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RESEARCH NOTES AND COMMUNICATIONS

STRATEGIC ORIENTATION AND CHARACTERISTICS OF UPPER MANAGEMENT

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Every organization reflects the background of its most powerful top managers; what the organization does and the way it carries out its functions could be explained, in part at least, by the profile of its upper echelon. The relationship between the strategic orientation of three tobacco companies, the proportion of executives recruited from outside the company and the proportion of executives from different functional backgrounds in the upper echelon of the companies is the focus of this paper.

Miles and Snow (1978) reported on the composition of dominant coalitions they found in prospector, analyzer, and defender firms. In prospector firms (firms which actively seek new product and market opportunities) marketing and research and development experts play an important role although the tenure of these members is not lengthy. In defender firms (firms who carve out a safe and stable niche) finance and production executives are considered to be the most influential, and most have been promoted from within. In analyzer firms (the firms that successfully combine the attributes of both prospectors and defenders) marketing, research and development, and production executives are the more influential members of the dominant coalition. Hambrick (1983) noted that Miles and Snow's typology 'is aimed at explaining business-level phenomena and its applicability for corporate-level strategy is not clear, but it probably is very limited'. He goes on to suggest that the typology needs more development and testing.

As a step toward building an integrated theory of upper echelons, Hambrick and Mason (1984) proposed a total of 21 hypotheses relating upper echelon characteristics and organizational outcomes. The characteristics and outcomes included in their framework are reproduced in Figure 1. In this paper the relationship between the overall strategic orientation of the corporations, namely prospector, analyzer or defender, on one hand, and the outsider orientation (as characterized by the career experience) and the functional orientation of corporate executives, on the other, will be examined.[1] The specific propositions that were selected for testing are discussed below.

[1] The proposals linking age and education with strategy have not been examined at all in the strategic management literature. Studies identifying the age and educational characteristics of top managers in prospector, analyzer, and defender organizations would be truly novel, and make a valuable contribution to a better understanding of Miles and Snow's typology. However, an examination of age- and education-related proposals has not been possible in this study, as data on the variables were sketchy or missing in most of the cases for the time period under scrutiny, namely, 1950–75.

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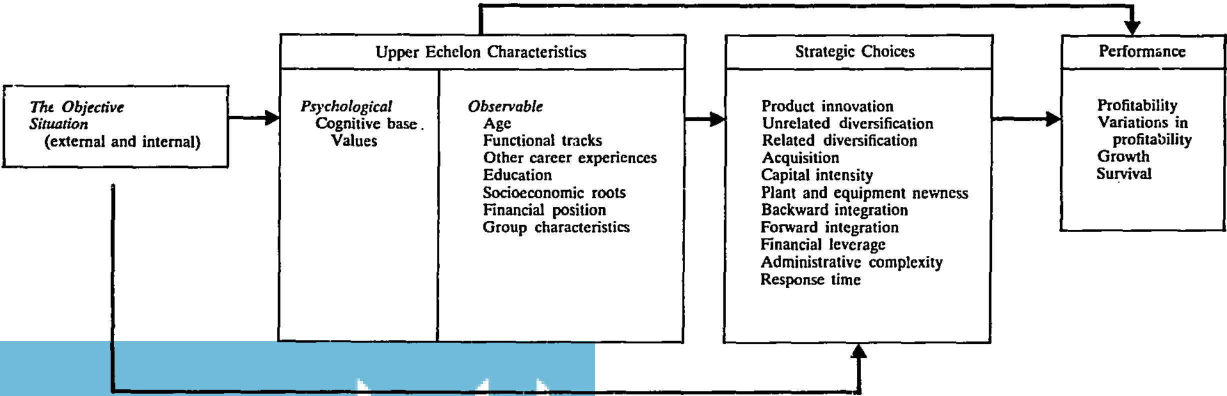

Figure 1. Hambrick and Mason's model. (*Source*: Hambrick and Mason, 1984, p. 198).

RESEARCH PROPOSITIONS

Outsider orientation

Companies often seek executives from other industries to fill top management positions. The hiring of an executive from Pepsi-Cola by Apple Computer Company illustrates this point. Recruitment of executives from another industry or another firm from within the same industry may indicate that the demands placed on the upper echelon are changing resulting from the changes in corporate strategies, life-stage of the firm, its business environment, or perceptions of the chief executive officers on the extent of cultural change needed in the company (Mines, 1981). Executives who come from outside the company are thought to impart qualities that cannot be easily cultivated from within (Grusky, 1963; Carlson, 1963) and will introduce more changes than successors who are chosen from within (Helmich and Brown, 1972).

Every executive carries a 'bag of tricks' which are believed to work in certain situations. Executives tend to display these in the form of their perceptions, beliefs and values which are based on the executives' previous experiences. Top executives, who have made it to the top from within, tend to have a very restricted knowledge base from which to formulate corporate responses to environmental changes (Hambrick and Mason, 1984) while outsiders are thought to have a wider knowledge base.

Organizations experiencing rapid growth internally, or organizations in industries growing at a very fast rate, tend to cope with the increasing need for executive personnel by recruiting from outside their firm or industries, respectively. Pfeffer (1983), in a review of administrative tenure and succession, suggests that outside succession can also be associated with increased organizational performance. This possibility underscores the need for investigating the effect of firm size on outsider orientation in understanding the overall strategic orientation. The following proposition will be examined while controlling for the effect, if any, of the firm size on the outsider orientation.

Proposition 1: The proportion of outsiders in the upper echelons of analyzer firms is lower than in prospector firms and higher than in defender firms.

Functional orientation

The way an executive defines the problem facing the company determines the range of strategies pursued by that company to resolve the problem. Invariably, functional specialization of the top executive biases the definition (Dearborn and Simon, 1958) and influences the course of action adopted in an organizational setting. Aguilar (1967) found that general administration, research and development, and production functions to be of more strategic importance than marketing. Hitt, Ireland and Palia (1982) related organizational strategies to functional importance and their research showed the following: in organizations pursuing an internal growth strategy, general administration, personnel, and research and development functions are important; in firms pursuing external growth strategy, general administration, finance, and marketing functions are important; and in firms pursuing retrenchment strategy, marketing and finance functions are important.

Finally Snow and Hrebiniak (1980) suggested that generally prospectors, analyzers, and defenders have strengths in general management and finance. In addition, defenders excel in production and cost control, prospectors in research and development (R&D), and the analyzers' strength varies by industry. The substance of the following propositions selected for testing is contained in the findings of Miles and Snow (1978) who, based on four case studies drawn from diverse industries, described the relationship between strategy and structure, including certain characteristics of dominant coalitions in organizations. The propositions are as follows:

Proposition 2: The proposition of marketing and R&D executives in the upper echelon of analyzer firms is lower than prospector firms and higher than in defender firms.

Proposition 3: The proportion of production and finance executives in the upper echelon of analyzer firms is higher than in prospector firms and lower in defender firms.

Study design and methodology for testing the propositions will be described in the next section.

STUDY DESIGN AND METHODOLOGY

The above propositions were tested on the three major tobacco companies that were previously studied by Robert Miles (1982): Philip Morris, R. J. Reynolds and American Brands. Miles' study examined the adaptive modes of the companies to the crises they faced during the period 1950–75. Based on the changes that took place in each company, Miles labeled Philip Morris as a prospector, R. J. Reynolds as an analyzer, and American Brands as a defender. Miles' classification provides a readily available and convenient basis for testing some parts of the upper echelon theory. Also, Miles has confirmed that the orientation of each firm remained the same throughout the 25–year period; therefore the prospector, analyzer, and defender labels of the firms, and the relationships between the strategic orientation and the upper echelon characteristics that were surveyed in this paper are valid for the full 25–year period.

For purposes of this paper the following definitions and decision rules were adopted:

1. The executives holding the rank of a vice-president and above only are defined as the members of upper echelon. The differences in the structures of the upper echelons of firms reflect relative importance of certain functions in the governance of the corporations. The extent to which a corporation has (does not have) vice-presidential positions in certain functions—for example, Vice-president of Finance—reflects relative importance of the functions.
2. An upper echelon executive whose tenure in a company was shorter than 5 years was categorized as an outsider to that company, even though the individual might have worked for another firm in the same industry or a firm in another industry. The individual was classified as an insider after his fifth year in office in the company.
3. Functional responsibility of upper echelon executive, as indicated by the title of his vice-presidential office, was defined as the functional orientation of the executive. However, where the executive worked in more than one functional track the track in which he spent most number of years was defined as his functional orientation.

For each company a yearly roster of names of the executives who were in its upper echelon for the period 1950–75 was compiled. Principal sources of data were *Standard and Poor's Register of Corporations, Directors and Executives* and *Who's Who in Commerce and Industry*. A total of 106 different executives held vice-presidential positions in the three corporations for one or more years between 1950 and 1975. For 79 of the executives (71 percent) biographical information was available to describe each individual as an insider or outsider to the company; and as production-, marketing-, finance-, or R&D oriented executive. Breakdown of the totals among the three companies is shown in Table 1. Data on the value of assets, used as a measure of firm size were also collected for the period covering 1950–75 from *Moody's Industrial Manual*. Analysis of the data and findings are presented in the following section.

ANALYSIS AND FINDINGS

The data were analyzed in two separate but related steps. A series of simple analyses of variance was performed on each pair of firms—namely, prospector and analyzer, prospector and defender, and analyzer and defender—to test the differences in the outsider orientation of firms in each pair. In the analyses the proportion of outsiders in the upper echelon was treated as the dependent variable, the strategic orientation as a factor (with two levels corresponding to orientation of firms, namely, prospector and analyzer, in the pair), and firm size, as measured by value of assets) as the covariate. The results from the analyses are presented in Table 2.

The results indicate that firms in each pair are significantly different in their outsider orientation, after accounting for the effect of firm size. The prospector (Philip Morris), as stated in Proposition 1, had the highest proportion of outsiders in its upper echelon. The proportion of outsiders in the analyzer's (R. J. Reynolds') upper echelon was lower than the prospector's and higher than the defender's, as stated in Proposition 1. The upper echelon of the defender (American Brands) had the lowest proportion of outsiders. In sum, the proposed relationship between strategic orientation and outsider orientation of firm finds full support.

Table 1. Breakdown of sample size among the three firms

Firm	Number of individuals in the upper echelon	Relevant biographical data were available for
Philip Morris (prospector)	44	30
R. J. Reynolds (analyzer)	37	30
American Brands (defender)	25	19
	106	79

Table 2. Pair-wise analysis of differences among the three strategic orientations in their outsider orientations

	Mean sum of squares	DF	*F*-value	*p*-level of significance	Means	
Prospector and analyzer					Prospector	Analyzer
Effect of:					6.89	2.21
Assets (covariate)	361.5	1	5.75	0.02		
Strategic orientation	247.5	1	3.94	0.05		
Residual	62.9	47				
Prospector and defender					Prospector	Defender
Effect of:					7.09	0.41
Assets (covariate)	459.1	1	8.37	0.06		
Strategic orientation (factor)	540.5	1	9.86	0.00		
Residual	54.8	47				
Analyzer and defender					Analyzer	Defender
Effect of:					1.61	−0.01
Assets (covariate)	1.3	1	0.24	0.63		
Strategic orientation (factor)	30.8	1	5.61	0.01		
Residual	5.0					

Comments: Proposition 2 finds support as the proportion of outsiders in the upper echelon is significantly higher in analyzer firms than in defender firms, and significantly lower than in prospector firms.

In the second step, a series of pair-wise, *T*-tests were completed to examine the difference in the functional orientation of the upper echelons of firms. The results are presented in Table 3.

Philip Morris (prospector) and R. J. Reynolds (analyzer) are significantly ($p \leq 0.00$) different in the proportion of marketing executives present in their upper echelons. Philip Morris' upper echelon had the highest proportion of marketing executives to draw the conclusion that distinctive competence in marketing is a characteristic of the prospector firm. This profile is consistent with overall strategic orientation of the prospector firm which continually explores its environment for new opportunities and assesses uncertainties in the environment. The two firms, however, were not significantly ($p \leq 0.56$) different in the proportion of research and development

Table 3. Pair-wise analysis of the relationship between strategic orientation and functional orientation

Functional orientation	Means (SD)		*T*-value	DF	Two-tail probability	Comments
	Prospector	*Analyzer*				
Marketing	38.44 (9.75)	30.38 (8.70)	3.08	48	0.00	Proposition 2 partly supported.
Research and development	4.63 (3.01)	3.88 (4.92)	0.65	48	0.52	Prospector is more marketing-oriented than analyzer; and similar with respect to R&D.
Production	24.25 (3.55)	23.11 (9.11)	0.59	48	0.56	Proposition 3 partly supported.
Finance	20.48 (5.19)	20.62 (11.98)	−0.06	48	0.96	Prospector and analyzer are not different in their production and finance orientations.
	Prospector	*Defender*				
Marketing	38.44 (9.75)	34.29 (13.11)	1.22	48	0.23	Proposition 2 is partly supported.
Research and development	4.63 (3.01)	0.00 (0.00)	7.69	48	0.00	Prospector and defender are not different in their marketing orientations; however, prospector is more R&D-oriented.
Production	24.25 (3.55)	15.79 (10.57)	3.80	48	0.00	Proposition 3 is partly supported.
Finance	20.48 (5.19)	30.91 (8.05)	−5.44	48	0.00	Prospector is more production-oriented and less finance-oriented than defender.
	Analyzer	*Defender*				
Marketing	30.38 (8.70)	34.29 (13.83)	−1.20	48	0.23	Proposition 2 is partly supported.
Research and development	3.88 (4.92)	0.00 (0.00)	3.94	48	0.00	Analyzer and defender are not different in their marketing orientations; analyzer is more R&D-oriented.
Production	23.11 (9.11)	15.79 (10.57)	2.62	48	0.01	Proposition 3 is partly supported.
Finance	20.63 (11.98)	30.91 (8.05)	−3.56	48	0.01	Analyzer is more production-oriented but less finance-oriented than the defender.

executives in their upper echelons. Therefore, Proposition 2 finds support with respect to marketing orientation of prospector and analyzer organizations but it does not with respect to the R&D orientation of the two firms. The firms were not significantly different on either production orientation ($p \leq 0.56$) or finance orientation ($p \leq 0.96$) of their upper echelon executives as stated in Proposition 3. Therefore the hypothesis which characterizes prospectors and analyzers as different in production and finance orientation, the two functions which characterize stability in the two domains, must be rejected.

The Philip Morris' (prospector's) upper echelon, compared to the upper echelon of American Brands (defender), was not significantly ($p \leq 0.23$) different in the marketing orientation of its executives but was significantly ($p \leq 0.00$) higher in their R&D orientation. The findings are somewhat contrary to Proposition 2 which states that prospector organizations, compared to defender firms, tend to show a stronger marketing and R&D orientation. Defenders, according to the findings, are not as weak in marketing as they are made out to be in Proposition 2 though they distinctly lack R&D orientation. But the two firms are significantly ($p \leq 0.00$) different in the proportion of executives from production and finance tracks present in their upper echelons. However, Philip Morris had a significantly higher proportion (24.25 percent) of production-oriented executives than American Brands (15.79) percent) did. In contrast, American Brands has a significantly higher proportion (30.91 percent) of finance-oriented executives in its upper echelon than Philip Morris (20.48 percent) did. Though the two firms are significantly different in the proportion of production and financial representatives in their upper echelons, the direction of difference between prospector and defender firms in production function was not as expected in Proposition 3. Therefore, only a part of this proposition is valid.

The marketing orientations of R. J. Reynolds (analyzer) and American Brands (defender) were not significantly ($p \leq 0.23$) different as asserted in Propostion 2. But a significantly ($p \leq 0.00$) higher proportion of R&D-oriented executives were present in the upper echelon of R. J. Reynolds than in American Brands. Therefore only a part of Proposition 2 finds support. The two firms are significantly different both in the number of production executives ($p \leq 0.01$) and finance executives ($p \leq 0.00$). But contrary to Proposition 3, which states that analyzers, compared to defenders, tend to have a lower proportion of production and finance executives, the findings showed that analyzers tend to have a stronger production orientation than defenders and weaker finance orientation. Proposition 3 therefore does not find full support. In sum, Proposition 1 was fully supported. However support for Propositions 2 and 3 was mixed. The results are summarized under the comments column in Table 3. How might one explain these results?

Snow and Hrebeniak (1980), who have empirically tested the Miles and Snow typology, have also reported that differences between the three types are not as expected in the theory. Further, while the three strategic types can be found in almost all industries, their findings suggest that differences between the three types may be industry-specific. The tobacco industry, to which all three firms examined in this paper belonged, may be characterized as technologically mature; changes affecting the production processes are relatively infrequent and few, and the level of uncertainty surrounding the manufacturing process tends to be very low. There is evidence in the literature to conclude that a relative lack of production orientation, as found in this study, may be attributed to the low degree of uncertainty surrounding the function.

The number of upper echelon executives from a specific function, such as production, reflects, among other organizational characteristics, the influence the executives have on certain critical decisions, e.g. product and market changes, resource allocation, capital expenditures, and centrality of the function to the well-being of the organization. The group of executives whose subunits are situated to cope with environmental uncertainties stand to wield most influence in organizations (Hickson *et al.*, 1971). Along the same lines as the above, Hambrick (1981), based on an empirical examination of power of executives in hospitals, colleges, and insurance firms, reported that executives who, by virtue of their functional orientation, coped with the uncertainties imposed by their environment played a more influential role than those executives who did not have to cope with the uncertainties. Findings presented in this paper suggest that in contrast to prospectors, and to some extent analyzers, defenders face a relatively certain environment in marketing, R&D, and production, and a relatively uncertain environment in finance.

Defender organizations, by definition, focus on a narrow product and market domains which are relatively stable. Success of the organizations hinges on the degree to which they are able to maintain their prominence within the domain; they, also, by design, ignore developments outside their domain, in an effort to concentrate on building highly cost-efficient throughput process, even if that means missing certain lucrative business opportunities (Miles and Snow, 1978). Therefore, the base of power of upper echelon executives in these organizations lies in the financial function. Indeed, as the results showed, within an industry such as tobacco, different firms may be exposed to different degrees of uncertainties in their functional environments. These inter-firm differences arise, in part at least, from strategies that each firm chooses to pursue.

Also environmental characteristics, notably uncertainties surrounding the various functions, tend to influence the top management characteristics. Top management changes that are taking place in recently deregulated industries such as airlines, telecommunications, financial services, illustrate the point. In a similar vein, Jauch, Martin and Osborn (1981) found that CEOs who do not respond to the environmental challenges facing the firm come under fire. The upper echelon theory proposed by Hambrick and Mason does refer to the likely effects of environmental challenges on top management characteristics. The linkage between environmental conditions and upper echelon characteristics, and the need for a good fit between the two, seems to be particularly relevant for understanding inter-industry differences in the profiles of the top management.

CONCLUDING REMARKS

This paper studies the relationship between the strategic orientation of three independent tobacco companies during the period 1950–75 and their upper echelon characteristics. Pair-wise analyses of the three firms identified the characteristics that differentiate the firms in each pair: prospectors, compared to analyzers, tend to have stronger outsider and marketing orientation; compared to defenders, prospectors tend to have stronger outsider, R&D and production orientation and weaker finance orientation; and analyzers, compared to defenders, tend to have stronger outsider, R&D and production orientation and weaker finance orientation.

These findings have significant implications for management practitioners and theorists. The relationship between a firm's strategic orientation and its upper echelon characteristics offers new insights into organizational dynamics. An organization can conduct an internal audit of its senior executives and match suitable strategies in order to maximize their strengths. Recruitment and selection decisions would also be easier and more effective. A firm can gauge the fit achieved by its competitors' strategic orientation and managerial characteristics. The most important implication for a firm is that it must match its top management characteristics not only with strategy, but also with the external environment, notably the need to cope with environmental uncertainties.

Hambrick and Mason (1984), who proposed the need for examining the relation between upper echelon and organizational outcomes, have warned against the possibility of non-findings. It is encouraging to note that the top management characteristics that we examined and overall strategic orientation are associated. But the differences between firms with different strategic orientations have not been as clear as expected. One explanation offered for the lack of clarity is that environmental uncertainty on power among top management teams seems to determine the strategic profile of upper echelon executives. In the relatively stable technological environment of the tobacco industry, production executives seem to have no place on top management teams. Along the same lines as the research presented in this paper, empirical testing of various other hypotheses would contribute to the strengthening of the upper echelon theory. Particularly, untangling the cause and effect relations between the upper echelon characteristics and corporate performance needs further examination.

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