in their strategic planning performance.

The fact that education major heterogeneity had no effect on planning formality is probably an indication that the experience that these executives get in their jobs has a more critical impact on their perspectives and judgment than does the nature of the formal education they received. This is particularly true for higher level managers, whose formal education was many years in the past (generally at least 20 years ago for this sample with a mean age of 45.5; see Table 1). This finding suggests that it is more appropriate to consider managers' functional, rather than educational, background if one wants to understand their perspectives on the strategic planning process. When attempting to achieve heterogeneity on the top team, human resources executives need not be concerned with achieving diversity among managers on educational major background.

The complexity of the firm's environment has a significant influence on planning formality, generally consistent with the work of several authors (Kukalis, 1991; Lindsay & Rue, 1980; Odom & Boxx, 1988; Rhyne, 1985). As top managers perceive high environmental complexity, they become vigilant in their attempts to gather internal information and to establish goals to guide organizational actions. This finding might be particularly strong for this sample because of its relative education level. These more highly educated managers are more likely to perceive the complexity of the environment, as suggested by the significant correlation between education mean and complexity (see Table 1), and to respond with the appropriate planning processes to manage the complexity. From the viewpoint of promotion policy and managerial evaluation, criteria for promotion should include an assessment of the extent to which managers are able to accurately perceive, analyze, and understand the environment, and are then able to take action based on this understanding. A manager's skills at environmental sensing and action-taking could be assessed by specific examples of work performance or in written testing based on case examples.

Although there was a significant correlation between planning formality and environmental instability, this effect dropped out in the regression equation. The lack of findings here are consistent with Rhyne's (1985) results. It might be that the more externally oriented aspects of strategic

planning, focusing on such issues as external information sources, rather than the internally oriented planning formality, are more affected by the perception of environmental instability.

The effects of performance on planning were mixed. Although actual performance had no influence on planning formality, the volatility of performance had a significant effect. It is possible that the actual level of performance, if low, will be attributed by some to factors outside managers' control, for example, industry downturns. Performance volatility, on the other hand, might seem more directly attributable to top managers; good performance seems feasible, yet top managers appear unable to sustain it. Performance volatility would thus represent the larger threat to top managers, leading them to feel a greater pressure to respond. As they seek to maintain their legitimacy with various key constituents (such as board members, financial community, industry peers), adopting and making visible formal strategic planning processes can have the intended effect of communicating that managers have the performance situation under control. This might be particularly true for bank managers working within the relatively conservative banking community.

Although this study showed some interesting effects on strategic planning formality, it is useful to consider characteristics that make this sample unique, suggesting the potential for a different pattern of results in other industries. During the time period of study (mid-1980s), the banking industry was undergoing major changes in its competitive setting as a result of deregulation efforts in the early 1980s; this is supported by their relatively high perceptions of environmental instability (see Table 1). As a group, these banks also had relatively high performance volatility at the time of this study, a reflection of deregulation rather than of a poor economic cycle. This context for strategic decision making, and the relatively high education level of managers in this sample, might have created a tendency toward higher planning formality (mean of 3.92 on a scale of 1-5; see Table 1), reducing the variance on this variable. In a different sample, it might be that more of the hypothesized relationships would have been supported. In addition, the relatively high education level and low age of this sample have been discussed earlier for their potential influence on the results of this study.

In summary, this study suggests the potential value of deliberately managing the promotion and succession policies within a corporation to create a top management team effective in its essential task of the strategic decision-making process.

## APPENDIX A
## Planning Formality

For each statement below, indicate the extent to which it describes your strategic plan. Please circle the most appropriate number for each as follows: 1 = *Does not describe at all*; 3 = *Describes somewhat*; 5 = *Exactly describes*.

| | |
|---|---|
| 1 2 3 4 5 | Your bank prepares a written, 1-year profit plan. |
| 1 2 3 4 5 | Your 1-year plan includes specific goals. |
| 1 2 3 4 5 | Your 1-year plan specifies programs, budgets, and responses required to meet the specific goals. |
| 1 2 3 4 5 | Your bank prepares a written, long-range plan covering at least 3 to 5 years. |
| 1 2 3 4 5 | Your long-range plan includes specific goals. |
| 1 2 3 4 5 | Your long-range plan includes a plan of action for accomplishing long-range goals. |

## APPENDIX B
## Information from the Environment

Information from the bank's external environment is often used during the strategic planning process. Please respond to the environmental information items listed below by answering two questions. First, think about the relative frequency with which each of the items has been considered in your strategic planning activities *over the past 3 years*. Circle the number that is most appropriate as follows: 1 = *Never*, 2 = *Rarely*, 3 = *Occasionally*, 4 = *Frequently*.

Second, for those items for which you circled as 3 (*Occasionally*) or 4 (*Frequently*), please indicate the stability of each information item *over the past 3 years*. Please take into consideration both the frequency and magnitude of fluctuations. For each, circle the number that is most appropriate as follows: 1 = *Very Unstable*, 2 = *Relatively Unstable*, 3 = *Neither Stable nor Unstable*, 4 = *Relatively Stable*, 5 = *Very Stable*.

Circle one number in each of the two columns below for each information item.

| | *Frequency of Use* | *Stability* |
|---|---|---|
| **Customers** | | |
| Types of customers | 1 2 3 4 | 1 2 3 4 5 |
| Customer location | 1 2 3 4 | 1 2 3 4 5 |
| Services required | 1 2 3 4 | 1 2 3 4 5 |
| Customer strategies | 1 2 3 4 | 1 2 3 4 5 |
| **Suppliers** | | |
| Funding sources | 1 2 3 4 | 1 2 3 4 5 |
| Equipment suppliers | 1 2 3 4 | 1 2 3 4 5 |
| Labor availability | 1 2 3 4 | 1 2 3 4 5 |

*continued*

## APPENDIX B continued

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Competitors | | | | | | | | | | |
| Types of competitors | 1 | 2 | 3 | 4 | | 1 | 2 | 3 | 4 | 5 |
| Number of competitors | 1 | 2 | 3 | 4 | | 1 | 2 | 3 | 4 | 5 |
| Potential competitors | 1 | 2 | 3 | 4 | | 1 | 2 | 3 | 4 | 5 |
| Industry | | | | | | | | | | |
| Market share | 1 | 2 | 3 | 4 | | 1 | 2 | 3 | 4 | 5 |
| Pricing trends | 1 | 2 | 3 | 4 | | 1 | 2 | 3 | 4 | 5 |
| Industry growth rate | 1 | 2 | 3 | 4 | | 1 | 2 | 3 | 4 | 5 |
| Ease of entry and exit | 1 | 2 | 3 | 4 | | 1 | 2 | 3 | 4 | 5 |
| Social/Political | | | | | | | | | | |
| Government regulations | 1 | 2 | 3 | 4 | | 1 | 2 | 3 | 4 | 5 |
| Public attitude toward industry | 1 | 2 | 3 | 4 | | 1 | 2 | 3 | 4 | 5 |
| Technology | | | | | | | | | | |
| Meeting technological requirements to provide service | 1 | 2 | 3 | 4 | | 1 | 2 | 3 | 4 | 5 |
| Improving and developing new services by implementing new technology | 1 | 2 | 3 | 4 | | 1 | 2 | 3 | 4 | 5 |

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