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Strategic Orientation of Rural Hospitals in the U.S.A.

-Implications for Korean Rural Hospitals-

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〈국문요약〉

본 논문은 미국 농촌병원의 경영전략과 관련하여 몇가지 가설을 검증한 연구결과이다. 구체적으로 1987년 부터 1991년 사이의 미국 농촌병원들의 기본적 경영전략 지향 형태와 변화 추세, 경영전략과 환경 및 병원특성과의 관계, 그리고 경영전략과 재정적 성과의 관계 등이 연구되었다.

본 연구의 자료수집은 미국 농촌지역의 모든 종교병원과 영리병원, 그리고 무작위 표본추출로 뽑힌 50%의 공공병원 및 기타 비영리 병원의 최고경영자를 대상으로 1989년에 우편설문조사를 통해 이루어 졌으며 회수된 설문지 중 사용가능한 640개 병원 (응답율 43%)의 자료가 분석 이용되었다. 조사대상 병원의 환경적 특성자료는 지역자원 파일 (Area Resource File)에서 수집하였고, 병원특성 및 재정적 성과자료는 미국병원협회 연감 (Annual Survey of Hospitals)에서 구하였다. 응답병원과 비응답 병원간에 환경 및 병원특성에 유의한 차이는 없는 것으로 나타났다.

본 연구에서는 Miles 와 Snow가 개발한 방어형(defender), 분석형(analyzer), 진보형(prospec-

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tor), 반응형(reactor)의 네가지 경영전략지향 형태를 사용하여 분석하였다.

본 연구의 결과를 요약하면 다음과 같다.

1) 미국 농촌 병원들은 과거에는 방어형 및 분석형의 경영전략 지향을 보이다가 점차 반응형과 진보형으로 변화해 가고 있다.

2) 가장 뚜렷한 경영전략 지향의 변화추세는 방어형이 급격히 줄고 반응형이 크게 늘어나고 있다는 점이다. 이는 많은 병원들이 급격한 환경변화에 적응하기 위해 일관된 전략 지향보다 융통성 있고 탄력적인 경영전략을 선호하고 있음을 나타낸다.

3) 농촌병원들은 경영전략의 급격한 변화를 추구하지는 않을 것이라는 가설을 뒷받침할 근거는 없는 것으로 나타났다. 이는 급격한 의료환경의 변화로 인해 병원들이 다양한 경영전략의 변화를 모색하고 있는 것으로 볼 수 있다.

4) 대부분의 외부환경 및 병원특성은 병원의 전략지향의 선택에 큰 영향을 미치지 않는 것으로 나타났으나 인구 10,000명당 의사수, 병상규모, 위탁경영 여부, 병상점유율, 소유형태 등의 변수들이 경영전략 지향 형태에 따라 유의한 차이가 있는 것으로 나타났다.

5) 경영전략 지향이 상이한 병원들은 세부 실천전략에 있어서도 차이가 있을 것이라는 가설은 일부 전략에 있어서 사실인 것으로 나타났다. 즉 방어형 병원들은 진보형이나 반응형 병원들보다 내부관리전략, 다양화 전략, 의사유치전략, 직원복지전략 등에 있어서 소극적인 것으로 나타났다.

6) 비록 방어형 병원들이 다른 형태의 병원보다 낮은 재정적 성과를 보이고 있었지만 본 연구의 자료로는 경영전략지향과 재정적 성과간의 인과관계를 구명할 수 없었다. 또한 재정적성과에 따른 전략지향의 변화여부도 통계적으로 유의한 관계가 있지는 않은 것으로 나타났다. 이는 각각의 전략지향들이 환경에 따라 나름대로 장점을 가질 수 있으며 반드시 어느 한가지의 전략지향만이 최선은 아님을 시사해 주고 있다.

7) 병원의 경영전략 변화는 환경의 변화와 더불어 그러한 변화에 적응할 수 있는 내부의 능력과도 관계가 있는 것으로 보인다.

이상의 연구결과에 따르면 미국의 농촌병원들은 급격한 환경변화에 적응하기 위하여 다수의 병원들이 환경 및 병원특성에 관계없이 생존을 위한 전략적 노력을 기울이고 있음을 알 수 있다. 끝으로 이러한 연구결과는 최근 어려운 경영환경에 처한 한국의 농촌병원들도 합리적인 경영을 위해서는 병원이 처한 외부환경분석과 함께 내부의 능력에 적합한 경영전략의 방향을 설정하고 그에 따른 실천적 세부 경영전략을 수립해야만 한다는 것을 시사해 주고 있다.

Key words : Strategic Orientation and Behaviors, Rural Hospitals, Financial Performance

I. INTRODUCTION

The introduction of prospective payment and competition into health care has challenged American hospitals to shift from an internal, operational focus to a broader external, strategic orientation. Whereas previously hospitals did not need to think or behave strategically, today strategic adaptation is essential for survival (Shortell et all., 1990). Hospitals must move from a product to a market orientation, from a care-taking to a risk-taking mentality, and from operational to strategic management (Shortell et al., 1990).

Although all hospitals have felt these pressures for change, the consequences of failing to respond are most dramatic for American rural hospitals. The growing crisis facing rural hospitals has been well-documented (Bailey. 1987; Moscovice, 1989; Mullner et al., 1989). Economic deterioration of rural areas (Cordes, 1989), federal deregulation policies (Richards, 1987; Landes, 1988), demographic shifts towards older and poorer rural populations (Moscovice, 1989; Landes, 1988; Coward and Cutler, 1989; Rowland and Lyons, 1989), shortages of essential human resources to deliver rural health care services (Office of Technology Assessment, undated), inadequate payments by third party payers(Iowa Hospital Association, 1990), and rising costs of health care (Bonney, 1983) have all had detrimental effects on the viability of rural hospitals. During the three year period between 1985 and 1987, more than 32% of rural hospitals had net financial losses (U.S General Accounting Office, 1990). In 1990, 70% of rural hospitals had expenses exceeding patient revenue and 31% had negative operating margins (American Hospital Association, 1992). Over 250 rural community hospitals have closed since 1980 (Hospital Data Center, 1990) and as many as 600 more are at risk of closure (U.S Senate Special Committee on Aging, 1988).

Survival in this environment requires adaptation and innovation by rural communities and their health care providers (Ludke, 1991). The successful implementation of appropri-

ate strategic behaviors in a timely manner has become an essential element of rural hospital management (Ludke, et al., 1992). Rural hospitals must adopt a strategic orientation consistent with their environmental conditions and organizational structures and pursue strategic changes that will maintain or enhance their overall performance and viability.

This paper examines several hypotheses regarding the strategic orientation of rural hospitals, the changes rural hospitals have made in their orientations between 1987 and 1991, and the relationships between adoption of a particular strategic orientation and the hospital's environmental and organizational characteristics, strategic behaviors, and financial performance. The hypotheses evolved from previous work conducted by Shortell et al. (1990) on the strategic adaptation processes of eight hospital systems between 1982 and 1987. Although they did not report their strategic orientation data separately for the 19% of rural hospitals included in their study (Shortell, 1988), the results do provide a foundation for examining the strategic change processes of rural hospitals.

Ⅱ. HYPOTHESES

Hypothesis 1: Rural hospitals are more likely to adapt the defender strategic orientation than any other orientation.

Shortell et al. (1990) postulate that hospitals adopt different strategic orientations that characterize their specific strategic predisposition toward their environments and define their strategic behaviors and overall performance. Using a typology developed by Miles and Snow (1987), they classified the strategic orientation of 370 system-member hospitals into four archetypes: defender, analyzer, prospector, and reactor (Table 1). Compared to the other strategic archetypes, defenders were found to be more frequently located in rural and collar areas surrounding metropolitan communities (Shortell et al., 1990). Defenders also exhibited characteristics often associated with rural hospitals, such as small facilities operating in generally less favorable environments with fewer resources, serving hig-

her proportions of Medicaid patients, and providing a greater percentage of uncompensated care.

〈Table 1〉 Descriptions of Strtategic Orientations

Hospital A (Defender)*	This hospital offers a stable set of services to well-defined markets. It concentrates on excellence in its existing offerings. It does not quickly adopt innovations in the health care marketplace.
Hospital B (Analyzer)	This hospital offers a stable set of services to well-defined markets but also devotes resources to the development of promising services or markets. By monitoring other hospitals, it attempts to provide new services which are proven to be efficient and effective.
Hospital C (Prospector)	This hospital often modifies its services or markets. It consistently tries to be a leader in providing new services or developing new markets. It responds quickly to new market needs and opportunities.
Hospital D (Reactor)	At different times, this hospital operates like all three of the hospitals described above. Sometimes it will change only in response to external pressures and at other times it will adopt proven innovations or be the first to offer a new service.

* The labels (Defender, Analyzer, Prospector, and Reactor) were not included on the survey questionnaire.

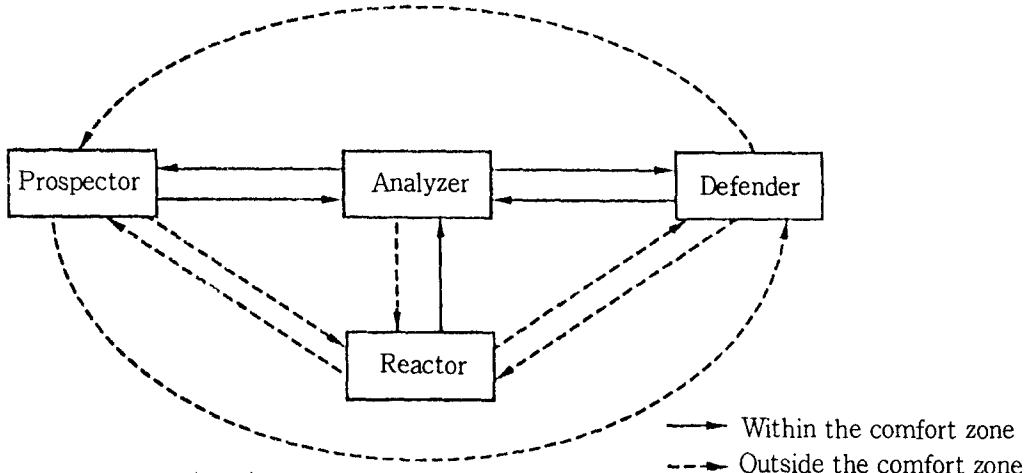
Hypothesis 2: Not all rural hospitals have changed their strategic orientation in response to the environmental shifts that have occurred in rural areas.

Shortell et al. (1990) also suggest that hospitals change their strategic orientation to adapt to shifting environmental conditions when they perceive the need for change and have the ability to change. Half of the hospitals they studied changed their strategic orientation between 1985 and 1987. Approximately 75% of the defender hospitals, which tended to be rural hospitals, changed their strategic orientation, with 75% of these hospitals becoming analyzers and 25% becoming reactors. Given the turbulence that exists in

many rural areas, it is expected that some rural hospitals will perceive the need for adopting a different strategic orientation to deal with the changing environmental conditions and will modify their orientation if they have the ability to do so. Other rural hospitals may be in more stable environments or may try to "weather the storm" by maintaining stability through their established traditional approaches.

Hypothesis 3: Rural hospitals which make strategic changes do so only within their strategic comfort zones.

Each organization has a strategic comfort zone within which organizational members both desire and feel able to adapt, given current mission and values, distinctive competences, technology, product and market mix, structure, management procedures and systems, and available human and financial resources (Shortell et al., 1990). As a result, organizations tend to change their strategic orientations only within this comfort zone (Figure 1). For example, hospitals with a defender orientation may change comfortably to an analyzer but not to a prospector or reactor orientation. Given that going outside the comfort zone requires dramatic changes in organizational culture (Shortell et all., 1990), rural hospitals that do change their strategic orientation are expected to do so in a manner compatible with their existing resource, knowledge, and skill bases.



Source : Shortell et al.(1990). p.37

〈Figure 1〉 The Strategic Comfort Zone Illustrated.

Hypothesis 4: Rural hospitals with different strategic orientations have different environmental and organizational characteristics.

Organizations adopt different strategic orientations based on perceived environmental conditions and ability to manage under those conditions. In addition, certain environmental conditions may favor specific strategic orientations. As a result, Shortell et al. (1990) found differences in the organizational and environmental characteristics of the four strategic archetypes. Defenders tended to be smaller, operate in less favorable environments, and have fewer slack resources. On the other hand, prospectors tended to be larger, have more slack resources, and operate in more competitive environments. Strategic orientation did not appear to be related to ownership. Given that rural hospitals are not homogeneous with respect to organizational and environmental characteristics, they are expected to adopt different strategic orientations, with similar rural hospitals in similar environments adopting the same orientations.

Hypothesis 5: Rural hospitals with different strategic orientations implement different strategic behaviors.

By definition, a strategic orientation is the common focus of an organization's strategies (Shortell et al., 1990). Thus, different orientations should reflect different strategic behaviors, as was found by Shortell and Zajac (1988). For example, prospectors were more likely than analyzers and analyzers were more likely than defenders to emphasize new service and market development and to offer a greater number of diversified services. Thus, it is expected that rural hospitals with different strategic orientations will also implement different strategic behaviors.

Hypothesis 6: Rural hospitals with different strategic orientations vary in their financial performance, with defenders performing poorer than the other three strategic archetypes.

The relationship between strategic orientation and financial performance can be examined from two perspectives. The first, addressed by the hypothesis above, is whether ther-

e is an association between a rural hospital's strategic orientation and its financial performance. An association may exist because either rural hospitals with different strategic orientations are equally viable in terms of their financial performance or rural hospitals at similar levels of financial performance adopt the same strategic orientations. Shortell et al. (1990) concluded that not all strategic orientations lead to the same performance levels, with defenders being outperformed by prospectors and analyzers on most of the key performance dimensions, including financial performance. They stated, however, that this was contrary to existing literature which suggest that the different strategic archetypes can be equally effective in a given environment. This previous literature assumes that a hospital has in fact selected a strategic orientation that is perfectly matched with its environment. Practically, this may not always be the case, particularly with rural hospitals which may have limited ability to continually adjust to changing environmental conditions.

Hypothesis 7: Rural hospitals with poor financial performance are not more likely to change their strategic orientations than rural hospitals with good financial performance.

A second perspective on the relationship between strategic orientation and financial performance is whether a rural hospital's financial performance translates into a change in strategic orientation. Past performance can not only be an important motivator for strategic change (Boeker, 1988), but also influence the ability to change through the generation of slack resources. According to Shortell et al. (1990), poor past performance should always result in the consideration of the need for fundamental strategic change. However, they did not find consistent performance differences between those hospitals that switched strategic orientations and those that did not, nor between those hospitals that changed orientations within their comfort zones and those that did not. Given these findings, there is no reason to expect poor past financial performance to result in strategic orientation changes among rural hospitals, particularly since rural hospitals may be limited in their ability to change orientations.

Ⅲ. METHODS

1. Sample

Data to examine the hypotheses were obtained from a national study of short-term community general hospitals located in non-metropolitan statistical areas (Catholic Health Association of the United States, 1990). The survey was conducted to examine the viability of rural hospitals and the strategic behaviors rural hospitals have adopted to maintain viability. An extensive questionnaire was mailed to the chief executive officers (CEOs) of all Catholic, all other religious not-for-profit, and all investor-owned rural hospitals as well as a 50 percent random sample of government and other not-for-profit rural hospitals. The questionnaire requested information on the perceived viability of the hospital, past and planned implementation of 80 specific strategies, strategic orientation and organizational role, and perceived opportunities, threats, and problems. A total of 640 usable questionnaires were returned for a 43% response rate. There were no significant differences in the organizational and environmental characteristics of responder and nonresponder hospitals.

2. Variables

1) Strategic Orientation

The CEOs from the 640 study hospitals indicated the type of hospital described in Table 1 that best reflected the operation of their hospitals two years ago (1987), currently (1989), and two years from now (1991). The validity of this measure of strategic orientation has been previously documented by Zajac and Shortell (1989). Change in orientation was determined by comparing the past, present, and future responses.

2) Strategic Behaviors

For each of the 80 strategies included in the mailed questionnaire, the CEOs indicated whether their hospitals undertook the activity before or since January 1, 1988, will undertake the activity in the next year, or have not undertaken the activity nor plan to undertake the activity in the future. To develop distinct, manageable components of strategic behaviors, the specific strategies were collapsed into 10 categories (See Appendix) using factor analytic techniques (Ludke and Newton, 1992). Due to the low frequency of occurrence of some strategies, the strategic behavior categories were formed using the 44 strategies listed in the Appendix.

3) Environmental Characteristics

Data on environmental characteristics were obtained from the 1988 Area Resource File (Office of Data Analysis and Management, 1988). The county within which a hospital was located served as the geographical area for describing the hospital's environment. The environmental characteristics included in this study were: percent change in population between 1976 and 1986; percent nonwhite persons in the population in 1984; percent of persons age 65 years or older in the population in 1984; number of births per 1,000 females age 15-44 years in 1984; number of low weight births (less than 2,500 grams) per 1,000 live births in 1985; infant mortality rate for the five year period 1981 to 1985; unemployment rate for persons age 16 and older in 1986; number of active non-federal doctors of medicine and doctors of osteopathy in 1987 per 10,000 persons; and, adjacency to a metropolitan statistical area.

4) Hospital Characteristics

Data on hospital characteristics were obtained from the American Hospital Association's 1987 Annual Survey of Hospitals (American Hospital Association, 1988). The organizational characteristics included in this study were: number of hospital beds set up and staffed; percent hospital occupancy; number of full-time equivalent hospital employees per occupied bed; percent of total hospital inpatient days that were Medicare days; percent

of total inpatient days that were Medicaid days; membership in a multihospital system; contract management; and ownership (government not-for-profit, nongovernment not-for-profit, and investor-owned for-profit). Only hospital facility data were included for those hospitals with attached nursing homes.

5) Financial Performance

Return on equity (ROE) was used as the indicator of financial performance in this study. ROE is defined as the excess of revenues over expenses divided by ending equity or fund balance and can be computed as follows (Cleverly, 1983):

$$ROE = \frac{(\text{Operating Margin}) \times (\text{Total Asset Turnover})}{(\text{1-Nonoperating Margin}) \times (\text{Equity Financing})}$$

Data on the hospital financial measures were obtained from the American Hospital Association's 1987 Annual Survey of Hospitals (American Hospital Association, 1988). Due to the confidential nature of these data, a written data release was requested from each of the 640 hospitals that responded to the mailed survey. A total of 517 hospitals granted permission for the AHA to release their data. Because of missing financial data for some of these hospitals, the ROE measure was calculated for 476 of the study hospitals.

After eliminating outlier ROE values greater than the 99 percentile and less than the one percentile, hospital financial performance was categorized into high, medium, and low. High performance hospitals consisted of those with ROE values greater than the 75 percentile of the trimmed distribution and low performance hospitals consisted of those with ROE values less than the 25 percentile. The remaining hospitals were classified as medium performers.

3. Analyses

One-way analyses of variance were conducted to test for significant differences among the four types of strategic orientation where mean values could be computed for the inde-

pendent variables. In the case of significant differences, post-hoc pairwise comparisons were performed using Tukey's studentized range test. Chi-square tests of independence were used to test for significant differences across the four strategic orientations in those cases where the independent variables were expressed in terms of proportions. Changes in strategic orientation from the past to the present and from the present to the future were tested for statistical significance using McNemar's test for the significance of changes (Siegel, 1956). Given the multiplicity of tests, a Bonferroni-type of adjustment to the significance level was made to retain the overall Type I error rate. This very conservative approach of dividing the proposed error rate (0.05) by the number of tests resulted in a test statistic being accepted as significant only if the p value was less than 0.001.

Ⅳ. RESULTS

1. Strategic orientation

As hypothesized, the defender orientation was the most common strategic orientation for the rural hospitals in the past, followed by the analyzer. More than one-third of the hospitals (36%) reported that they had a defender strategic orientation in 1987, whereas less than one-third (31%) were analyzers, and 25% were reactors (Table 2). However, the percent of defender hospitals decreased dramatically between 1987 and 1989, whereas the percentages of analyzer and reactor hospitals increased. As a result, the analyzer and reactor became the most prevalent strategic orientations; a finding different from other recent studies of health care organizations which found that analyzers and prospectors were the most popular (Ginn and McDaniel, 1987; Shortell et al., 1990). At the time of the survey (1989), an equal number of hospitals reported that they were analyzers or reactors (37%) and only 17% were defenders. In addition, only 10% of the hospitals reported that they intended to have a defender orientation in the future (1991), while 45% planned on

being reactors, 28% analyzers, and 18% prospectors.

2. Changes in Strategic Orientation

Overall, 38% of the rural hospitals in the study changed their strategic orientation between 1987 and 1989 (Table 2), with significant differences among the strategic orientations in the rates of change. The predominant change was away from the defender and towards the reactor orientation. Of the defender hospitals that changed their strategic orientation, 59% (78 divided by 132) became analyzers and 32% (42 divided by 132) adopted the reactor orientation. On the other hand, 88% (134 divided by 153) of the reactor hospitals maintained their past orientation.

At the time of the survey, one-third of the hospitals intended to change their present strategic orientation, shifting away from the defender and analyzer orientations and towa-

〈Table 2〉 Changes in Strategic Orientation From Past to Present and Present to Future

Orientation	Defender N (%)	Analyzer N (%)	Prospector N (%)	Reactor N (%)	Total N (%)	Change N (%)
Past			Present			
Defender*	92(41.1)	78(34.8)	12(5.4)	42(18.8)	224(36.1)	132(58.9)
Analyzer	7(3.6)	136(70.5)	11(5.7)	39(20.2)	193(31.1)	57(29.5)
Prospector	1(2.0)	8(15.7)	25(49.0)	17(33.3)	51(8.2)	26(51.0)
Reactor*	4(2.6)	9(5.9)	6(3.9)	134(87.6)	153(24.6)	19(12.4)
Total	104(16.7)	231(37.2)	54(8.7)	232(37.4)	621(100.0)	234(37.7)
Present			Future			
Defender*	56(53.3)	30(28.6)	5(4.8)	14(13.3)	105(16.8)	49(46.7)
Analyzer*	1(0.4)	134(57.5)	46(19.7)	52(22.3)	233(37.3)	99(42.4)
Prospector*	0(0.0)	2(3.6)	39(69.9)	15(26.8)	56(9.0)	17(30.4)
Reactor*	4(1.7)	6(2.6)	24(10.4)	197(85.3)	231(37.0)	34(14.7)
Total	61(9.8)	172(27.5)	114(18.2)	278(44.5)	625(100.0)	199(31.8)

* Significant at the 0. 001 level based on McNemar's test for the significance of changes

rds the prospector or reactor orientations. Approximately half (47%) of the defender hospitals planned to adopt a different strategic orientation in the future, with 61% (30 divided by 49) of these hospitals intending on becoming analyzers and 29% (14 divided by 49) reactors. Also, 42% of the analyzer hospitals intended to change orientations, with 46% (46 divided by 99) of these hospitals becoming prospectors and 53% (52 divided by 99) adopting the reactor orientation. On the other hand, only 30% of the prospector hospitals and 15% of the reactor hospitals planned on changing their present strategic orientation.

3. Strategic Comfort Zone

Unexpectedly, only 48% of the rural hospitals that switched their strategic orientations between 1987 and 1989 changed within their comfort zones (Table 3). Analyzers and prospectors were more likely than defenders and reactors to change their strategic orientations outside the comfort zone. Defenders were the least likely to change outside the comfort zone. Of the hospitals that planned to change their current strategic orientation in the future, only 43% intended to make the change within the comfort zone. The majority

〈Table 3〉 Change in Strategic Orientation From Past to Present and Present to Future Within and Outside the Comfort Zone by Past and Present Strategic Orientation.

	Defender N (%)	Analyzer N (%)	Prospector N (%)	Reactor N (%)	Total N (%)
Past to Present			Past*		
Within Zone	78(59.1)	18(31.6)	8(30.8)	9(47.4)	113(48.3)
Outside Zone	54(40.9)	39(68.4)	18(69.2)	10(52.6)	121(51.7)
Present to Future			Present**		
Within Zone	30(61.2)	47(47.5)	2(11.8)	6(17.6)	85(42.7)
Outside Zone	19(38.8)	52(52.5)	15(88.2)	28(82.4)	114(57.3)

* Chi-square test of independence significant at the 0. 001 level

** Chi-square test of independence significant at the 0. 0001 level

of defender hospitals (61%) and 48% of the analyzer hospitals intended to change within the comfort zone. On the other hand, prospectors and reactors intended to change outside the comfort zone, with the prospector hospitals planning on adopting the reactor orientation and the reactor hospitals intending on becoming prospectors.

4. Environmental Characteristics

As illustrated in Table 4, the number of physicians per 10,000 population was the only environmental characteristic examined in this study that varied significantly ($p<0.001$) among the past strategic orientations. Hospitals with a reactor orientation in the past tended to be located in areas with a greater number of physicians per capita than either the defender or analyzer hospitals. Adjacency to an MSA (Metropolitan Statistical Area), which may indicate a level of competition, population growth, and percent elderly population had no significant relationships to past strategic orientation.

5. Hospital Characteristics

With regard to hospital organizational characteristics, the four strategic orientation archetypes varied significantly ($p<0.001$) in terms of bed size and contract management (Table 4). Hospitals with a defender orientation in the past had significantly fewer set up and staffed inpatient beds than the other three archetypes. Also, analyzer hospitals were significantly smaller than reactor hospitals. Higher proportions of defender and analyzer hospitals were contract managed, with only 4% of prospector hospitals being under a management contract. The four strategic archetypes did not vary significantly in terms of membership in a multihospital system, percent Medicare and Medicaid patient days, and staffing levels.

Two other hospital characteristics were of marginal significance: percent occupancy and ownership. Defender hospitals had lower inpatient occupancy rates than analyzers or

reactor hospitals. In terms of ownership, 43% of government hospitals as well as 48% of investor-owned (for-profit) hospitals were defenders, as compared to 30% of non-government (not-for-profit) hospitals. Also, the rank order of strategic orientations by ownership

〈Table 4〉 Mean Environmental and Hospital Characteristics by Past Strategic Orientation (Standard Deviation in Parentheses)

Characteristic	Defender Mean (SD)	Analyzer Mean (SD)	Prospector Mean (SD)	Reactor Mean (SD)	P
Environmental					
% Pop. Change	7.3(16.6)	8.8(16.3)	7.0(15.6)	5.5(13.5)	0.2861
% Nonwhite Pop.	8.9(14.1)	8.9(14.7)	7.7(13.7)	5.6(11.3)	0.0954
% Pop. Age 65+	14.6(3.8)	14.7(3.8)	14.6(4.0)	14.6(3.5)	0.9922
Births /1000 Pop.	75.0(15.9)	73.2(14.7)	74.3(13.4)	70.1(11.8)	0.0135
Low Weight Births / 1000 Live Births	61.7(23.4)	62.3(23.1)	59.5(18.7)	55.9(18.9)	0.0357
Infant Mortality Rate	103.1(38.9)	102.0(38.0)	103.3(34.0)	94.7(31.2)	0.1349
Unemployment Rate	8.3(3.6)	8.1(4.1)	7.5(3.6)	7.3(2.8)	0.0304
Doctors /10,000 Pop.**	8.5(5.0)	9.3(5.7)	10.3(5.1)	11.4(7.3)	0.0001
Adjacency to MSA[a]	86(38.4)	71(37.2)	17(33.3)	66(43.4)	0.5250
Hospital					
% Occupancy*	45.9(18.8)	50.7(17.8)	47.9(15.6)	52.9(18.1)	0.0017
FTE Employees / Occupied Bed	4.9(2.3)	5.0(2.0)	5.3(2.2)	5.2(2.2)	0.3759
% Medicare Days	41.7(19.6)	43.9(16.6)	44.6(15.0)	43.6(16.2)	0.4927
% Medicaid Days	17.2(18.1)	15.1(15.8)	12.3(14.4)	14.3(16.1)	0.1691
# Staffed Beds**	54.8(46.7)	74.6(67.5)	85.7(56.5)	97.1(74.8)	0.0001
Multihospital System Member[a]	69(31.4)	68(36.0)	15(31.2)	48(32.0)	0.7630
Contract Managed**[a]	59(26.8)	48(25.4)	2(4.2)	21(14.1)	0.0000
Ownership*					0.0020
Government	97(42.7)	72(31.7)	12(5.3)	46(20.3)	227(100)
Non-Government	104(29.9)	107(30.7)	35(10.1)	102(29.3)	348(100)
Investor-Owned	23(47.9)	16(33.3)	4(8.3)	5(10.4)	48(100)

[a] Numbers represent the number and percent of hospitals rather than mean and standard deviation

* $p<0.001$, ** $p<0.0001$

is somewhat different from that of Shortell et al. (1990), who argue that the rank order of strategic orientations was the same for both non-for-profit and for-profit hospitals, i.e., analyzer followed by prospector, reactor, and defender.

6. Strategic Behaviors

There were significant differences ($p<0.001$) among the four strategic archetypes in terms of strategic behaviors. Defenders implemented on average only 46% of the strategies included in the survey as compared to 56% for prospectors, 52% for reactors, and 50% for analyzers. Significant differences existed among the four strategic orientation archetypes for two of the 10 strategic behaviors (Table 5). On average, defenders were much less likely to implement internal operations-related strategies, such as 'to initiate a nurse retention program' (51%), 'to implement or increase strategic planning' (74%), and 'to improve their utilization review programs' (79%), than either the prospectors (82%, 90%, and 90%, respectively) or reactors (69%, 84%, and 94%, respectively). Similarly, defenders were much less likely to diversify through strategies such as 'establishing a mobile clinic' (24%) and 'undertaking joint ventures with other hospitals' (18%) than either prospectors (29% and 39%, respectively) or reactors (40% and 31%, respectively). The four strategic archetypes did not vary in terms of their implementation of 'organizational restructuring', 'benefit reduction', or 'charity care' related strategies.

Although of only marginal significance, defenders on average were less active in 'physician recruitment' than prospectors and reactors, particularly in terms of recruiting physicians in the area of orthopedics (33% versus 59% and 53% respectively), and 'establishing satellite clinics' (33% versus 63% and 56% respectively). Defenders were also less likely than prospectors to increase benefits for employees, particularly full-time employees (62% versus 88%).

〈Table 5〉 Mean Number of Implemented Strategic Behaviors by Past Strategic Orientation (Standard Deviation in Parentheses)

Strategic Behavior[a]	Defender N (SD)	Analyzer N (SD)	Prospector N (SD)	Reactor N (SD)	P
Capital Expenditures(6)	2.1(1.9)	2.7(2.0)	2.6(2.1)	2.5(2.2)	0.0137
Internal Operations(7)**	5.3(1.6)	5.7(1.4)	6.1(1.2)	6.0(1.2)	0.0001
Diversification (4)**	1.3(1.3)	1.6(1.4)	2.1(1.6)	2.0(1.4)	0.0001
Benefit Enhancement (2)*	1.2(0.9)	1.4(0.9)	1.6(0.7)	1.3(0.9)	0.0049
Benefit Reduction (2)	0.2(0.6)	0.1(0.5)	0.2(0.6)	0.2(0.6)	0.6129
Physician Recruitment (7)*	3.9(1.7)	4.2(1.8)	4.7(1.8)	4.5(1.9)	0.0021
Miscellaneous (6)	2.0(1.4)	1.8(1.4)	2.5(1.8)	1.9(1.5)	0.0109
Charity Care (2)	0.5(0.9)	0.6(0.9)	0.9(1.1)	0.6(0.9)	0.1348
Organizational Restructuring (3)	0.8(1.0)	0.8(0.8)	0.9(1.1)	0.9(1.0)	0.6638
Staffing (4)	2.8(1.0)	3.0(1.0)	3.1(0.8)	3.1(1.0)	0.0438
Total	20.1(45.7)	21.9(49.8)	24.7(56.1)	23.0(52.3)	0.0438

[a] Number of individual strategies within each strategic behavior category
* $p<0.005$, ** $p<0.0001$

7. Financial Performance

As illustrated in Table 6, the four strategic orientation archetypes differed in terms of their past financial performance, but not at the 0.001 significance level. As expected, defenders appear to have the poorest financial performance, with reactors and prospectors having the best performance. Approximately 36% of defenders in 1987 had low financial performance at that time as compared to 13% of prospectors and 19% of analyzers and reactors. On the other hand, 30% of reactors and 27% of analyzers had high financial performance as compared to 19% of defenders and 23% of prospectors. Prospectors had the

highest percentage of hospitals at the medium level of financial performance, followed by analyzers, reactors, and defenders.

〈Table 6〉 Past Strategic Orientation by Level of Past Financial Performance

Financial Performance	Defender N (%)	Analyzer N (%)	Prospector N (%)	Reactor N (%)	Total N (%)
High	31(19.4)	41(27.0)	9(23.1)	37(29.6)	118(24.8)
Medium	71(44.4)	82(53.9)	25(64.1)	64(51.2)	242(50.8)
Low	58(36.2)	29(19.1)	5(12.8)	24(19.2)	116(24.4)
Total	160(100.0)	152(100.0)	39(100.0)	125(100.0)	476(100.0)

Chi-square test of independence significant at the 0.002 level

Change in strategic orientation was no significantly related to the level of past financial performance, although a slightly higher percentage of low performance hospitals changed orientation in comparison to medium and high performance hospitals (Table 7). The only indications of a relationship between past financial performance and change in strategic orientation appear to exist for the reactor and prospector orientations, with greater percentages of these hospitals changing orientation as financial performance decreases.

Within level of past financial performance, there appears to be a relationship between past strategic orientation and change in orientation, particularly for the medium and high

〈Table 7〉 Number and Percent of Hospitals That Changed Strategic Orientation by Past Strategic Orientation and Level of Past Financial Performance

Financial Performance	Defender N[a] (%)	Analyzer N (%)	Prospector N (%)	Reactor N (%)	Total N (%)
High	19/31(61.3)	15/41(36.6)	3/9(33.3)	2/37(5.4)	39/118(33.0)
Medium	42/71(59.2)	23/82(28.4)	10/25(40.0)	10/64(15.6)	85/242(35.3)
Low	32/58(55.2)	11/29(39.3)	3/5(60.0)	5/24(20.80)	51/116(44.4)
Total	93/160(58.1)	49/152(32.7)	16/39(41.0)	17/125(13.6)	175/476(36.9)

[a] denominator : number of hospitals by past strategic orientation
nominator : number of hospitals that changed strategic orientation

performance hospitals (Table 7). Defenders were more likely to change orientation than the other hospitals and reactors were the least likely to change. The most common changes for the defender were to the analyzer and reactor orientations, as discussed previously. For the low performance hospitals, there was no significant relationship between past strategic orientation and change in orientation.

V. DISCUSSION

In the past, rural hospitals tended to concentrate on offering a stable set of services to well-defined markets, devoting slack resources either to maintain and enhance the excellence of those services (defender orientation) or to develop new markets and services proven to be efficient and effective (analyzer orientation). As hypothesized, the defender was the most common orientation among rural hospitals, but only for slightly more than one-third of the hospitals. Less than one-third adopted the analyzer orientation, and the remaining one-third focused on either being a leader in providing new services and developing new markets (prospector orientation) or operation without a coherent strategy (reactor orientation).

However, the study results suggest dramatic changes in the strategic orientation of some rural hospitals. Approximately 38% of the hospitals surveyed reported that they had changed their strategic orientation between 1987 and 1989 and 32% planned to change the orientation they had in 1989. The predominant change is away from the defender orientation and toward the reactor orientation. In the future, only 10% of the hospitals planned on having a defender orientation and 44% intended to be reactors. This dramatic shift toward the reactor orientation suggests a degree of uncertainty and possible confusion regarding appropriate strategic directions. In light of the uncertainties associated with the economic status of rural areas as well as with other factors such as federal regulations and third-party payment policies, hospitals may perceive that their viability depends on adopting

the flexible, transitory strategic position of the reactor. However, reactors can be viewed as not having a coherent strategy, which may be useful in the short-run but does not help the organization achieve a long-run sustainable competitive advantage or identity.

As hypothesized, not all rural hospitals have changed nor intend to change their strategic orientation. Rural hospitals with a reactor or analyzer orientation in the past as well as those which currently have a reactor or prospector orientation appear most reluctant to change orientations. Reactors may be reluctant to change due to uncertainties regarding appropriate strategic decisions or desire to maintain flexibility in their strategic orientation. Prospectors, like analyzers in the past, may perceive that they have achieved a degree of fit between their strategic activities and their environmental conditions that is resulting in a satisfactory level of performance.

There is lack of support for the hypothesis that rural hospitals that change their strategic orientation do so within their comfort zone. Less than one-half of the hospitals that changed orientation in the past did so within their comfort zone and slightly more than 40% intend to do so in the future. The primary reason for these findings is the shift towards the reactor orientation. As illustrated in Figure 1, changing to the reactor orientation from any of the other strategic orientations is considered to be outside an organization's comfort zone. If the comfort zone theory is correct, these findings raise questions regarding whether hospitals adopting the reactor orientation have the necessary knowledge, skill, and resource bases to successfully manage this strategic orientation. On the other hand, the theory underlying the concept of comfort zones may be inadequate, requiring further clarification and study.

Unexpectedly, the environmental and organizational characteristics examined in this study did not appear to have a major influence on the strategic orientation adopted by a rural hospital. Number of physicians per 10,000 population was the only significant environmental variable, suggesting the importance of physician resources to the strategic direction of rural hospitals. When the number of physicians is relatively small, hospitals may have to focus on a stable set of services to well-defined markets via the defender

orientation because they lack the physician resources to develop new services and expand into new markets. On the other hand, larger numbers of physicians may permit more aggressive strategic positions under a prospector orientation or more flexibility under a reactor orientation.

Bed size and contract management were the only significant organizational characteristics. Consistent with the findings of Shortell et al. (1990), reactors had the largest number of beds, followed by prospectors, analyzers, and defenders. Larger institutions may have more slack resources available to support more aggressive or more flexible strategic orientations. Given that relatively high percentages of defender and analyzer hospitals and almost none of the prospector hospitals were contract managed, it is uncertain whether contract management results in a particular strategic orientation where hospitals concentrate on providing a stable set of services to well-defined markets or that hospitals with defender and analyzer orientations lend themselves to contract management.

Although not significant at the 0. 001 level, two other hospital characteristics, percent occupancy and ownership, were moderately significant ($p \leq 0.002$). Defender hospitals had lower occupancy rates than analyzer and reactor hospitals, suggesting poorer performance on the part of defender hospitals. Either their focus on a stable set of services is not generating sufficient volume relative to their capacity or the low volume does not generate sufficient levels of slack resources to permit diversification of services.

Almost half (43%) of the defender hospitals were government hospitals. Prospector and reactor hospitals were more likely to be non-government, not-for-profit hospitals than analyzer and defender hospitals. Although this finding is inconsistent with those of Shortell et al. (1990) who found no relationship between ownership and strategic orientation, type of ownership, and possibly the associated governance structure, may influence strategic orientation.

There appears to be conflicting support for the hypothesis that rural hospitals with different strategic orientations will adopt different strategies. As expected, prospectors were significantly more active strategically than defenders. However, the four strategic archet-

ypes differed significantly in terms of only two of the 10 strategic behavior categories examined in this study. As expected, defender hospitals were much less likely to implement diversification and internal operations strategies related to nurse retention, strategic planning, and utilization review than the prospector and reactor hospitals. These results are consistent with those of Shortell et al. (1990) who found that defender hospitals were less likely than prospectors and reactors to make changes in their sets of services and markets, to be involved in joint ventures with physicians, to have an organized quality assurance department, and to have high quality strategic planning and control systems. The lack of substantial differences in strategic behaviors among the four archetypes suggests that in light of the environmental pressures to contain costs and become more competitive, hospitals may be implementing strategies to survive and prosper regardless of orientation. This raises the question whether hospitals have the necessary resources to evaluate the appropriateness and potential effectiveness of various strategic options relative to their local environments, community needs, and available resources.

As hypothesized, defender hospitals appear to have poorer financial performance than the other three strategic archetypes. This finding is consistent with those of Shortell et al. (1990). who suggested that part of the reason for the poorer financial performance of defender hospitals is their weak strategic planning control systems and their slowness to recognize the need to actively manage costs and implement tough cost-cutting measures. The lack of significant differences in financial performance at least among the analyzer, prospector, and reactor hospitals does provide support for previous work suggesting that different strategic orientations can be equally effective in their given environments, particularly if the orientation is well-matched to the environment.

The study results failed to reveal a strong relationship between financial performance and change in strategic orientation, which is consistent with the findings of Shortell et al. (1990). Given that the only indications of a relationship appear to exist for the reactor and prospector orientations, past financial performance may result in a change in orientation only when the hospitals have the ability to change. Hospitals such as reactors and

prospectors who are more change-oriented and possibly have greater slack resources may be positioned more favorably to respond to pressures for change exerted by poor financial performance than defender or analyzer hospitals.

Overall, the results of this study are not consistently in agreement with those reported by Shortell et al. (1990) regarding hospital systems. A major area of disagreement pertains to the type of strategic orientation rural hospitals are moving towards (reactor) and the inconsistency of doing so in light of the theoretical comfort zone concept. As a result, the study findings raise some interesting questions regarding the strategic orientation of rural hospitals that need further investigation to better understand how rural hospitals adapt to changing environmental conditions and how that change process can occur in the most appropriate strategic direction to pursue in order to maintain and enhance their overall performance and viability in the future? What needs to be done to ensure that rural hospitals do not adopt inappropriate short-term strategies that may result in future deterioration of the rural health care delivery system? How and why does a rural hospital develop a particular strategic orientation and is the orientation related more to the characteristics of management and governance than to its environmental and hospital characteristics? Do rural hospitals have the necessary knowledge, skill, and resource bases to effectively manage their strategic orientations; identify the need, direction, and timing for change in orientation; and make appropriate changes in their orientation? Do hospitals have the necessary knowledge, skill, and resource bases to evaluate, select, and implement appropriate strategic behaviors or are hospitals implementing strategic behaviors because it is "faddish" to do so with the expectation that any type of strategic implementation will facilitate institutional survival?

Ⅵ. IMPLICATIONS FOR KOREAN RURAL HOSPITALS

In recent years, Korean rural hospitals are also facing a turbulent environment like those

in the United States. Rapid decrease of rural populations, economic deterioration of rural areas, demographic shifts towards older and poorer rural populations, shortages of essential human resources to deliver health care services, inadequate reimbursement system by third party payers, and poor quality of management strategy have all had negative effects on the viability of Korean rural hospitals. During the two year period between 1993 and 1994, more than 98% of Korean rural hospitals had negative operating margins (KIHM, 1994, 1995). Given that Korean rural hospitals are surrounded by the unfavorable environment, their survival may significantly depend on the implimentation of the successful management strategy. Although there is no report available on the strategic orientations and behaviors of Korean rural hospitals, a recent study on the strategic orientation of Korean hospitals shows that they are shifting their strategic orientations from defenders in the past to analyzers in the present, and to prospectors in the future (Table 8) (Moon and Lee, p. 45, 1995). We can infer from the result that most Korean rural hospitals have adopted defender-type strategic orientation in the past. In other words, most Korean rural hospitals were more likely to offer a stable set of services to well-defined markets and not quickly adopt innovations in the health care marketplace. As mentioned before, any type of strategic orientation may have competitive advantage in its own environment. That means it is so important for Korean rural hospitals to adopt most appropriate strategic orientations behaviors through the in-depth analysis of internal ability to change as well as of external environment.

〈Table 8〉 Strategic Orientation of Korean Hospitals

Time /Orientation	Defender N (%)	Analyzer N (%)	Prospector N (%)	Reactor N (%)	Total N (%)
Past (1990)	49 (61.3)	17 (21.3)	7 (8.8)	7 (8.8)	80 (100.0)
Present(1994)	21 (24.4)	48 (55.8)	10 (11.6)	7 (8.1)	86 (100.0)
Future (2000)	6 (7.3)	27 (32.9)	37 (45.1)	12 (14.6)	82 (100.0)

Source : Moon, OK, & Lee, KH, Management Strategy of Korean Hospitals, p. 45, 1995 Korean Hospital Association

Underlying all the lessons and implications for sustaining a competitive advantage in a turbulent environment is the need for strategic leadership by hospital top executives, administrators, physicians, and nurse leaders. By strategic leadership, we mean the ability of these groups to work together to adopt the appropriate strategic orientation and behaviors of their own hospitals.

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