Porter's Generic Strategies, Discontinuous Environments, and Performance: A Longitudinal Study of Changing Strategies in the Hospital Industry

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Objective. Changes in generic strategies in response to discontinuous environments have been relatively ignored in the management literature. This study reports an examination of the relationships between Porter's (1980) generic strategies, discontinuous environments, and performance.

Data Sources. Archival data for 1984 and 1988 were collected for 172 acute care hospitals in Florida in order to test these relationships.

Study Design. To examine fully the performance impact of changes in strategy in a discontinuous environment, a longitudinal research design that identified a firm's strategy at two points in time, 1984 and 1988, was used.

Principal Findings. Results indicate that firms with a proper strategy environment fit performed the highest, firms that did not change their strategy had no change in performance, and firms that changed their strategy toward a proper strategy environment showed an increase in performance.

Conclusion. Findings support the notion that hospitals with appropriate strategy-environment combinations will exhibit higher performance.

Keywords. Strategy-environment fit; discontinuous environments; generic strategies

The concept of "fit" is a central thrust for middle-range theories in many management disciplines. In this context "fit" refers to how variables, such as an organization's strategy and its environment, combine or match together to affect organizational performance. In the health care management literature the relationships between strategy and

environment have received much attention in terms of ways in which they combine to affect hospital performance.

Currently, theoretical tension exists relating to the notion of equally viable generic strategies versus the idea of particularly appropriate strategy-environment combinations (Zajac and Shortell 1989). On the one hand, traditional contingency theory suggests the existence of appropriate strategy-environment combinations (Burns and Stalker 1961; Dess and Beard 1984; Hambrick 1983, 1985; Kim and Lim 1988; Miller 1988; Miller and Friesen 1984). On the other hand, generic strategy typologies (Porter 1980; Miles and Snow 1978) have generally assumed that the various strategies are alternative, viable approaches across different environments. At the heart of the tension is whether organizational adaptation is environmentally determined or strategically determined (Astley and Van de Ven 1983). If organizational adaptation is environmentally determined, then firms with appropriate strategy-environment combinations will exhibit higher performance. Conversely, if organizational adaptation is strategically determined, then there may be alternative strategy-environment combinations with an equal probability of success.

While the static notion of an appropriate strategy-environment fit has received considerable attention in the management literature, the issue of changes in generic strategies in response to discontinuous environments has been relatively ignored (Zajac and Shortell 1989 is an exception). In this context discontinuous environmental change is considered to be environmental change so dramatic that many of the rules driving the strategic behavior of firms and governing the industry cease to continue. Events in the environment that could cause discontinuous environmental change include major technological breakthroughs, major changes in the laws and regulations that govern an industry (deregulation of the airline industry would be one example of this), a sudden change in the economy such as the stock market crash before the Great Depression, new sources of competition, or any combination of these events.

The impact of discontinuous environmental change on strategy

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and performance is an important area of study, since discontinuous change can restructure an industry and change the bases of competition (Meyer, Brooks, and Goes 1990) resulting in inappropriate strategy-environment combinations for some firms. This has been the case in the hospital industry where dramatic changes swept through it during the middle 1980s, changing it from a high-growth, noncompetitive industry to a low-growth, highly competitive one (Cisneros 1986; Zajac and Shortell 1989). These industry changes, precipitated by the introduction of the Medicare prospective payment system (PPS) between 1983 and 1986, altered long-standing relationships between hospitals, physicians, patients and insurers (Meyer, Brooks, and Goes 1990). During this same time period, the emergence of new technologies, changing consumer expectations, and new sources of competition also contributed to the hospital industry's environment becoming discontinuous in nature.

This study examines whether or not Porter's (1980) typology of differentiation, cost leadership, and muddling strategies is equally viable in the hospital industry and if hospitals with appropriate strategy-environment combinations exhibit higher performance than other hospitals. Based on an environmentally determined view of organizational adaptation, we argue that the success of strategy types varies across different environments and that changes in generic strategies in response to a discontinuous environment will be associated with changes in performance. Specifically, we assert that (1) hospitals with a proper strategy-environment fit will outperform hospitals without a proper strategy-environment fit; (2) hospitals whose strategic response is toward a proper strategy-environment fit will exhibit an increase in performance; and (3) hospitals whose strategic response is away from a proper strategy-environment fit will show a decrease in performance.

FRAMEWORK OF ANALYSIS

GENERIC STRATEGIES AND PERFORMANCE

Porter (1980) suggested that certain generic strategic approaches can be used by firms to outperform other organizations in an industry. One generic strategy is to achieve overall cost leadership in an industry by devoting considerable effort to cost control so that above average returns can be obtained even with low prices. Another generic strategy is for an organization to differentiate its product or service offering in order to create something that is perceived industrywide as being

unique. Approaches to differentiation may rest on breadth of product or service offerings, technology, special features, or customer service. Organizations with no coherent strategy are considered "stuck in the middle," pursuing a muddling strategy.

This study uses Porter's (1980) approach to generic business strategies for three reasons. First, other typologies (e.g., Miles and Snow 1978) predate the more theoretically sophisticated strategic notions of Porter (Miller 1988). Second, Porter's types are similar to other strategy categorizations in the literature. For example, Miles and Snow's (1978) "defenders" and Hambrick's (1985) "efficient misers" pursue a cost leadership strategy. Also, Miles and Snow's (1978) "prospectors" and Miller and Friesen's (1984) S5 innovators, S1A and S1B adaptive firms, and S3 mature giants all pursue various forms of a differentiation strategy. Finally, Porter's typology has received more empirical support from previous research than have the other typologies (Kim and Lim 1988).

Although researchers proposing the notion of generic strategies (e.g., Porter 1980; Miles and Snow 1978) have tended to assume that the various strategies are alternative, viable approaches across environmental contexts, others have suggested that the environment can influence both strategy selection and viability (Burns and Stalker 1961; Dess and Beard 1984; Hambrick 1983, 1985; Miller and Friesen 1984). Specifically, it has been theorized that cost leadership strategies are appropriate in stable and predictable environments (Hambrick 1983; Miller 1988; Kim and Lim 1988). Firms that pursue a strategy of cost leadership are required to become the lowest-cost producers in an industry. They must devote much effort to cost control so that above-average returns can be obtained. A cost leadership strategy is most effective in stable and predictable environments, since environments that are unpredictable or subject to much change will create severe diseconomies for organizations trying to pursue a cost leadership strategy (Miller 1988). Moreover, the many alterations needed to cope with a discontinuous environment would severely threaten a cost leader's efforts at efficiency and cost control.

It has also been theorized that differentiation strategies are most appropriate in dynamic and uncertain environments (Hambrick 1983; Miller 1988; Kim and Lim 1988). The strategy of differentiation aims to create a product or service that customers see as unique. Differentiation often involves new technologies, unforeseen customer and competitor reactions, and the confluence of many unstructured marketing problems (Hofer and Schendel 1978; Miles and Snow 1978; and Miller and Friesen 1984). All of these factors increase environmental unpre-

dictability. Thus, a differentiation strategy is most effective in dynamic environments in which products, services, and practices change quickly (Duncan 1972) or where it can be used to avoid more costly forms of competition like simple price cutting (Hambrick 1983; Hofer and Schendel 1978; Miller 1988; Porter 1980).

STRATEGIC CHANGES, DISCONTINUOUS ENVIRONMENTS, AND PERFORMANCE

If we are to examine fully the performance impact of changes in strategy in a discontinuous environment, a longitudinal research design that identifies a firm's strategy at two points in time, t_1 and t_2 (corresponding to two points in time during which the environment is discontinuous) must be used. Based on the research just reviewed, it can be hypothesized that a differentiation strategy is appropriate for discontinuous environments and that therefore it will outperform all other strategy types (i.e., cost leadership and muddling).

Hypothesis 1. In discontinuous environments, differentiators will outperform all other strategy types.

If this hypothesis is supported, then hospitals classified as following a differentiation strategy can be theorized to have an appropriate strategy-environment "fit." Hospitals following either a cost leadership or muddling strategy can be theorized not to have an appropriate strategy-environment fit and can therefore be classified as "misfits." Under this research scenario four possible combinations of "fit" and "misfit" between strategy and environment can be posited (see Figure 1). First, hospitals with a fit-fit combination are those that have an appropriate strategy-environment fit at t_1 and t_2. Those hospitals that pursue a differentiation strategy at t_1 and t_2 will be among the highest performers at t_1 and t_2 and will exhibit no change in performance.

Hypothesis 2. A fit-fit combination will be associated with high performance at t_1 and t_2, but there will be no change in performance.

Similarly, hospitals that are misfits at t_1 (i.e., following a cost leadership or muddling strategy) and do not develop the capabilities to differentiate their services in response to a discontinuous environment by t_2 will be misfits at t_2 as well. Thus, hospitals with a misfit-misfit combination will be among the lowest performers at t_1 and t_2 and will exhibit no change in performance.

Figure 1: Four Possible Combinations of Fit and Misfit and Hypothesized Changes in Performance

Combination	Time		Hypothesis Number
	t_1	t_2	
(1)	*fit*		*No change in performance (2)*
(2)	*misfit*	*fit*	*Increase in performance (5)*
(3)	*misfit*		*No change in performance (3)*
(4)	*fit*	*misfit*	*Decrease in performance (4)*

Hypothesis 3. A misfit-misfit combination will be associated with low performance at t_1 and t_2, but there will be no change in performance.

In line with the earlier discussion, we now turn to the issue of changes in generic strategies in response to discontinuous environments. The final two combinations we will consider are hospitals with either a fit-misfit or misfit-fit combination. There are plausible reasons for what may first seem to be the illogical fit-misfit combination. For example, hospitals following a differentiation strategy may find their bases for competitive advantage quickly eroding in times of industry change, thereby requiring a change in strategy. Or, the growing societal and regulatory pressures for cost containment may provide strong inducements for hospitals to change their differentiation strategy to one of cost leadership or muddling. Regardless, hospitals following a differentiation strategy at t_1 and inappropriately changing their strategy by t_2 in response to a discontinuous environment will exhibit a decrease in performance, since their strategy-environment combination is away from an appropriate theoretical fit.

Hypothesis 4. A fit-misfit combination will be associated with a decrease in performance.

Similarly, hospitals not following a differentiation strategy at t_1 that develop the capability to differentiate their services by t_2 in response to a discontinuous environment will exhibit an increase in performance.

Hypothesis 5. A misfit-fit combination will be associated with an increase in performance.

METHODOLOGY

SAMPLE AND DATA COLLECTION

The sample consisted of a cross-section of 172 general, short-term, acute care hospitals in the state of Florida. The hospital industry is an appropriate industry for testing the hypotheses developed here for several reasons. First, examining a single industry controls for industry-related performance effects (Dess, Ireland, and Hitt 1990), facilitates making industry-specific strategies operational (Hambrick 1980), and aids in interpreting potential anomalies in the data and results (Thomas and McDaniel 1990). Further, the dramatic changes that swept through the hospital industry during the middle 1980s have placed at least some hospitals in choice situations very different from what they were experiencing before PPS. Top managers of hospitals have been forced to recognize organizational competencies and weaknesses, resolve strategic issues, and develop coherent strategies (Thomas and McDaniel 1990).

The years 1984 and 1988 were chosen as the beginning and ending points in the study, since four years was considered to be a sufficient time lag for hospital administrators to develop and implement at least initial strategic responses to the effects of the PPS changes reverberating throughout the industry. The sample was limited to hospitals in a single state due to the dramatic differences in the level and types of governmental regulations from one state to another (Blair and Boal 1991; Zajac and Shortell 1989).

All of the general, short-term, acute care hospitals in Florida for which adequate data could be obtained were examined in the study. Archival data were collected for 1984 and 1988 from two sources: The American Hospital Association's *Guide to the Health Care Field* and the State of Florida Hospital Cost Containment Board publications.

STRATEGY CLASSIFICATIONS

The hypotheses required classifying each hospital's business strategy as one of three types: differentiation, cost leadership, or muddling. Classification of each hospital's strategy was based on three measures of service differentiation and three indicators of cost orientation, the selection of which was based, in part, on telephone interviews and discussions with industry experts and administrators at the State of Florida Hospital Cost Containment Board. In an attempt to capture multiple ways in which a hospital might differentiate itself from competitors, and in line with the theoretical emphasis here on resource-

based product/service innovations (as opposed to purely marketing-based differentiation), three indexes of differentiation were used in the study: technological sophistication of service offerings, breadth of service offerings, and number of rare service offerings. Following prior research (e.g., Hartz, Krakauer, Kuhn, et al. 1990), technological sophistication was measured as the total numbers of the following equipment and facilities at the hospital: a cardiac catheterization laboratory, an extracorporeal lithotripter, a facility for magnetic resonance imaging, a facility for open-heart surgery, and organ transplantation capability. A hospital's breadth of service offerings was measured as the total number of services offered, of a possible 54 services identified in the American Hospital Association's *Guide to the Health Care Field.* The last differentiation measure was calculated as the total number of rare services offered by the hospital, with "rare" defined as a service offered by fewer than 50 percent of all the hospitals in the sample. Examples of rare services included: burn care, radiation therapy, hemodialysis, various psychiatric services, birthing room, geriatrics, and various alcoholism-related services. Low-cost orientation was based on three measures: (1) total expenses divided by the average number of occupied beds for each hospital, (2) cost adjusted per patient day, and (3) salary adjusted per patient day.

To provide evidence in support of the strategy operationalizations, a principal-components analysis with varimax rotation was performed. The results are reported in Table 1. As expected, the analysis yielded two factors with eigenvalues greater than 1. One factor included the three differentiation measures. The second factor included the three

Table 1: Results of Factor Analysis of Strategy Measures (N = 172)

	1984		*1988*	
Variable	*Differentiation Factor 1*	*Cost Leadership Factor 2*	*Differentiation Factor 1*	*Cost Leadership Factor 2*
Differentiation/Breadth	**0.94**	-0.17	**0.96**	-0.02
Differentiation/High-tech	**0.88**	-0.18	**0.85**	-0.21
Differentiation/Rarity	**0.97**	-0.08	**0.97**	-0.03
Total expenses	-0.07	**0.95**	0.13	**0.88**
Cost adjusted per patient day	-0.07	**0.96**	-0.12	**0.92**
Salary adjusted per patient day	-0.36	**0.81**	-0.44	**0.74**
Eigenvalue	3.49	1.81	3.13	1.88

cost leadership measures. In further support, Cronbach alphas were computed resulting in an alpha coefficient of .82 for the low-cost measures and an alpha coefficient of .91 for the differentiation measures. Together, the analyses suggest that the differentiation and low-cost indicators tapped two distinct factors with a high amount of consistency within each factor across the indicators.

The differentiation and low-cost measures were then used to identify each hospital's strategy. First, each measure was standardized and the low-cost measures were reverse-coded to aid comparability. Next, to capture an overall cost orientation for each hospital, and in light of the results from the preceding analyses, the low-cost measures were summed into a single composite measure and restandardized. A decision was made not to combine the differentiation measures into a composite score so that a more accurate identification of different forms of differentiation could be permitted in the sample. Then the hospitals were classified as following one of the following strategies: differentiation, cost leadership, or muddling. Differentiators were identified as those hospitals with one or more of the three differentiation scores above the sample mean. Cost leaders were hospitals in which the composite cost leadership score was above the sample mean and all differentiation scores fell below the sample mean. Consistent with the theoretical position that muddlers neither possess nor develop any distinctive basis for competitive advantage (Porter 1980), the remaining hospitals (those with scores on all measures below their respective sample means) were classified as muddlers.

PERFORMANCE MEASURES

Both operational (i.e., nonfinancial) and financial performance measures were used in the current study. Such an approach provides a more comprehensive operationalization of performance than do financial indicators alone (Venkatraman and Ramanujam 1986). Based on consultations with industry experts at the State of Florida Hospital Cost Containment Board, three financial measures of performance, one performance measure related to the utilization of capacity, and one measure of market share were chosen for the study. The industry experts considered the set of indicators to be useful in discriminating between the high- and low-performing hospitals in the state. It should also be noted that the set of performance indicators used is also consistent with previous research on hospital performance (see Brecker and Nesbitt 1985; Friedman and Shortell 1988; Hart, Amundson, and Rosenblatt 1990).

The financial measures of performance examined in the study included total revenue adjusted per patient day, total margin, and net operating revenue divided by the total number of beds for each hospital. The measure of capacity utilization was percent occupancy. Market share was calculated by dividing the average number of occupied beds for the hospital by the average number of occupied beds in the county in which the hospital was located and in all of the surrounding counties. (Hospitals in all of the surrounding counties were included, since some rural counties have only one hospital thus giving that hospital a 100 percent market share in its particular county.)

Performance measures were obtained from State of Florida Hospital Cost Containment Board publications for every hospital in 1984 and 1988. For the sample, significant differences ($p < .05$) were found between 1984 and 1988 performance, indicating decreasing trends for percent occupancy and total margin, and increasing trends for net operating revenue and total revenue. To control for these trends these performance measures were standardized (means = 0). Thus, performance was measured relative to other hospitals in the sample for 1984 and 1988.

ANALYSIS

Hypothesis 1 was tested cross-sectionally for both time periods. Because the intercorrelations among the dependent variables were large, we used a multiple analysis of variance (MANOVA) to test for performance differences between strategy types (i.e., differentiation, cost leadership, and muddling). The performance measures were the dependent variables and strategy type was the independent variable. Subsequent univariate (ANOVA) tests were conducted for each performance measure in both 1984 and 1988. Tukey tests were also conducted to test for mean performance differences between strategy types for each performance measure in 1984 and 1988.

Hypotheses 2 through 5 were tested longitudinally using paired-sample *t*-tests. The paired-sample *t*-tests were conducted to compare 1984 and 1988 performance, using each performance measure for each of the four combinations of fit and misfit to indicate the direction and significance of performance differences.

RESULTS

Correlations for the variables used in the study are reported in Table 2. Numerous statistically significant correlations are evident. The differentiation measures were all positively correlated and, to a lesser extent, negatively related to the composite low-cost measure, suggesting a possible trade-off between the two bases for competitive advantage in many hospitals.

Statistically significant performance correlations can also be noted. Consistent with the expectations of the industry experts, all of the financial performance measures along with percent occupancy were positively correlated.

Each differentiation measure was positively correlated with all of the performance measures except for the market share measure. Low-cost orientation was found to be positively associated with the market share measure and negatively related to two others (i.e., total revenue per adjusted patient day and net operating revenue per bed).

Multivariate and univariate tests were used to test hypothesis 1. Hypothesis 1 states that in discontinuous environments, differentiators will outperform all other strategy types. In both 1984 and 1988, significant performance differences ($p < .01$) were found for all multivariate and univariate tests between the strategy types. Tukey tests were also conducted in order to test for significant performance differences between the strategy types. Results from these tests indicate significant performance differences ($p < .05$) in both 1984 and 1988. Thus, strong support was provided for hypothesis 1: differentiators did seem to outperform other strategy types. Table 3 summarizes the results applicable to hypothesis 1.

Paired-sample *t*-tests were conducted to test hypotheses 2 through 5. Results from these tests are reported in Table 4. The first paired-sample *t*-test tested hypothesis 2: that a fit-fit combination will be associated with high performance at t_1 and t_2, but that no change in performance will occur. Results indicate that hospitals with fit-fit combinations had a significant positive change in market share but did not have any significant changes for any of the other four performance measures. These results give substantial support for hypothesis 2.

The second paired-sample *t*-test tested hypothesis 3: that a misfit-misfit combination will be associated with low performance at t_1 and t_2, but that no change in performance will take place. Results indicate that hospitals with misfit-misfit combinations did not have any significant

Table 2: Correlations (N = 172)

Variable	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*	*15*	*16*	*17*
Strategy (1984)																	
1 Diff/Breadth																	
2 Diff/Rare	.95*																
3 Diff/High-tech	.77	.81															
4 Low cost†	-.34	-.26	-.34														
Strategy (1988)																	
5 Diff/Breadth	.88	.86	.71	-.34													
6 Diff/Rare	.85	.88	.73	-.29	.96												
7 Diff/High-tech	.66	.67	.74	-.32	.72	.76											
8 Low cost†	-.14	-.11	-.25	.57	-.18	-.19	-.32										
Performance (1984)																	
9 Total margin	.29	.22	.22	.11	.23	.22	.28	.04									
10 Total revenue‡	.35	.21	.32	-.89	.32	.24	.35	-.51	.19								
11 Percent occupancy	.47	.45	.39	.03	.43	.41	.35	.06	.28	.01							
12 Net operating revenue§	.57	.47	.51	-.51	.53	.48	.49	-.31	.33	.61	.72						
13 Market share	-.08	-.01	-.04	.47	-.06	-.02	-.07	.32	.04	-.49	.06	-.23					
Performance (1988)																	
14 Total margin	.31	.24	.24	-.12	.32	.24	.19	.24	.27	.19	.34	.38	.05				
15 Total revenue‡	.32	.19	.31	-.55	.32	.24	.35	-.49	.16	.68	.19	.63	-.32	.37			
16 Percent occupancy	.58	.56	.51	-.24	.59	.55	.46	.08	.25	.24	.71	.66	-.08	.47	.29		
17 Net operating revenue§	.55	.49	.51	-.43	.59	.55	.53	-.29	.26	.44	.58	.77	-.16	.49	.54	.83	
18 Market share	.01	.08	.02	.37	.04	.07	-.01	.33	.07	-.39	.11	-.14	.93	.13	-.27	.11	-.01

*If correlations > .14, $p < .05$; if correlations > .20, $p < .01$.

†These are composite measures.

‡Total revenue = total revenue adjusted per patient day.

§Net operating revenue = average daily net operating revenue per occupied bed.

Table 3: Summary of Multivariate and Univariate Results for Hypothesis 1 (N = 172)

	Strategy				
Variable	*Differentiation (d)*	*Cost Leadership (c)*	*Muddler (m)*	F	*Significant Difference*†
1984					
MANOVA				16.77***	
Total margin	.36	-.06	-.52	12.83***	d>c,m;c>m*
Total revenue	.36	-.96	.37	48.14***	m,d>c*
Percent occupancy	.45	-.15	-.56	18.34***	d>c,m*
Net operating revenue	.55	-.65	-.25	32.09***	d>m,c*
Market share	.32	-.02	-.49	10.55***	d,c>m*
(*n*)	(76)	(49)	(47)		
1988					
MANOVA				15.56***	
Total margin	.31	.03	-.49	10.85***	d,c>m*
Total revenue	.43	-.67	.01	21.98***	d>m,c;m>c*
Percent occupancy	.57	-.16	-.71	34.97***	d>c,m;c>m*
Net operating revenue	.64	-.55	-.44	39.73***	d>m,c*
Market share	.39	.12	-.48	13.52***	d>c,m*
(*n*)	(74)	(48)	(50)		

*$p < .05$; ***$p < .001$.

†d = differentiation; c = cost leadership; m = muddler.

Table 4: Summary of Paired-Sample t-Tests and Wilcoxon Sign Rank Tests (N = 172)†

	t-Tests Combination§				Wilcoxon Combination§	
	(1) FF	(2) MF‡	(3) MM	(4) FM‡	(2) MF‡	(4) FM‡
Net operating revenue	0.13	3.48***	-0.65	-0.27	2.51***	0.03
Percent occupancy	-0.12	-0.11	0.63	-1.05	0.08	-0.39
Total margin	-0.12	1.32	-0.08	-0.62	1.33*	-0.52
Total revenue	1.26	2.94***	-1.41	0.41	2.27**	-0.81
Market share	3.06***	1.67*	-1.64	0.01	1.65**	-0.52
(*n*)	(63)	(12)	(84)	(13)	(12)	(13)

*$p < .10$; **$p < .05$; ***$p < .01$.

†The signs of the tests indicate the direction of the change.

‡Indicates that one-tailed tests were used.

§FF = fit-fit; MF = misfit-fit; MM = misfit-misfit; MF = misfit-fit.

changes for any of the performance measures. These results support hypothesis 2.

The third paired-sample *t*-test tested hypothesis 4: that a fit-misfit combination will be associated with a decrease in performance. Results indicate that hospitals with fit-misfit combinations did not have any significant changes for any of the performance measures. Given the small size of the fit-misfit group (13 hospitals) a Wilcoxon Signed Rank test was also conducted. Results from this test (see Table 4) also indicate that hospitals with fit-misfit combinations did not have any significant changes for any of the performance measures. Thus, results from both sets of tests fail to support hypothesis 4.

The fourth paired-sample *t*-test tested hypothesis 5: that a misfit-fit combination will be associated with an increase in performance. Results indicate that hospitals with misfit-fit combinations did have significant increases in net operating revenue, total revenue, and market share. Given the small size of the misfit-fit group (12 hospitals) a Wilcoxon Signed Rank test was also conducted. Results from this test (see Table 4) indicate that hospitals with fit-misfit combinations had significant increases in net operating revenue, total revenue, market share, and total margin. Results from both sets of tests give substantial support for hypothesis 5.

DISCUSSION AND CONCLUSIONS

The results of this study suggest that (1) in discontinuous environments a differentiation strategy will be associated with higher performance than will other strategy types; (2) organizations with a proper strategy-environment fit will outperform organizations without a proper fit; (3) organizations that do not alter their strategy in response to a discontinuous environment will not exhibit any changes in relative performance; and (4) organizations that do not have a proper strategy-environment fit, but are able to alter their strategy to achieve a proper fit, will exhibit an increase in performance. The implications of these findings for research and hospital management are discussed.

First, these findings support the notion that hospitals with appropriate strategy-environment combinations will exhibit higher performance. Our cross-sectional and longitudinal examination of strategy-environment fit indicated that differentiators outperform other strategy types in discontinuous environments. These findings challenge the views of those (e.g., Porter 1980; Miles and Snow 1978)

who maintain that different strategies can be followed successfully in the same industry.

Second, the findings indicate that both strategic choice and environmental determinism play a role in organizational adaptation (Hrebiniak and Joyce 1985). A majority of hospitals in our sample (85 percent) did not change their strategy during the time period studied, supporting both an inertial and a deterministic view of organizational adaptation (Hannan and Freeman 1977). Some hospitals (15 percent) did change their strategies, however, indicating that managerial choice also plays a role in organizational adaptation (Child 1972). An interesting finding is that hospitals that did change their strategy more often changed it *away from* a proper strategy-environment fit, which suggests that hospitals are more likely to reduce their product or service offerings, and to emphasize cost control, than to do the opposite in a discontinuous environment. Given the pressures for cost containment in this industry, this may not be so surprising. Moreover, it was an appropriate response since a significant decrease in performance was not found. It may be that hospitals able to follow both a cost leadership and a differentiation strategy successfully are suited to a wider range of environmental contexts than are other hospitals. Future research should address this issue.

The results also hold some important implications for the strategic managers of hospitals. Such managers would be well advised to maintain or to try to achieve a proper strategy-environment fit to assure high performance. In these turbulent times, hospitals pursuing a differentiation strategy appear to have an advantage over the competition. It seems prudent for hospital strategists to examine their service offerings carefully, identify the core services that they provide with unique distinction, and build a line of service offerings around this core, thereby developing a strong basis for differentiating their hospitals from the competition.

This does not mean that managers of hospitals should ignore costs. Given both that hospitals following a cost leadership strategy were among the lower performers in our study and the growing pressures on hospital managers to contain costs, it would be tempting and somewhat controversial to conclude that efforts at cost reduction hamper overall hospital performance. It would also be an erroneous conclusion. Building a basis for differentiation does not necessarily require a high-cost structure. In fact, visual inspection of the data shows that many of the high performing hospitals pursuing a differentiation strategy also had a reasonably low cost structure. What the results of this study do indicate is that control of costs without attention to developing

a differential service advantage is ill-advised. In other words, cost containment is important, but only in conjunction with a portfolio of differentiated services, which may be the more important factor.

Finally, the results also suggest that the strategic managers of hospitals should keep an eye directed toward future industry trends. Formulating strategy to match an environment is an ongoing process. If the industry should become more stable in the future, a differentiation strategy may not, and probably will not, be the preferred strategy. To the extent that strategy must match environment for superior performance, a manager must assess his or her organization's strategy in terms of its appropriateness for a given, albeit changing, environment.

Unfortunately, it is difficult to specify how long a period of discontinuity needs to be to justify a change in strategy. Fortunately, there are other ways to differentiate that are less costly than adding either new services or new technologies. Included among these are differentiation through expanded marketing efforts, differentiation through an increase in the level of quality of care, and differentiation through increased levels of patient comfort and convenience. Hospital managers can also pursue a differentiation strategy while maintaining a reasonably low cost structure by investing in cost-effective services and technologies and by not investing in high-priced services and technologies that are not cost-effective.

It is also worth noting that adaptations could also be made in the Medicare and Medicaid reimbursement policies and federal/state regulations that would help hospitals manage discontinuous change better. One possible adaptation would be to try to simplify the existing system. Another adaptation would be to make changes in existing policies or regulations that would encourage hospitals to forgo adopting certain new services and technologies in order to decrease service/technology duplication in certain market areas. However, it should be noted that both of these solutions are much easier said than done and that many of the prevailing attitudes about health care among health care professionals, the government, and society at large would have to change in order for the implementation of such adaptations to be feasible.

As with almost all studies, limitations were associated with the current study. One limitation was that the sample represented hospitals only in the state of Florida. Although examining hospitals in only one state allowed us to control for differences in regulations and other environmental factors among states, a multistate sample could add to the results found in the current study. Another limitation is that the longitudinal research design used in this study examined only two data points, 1984 and 1988. Since only 15 percent of the hospitals changed

their strategies over this four-year period, future studies may want to examine a longer time period and more data points. Future studies may also want to examine the effect of hospital size, the size of the market area within which a hospital operates, and whether the hospital is a profit or not-for-profit hospital to determine if these variables have any effect on the relationships examined in the current study. It is hoped that even with these limitations, the findings reported by the current study will serve as a point of reference for future studies that examine the effect of strategy selection in discontinuous environments on organizational performance in the hospital industry and in other industries.

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