

THE PERFORMANCE IMPACT OF STRATEGY - MANAGER COALIGNMENT: AN EMPIRICAL EXAMINATION

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This paper develops a theoretical model that explains the impact of the fit between top executive characteristics and strategic orientation on organizational performance. Using the Miles and Snow typology as an integrative framework, the central propositions of the model were evaluated. The results of the empirical examination provided significant support for the administrative dimension, an aspect of the typology that has been largely overlooked thus far. Further, it was found that firms achieving a greater degree of alignment between their strategy and the profiles of top managers, generally realized superior performance outcomes.

INTRODUCTION

The strategic choice perspective (Child, 1972) has spurred significant, systematic investigations of the influence of top management on organizational outcomes (e.g. Gupta and Govindarajan, 1984; Miller, Kets de Vries and Toulouse, 1982; Sturdivant, Ginter and Sawyer, 1985). The question of whether leaders have an impact on firm performance has been addressed by contemporary theoretical and empirical research that demonstrates strong associations between the characteristics of top level managers and strategy/performance (e.g. Day and Lord, 1988; Hambrick and Mason, 1984; Miller and Toulouse, 1986). However, as Hambrick observes '... with some important exceptions, the realm of executive

leadership is uncharted territory. We lack a coherent platform from which to proceed' (1988: xiii).

This lack of coherence can be attributed to the divergence of the research into two distinct substreams. While some researchers study the association between managerial characteristics and strategic orientation (Hofer and Davoust, 1977; Leontiades, 1982; Kerr, 1982; Wissema, Van der Pol and Messer, 1980), others examine the linkages between these characteristics and performance (Child, 1974; Norburn and Birley, 1988; Virnay and Tushman, 1986). We argue that both these approaches are partial explanations for the larger phenomenon of executive influence. Specifically, we propose a tripartite model encompassing the three distinct constructs, strategy, executive characteristics and organizational performance. Unlike prior research which *implicitly* assumes an alignment between strategy and top managers, this study breaks new ground

Key words: coalignment, Miles and Snow, strategy performance and top management

by using the systems approach (Van de Ven and Drazin, 1985; Venkatraman and Prescottt, 1990) to explicitly define and test coalignment.

TOP EXECUTIVES AND PERFORMANCE

The research that examines the linkage between top executives and organizational performance focuses on the search for specific executive characteristics associated with varying levels of performance. For example, Norburn and Birley found that 'top management teams which demonstrate a preponderance of output functional experience, multiple company employment and wider educational training will outperform those which do not...' (1988: 236). Similarly, Virnay and Tushman (1986), showed that the profiles of top management teams of high performing firms were significantly different from the top management teams in firms that had poor performance. In a related vein, Child (1974) found evidence indicating strong associations between management youth and company growth.

Although studies such as these provide a valuable start in understanding important linkages, they are based on the assumption that the characteristics of top managers have an independent and direct impact on organizational performance. They also fail to elaborate on the source and strength of this impact. We suggest that in order to understand the executive characteristics—organizational performance relationship more fully, it is necessary to first consider the *process* by which leaders influence organizational outcomes.

TOP EXECUTIVES AND STRATEGY

Research examining the association between top executives and strategy has been primarily devoted to linking specific attributes of leaders with the strategic behavior of their firms. For example, Miller *et al.* (1982) investigated the question of whether there was a relationship between the personality of a Chief Executive Officer (CEO) and his or her strategy making behavior. They found that firms led by confident and aggressive CEOs adopted risky and inno-

vative strategies, while firms headed by CEOs given to feelings of helplessness tended to pursue more conservative strategies. In a similar effort, Channon (1979) showed systematic associations between CEO profiles and the internationalization strategy of their organizations. In an examination of the linkage between diversification strategies and the functional backgrounds of CEOs, Song (1982) reported that firms pursuing internal diversification tended to have CEOs with backgrounds in marketing and production. On the other hand, firms that pursued acquisitive diversification were more likely to have CEOs with backgrounds in accounting, finance or law. While these studies establish that leaders influence organizational direction, they again fail to elucidate the process by which the influence is exerted.

A PROPOSED INTEGRATION

Based on the above discussion it can be concluded that:

- Research efforts are polarized into two distinct substreams that independently examine the influence of top executives on organizational strategy *OR* performance.
- There is little theoretical focus on the *process* by which managerial influence impacts on organizational strategy or performance.

The primary goals of this paper are to integrate the two substreams, and provide a theoretical explanation of the process by which leaders influence organizational outcomes. Building on arguments drawn from the 'Upper Echelon' perspective (Hambrick and Mason, 1984), the concept of coalignment between strategy and managerial characteristics is introduced. The performance implications of the coalignment are placed in theoretical perspective, and a research model is developed and empirically tested.

THE PROCESS OF MANAGERIAL INFLUENCE

The strategic choice paradigm (Child, 1972) postulates that key decision makers have consider-

able control over an organization's future direction. The upper echelon perspective articulated by Hambrick and Mason (1984) provides a framework within which the role of top managers in influencing organizational outcomes can be interpreted. In a classic paper, these authors, develop a model based on the research of the behavioral theorists (Cyert and March, 1963; March and Simon, 1958) to explain the link between executive characteristics and strategy. They describe the process of strategic choice as a perceptual one that occurs in a series of sequential steps.

First, a manager or even an entire team of managers cannot scan every aspect of the organization and its environment. The manager's field of vision,—those areas to which attention is directed—is restricted, posing a sharp limitation on eventual perceptions. Second, the manager's perceptions are further limited because one selectively perceives only some of the phenomena included in the field of vision. Finally, the bits of information selected for perception are interpreted through a filter woven by one's cognitive base and values. The manager's eventual perception of the situation combines with his or her values to form the basis of strategic choice (Hambrick and Mason, 1984:195).

This model suggests that the choices made by managers on behalf of the organization, reflect to some extent, the characteristics of these managers. Thus it can be argued that, when confronted with the same objective environment, different managers, will make different decisions based on their individual experience and values. Therefore, the critical role of top managers in determining a firm's strategic direction becomes apparent.

Matching managers to strategy

The importance of managerial influence is also reflected in typologies of strategic orientation. Several typologies of strategy (see for example Leontiades, 1982; Wissema, Van der Pol and Messer, 1980), acknowledge the pivotal role of managerial characteristics in the successful administration of strategy. For example, Wissema *et al.* (1980), suggest that the 'explosive' strategy, designed to improve competitive position in the short run, will be best administered by a 'pioneer'.

Similarly, Leontiades (1982) suggests that a 'steady state' strategy would require a manager who is an 'activist, growth entrepreneur, product manager and R&D planner'. Many other researchers have reached analogous conclusions about the necessity of matching managers to strategy (Hofer and Davoust, 1977; Kerr, 1982; Miles and Snow, 1978; Porter, 1980). The above discussion can be summarized in the form of a proposition (under *ceteris paribus* conditions):

P1: Organizations pursuing distinctly dissimilar strategies will be led by managers possessing distinctly dissimilar attributes.

Performance implications of matching managers to strategy

If the compelling argument of matching managers to strategy is true, then this match or congruence must have performance implications. Further, since managers influence the strategic direction of the firm, a coalignment between managerial characteristics and organizational strategy is necessary. The absence of such a coalignment will result in a conflict between the distinctive competences of the organization and managerial decisions. This conflict would manifest itself in suboptimal resource deployments, failure to build on organizational strengths, and a lack of clear direction, all of which would have a negative impact on performance. Unlike prior research that has attempted to establish direct associations between managerial characteristics and performance, we argue that it is the coalignment between managerial attributes and organizational strategy that has performance implications. These arguments can be summarized in the form of a second proposition (under *ceteris paribus* conditions).

P2: Organizations that more completely align the profile of top managers with the requirements of their strategies will perform significantly better than others that do not achieve such an alignment.

A RESEARCH MODEL

Building on the preceding discussion, it is possible to integrate the two distinct research streams that examine the influence of top managers. Using

the concept of coalignment, a research model is proposed (Figure 1).

The model is driven by the proposition that the coalignment between executive characteristics and organizational strategy has performance implications. By incorporating coalignment as the independent variable, we derive a tripartite model that describes the impact of key executives on performance. Contrary to traditional beliefs that managerial characteristics have an independent and direct impact on strategic orientation and performance, it highlights the significance of matching managers to strategy. By invoking the notion of coalignment, the model provides a theoretically defensible framework within which the relationship between an organization's resource deployment profile (strategy) and the characteristics of its top managers can be explored.

This model is universalistic as it allows for the incorporation of several distinct conceptualizations of strategic orientation and corresponding managerial profiles. For example, strategic posture could be described in terms of generic typologies (Miles and Snow, 1978; Porter, 1980) or individual strategic dimensions such as corporate diversification (Song, 1982) or international expansion (Channon, 1979). Similarly, managerial characteristics could be operationalized in terms of psychological (Miller, *et al.*, 1982) or demographic measures (Hambrick and Mason, 1984) or even a combination of both. In this study, strategic orientation was classified using the Miles and Snow typology and demographic variables were used to derive top executive profiles. In the following section, hypotheses based on the two propositions are derived, and the empirical test of the model is discussed.

Typologies provide an attractive alternative toward classification of organizations in a comprehensive yet parsimonious framework for theory development (Pinder and Moore, 1979). Although several typologies incorporate the strategy-manager match, most are ambiguous in the terminologies they use and rarely elucidate the key constructs in operational terms, thus precluding further theoretical development and empirical testing (Gupta, 1984; Szilagyi and Schweiger, 1984). In contrast to these abstract approaches, Miles and Snow (1978) provide a rich description of organizational behavior comprising key elements of strategy, structure and process. This typology has been the subject of extensive theoretical and empirical examination over the last decade (e.g. Hambrick, 1983; McDaniel and Kolari, 1987; Shortell and Zajac, 1990). In an evaluation of its reliability and validity, Shortell and Zajac concluded that 'researchers can use the typology with increased confidence in future work on organizations and their strategies' (1990: 830). Hence, this typology was used for the empirical examination.

Miles and Snow identify three viable strategies: Prospectors, Analyzers and Defenders. While Prospectors and Defenders are maximally different forms, Analyzers are essentially hybrid strategies that exhibit some of the key features of both. Prospectors are externally oriented organizations that compete by pioneering new products and developing innovative marketing techniques. Since they are constantly involved in monitoring the external environment and developing alternative responses to emerging trends, they are the creators of change in an industry. In contrast, Defenders are internally oriented and focus on penetrating existing markets by improving operational efficiency. The main thrust of the Defender strategy involves 'the creation of a narrow, stable domain ... through a limited mix of products and customers, and aggressive efforts to "protect" the domain from competitors' (Miles and Snow, 1978: 39).

Unlike most other typologies of strategy, the Miles and Snow (1978) framework provides specific sets of observable managerial characteristics associated with each distinct strategic type. Similar research in organization behavior and theory complement their observations. In order

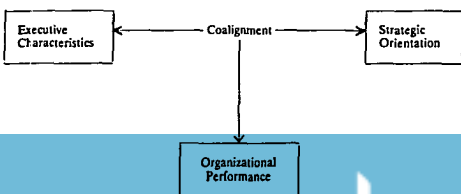


Figure 1. The research model

to consolidate these results, and move the research stream a step forward, other variables that have been found to be significantly associated with different strategic dimensions were added to the ones proposed by Miles and Snow to develop a more complete managerial profile. Such an approach enhances the potential explanatory power of the construct while building toward an integrated specification of its constituents. The following section highlights each of these variables and describes their relevance.

Tenure

Internally oriented organizations tend to place greater emphasis on operational aspects, of the business in order to increase overall efficiency. Hence, these firms are expected to be led by executives who have developed extensive experience within the company (Gupta, 1984; Kotter, 1982). Thus, Miles and Snow propose that the top management teams of Defenders typically have lengthy tenures in the organization and their position. In contrast, the key executives of externally oriented Prospectors are more transitory since their influence varies by the firms current areas of Prospecting. Hence, they are expected to have shorter tenures (H1a; H1b).

Functional background

Hambrick and Mason (1984) suggest that top managers inevitably bring to their jobs an orientation developed from experience in some primary functional area. Along similar lines, Miles and Snow propose that the dominant coalitions of Prospectors and Defenders will reflect those functions that are most critical to the success of these strategies. Therefore, the upper echelons of Prospectors are expected to consist of executives with expertise in output oriented skills such as marketing and product development (H1c). However, because of their stable domains and focus on efficiency, the leaders of Defender organizations are expected to have throughput oriented backgrounds and skills in finance, production and process engineering (H1d).

Age

Age has frequently been said to contribute heavily to both the manner in which a decision

is reached, and decision quality (Kirchner, 1958; Survillo, 1964). Studies consistently show that younger managers are associated with innovativeness and risk-taking while older managers are more risk averse and tend to make more conservative decisions (Carlsson and Karlsson, 1970; Stevens, Beyer and Trice, 1978). Therefore innovative Prospectors are expected to be led by younger managers while cautious Defenders would be led by relatively older managers (H1e).

Level of education

Most studies examining the relationship between level of education and organizational characteristics have found that better educated executives are more receptive to new ideas and hence associated with innovative organizations (Becker, 1970; Kimberly and Evansiko, 1981; Rogers and Shoemaker, 1971). Since innovation and the creation of a climate that supports entry into new product domains is critical to a Prospector strategy, it is expected that the top executives of these organizations will have higher levels of education than the managers of Defender firms (H1f).

Based on the preceding discussion, it may be concluded that the theoretically expected demographic profiles of Prospector managers (Profile P) will be different from that of Defender managers (Profile D). In other words, the top management teams of Prospector firms are expected to be younger, have higher levels of education and shorter tenures than their counterparts in Defender firms. Further Prospector firms are more likely to be led by managers with specializations in output oriented functions, while Defender firms are expected to have a greater proportion of executives with backgrounds in throughput oriented functions.

Coalignment and performance

Proposition 2 stated that positive performance outcomes would be associated with firms that more completely align the profiles of their managers with the requirements of their strategies. Thus, Prospector firms led by Profile P managers are expected to perform better than other Prospectors while Defender firms led by Profile D managers should attain superior performance compared to Defenders where such

a match is absent. However, to adequately assess the performance impact of coalignment, it is also necessary to specify performance in terms consistent with the dominant thrusts of each strategic type. Defenders who are primarily concerned with the efficiency of their operations, usually assess performance by 'meticulously counting the quantities and costs of standardized inputs required per unit of output' (Miles and Snow, 1978:46). In contrast, for Prospectors, who constantly seek to expand their domain, and are therefore undergoing continuous change, the measurement of efficiency is less meaningful. These firms evaluate their success through external means such as comparing their market performance with that of other organizations. Thus, it was hypothesized that misalignment (between top management profiles and strategic orientation) would result in declining market shares for Prospectors (H2a) and lower ROI for Defenders (H2b). See Table 1 for hypotheses.

SETTING AND SAMPLE

The sample for this study was restricted to a single industry context to control for industry effects (Dess, Ireland and Hitt, 1990). The electronic computing equipment industry was the chosen research setting. This industry has been

characterized as having a volatile environment (Eisenhardt and Bourgeois, 1988; Romanelli, 1986) and is composed of diverse competitors. This large and growing industry also reflects a good mix of competitive behaviors. Due to the high rates of obsolescence and innovation, new niches are constantly carved, and firms are subjected to periods of rapid environmental change. Thus, it was expected that different strategic postures and varying levels of performance would be found, providing an ideal site for the study.

To justify the use of the Miles and Snow (1978) typology, which is recognized as being applicable at the business level (Hambrick, 1983), only those publicly traded firms which earned at least 70 percent of their sales from the electronic computing equipment industry were included in the sample. This criteria originally suggested by Rumelt (1974) also helps in establishing comparability across organizations. Firms classified as conglomerates, holding companies, subsidiaries, or having headquarters outside the U.S. were excluded, as were firms that exited the industry during the time frame of the study (1985-1988). These procedures resulted in the identification of 224 firms that comprised the initial sample.

MEASURES

Strategic orientation

Ginn and McDaniel (1987) note that an organization's strategy is reflective of all its systems, allowing a limited selection of theoretically relevant variables to capture a strategic type. In this study, strategy was viewed as being implied from behavior rather than stated by management. Thus, the variables selected to operationalize the strategies represent a series of resource allocations necessary for their successful implementation. The underlying assumption was that the value of these variables stems mainly from managers exercising choice (Child, 1972). To provide a robust test of coalignment, only the two extreme strategies—the Prospector and the Defender were examined. Five different measures were used to operationalize these strategic types. The data for these measures were obtained from Company Annual Reports and Form 10-K's. Each is briefly discussed below.

Table 1. Hypotheses derived from Propositions 1 and 2.

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- H1a: CEOs of Prospectors will have shorter tenures in the company than CEOs of Defenders.
 - H1b: CEOs of Prospectors will have shorter tenures in their position than CEOs of Defenders.
 - H1c: CEOs of Prospectors are more likely to have backgrounds in output functions than CEOs of Defenders.
 - H1d: CEOs of Defenders are more likely to have backgrounds in throughput functions than CEOs of Prospectors.
 - H1e: CEOs of Prospectors will be younger than CEOs of Defenders.
 - H1f: CEOs of Prospectors will have higher levels of education than CEOs of Defenders.
 - H2a: Prospector firms led by Profile P CEOs will have higher market share than other Prospectors.
 - H2b: Defender firms led by Profile D CEOs will have higher ROI than other Defenders.
-

A ratio of marketing expenditure to total sales was used as an indicator of a firm's market focus. Typically, marketing expenditure includes direct promotion, advertising and personal selling expenses. In keeping with their external orientation Prospectors were expected to rank highly on this measure.

Research and development expenditures

Snow and Hrebiniak (1980) found that of all the distinctive competences examined, emphasis on research and development most clearly differentiated between strategic types. Hence, a ratio of research and development expenditures to total sales was used as a standardized indicator of a firm's propensity to search for new products. This measure was derived from previous studies investigating the Miles and Snow typology (Hambrick, 1983; McDaniel and Kolari, 1987). Since Prospectors engage in greater amounts of innovative activities, they were expected to rank highly on this indicator.

Net sales per employee

This ratio describes an organization's ability to produce and distribute goods efficiently. Since the Defender strategy is geared toward the maximization of efficiency, it was expected that these organizations would have higher scores.

Total number of product lines

According to Miles and Snow (1978), Defenders focus on narrow and stable domains while Prospectors have broad and continuously expanding domains. Thus, it was expected that firms pursuing a Prospector strategy would have a greater number of product offerings than their counterparts in the Defender group.

Number of new products

The number of new products introduced by an organization is reflective of its external focus (Hambrick, 1983). Since Prospectors possess distinctive competences in product research, they were expected to have higher scores on this indicator.

A large body of literature suggests that the CEO of an organization provides the primary direction for strategic decision-making by leading the firm's emergent social systems or dominant coalitions (Hosmer, 1982; Lorange, 1980; Mintzberg, 1978; Pearce and De Nisi, 1983; Pearce and Robinson, 1987). Hence, the CEO was used as a surrogate for the dominant coalition. As a control, only those CEOs who had been in their position for a minimum of 2 years (at the time of measurement of strategy and performance), were used in the sample. This lag was incorporated to allow sufficient time for the decisions of the executive to be reflected in the organizations' realized strategy and performance. Demographic data on CEOs were obtained primarily from Dun and Bradstreet's *Reference Book of Corporate Management, America's Corporate Families*, and Form 10-Ks. The demographic variables used to operationalize the managerial characteristics construct are discussed below.

Age

Age was measured as the chronological age of the CEO.

Functional background

Functional background was coded as a categorical variable to reflect output or throughput experience. Output experience included backgrounds such as marketing and product research and development while throughput experience included backgrounds in finance, engineering and manufacturing (Chaganti and Sambharya, 1987; Miles and Snow, 1978). The area where the CEO spent the longest amount of time was used to determine his or her functional background (Song, 1982).

Tenure

This variable was operationalized by counting the number of years that the executive had served in the organization and position.

Level of education

To operationalize this measure, a coding scheme was devised whereby each year of college

education was added to a base score of 12 (for example, bachelor's degree = $12 + 4 = 16$, masters degree = $12 + 6 = 18$, etc.).

Performance

Since no single measure effectively captures the performance outcomes of different strategic types, several researchers have suggested that financial measures must be used in conjunction with market based measures (Dess and Davis, 1984; Hambrick, 1983; Schendel and Patton, 1978). The following indicators were used to assess the performance of Prospectors and Defenders.

Return on investment (ROI)

The most conventional measure of business performance, this indicator evaluates the rate of return on total assets utilized in the company. It is a measure of management efficiency in resource deployments. ROI was used as the primary measure of performance for the Defender firms in the sample.

Market share

Since Prospectors are predominantly market focused, this measure is a more appropriate indicator of their performance (Hambrick, 1983). It captures the effectiveness of an organization's strategy or 'the success of a business' products and programs in relationship to those of its competitors in the market' (Ruekert and Walker, 1987: 19).

IMPLEMENTING THE SYSTEMS APPROACH

Step 1: Identifying homogeneous strategic types

According to Miles and Snow (1978) the three viable strategies, Prospector, Defender and Analyzer should be found in every industry. This assertion has subsequently been validated by empirical research in multiple industries (e.g. Snow and Hrebiniak, 1980). However, there is no definitive evidence that details the numerical distribution of the three strategies in a particular context (Smith and Grimm, 1987; Zahra and

Pearce, 1990). Therefore, a two-step process was used to identify Prospectors and Defenders.

In keeping with the contentions of Miles and Snow (1978), strategic orientation was conceptualized as a continuum with Prospectors and Defenders occupying the two extremes. To construct the continuum, a two variable criterion set (marketing expenditure/sales and research and development expenditure/sales) was used. These variables were specifically chosen for several reasons. According to Miles and Snow (1978), research and marketing define the external thrust of the Prospector strategy. Further, previous research has identified these variables as having high predictive validity. Finally, a correlation analysis empirically confirmed high convergence between the two measures ($r = 0.99$). Therefore, the two measures were summed and the firms were arrayed in ascending order. A median split method was adopted to identify strategic types (see Drazin and Van de Ven, 1985; Romanelli, 1989 for similar approaches). The top 25 percent (firms having the highest summed score) and the bottom 25 percent (firms having the lowest summed score) of the firms were respectively denoted as Prospectors and Defenders. This process resulted in two sets of 56 firms each that were selected for further testing. Nevertheless, it is recognized that such a procedure can result in classification errors at the margin. In other words, firms having the highest summed score in the Defender sample and firms having the lowest summed score in the Prospector sample could in fact be pursuing the hybrid Analyzer strategy.

To establish the reliability of the above strategy typing approach, the use of multiple methods testing for convergence was necessary. Thus, the next step in the analysis was one of validation. The remaining three strategy measures comprising the hold out set (net sales/employee, total number of product lines, and number of new products), were used for this purpose. As indicated in Table 2, directional *t*-tests on these measures (as well as the ones in the criterion set) revealed statistically significant differences between the two strategy groups. Prospector firms were found to have a higher proportion of R&D expenditures, broader product domains and a greater number of new product introductions. On the other hand, Defenders exhibited higher levels of employee productivity. These findings parallel the con-

clusions of Hambrick (1983) who reported similar patterns of resource deployment in his investigation of the functional attributes of the Miles and Snow strategic types.

As a confirmatory step, a final method of validation, qualitative assessment was employed. Content analysis of annual reports, Form 10Ks, and the CEO's letter to shareholders was carried out on a randomly drawn sample of approximately 10 percent of the firms. Four analysts familiar with the industry and the Miles and Snow (1978) typology, were used for this purpose. They were specifically instructed to focus on descriptions of market posture, innovation activity, cost reduction programs, etc., which essentially describe different aspects of the Prospector and Defender strategies. There was consistent agreement between the results of the content analysis and the strategy groupings previously derived. Thus, we were able to establish a fairly high degree of convergence between the two non-related methods of strategy typing, both of which produced similar results.

Step 2: Analyzing the strategy-manager match

A series of directional *t*-tests were then performed to determine whether the theoretically expected CEO profiles were in fact associated with the distinct strategic postures (H1a-f). A chi-square test was used to test the categorical variable,

Table 2. Summary of *t*-test results for strategy variables

Variable	Group	<i>n</i>	Mean	Standard Deviation	<i>p</i>
Criterion Set					
Marketing exp./sales	Prospector	56	0.4682	0.139	<i>p</i> < 0.0001
	Defender	56	0.1788	0.054	
R&D exp./sales	Prospector	56	0.1692	0.113	<i>p</i> < 0.0001
	Defender	56	0.0663	0.036	
Hold Out Set					
Total # of products	Prospector	17	27.41	49.6	<i>p</i> < 0.0001
	Defender	17	10.47	6.7	
# of new products	Prospector	21	1.57	1.29	<i>p</i> < 0.0300
	Defender	19	1.07	0.77	
Net sales/employee	Prospector	54	100460	34753	<i>p</i> < 0.0001
	Defender	52	120195	64567	

Sample sizes vary due to limitations of data availability.

Table 3A. Summary of *t*-test results for executive characteristics variables

Variable	Group	<i>n</i>	Mean	Standard deviation	<i>p</i>
Age	Prospector	50	48.9	7.0	<i>p</i> < 0.10
	Defender	53	52.4	8.4	
Company tenure	Prospector	32	8.75	6.1	<i>p</i> < 0.0001
	Defender	43	14.09	10.5	
Position tenure	Prospector	32	7.1	5.9	<i>p</i> < 0.003
	Defender	44	11.06	9.6	
Level of education	Prospector	35	17.92	2.1	<i>p</i> < 0.05
	Defender	40	17.43	2.9	

Sample sizes vary due to limitations of data availability.

functional background. As indicated in Tables 3A and 3B, the analysis demonstrates significant differences in the pattern of executive characteristics associated with Prospector and Defender strategies, validating earlier theoretical contentions.

Step 3: Specification of coalignment

Coalignment was conceptualized using the systems approach (Drazin and Van de Ven, 1985; Venkatraman and Prescott, 1990) which defines it as the degree of correspondence to an externally specified ideal profile. As this correspondence to the theoretically/empirically derived ideal profile increases, organizational performance should also increase and vice versa (e.g. Miller, 1981; Venkatraman, 1990). This approach is particularly relevant for examining patterns of consistency among sets of variables. Therefore, it was selected to empirically test the model which defines the performance impact of the degree of

Table 3B. Summary of chi-square results for functional background variables

Variable	Functional background	<i>n</i>	% of total	Chi-square	<i>p</i>
Prospector	Output	32	77	9.3	<i>p</i> < 0.01
	Throughput		23		
Defender	Output	43	10	25.6	<i>p</i> < 0.001
	Throughput		90		

Sample sizes vary due to limitations of data availability.

correspondence between the strategic orientation of a firm and the characteristics of its leadership.

In order to test hypothesis 2a and 2b, it was first necessary to empirically derive separate ideal profiles for the CEOs of Prospector and Defender firms. To accomplish this objective, firms in each strategy group were ranked on the basis of the appropriate performance criteria (Prospectors: market share; Defenders: ROI). The top 10 percent of firms in each sample were used to derive standardized mean scores for the executive characteristics specifying the two ideal profiles (Profile P and Profile D). Table 4 illustrates the differences in ideal profiles of Prospectors and Defenders when compared to the average profile of a CEO in the industry.

Step 4: Testing the performance implications of the coalignment

The degree of correspondence between the ideal executive profile and the CEO profile of any given firm was computed using the following Euclidean distance metric suggested by Van de Ven and Drazin (1985).

$$\text{DIST} = \sqrt{\sum (X_{is} - X_{js})^2}$$

where X_{is} = the score for the ideal profile on the s^{th} executive characteristic

Table 4. Ideal profiles of Prospectors and Defender CEOs*

Measure	Ideal Prospectors (Profile P)		Average of all firms in sample (N = 112)		Ideal Defenders (Profile D)	
	x	sd	x	sd	x	sd
Age	49.80	0.28	50.65	2.47	51.5	5.51
Company Tenure	8.80	5.93	11.42	3.77	12.90	9.75
Position Tenure	7.90	4.66	9.08	2.80	6.70	2.68
Level of education	17.60	1.13	17.67	0.33	16.80	2.26
Functional background	70% Output	39% Output	20% Output	20% Output	39% Output	20% Output
	30% Thr'put†	61% Thr'put†	80% Thr'put†	80% Thr'put†	61% Thr'put†	80% Thr'put†

*Derived on the basis of ROI and Market Share.

†Throughput

X_{js} = the score for the j^{th} firm in each subsample on the s^{th} executive characteristic.

This indicator measures the distance between the CEO profile of any given firm and the corresponding ideal profile in Euclidean space. The degree of correspondence measured by the distance metric is then correlated with the appropriate performance indicator. As the distance from the ideal executive profile (misalignment) increases, performance should decline if the central thesis of the model is to be supported. The results of the correlation analysis between the degree of misalignment and performance are presented in Table 5.

RESULTS AND DISCUSSION

The above statistical procedures indicate that: (a) different CEO profiles are associated with different strategic types; and (b) the match between executive characteristics and strategy has performance implications. These results provide complete support for Hypotheses 1a-1f and Hypothesis 2a. A detailed discussion of these results follows.

Hypothesis 1:

Hypothesis 1 (a-f) stated that organizations pursuing distinctly dissimilar strategies will be led by managers possessing distinctly dissimilar attributes. As the results indicate, the CEOs of Prospector firms were significantly younger, had

Table 5. Relationship between misalignment and performance

Strategy type	ROI	Market Share
Prospector	(-)0.160 ^a (n.s)	(-)0.527 (0.005)
Defender	(-)0.093 (n.s)	(-)0.237 ^a (n.s)

Figures in parentheses indicate p values.

^aIndicates results derived when performance measures are reversed.

shorter tenure in both the company and position and had more education than those in their Defender counterparts. This study also revealed that Prospector firms were more likely to be led by CEOs with backgrounds in output related functions while Defender firms had a significantly greater proportion of CEOs with backgrounds in throughput functions (Table 3A, 3B). Collectively, these results provide complete support for hypothesis 1 (a-f).

Although the Miles and Snow typology has been the subject of extensive investigation, most research efforts have been limited to the study of the entrepreneurial and engineering dimensions. As Zahra observed 'the role of the strategist within the context of their strategic types has not been examined' (1987: 59). However, previous investigations have implicitly assumed the veracity of the administrative component and have used managerial characteristics to measure strategy (e.g. Smith, Grimm, Gannon and Chen, 1991). Given a lack of clear comparative evidence that distinctly different managerial attributes are associated with the different strategies, the results of such studies were difficult to interpret. The findings of this examination provide what is perhaps the first empirical evidence of these relationships in the context of Miles and Snow typology, enabling easier interpretation of some prior studies.

Hypothesis 2:

Hypothesis 2 (a, b) stated that organizations that more completely align the profile of top managers with the requirements of their strategies will perform significantly better than firms that do not achieve such an alignment. The results obtained provide general support for the research model. It was clearly demonstrated that the coalignment between executive characteristics and strategy had significant performance implications for Prospectors (H2a). Thus, market oriented firms led by Profile P CEOs achieved superior performance outcomes. As the degree of coalignment between the Prospector strategy and the ideal CEO profile (Profile P) decreased, the level of performance also deteriorated. This finding clearly demonstrates the salience of matching managers to strategy among these innovative organizations.

However, in the case of Defender organiza-

tions, the results were less definitive (H2b). The negative correlation between misalignment and performance indicates that increases in the degree of coalignment were associated with increases in levels of performance. Despite the lack of statistical significance, these results imply that the better performing Defender firms achieved a closer fit with the theoretically defined CEO profile (Profile D).

The lack of statistical significance of the correlation between misalignment and performance among Defender organizations could perhaps be explained by industry and strategy specific attributes. In the volatile electronic computing equipment industry, environmental scanning and the ability to quickly adjust to contextual changes (features of the Prospector strategy) may be more critical in ensuring continued success. A competing explanation for the lack of significance could be that Defender firms which focus on internal operations might have built greater levels of slack resources which insulate them from the negative impact of misalignment (Litschert and Bonham, 1977). These factors could obscure the relationship between coalignment and performance. Therefore, the results reflect the relative nature of strategy in unique industry settings and raise questions that can only be answered by empirically testing the model in a variety of contexts. In summary, the results relating to hypothesis 2 suggest that misalignment is negatively associated with performance.¹

CONCLUSIONS

The central objective of this study was to explore the performance impact of the coalignment between executive characteristics and strategy.

¹ Subsequent to the completion of the empirical analysis, a reviewer recommended that alternative 'ideal' profiles (using ROI for Prospectors and market share for Defenders) should also be derived and tested. It was suggested that the results of such tests would strengthen the theoretical arguments. When such profiles were used, the correlations between misalignment and performance were negative in both cases, but not statistically significant (Table 5). The fact that the direction of results did not change despite reversing the performance indicators seems to indicate that misalignment influences both financial and market related performance outcomes irrespective of strategic type.

In contrast to previous conceptualizations which attempt partial mappings of the relationships, this paper provides a more holistic model. The model makes a significant contribution because; (a) it provides a theoretical framework for integrating prior research findings, (b) it builds on the central tenet of contingency theory to provide a comprehensive explanation of the process by which an organization's leaders influence its outcomes, and (c) it elevates the current simplistic line of bivariate conceptualizations to a more holistic multivariate level, testable in its entirety. The empirical analysis provides encouraging support for the linkage specified in the model.

Having established the importance of matching managers to strategy, it would now be appropriate to explore the causal implications of the model. Do firms change their top management teams in order to effect changes in strategy? Alternatively, does a particular strategy determine the profile of the top management team selected to lead the organization? Answers to questions such as these would significantly enhance contemporary strategic leadership theory. The evolution of this research stream would also benefit from comprehensive examinations of the contextual factors that circumscribe the model. It has been recently suggested that recessionary environments encourage the recruitment of efficiency oriented managers over entrepreneurial ones. Further, current research in population ecology postulates that organizational size, age and stage in industry lifecycle inhibits managerial discretion. A focus on such contextual factors would significantly enhance our understanding of the influence of top managers, and thus enrich the explanatory power of the model.

This study limited itself to an examination of the impact of coalignment between top executive characteristics and strategic orientation at the business level. This line of inquiry can be extended to similar examinations at the corporate level. Using the emerging concepts of dominant logics (Grant, 1988; Prahalad and Bettis, 1986; Wiersema and Hansen, 1989), the performance impact of the coalignment can be tested in diversified organizations. It would be an appropriate complement to the dominant logic theory which seeks to redefine strategic relatedness in terms of the problem solving gestalts of an organization's leaders.

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