To the Graduate Council:

I am submitting herewith a dissertation written by Michael William Pitts entitled "An Examination of the Effect of Strategic Management on Performance in Selected Virginia Not-for-Profit Hospitals." I have examined the final copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Business Administration.

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AN EXAMINATION OF THE EFFECT OF STRATEGIC MANAGEMENT ON PERFORMANCE IN SELECTED VIRGINIA NOT-FOR-PROFIT HOSPITALS

A Dissertation

Presented For The

Doctor of Business Administration

Degree

The University of Tennessee, Knoxville

Michael William Pitts

December 1984

DEDICATION

To my family, for they are the soul behind the writer.

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ABSTRACT

Strategic management has been shown as improving organizational performance. However, no empirical research has assessed the impact of strategic management on the performance of nongovernment, not-for-profit community hospitals, a category with more than 3,000 institutions.

Using a sample of 34 Virginia, not-for-profit hospitals, the intensity of the components of strategic management (strategic planning and strategic implementation) was determined for each hospital. Mail questionnaire data in 1979 and 1983 was used to develop a longitudinal strategic planning score for 22 hospitals. A contemporaneous strategic implementation score was derived from interviews held at all 34 hospitals in late 1983 and early 1984.

Three theoretical and 15 operational hypotheses on the relationship between the strategic management components and the percentage change in five performance measures were tested through the usage of multivariate analysis of variance and cross-lagged correlation techniques.

Descriptive data identified few intensive strategic planners or strategic implementers. Statistical tests revealed that the hypothesized relationships were supported only for intensive strategic planning and its impact on longitudinal changes in performance for the dependent

variables of personnel per occupied bed, total expenses per occupied bed, personnel expenses per occupied bed, and relative market share. Hospital location (urban versus rural) was shown to have acted as a moderating variable. For three of the dependent variables, cross-lagged correlation analysis exhibited reverse causality in that performance changes were antecedent to changes in strategic planning intensity.

It was concluded for the majority of hospitals that form, not substance, was the nature of increased strategic planning. Strategic implementation was found to have received less emphasis than strategic planning. From these findings a prescriptive model was built for practitioners in order to improve the quality of their strategic management process.

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CHAPTER 1

INTRODUCTION

> There's a revolution coming in hospitals. It will be a very uncertain time until the dust settles and we know where we are.
>
> Dr. Arnold Relman
> ("Soaring hospital costs," 1983)

The decade of the 1980's presents a challenge for America's hospital system that has rarely been faced in the past. The more stable era of the 1940's and the 1950's, where adding new facilities was the major concern (McNair, 1982), has yielded to a complex environment where coping with regulatory actions, controlling costs, securing funding, and providing adequate service levels have taken precedence.

Changes in the structure of the industry, such as alternate forms of health care and increased competition, have many hospitals questioning not only their future position but also their basic survivability ("No More Business As Usual," 1982). In the not-for-profit (NFP) segment of the hospital industry, these changes are having a profound effect. Due to its basic voluntary nature, the NFP hospital faces added difficulty in acquiring resources and in repositioning itself in order to meet these environmental challenges. Because of these challenges, the question of survival is being placed in front of the controlling

management of nearly one-third of the U.S. hospital industry population (Teitelman, 1984). Other types of organizations facing environmental change often increase the effort devoted to the development and implementation of strategic plans (Kandwalla, 1976; Lindsay and Rue, 1980). Hospitals seem to have done the same (Theime, Wilson, and Long, 1981). Questions remain about the impact of the strategic management process in NFP hospitals. The purpose of this study is to examine the impact of strategic planning and implementation on hospital performance. This chapter will first discuss the problems facing NFP hospitals, then elaborate on the purpose, objectives, and significance of the research.

Problem Statement

The NFP hospital faces a problem of adapting itself to an increasingly turbulent environment. This adaptability is important since it is generally felt that this situation will be more imposing as time passes.

Today's NFP hospital faces a host of external and internal environmental factors. The four most relevant factors are:

1. Inflation. The 1982 (annualized) inflation rate for the medical industry showed an increase of 11.6 percent in the total medical care component versus only a 3.9 percent increase in the general consumer price index (CPI),

while some factors, such as hospital room charges, increased in excess of 20 percent (Hospital Statistics, 1983).

The projections in this area offer little relief from the growth in hospital expenses. Forecasters are projecting a 16-18 percent per year growth in expenses for the future ("Editorial," 1982). In comparison, the CPI for 1984-1986 is projected to increase by four to six percent annually (Value Line, 1984). For comparative purposes (see Figure 1.1), a ten-year review of total hospital inpatient expenses (unadjusted for inflation) shows that expenses increased slightly over 227 percent, while the overall CPI increased only 112.2 percent (Statistical Abstract of the United States, 1982).

2. Regulation. The NFP hospital operates under four governmental spheres of control. These range from the federal level (Congress) to the appropriate local governing body. Figure 1.2 indicates the various influences that act upon the planning process in an NFP hospital.

The regulatory focus today is aimed more towards competition. The Reagan Administration feels that competition is one means by which spiraling health costs can be controlled. At the Ninety-Seventh Congress, four major procompetition bills were introduced (Somers, 1982).

Despite this apparent move toward competition, some feel that even more regulation may occur in the future.

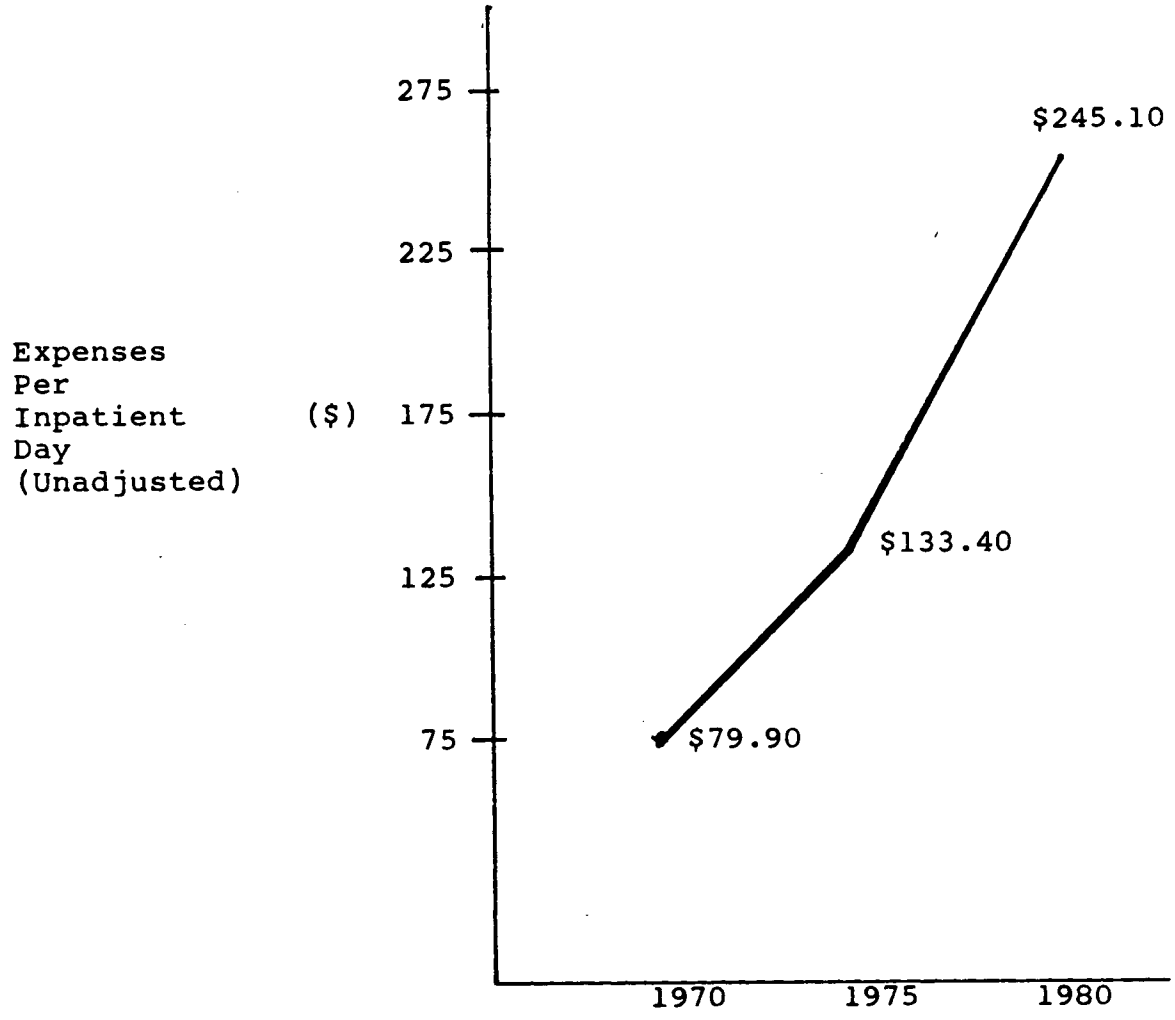


Figure 1.1

Total Hospital Expenses ($) per Inpatient Day (Unadjusted for Inflation) 1970-1980.

Source: American Hospital Association, American Hospital Association Guide to the Health Care Field, 1981 edition, Chicago, p. A11.

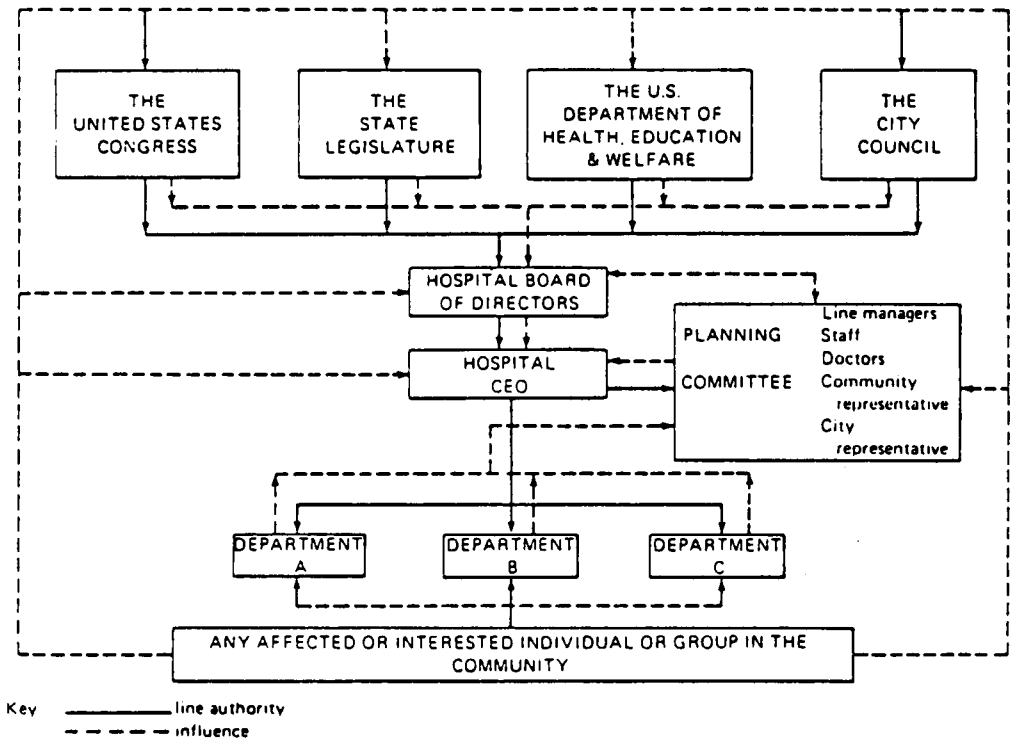


Figure 1.2

Influences on the Planning Process in a Metropolitan NFP Hospital

Source: George A. Steiner, John B. Miner, and Edmund R. Gray, Management Policy and Strategy. 2nd edition. New York: Macmillan Publishing, Inc., 1982, p. 523.

Allen Manzano, Senior Vice-President of the American Hospital Association (AHA) stated that, "We may end up with a system that compounds a competition/consumer choice element, a federal regulatory element, and a state regulatory element" ("Competition may still take a back seat," 1982, p. 53). He felt that the 1983 federal budget held even more problems for hospitals due to budget cuts and program restructuring.

3. Financing. The regulatory process has also threatened the basic long-term survival of the NFP hospital. Passage of the Omnibus Reconciliation Act in 1981 led to federally mandated cuts in Medicaid ("No More Business as Usual," 1982). This act, along with the Social Security Amendments of 1983, have placed an increased emphasis on hospital efficiency through the use of cost control and fixed-reimbursement programs (Pitts, 1984).

Under the Social Security Amendments, payment for Medicare services will be based on a system of diagnosis related groups (DRG's) which establishes a fixed-sum reimbursement plan. Under any listed reimbursement (there are 468 DRG's), the hospital will receive a payment based on the severity of illness, type of hospital, and geographic operating region ("Soaring Hospital Costs," 1983). If the treatment costs less than the reimbursement, the hospital can keep the difference. Any costs in excess of the listed

reimbursement will result in a financial loss for the hospital. These "overruns" cannot be billed to the patient at a later date.

DRG's reward efficiency. This poses serious problems for those hospitals having inadequate cost-control and budgeting systems. Potential losses from DRG's may threaten hospital survival. This comes at a time when hospital bond ratings are worsening, and a projected 190 billion dollars will be required for future capital outlays (Harris, 1982).

Hospitals will have some lead time for adjusting to DRG's. The program will be phased in by equal increments starting in 1984. By fiscal year 1987, uniform rates will have been established based on national standards for various categories of hospitals (Davis, 1983).

It is possible that many hospitals (especially NFP's) will find borrowing increasingly difficult. A lack of borrowing power, plus the necessity to show a rate of return of approximately 11 percent for survival (McNair, 1982), may place large numbers of hospitals near insolvency. Seventy-three hospitals (slightly in excess of one percent of all hospitals) have closed since 1979, possibly due to financial pressures (Hospital Statistics, 1983).

4. Competition from Investor-Owned Chains. Groner (1979) noted that the investor-owned hospital has a decided advantage in the ability to preserve, accumulate, and

attract capital resources. This has been accredited to advanced planning, flexibility, speed of actions, and good site selection (locating only in those rural areas needing health care systems and avoiding those states having tight Blue Cross cost-reimbursement plans).

One example of an investor-owned chain is the Hospital Corporation of America (HCA) which had revenues in excess of three billion dollars in 1983 (Standard and Poor's Industry Surveys, 1982). This figure is expected to exceed five billion dollars by early 1985, a growth of approximately 60 percent in just over a single fiscal year. HCA and other investor-owned chains control around ten percent of the nation's 7000 hospitals, representing close to a sixteen billion dollar segment of the health care industry. These chains also managed, under contract, approximately 450 hospitals as of 1981 ("Prospective Payments," 1983).

The investor-owned NFP holdings are concentrated within the under-300 bed category. This category represents close to 75 percent of all NFP's, yet nearly 95 percent of the investor-owned hospitals (Hospital Statistics, 1983).

The industry also appears to be consolidating with the number of independently owned profit-making hospitals falling from 689 to 482 over the years 1973 to 1980 ("Proprietary Hospitals Boom," 1982).

Strategic Management as a Response to Environmental Change

Given these factors (plus others such as public criticism), managers of NFP hospitals have begun to question their future. A recent editorial stated:

> The word survival has been thrown around fairly loosely in the health care field in recent years, as reduction in funding and other restrictions have been proposed or enacted in many states and localities. The phrase "financially distressed hospitals" has crept into our lexicon. . . .
> At the core of it all is the hospital, which is faced with an unappetizing set of moral and fiscal choices. To do everything for everybody, as many hospitals have tried to do, is not only difficult; it's impossible to accomplish without considering bankruptcy. . . . Hospitals did not necessarily ask to be placed in this pivotal position, but there they are, and there they are likely to remain, for the better part of the next decade ("No More Business as Usual," 1982).

The NFP hospital faces a dual challenge in the next decade, namely: (1) how to achieve long-run survival in light of the aforementioned environmental factors, and (2) how to balance the conflicting aims of the various stakeholders (for example, government, the general public, hospital staff, etc.) making demands upon the hospital.

Mawbry put this eloquently when he stated:

> [T]hey [the health care institution] cannot view themselves simply as places physicians practice with the latest equipment and technology on acute illness . . . it requires the larger view; recognizing the nature of human health needs and both realizing existing resources and generating new resources and systems (1973, p. 34).

Thus the challenge facing the controlling management is the ability to move beyond short-range (tactical) planning

to longer-range (strategic) planning. A few recent studies point out various researchers' efforts to measure whether hospitals have indeed attempted to become more strategically oriented.

Using fifteen community, general hospitals in Missouri, Mankin and Glueck (1977) found that the majority of these hospitals did a poor job of planning. They found that form, not substance, appeared to be a primary factor in generating a planning document, and that when developed, the strategies were formulated in vague and general terms.

Bander (1980) found that of ten urban, voluntary, non-profit teaching hospitals, only two were actively pursuing strategic planning. The remaining institutions followed one to three year planning cycles that ranged from highly formalized to rather ad hoc in nature.

Finally, Breindel (1980) examined the planning process at seventy-one Virginia hospitals. Although he found that planning had increased in scope since public planning became law in 1975, only four hospitals (as of 1979) had a formal planning department. Only one NFP hospital of 54 had a board-approved plan.

These studies are somewhat disturbing in light of the recent call for strategic planning in the health care literature (Thieme, Wilson, and Long, 1981; Deegan, 1982). However, the vast majority of discussions in the literature

are of the "armchair" type where either conceptual arguments are advanced or prescriptive ideas are generated.

Purposes of the Study

The purposes of this study were threefold: (1) to gather and analyze information, both published and unpublished, about the nature of strategic management in the NFP segment of the American hospital industry; (2) to evaluate the effect of strategic management on performance within selected Virginia NFP hospitals; and (3) to offer a prescriptive model for practitioners to use in their planning efforts in order to improve hospital performance.

Objectives of the Study

The study had four objectives: (1) to examine the strategic management process in selected NFP hospitals; (2) to determine the locus of responsibility for planning function; (3) to determine the effect of strategic planning and strategic implementation on certain measures of performance in NFP hospitals; and (4) to offer a prescriptive model based on the findings of the study.

Significance of the Study

This study is significant to a variety of fields and subparts of those fields. These areas are as follows:

Strategic Management--The study is useful in extending the concept of strategic management to organizations that

operate under different goal structures, different environmental pressures, and different leadership styles. The research should demonstrate to NFP managers how planning principles are transferable in nature, and whether NFP managers can borrow concepts from profit-oriented entities. This follows Newman and Wallender's (1978) suggestion that basic management concepts should be applied to both profit and not-for-profit organizations.

Since most NFP hospitals appear to be in the formulative phase of strategic management (for more detailed discussion see Chapter 2), this research will provide an extension of the current base of knowledge in this area. The research also allows for an examination as to whether different types of organizations can (and should) operate under a strategic management system.

Managers and Executives--As for practitioners, the study will be highly useful by helping these people to further their understanding of the strategic management process. The research would also aid this group in evaluating their commitment to funding and developing a formal strategic management system--especially in light of its potential effectiveness.

Academics--In the academic area, the findings can be used to develop a more comprehensive base of knowledge by

extending academicians understanding of strategic management into an area that has been virtually barren in terms of research on strategic management's effectiveness. A starting point for furthering empirical research into the NFP segment would also be provided. From the various extensions of our base of knowledge, the study would allow academicians to educate future planners, administrators, and other operating personnel of hospital systems. The research would also be of value in cross-disciplinary work between management schools and hospital administration programs.

Students--Students would be enriched by examining a dynamic subject that is just beginning to be utilized in another organizational setting. The study would allow students to examine the complexities of this adaptation. This exposure could possibly redirect or broaden a student's career interests.

CHAPTER 2

STRATEGIC MANAGEMENT IN HOSPITALS

The purpose of this chapter is to examine the literature concerning the strategic management process in American hospitals. The chapter will first provide an historical overview of the hospital and early planning efforts. The chapter will then examine specific prescriptive and descriptive research dealing with strategic management in hospitals.

HOSPITAL PLANNING--A HISTORICAL OVERVIEW

Early Planning Efforts

Hospital planning as an organized, goal-oriented activity is primarily a phenomenon of this century. During the 1800's, and the early 1900's, most hospitals were organized as institutions devoted to caring for the sick, the poor, and the homeless. The public perception was that hospitals were primarily places for dying, and not places for recovering. Based on this premise, few physicians treated private patients at a hospital, and few utilized hospitals as centers for advancing medical knowledge. Apparently hospitals had little need for formalized long-range planning efforts.

Perceptions began to change after advancements were made in anesthesiology and antiseptic surgery in the late

nineteenth century. Upon the refinement of the processes, hospitals were viewed more as centers for improving "wellness," and as centers for physician-related activities.

The early planning efforts remained fairly dormant until 1918, when the American College of Surgeons attempted to standardize patient care. MacEachern (1962) reported that only 89 hospitals (out of approximately 4500) could meet the minimum standards set by the ACS. Hospitals were then forced to adopt a goal of providing quality patient care. This is a goal that is still discussed today ("Topic 3: Long Range Planning," 1978).

In 1921, planning became more focused in nature. In what is considered the landmark attempt at community-based planning, the New York Academy of Medicine attempted to examine the question of local bed needs. However, there is no record of organized planning by any individual hospital in this time period (Berger, 1981).

This effort was duplicated by other agencies in Chicago, St. Louis, and Detroit. Most of these studies were directed primarily at raising money for new hospital construction since the government did not offer direct financial assistance for such projects (Berger, 1981). These efforts were apparently in keeping with the general orientation towards growth in the 1920's. Documents show that these expansion efforts were apparently haphazard in that

they had not taken into account the actual need for new facilities ("Two Decades of Partnership," 1966). Snook (1981) found that a majority of early planning was done at a system-wide level with little input from individual facilities, thus leading to a problem of coordination.

Some people during this period were farsighted in their call for better planning. Goldwater (1947) stated that building programs should be tied directly to needs and that this should be a future-directed process.

Post World War II

From the late 1920's until the end of World War II, hospital construction was virtually non-existent (Berger, 1981). In 1944, a study by the Commission on Hospital Care showed that a deficit of 195,000 hospital beds existed within the U.S. (U.S. Department of Health, Education and Welfare, 1966). Due primarily to this survey, the Hill-Burton Act was signed into law in 1946. This law marked a change in the underlying nature of hospital planning because energies were channeled from individual philanthropic efforts to those of direct governmental intervention (Snook, 1981). Hill-Burton provided the vehicle for developing state hospital planning councils that were used to assess construction needs and the plans for meeting these needs. In this respect, the Act was operating primarily as a capital construction program aimed at equalizing hospital

resources between urban and rural areas by utilizing direct federal subsidies. After this program became established, a 38 percent increase in hospital beds occurred (Berger, 1981).

Hill-Burton was a "success" only in terms of increasing nationwide bed capacity. Berger (1981) found that it contributed only slightly to linking the individual hospital with local voluntary health planning activities.

In the period after this Act was passed, little was added to the planning requirements or to the planning process itself as carried out by individual hospitals. The primary emphasis of the 1950's was one of facilities planning and adjustment to new additions in capacity.

An example of this emphasis can be found in Yurchenco and Glover (1950) who discussed the "new" dimensions of hospital planning by including facility problems such as how to lay out a bathroom.

Not until the late 1950's did the idea of developing strategic long-range planning programs appear. In 1959, the American Hospital Association called for the development of master plans that were based on an assessment of institutional objectives, community needs, and projected future requirements (Manual of Hospital Planning Procedures, 1959). After this call for a more formalized attempt only a small amount of planning appears to have actually been done. The focus in the early 1960's was more on helping local health

planning agencies in developing studies of local needs (Berger, 1981). This accomplished a growth of new voluntary local health planning agencies but did not foster the AHA's desire for more institutional planning of a long-range nature. This lack of a sense of urgency in developing long-range plans may be due to the general period of growth that our economy was experiencing and the need for expanding health care into rural areas (Thieme, Wilson, and Long, 1981). Vraciu and Griffith stated that the 1960's represented a time of "virtually unlimited and subsidized expansion" (1979, p. 63) that fueled rapid inflation in health care costs. These rapidly escalating costs brought more direct governmental control on the planning process through the passage of new legislation. In 1972, the Social Security Amendments of 1972 (P.L. 92-603) added a requirement that all hospitals have institutional planning.

This law required any hospital participating in Medicare to prepare a long-range plan that included an annual budget and a three-year capital expenditures plan ("Topic 3," 1978). This legislation also created the Section 1122 Program as a cost containment vehicle. Under this program, state governments were allowed to contain the capital expenditures of hospitals. The state agency could also request that Medicare and Medicaid reimbursements be

denied wherever hospital capital expenditures were deemed unnecessary (Berger, 1981).

By 1975, Congress had enacted additional legislation due to the perceived failure of P.L. 92-603 to provide equal access to quality health care at a reasonable cost. With the passage of P.L. 93-641 (the National Health Planning and Resources Act of 1974), regional health system agencies (HSA's) were established and charged with coordinating a geographical planning system. This act focuses strongly upon hospitals as the primary health care providers (Breindel, 1980) while restricting the flexibility of hospitals to provide this care. Basically, the decision-making process remains under the control of the individual hospital, but decisions must be evaluated based on their effect on the total health care system in that area ("Topic 3," 1978). The hospital is still held accountable for all outcomes arising from its decision(s).

P.L. 93-641 also created the certificate-of-need (CON) legislation. The CON laws provide a regulatory vehicle for authorizing new institutional programs and services. In the area of capital expenditures, a certificate of need is required on any project with expenditures in excess of $150,000 ("Topic 3," 1978). In turn, all CON requests are reviewed by both the HSA and the SHPDA (State Health Planning and Development Agency).

Based on the restrictive nature of such legislation, Whitney stated that:

> Certificate-of-need legislation is expected to cause many institutions to be reduced in scale or in some instances closed down . . . . It must be recognized that such laws may have a significant effect upon a hospital's ability to help itself by increasing its income-generating activities.
>
> If the hospital believes that its net financial picture would be significantly improved by, for example, eliminating an obstetrics and pediatrics ward, and by substituting additional surgical beds, it may find it will be unable to do either of these if the Health System Plan for the hospital's certificate of need area does not contemplate such changes. A hospital may be required to maintain a service which is operating at a financial loss, and may be barred from commencing or expanding a service which it believes will operate at a profit (1981, pp. 23-24).

The next section will examine how hospitals have responded to these challenges by reviewing the research dealing with hospital strategic management at the institutional level.

HOSPITAL STRATEGIC MANAGEMENT: SPECIFIC LITERATURE REVIEW

Criteria for Inclusion.

To be included in this section, the research surveyed had to meet specific criteria including:

1. The research must be descriptive or prescriptive. This includes a broad range of research methodology that includes: documentary sources, case studies, statistical research (of both a hypothesis generating and/or a

hypothesis testing nature), surveys, experiments, models, and "how-to-do-it" discussions. Using these broad categories allowed for increasing the probability of capturing research that described the nature of strategic management in hospitals.

2. No hypothetical case studies were included. This eliminated using research that did not describe real situations, thus decreasing the possibility of misleading interpretations of any presented data.

3. The literature focused on strategic management in not-for-profit (non-federal, non-religious, short-term stay) community hospitals. Although a general literature base was built by using research on other types of hospitals, the utilization of research dealing specifically with NFP's allowed for greater precision in generating hypotheses.

In general, most of the literature on strategic management in hospitals is of a conceptual and prescriptive nature (see Table 2.1 for overview). The rationale for these studies can be found in the prior discussion of historical changes in the hospital industry and in articles examining recent environmental developments. Although these articles generally discussed the need for hospital planning, they are still important for providing a description of strategic management efforts within the industry. In order to comprehend more fully the descriptive literature, a few

Table 2.1

OVERVIEW OF STRATEGIC MANAGEMENT RESEARCH IN AMERICAN HOSPITALS

Types of Research	Characteristics of Research				
	Studies done by	Content of the study	Types of Organizations Studied	Nature of Studies	Research Techniques Used
A. Prescriptive	Perlin (1971)	Long-range planning in hospitals	426 American Hosp.	Survey/ Statistical	Questionnaire/ Chi-square tests
	Boer (1972)	Strategic planning process in hospitals	None	Model Formulation	None
	Berkowitz and Flexner (1978)	Marketing audit as tool for health organizations	None	Model Formulation	None
	Reynolds and Stunden (1978)	Organization of not-for-profit hospitals	Hospitals	Model Formulation	Literature Review
	Stuehler (1978)	Planning in health institutions	None	Model Formulation	None
	Mandel and Getson (1979)	Mandated long-range planning	State comprehensive health planning in Mass., R.I., N.J.	Survey/Case Study	Case study/ Observation

Table 2.1 (Continued)

Types of Research	Characteristics of Research				
	Studies done by	Content of the study	Types of Organizations Studied	Nature of Studies	Research Techniques Used
	Vraciu and Griffith (1979)	Cost control in hospitals	None	Documentary	None
	Domanico (1981)	Hospital planning	None	Model Formulation	Documentary
	Snook (1981)	Hospitals (overview)	Hospitals	Documentary	Documentary
	Thieme, Wilson and Long (1981)	Strategic planning for hospitals under regulation	None	Model Formulation	Documentary
	Breindel (1982)	Hospital Planning	None	Model Formulation	None
	U. of Southern Cal. Ctr. for Health Services Research (1982)	In-house planners and formalized planning	447 general acute care and specialty hospitals	Survey	Telephone Survey

Table 2.1 (Continued)

Types of Research	Characteristics of Research				
	Studies done by	Content of the study	Types of Organizations Studied	Nature of Studies	Research Techniques Used
B. Descriptive	Perlin (1971)	Long-range planning in hospitals	426 American hospitals	Survey/ Statistical	Questionnaire/ Chi-square Tests
	Highmand and Davidson (1972)	Long-range planning in hospitals	345 American general hospitals in excess of 100 beds	Survey	Questionnaire
	Rushing (1974)	Profit-oriented and not-for-profit oriented hospitals	21 profit, 40 not-for-profit hospitals in Tennessee mid-South region having less than 96 beds	Survey/ Statistical	Questionnaire
	Mankin and Glueck (1977)	Strategic planning in hospitals	15 Missouri general hospitals	Survey	Field interviews/
	Webber and Mandel (1977)	Statewide hospital planning	Hospitals in N.J. and R.I.	Survey	Documentary

Table 2.1 (Continued)

Types of Research	Characteristics of Research				
	Studies done by	Content of the study	Types of Organizations Studied	Nature of Studies	Research Techniques Used
	Carper (1979)	Economic orientation and organizational strategy relationships w/in hospitals	Virginia hospitals	Survey/ Statistical	Interviews/ Statistical Analysis
	Bander (1980)	Strategic planning in hospitals	10 urban NFP teaching hospitals with 450 or more beds	Survey/ Statistical	Field Interviews
	Breindel (1980)	Hospital planning relationships w/ health system agencies	71 Virginia hospitals	Survey/ Statistical	Literature review/pilot study/mail questionnaire/ statistical correlation analysis
	Carper and Litschert (1980)	Strategic Power Relationships	115 profit and NFP hospitals having 100-300 beds	Survey/ Statistical	Questionnaire/ Statistical Analysis

prescriptive studies will be examined. It should be noted that the majority of this research used the term "planning" as the focal point for discussion.

Prescriptive Research

Prescribing how a hospital should do "planning" is not a new concept. As early as 1959, the American Hospital Association called for hospitals to develop long-range "master" plans (Manual of Hospital Planning Procedures, 1959). Perlin found that of 434 hospitals nationwide, 96 percent had "long-range" planning committees, but more than one-third of these committees had several other duties. In order to improve the long-range planning process, he suggested these guidelines:

1. Hospital goals and programs should be directed towards improving community health. Some programs may be designed to have an immediate impact . . . and others may require longer lead times . . . where there is a conflict, programs with immediate impact should have top priority.

2. One or more geographic service areas should be defined in order to improve community health . . . and further to provide boundaries within which results can be evaluated.

3. The work of long-range planning should be the responsibility of an individual whose time . . . will not be shared by other . . . responsibilities.

4. In organizing for long-range planning, emphasis should be placed on the development of on-going processes of human involvement and interaction . . . . This should be accomplished by structuring the involvement of all

influential groups and key decision makers . . . .

5. The most effective way to structure the involvement of influential groups and key decision makers is through the establishment of a separate long-range planning committee . . . .

6. The active involvement of community residents is an indispensable element . . . . (1971, pp. 130-131).

One other prescriptive model that appeared in the early 1970's called for increased usage of "strategic" planning. This appeared to be one of the first uses of the word strategic as a descriptor of planning methodology. Boer (1972) described strategic planning as a process that followed four steps:

1. Mission formulation
2. Objective(s) formulation
3. Environmental analysis
4. Strategy formulation

After Boer's call for strategic planning, the literature remained fairly silent on prescriptive models until the late 1970's when three major articles appeared (Berkowitz and Flexner, 1978; Reynolds and Stunden, 1978; Stuehler, 1978). All were similar in their approaches with Berkowitz and Flexner (1978) presenting both the most complete and the most radical departure from previous examples. As seen in Figure 2.1, the Berkowitz and Flexner model reverses the process flow by placing the formulation of segment

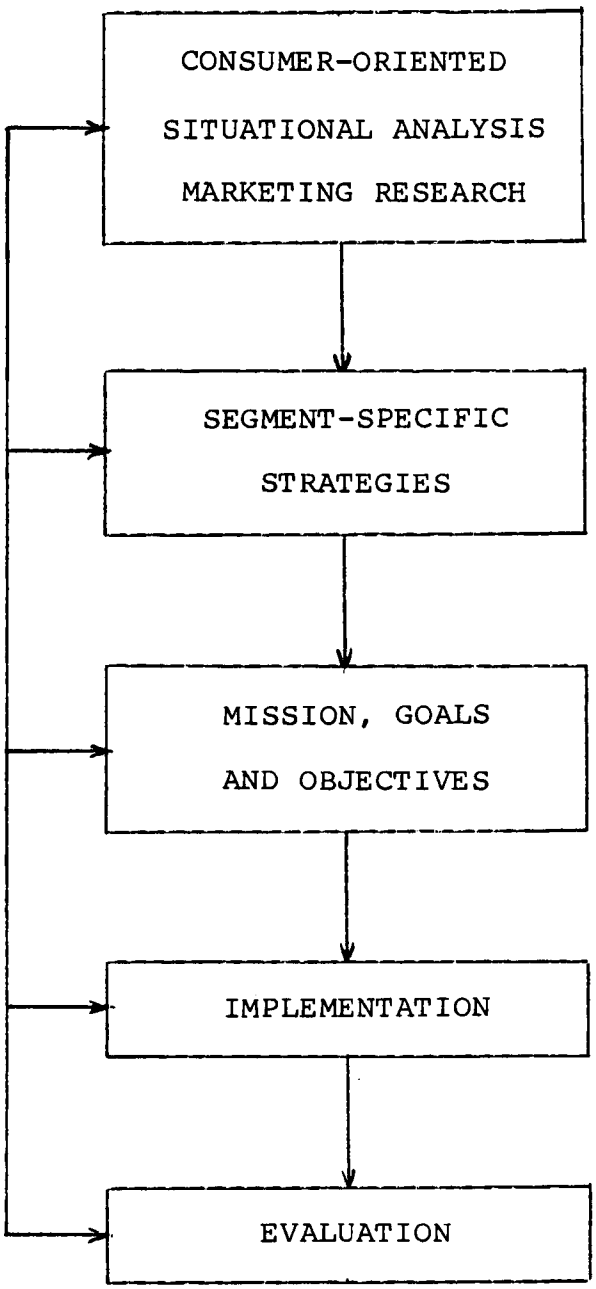


Figure 2.1

Berkowitz and Flexner Model of Planning

Source: Eric N. Berkowitz and William A. Flexner, "The Marketing Audit: A Tool for Health Services Organizations," Health Care Management Review, 1978, 3(2), p. 53.

strategies before the formulation of mission, goals, and objectives. The authors felt that this flow more accurately brings the consumer's needs into focus.

Other models appearing around this time show a process flow more closely aligned to those used by profit-oriented organizations. For example, Mandel and Getson (1979) utilize a fifteen-step process model that answered certain descriptive questions (see Table 2.2). Snook (1981) also developed the same process flow while recognizing that hospitals would vary in how they actually wrote their plans and in what content would be included.

In 1981, models appeared that contained different prescriptions on what the process is and what the process should generate. On one hand, Domanico (1981) followed the type process model established by Mandel and Getson, but described different items that should be included within the process, such as management-by-objectives, as part of the implementation phase. On the other hand, Thieme, Wilson, and Long (1981) repeated the process flow used by Berkowitz and Flexner (Figure 2.1). Unlike Berkowitz and Flexner, however, these authors focused more on the entire planning process and less on the marketing portion of the process. Thieme, Wilson, and Long also gave characteristics of a "successful" planning process. These are:

1. The planning process has an active planning committee composed of the influential leaders among the board, administration and medical

Table 2.2

PLANNING STEPS REQUIRED OF INSTITUTIONS
RELATED TO FUNDAMENTAL STEPS OF PLANNING

Fundamental Steps	Descriptive Questions	Steps Outlined in Planning Guide for Hospital Long-range Plans
1. Plan For Planning	What are we about? What did we learn from last cycle?	Step 1. Organize for Planning Step 2. Create the Capacity for Planning
2. System Investigation	Where are we? How did we get here? Where are we heading? What problems do we have? What problems do we see ahead?	Step 3. Collect and Organize Data Step 4. Forecast Important Data Step 5. Analyze External Forces Affecting the Hospital
3. Ends Establishment	Where do we want to go?	Step 6. Develop Mission Statement Step 7. Develop Goals Step 8. Set Priorities Step 9. Develop Measurable Objectives
4. Means Selection	How do we get there? (The "plan" is the chosen means.)	Step 10. Identify Alternative Courses of Action Step 11. Select Recommended Course of Action Step 12. Identify Implementation Strategies Step 13. Identify Actions Requiring CON Step 14. Develop a Capital Resources Plan
5. Intervention Evaluation	Did we get there?	Step 15. Develop an Evaluation Procedure

Source: Mark D. Mandel and Jacob Getson, "Mandated Long-Range Planning for Hospitals--Where Is It Going and Why?" Health Care Management Review, 1979, 4(1), p. 14.

staff. In addition to the established influence leaders, the emerging future influence leaders should be tapped.

2. The planning committee is a working committee. Involvement is the key to understanding, and ultimately, commitment.

3. Leadership is by a key trustee, perhaps the future chairman of the board, and by the administrator.

4. Staff support is provided to gather information and perform initial analysis. (When planning fails it is often because of lack of staff support.)

5. Persons with special interests and expertise are involved in task forces conducting in-depth issue analysis. This increases the quality of the analysis and gets broader involvement.

6. Third party objectivity, usually in the form of consultants, helps keep the process intellectually honest.

7. A workplan and timetable are followed. This provides people with a sense of accomplishment and results in the formulation of strategy rather than just the accumulation of information (1981, p. 43).

These ideas appeared to be implied by most of the other studies and by the prescriptions made by Perlin (1971).

A 1982 survey of 447 nationwide general acute care and specialty hospitals by the University of Southern California's Center for Health Services Research found that:

1. Thirty percent of the hospitals employed an in-house planner other than a CEO. Large, teaching, urban/government, not-for-profit hospitals were

more likely to employ planners than any other hospital group.

2. Fifty-eight percent of in-house planners had full-time planning responsibility.
3. Fifteen percent of CEO time was spent on planning activities.
4. Sixty percent of hospitals employed outside planning consultants. Consultant usage was highest in 100-300 bed, suburban, and not-for-profit hospitals, and lowest in less than 100 bed, rural, and investor-owned hospitals.
5. Sixty-nine percent of hospitals CEO's reported that a long-range plan had been written. It was not clear as to what was included in these long-range plans.
6. For 65 percent of the hospitals, planners and CEO's will emphasize a market-based approach to planning during the next five years in comparison to 39 percent during the past five years ("Survey Provides Data on In-House Planners," 1982, p. 33).

These findings appear to coincide closely with Perlin's call for an on-going process that is the focus of an individual who has planning as a sole purpose. This survey also seemed to corroborate the market-based approach suggested by Berkowitz and Flexner and later repeated by Thieme, Wilson, and Long.

Somewhat contrary to the growing evidence on the strategic planning component of strategic management, is the work by Breindel that offers ". . . an alternative to the health administrators who wish to do health planning without writing a long-range comprehensive plan" (1982, p. 48). The objective of the model was to decompose the strategic planning process into manageable document form (see Table 2.3). There appeared to be few, if any, other articles calling for this approach.

In conclusion, the apparent need for strategic management in the hospital does exist, especially since portions of the process (e.g. institutional plans) are required by legislative bodies. Many various authors also have proposed a process model and/or a set of recommendations on how to carry out this apparent "necessity." The primary question now becomes one of how has strategic management performed at the institutional level for the hospital. The next section reviews the relevant literature assessing strategic management efforts and strategic management results.

Descriptive Research

The descriptive research in the field of hospital planning appears to be primarily tangential to the topic of strategic management and its effectiveness. Examples of this point can be found in the works of Carper (1979), Davis (1972), and Rushing (1974), who studied the effect of

Table 2.3

BREINDEL'S DOCUMENTARY PLANNING FORMAT

Planning Process		Process Documents	
A.	Examination of Mission and Philosophy	1.	Mission Statement and/or Philosophy Statement
		2.	Organizational Goals
B.	Scanning the Facility and Its Environment	1.	Internal Assessment
		2.	Facility Master Plan
		3.	Market Assessment
		4.	Medical Profile
C.	Strategy Development	1.	Strategic Plan
D.	Program Development	1.	Organizational Objectives
		2.	Prioritization of Objectives
E.	Operational Development	1.	Annual Management Plan
		2.	Annual Budgets
F.	Evaluation of Planning	1.	Process/Procedures for Evaluation
		2.	Methods for Updating/ Amending Documents

Source: Charles L. Breindel, "Hospital Planning: Strategies, Goals, and Objectives," Hospital and Health Services Administration, 1982, 27(2), p. 48.

economic orientation by a hospital on macro-level behavior. For example, Carper's research yielded insights into the power structure of hospitals (both profit and not-for-profit) and the effect of these structures on the strategic decision-making process between the two classifications of hospitals. This research considered only a single piece of the planning process.

Perlin's (1971) survey work examined the entire planning process. By utilizing a nationwide survey of 434 profit, governmental, and not-for-profit hospitals, he found that:

1. Ninety-six percent of hospitals had a long-range planning process.
2. One-third of surveyed hospitals had episodic ("one-shot") planning.
3. The goals stated by many hospitals were not their true goals.
4. Long-range planning committees existed in seventy-seven percent of the hospitals, but thirty-six percent had other duties as well as planning.
5. More than fifty-percent of those hospitals with long-range plans based them in part on a consultant's master plan.

6. Planning varied by geographical area with more planning (percentage) existing in New England and Middle Atlantic states.
7. Hospital size was positively related to time period used for long-range plans. Hospitals with less than 100 beds that had long-range plans usually projected them over a five-year period. The median value was ten years for all hospitals.
8. Only twenty percent of the sample had a written policy on doing long-range planning. Eleven percent felt a written policy would serve no useful purpose.

Perlin made no direct attempt to test planning effort against performance.

Highmand and Davidson (1972) found similar results when surveying 345 hospitals. Almost 90 percent of responding hospitals stated they had long-range plans, but they were generally "master" (facility-oriented) plans. The authors also found that 27 percent of hospitals in the 100 to 199 bed range lacked written annual budgets. The authors concluded that long-range planning had not been truly adopted as a management tool in many of the hospitals surveyed.

Rushing (1974) found that not-for-profit hospitals did not utilize economic resources as well as the profit-oriented hospitals. He did not ascribe this to inefficient planning per se since he was more concerned with the

economic orientation of hospitals. His study is important because it represents an early attempt at measuring effectiveness which is an important product of the planning process. This is especially true for the NFP hospital which must struggle for funding and cannot often match the financial leverage capabilities of profit-oriented chains.

The first significant study of strategic planning in hospitals was the Mankin and Glueck (1977) research. Although primarily survey in nature, this study represented the first known attempt to examine planning at the institutional level after the passage of mandated planning legislation in 1972.

Mankin and Glueck stated that "hospitals are an important sector . . . yet little is known about whether hospitals use strategic planning and if those who do are most successful in reaching their objectives" (1977, p. 6).

In order to examine this question, they studied the planning process at 15 Missouri community, general hospitals stratified by size, ownership, and complexity of diagnoses. The main research questions investigated were:

1. Do hospitals do strategic planning in a formal way?
2. Do more effective hospitals perform it more thoroughly than less effective hospitals?

Utilizing field interviews and questionnaires, the authors set out to assess the process. Their primary findings follow:

1. Forty percent of the administrators questioned indicated that they felt a proposal for strategic change which came from them had a higher likelihood of success.
2. Eighty percent of the hospitals used consultants to determine optimum planning strategies, but in only 13 percent were these planning consultants.
3. Administrators were not effectively searching the environment, nor responding to requirements to develop formal strategic plans as required by statute.
4. Administrators of the larger institutions had more leeway to implement strategic change.
5. None of the hospital administrators had a person or department whose primary purpose was planning for the future.
6. Only a few of the hospitals did an effective job in appraising the environments to anticipate major changes or opportunities.
7. Administrators were the key decision-makers.
8. Strategic planning decisions originated with administrator or administrative staff in 60 percent of the cases.

9. Forty percent of administrators systematically scanned the environment.
10. Larger hospitals did a better job on scanning the environment.
11. There was no indication of institutional planning with detail for the three-year period as specified by law.
12. Most administrators felt strategic flexibility was enhanced by writing their plans in terms of generalities.

The authors found the planning process to be "haphazard" (1977, p. 22) and that more training would be useful in helping the hospital to perform its planning task.

This research did not analyze and statistically test the two primary research questions. The conclusions were based mainly on the authors' judgment(s) as to what an effective level of planning was. For example, in assessing environmental scanning, the authors concluded that the administrators were inefficient in searching the environment. Their method of reaching this conclusion is somewhat suspect. The authors had originally surveyed the administrators as to whether they "systematically" appraised their environment, with 40 percent indicating that they had. They also asked the administrators to judge the trends they saw developing. In order to assess their responses, Mankin and

Glueck used the National Health Planning and Resources Development Act of 1974 as their survey tool. This legislation had identified ten specific health priorities. The authors asked each administrator for their perception of the importance of each of the ten programs without noting that these programs were designated as national priorities.

The survey results showed that no program received unanimous agreement as to being of "great importance." The highest response that any priority received was 60 percent agreement. Based on the lack of universal agreement, the conclusion reached was that the administrators were not effectively searching the environment, nor were they responding to clear legislative requirements for developing formal plans.

One apparent weakness of the research lies in the lack of a prior definition of how effectiveness was to be measured. The Mankin and Glueck study should be viewed primarily as a survey, rather than an empirical test of any hypotheses. It should be seen as an important contribution to the literature since it represented one of the first efforts to analyze strategic planning within a homogenous (single state) hospital population. The research also showed the variation in planning across hospitals while commenting on the complexity of the process.

Webber and Mandel (1977a; 1977b) found similar results in their analysis of the state mandated planning process in

New Jersey and Rhode Island (see Tables 2.4 and 2.5). The New Jersey hospital values in planning and change were summarized as follows:

1. "Don't rock the boat" (60 percent).
2. "Roll with the punches" (35 percent).
3. "Plan or dream ahead" (5 percent).

They also found few long-range planning processes in existence as of 1977.

Once again the data were primarily survey in nature and did not test any hypotheses.

Bander (1980) explored the planning process at ten urban, not-for-profit teaching hospitals having in excess of 450 beds and operating within several states. Through field interviews, she found that:

1. One out of ten indicated the existence of a planning strategy prior to 1973.
2. The CEO and top management had the responsibility for charting the future of the organization.
3. Changes in the organization did not appear to result from a process of planning for the institution that was mutually developed by the trustees, management, and staff.
4. Two out of ten followed the concepts of master planning, one based upon internal, strategic, and operational efforts, the other largely reliant

Table 2.4

COMPARATIVE ANALYSIS OF THE 1977
NEW JERSEY HOSPITAL PLANNING PROCESS

Major Achievements	Key Shortcomings
1. Development of five year forecast of potential certificate of need applications;	1. Use of demand or utilization based planning rather than measurements of medical need;
2. Encouragement of institutional dialogue around multi-institutional arrangements;	2. Institutional self-interest represented the driving force in many plans; hospitals were not considering alternative health systems; and problems of lack of coordination among other health and social service providers in the institutional service area;
3. Increase planning capability in hospitals in terms of policy rather than facilities;	3. Lack of specific context or selected quantitative goals for institutional planning issued by State or HSA's;
4. Positive, supportive role of the New Jersey Hospital Association;	4. Once a state (or hospital) embarks on a major institutional planning system, significant revisions in format, scope, or context are extremely difficult;
5. Apparent increasing competition among hospitals for service area franchises;	5. Information in plans were extremely difficult to aggregate, cross-tabulate, and reformat for purposes of SHPDA and HSA planning;
6. Creation of a map of the diversity of the institutions within the state which provides insight into how to move the system; and	6. The data base used in plans did not adequately assist in the hospital's goal determination process by analyzing community health needs; definitions of hospital service areas were inconsistent among institutions with little
7. Ability to estimate early the maximum capital expenditure and incremental operating cost changes resulting from certificate of need proposed in plans over a five-year period.	

Table 2.4 (Continued)

Major Achievements	Key Shortcomings
	guidance from the state or HSA's;
	7. Cost containment did not show up as a real concern in most plans; growth as opposed to consolidation, or shrinkage or limits on proliferation of specialized services appeared the major goals of most institutions; concern over lack of consumer participation.

Source: Webber, J.B. and Mandel, M.D. The Institutional Planning Experience in New Jersey--A Preliminary View (Boston: Boston University Center for Health Planning, March 15, 1977), pp. 25-48.

Table 2.5

COMPARATIVE ANALYSIS OF THE 1977
RHODE ISLAND HOSPITAL PLANNING PROCESS

Major Achievements	Key Shortcomings
1. The Rhode Island Department of Health now requires hospital to relate future plans submitted to plans previously filed.	1. Hospitals had no formal guidelines to assist them in their planning in the first year, resulting in plans of uneven quality and a lack of consistency between plans.
2. The approach to institutional planning in Rhode Island stressed that health manpower and health facilities planning should not be conducted in a separate and categorized manner but rather should be conducted in an integrated and systematic manner.	2. First year plans did not include rate impact estimates, specific timetables for implementation, or prioritization among objectives.
3. Rhode Island Department of Health's stated policy emphasizes the necessity of using the short- and long-range hospital planning process to effect reallocation of existing resources from underused programs required additional resources within an overall limit on total hospital expenditures.	3. A lack of internal consistency in most hospitals' plans from year to year hindered examination of a hospitals' progress in achieving goals and objectives.
4. The Department of Health prepared a "Hospital Board Approved Long and Short Range Plans Authorized Summaries" document. The summaries of plans, which average three-and-one-half pages, show directions the hospitals are pursuing with specific	4. The estimates of costs provided in the institutional plans were of uneven quality.
	5. Institutional plans reflected trends in the health care system. In 1971 and 1972 a great many hospitals proposed establishing ambulatory care networks. Many hospitals never referenced these proposals again, although others submitted successful CON applications.
	6. Although over $153 million in estimated expenditures were proposed in the institutional plans over the

Table 2.5 (Continued)

Major Achievements	Key Shortcomings
time phase implementation strategy. In the aggregage, these summaries provide a short- and long-range profile of hospital direction and impact on delivery. From such summaries, a statewide comparison of policy objectives between the private and public health sectors is possible.	five year period of existence, only $55 million worth of expenditures finally received CON approval during the same period.

Source: Webber, J. B. and Mandel, M. D. The Institutional Planning Experience in Rhode Island--A Preliminary View (Boston: Boston University Center for Health Planning, March 15, 1977).

upon external consulting assistance to set the approach for the institution's future for the decade ahead. The remaining eight institutions planned for one-to-three year time spans.

5. Only one institution stated that it had revised or made more formal its approach due to information available in the literature.

As with the other research, this study was survey oriented.

Another study sought to explain the planning process in Virginia hospitals. Breindel's (1980) research sought to:

1. Identify the structural characteristics of hospital planning in Virginia.
2. Identify the types of hospitals by their planning capacity, and to seek correlates of planning capacity.
3. Generate hypotheses about hospital planning at the institutional level vis-a-vis HSA (Health Systems Agencies) planning.

Since institutional-level planning had been required since 1972, and the data were collected in 1979, a time lag had occurred in which planning systems could have been formulated and refined.

The methodology utilized was a literature review, pilot study, mail survey, and a descriptive analysis of the survey results. The mail survey of 123 in-state hospitals yielded

a usable sample of 71. These 71 hospitals ranged in size from 25 beds to 1,058 beds, with a mean of 211 beds. The distribution by ownership was: 54 community not-for-profits; 2 church-owned; 2 governmental; and 13 profit-oriented (investor-owned) hospitals.

Using basic survey data, Breindel found that:

1. 62 percent (n = 44) had long-range plans.
2. Only four facilities had a formally organized planning department.
3. Only four facilities had a hospital planner.
4. Only one facility had a board-approved plan (in those facilities having a formally organized planning department).
5. Planning had increased over time as measured by the number of facilities preparing long-range plans (see Figure 2.2).
6. Planning was beginning to be instituted at smaller facilities. The average bed capacity of hospitals instituting plans in 1976 stood at 176 beds (comparable with 300 beds in pre-1975 period).

Based on pilot study interviews, the hospital administrator was considered to be an important factor for examination. Breindel developed five independent variables to measure administrators' openness to plans. These variables were administrator's perceptions of: task accomplishment;

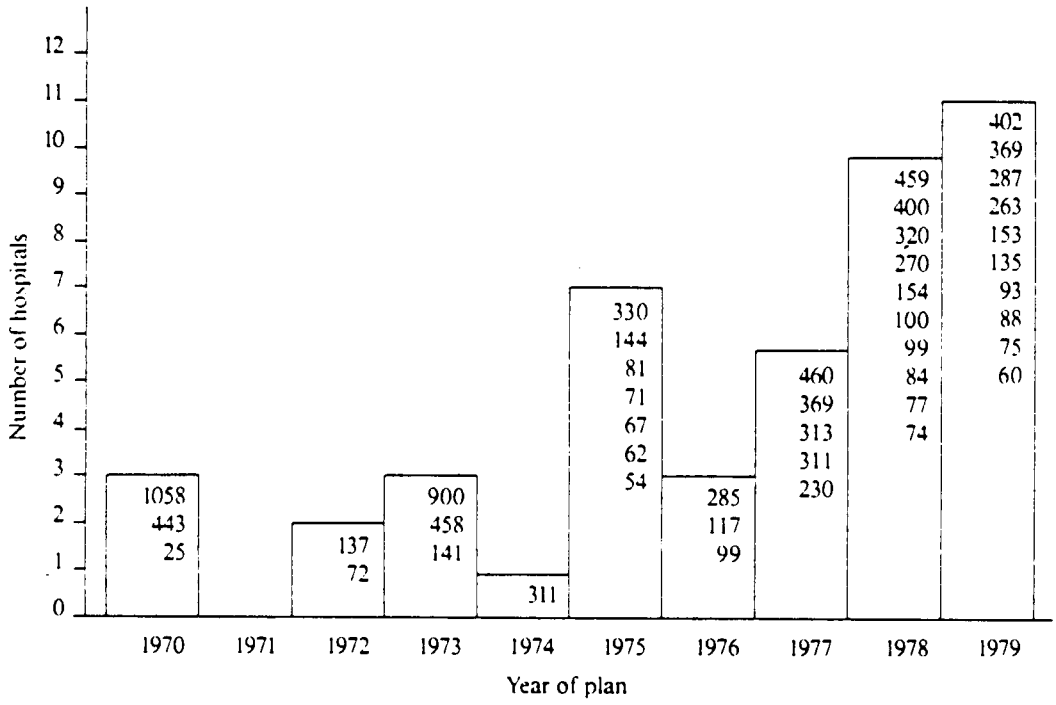


Figure 2.2

Time Trends of Hospital Plan Completion

(Numbers in blocks represent number of beds in hospitals completing long-range plans in that year.)

Source: Charles L. Breindel, "Hospital Planning in Virginia After P.L. 93-641," Inquiry, 1980, 17(4), p. 343.

professional identity; professional activity; community orientation; and environmental interaction time (amount of time per week in which the CEO engages in professional activities outside the hospital). By developing an index of planning capacity, Breindel hypothesized that each of these independent variables would be positively correlated to the study variable of planning capacity.

A sixth variable, size of hospital (as measured by number of beds), was also included as a possible correlate.

Only two of the variables, size and administrator's community orientation, were found to be significantly related to planning capacity. The statistical results and significance levels of these variables are shown in Tables 2.6 and 2.7. Breindel extended his analysis in multiplying size by community orientation, and by utilizing a multiple linear regression of planning capacity against both of these variables. These results can also be seen in both tables.

The conclusion reached was that the larger the size of the facility and the greater the CEO's community orientation, the greater the likelihood that the facility has a higher planning capacity.

Breindel then examined whether the general, acute-care hospitals had correlates of planning capacity that differed from hospitals in general. As Table 2.7 indicates, the independent variables identified in Table 2.6 appear with

Table 2.6

CORRELATIONS OF INDEPENDENT VARIABLES
WITH PLANNING CAPACITY
(N=71)

Independent Variable	R^2	PR > F (Significance of F-test)
Size	.131	0.0019
Community orientation	.087	0.0155
Size x community orientation	.160	0.0008
Size + community orientation	.260	0.017

Source: Charles L. Breindel, "Hospital Planning in Virginia after P.L. 93-641," Inquiry, 1980, 17(4), p. 345.

Table 2.7

CORRELATIONS OF INDEPENDENT VARIABLES WITH PLANNING CAPACITY, USING ONLY GENERAL, ACUTE-CARE HOSPITALS (N=61)

Independent Variable	R^2	PR > F (Significance of F-test)
Size	.146	0.0024
Community orientation	.074	0.0391
Size x community orientation	.170	0.0013
Size + community orientation	.202	0.007

Source: Charles L. Breindel, "Hospital Planning in Virginia after P.L. 93-641," Inquiry, 1980, 17(4), p. 345.

approximately the same correlations. Breindel noted that no difference could be inferred.

This research also concluded that:

1. The existence and contents of long-range hospital plans were not related to the particular HSA's or regional planning activities. In fact, it appears that the relative numbers of hospitals that developed plans were the same in all HSA regions, even though the HSA's differ greatly in organizational style, and in the existence of subarea councils and other mechanisms for hospitals' input into HSA processes.
2. Hospitals appeared to share their plans with HSA's, regardless of hospital ownership. Although a slightly greater percentage of nonprofit facilities shared their plans with HSA's than did investor-owned facilities, the differences were minimal.
3. The sharing of hospital plans was related to the location of the hospital in a particular HSA region. The relationship appeared to exist for only one of the five HSA regions, that is, in four of the five HSA regions in the state, sharing the plans occurred at a rate of just over 50 percent. But in one HSA region, without subarea councils,

only one in three facilities shared their long-range plans with the HSA.

Based on these findings, Breindel concluded that strong technical planning expertise did not exist within the sample. Almost all CEO's viewed themselves as the chief planner even if a formal planning staff was utilized. This would appear to be consistent with perceptions that the CEO is the head of the firm, although it does ignore the power of the board of trustees in guiding the operations.

Finally, this research generated three hypotheses for future consideration. These were:

Hypothesis 1: P.L. 93-641 has produced an increase in hospital planning, as measured by the number of plans completed by facilities.

Hypothesis 2: When hospitals are in multi-institutional arrangements, there is increased planning, as measured by completion of written plans, planning documents, and the existence of planning committees and staff.

Hypothesis 3: If a hospital is large and the CEO has a strong community orientation, then the hospital has an organized planning process with staff planning.

This research represented an advancement over previous planning surveys such as those of Bander (1980) and Mankin and Glueck (1977). By attempting statistical analysis of relationships, Breindel moved beyond drawing inferences that were simply judgmental in nature. Unfortunately, little

research of this type has been completed since 1980.

In conclusion, it appears that the prescriptive literature base far outweighs the literature which tests stated concepts and theories. At this time, no research has attempted to answer the question of whether strategic management pays off in terms of improved performance. This is of crucial importance to the concept of strategic management, and of crucial importance to those who attempt to make use of it.

There is also little indication of any research dealing with the implementation of strategic plans. This, too, is vital to the concept of strategic management since proper implementation is crucial for making plans work.

SUMMARY

The focus of this chapter has been to examine the literature concerning the strategic management process in American hospitals. Hospital planning as an organized, goal-directed activity is primarily a product of this century with the landmark attempt appearing in 1921 when the New York Academy of Medicine examined the question of local bed needs.

After the boom periods of the 1920's, hospital construction was virtually non-existent. By 1944, a deficit of nearly 200,000 beds existed in the U.S. Due primarily to

this pressure, the Hill-Burton Act was passed, thus changing the scope of planning via more direct governmental intervention. Hill-Burton provided the impetus for a second round of rapid hospital facilities growth. Planning during this era was characterized as being facilities oriented.

The development of more formalized planning systems did not occur until the late 1950's and only then at the overall local level. The 1960's continued the pattern of post-World War II growth while creating the side-effect of rapid inflation in health care costs. This in turn brought increased governmental involvement that led to the passage of several pieces of legislation (most notably, P.L. 92-603 and P.L. 93-641) which required more formalized planning at the institutional (hospital) level.

In order to discover the effect of this increased regulatory action (and other environmental pressures), the chapter explored the prescriptive and descriptive literature of the hospital planning field. This examination demonstrated that the prescriptive research was, and still is, in vogue. Several studies and "how to do it" articles were presented.

In terms of the descriptive research, the literature included only a few statistical studies on hospital planning at either a macro (systemwide) or micro (institutional) level. No empirical studies were found that directly examined the question of how hospital strategic management

relates to hospital performance. This was considered a crucial question to both the concept, and the usage, of strategic management.

CHAPTER 3

RESEARCH METHODOLOGY

This chapter examines the methodology utilized in developing the research study. The development of hypotheses, definition and measurement of critical variables, sampling technique, and the data analysis procedures are discussed. This research will define strategic management as the "umbrella" under which the strategic planning, strategic implementation, and evaluation and control processes occur (see Figure 3.1). Therefore, strategic management will be tested by an examination of its major subparts, and inferences will then be made to the larger concept.

HYPOTHESES GENERATION

In order to examine the impact of strategic management on performance in NFP hospitals, three theoretical and fifteen operational hypotheses were generated. The virtue of using hypotheses is that a hypothesis serves as a guide to the study by defining ". . . what shall be studied and what shall not" (Emory, 1980, p. 33). In this research, the investigation of strategic management and its impact on performance was viewed as important for advancing the literature base, and for advancing our understanding of the field. Kudla and Cesta stated ". . . that firms should do

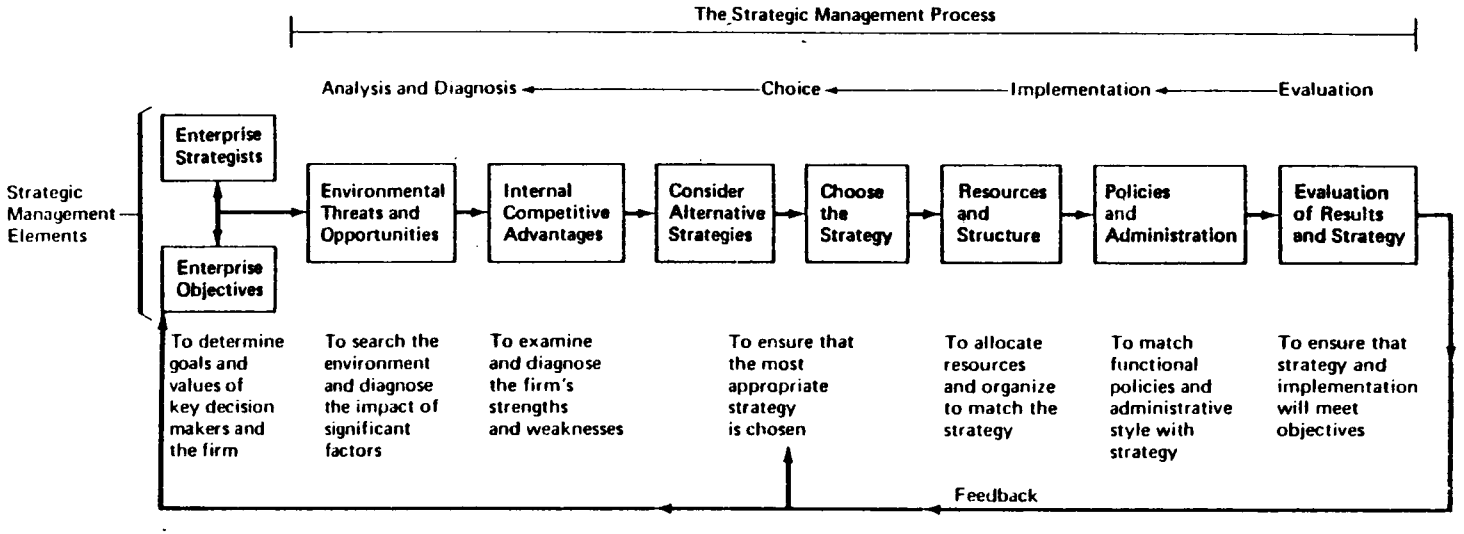


Figure 3.1

A Model of the Strategic Management Process

Source: William F. Glueck and L. R. Jauch, Business Policy and Strategic Management, 4th edition (New York: McGraw-Hill, Inc., 1984, p. 6).

formal strategic planning is almost axiomatic . .. since so much time and effort is expended . . . it seems reasonable to expect planning to lead to improved . . . performance" (1982, p. 30). This idea is well supported by several pieces of research (Grant and King, 1982; Thune and House, 1970; Wood, 1980; Wood and LaForge, 1979) and refuted by others (Kudla and Cesta, 1982; Leontiades and Tezel, 1980). These studies all dealt with profit-oriented organizations and thus are not representative of the benefits of formal strategic management within not-for-profit firms, especially hospitals. The literature presented in Chapter 2 did not show any empirical investigations holding that formal strategic management led to improved performance in hospitals. It is with this point in mind that the following theoretical and operational (testable) hypotheses have been developed. Some of the hypotheses were formulated to take advantage of Breindel's 1979 study which measured the intensity of strategic planning at that time. "Intensity" in this study is defined based on a median split for both the strategic planning and strategic implementation scores discussed later. Those hospitals scoring above the median were considered to be "more intense" hospitals; those below the median were considered to be "less intense" hospitals.

Theoretical Hypotheses

The theoretical hypotheses examined in this study were:

H_{T1}: A positive relationship exists between the intensity of strategic planning and the long-range change in performance of not-for-profit hospitals in Virginia.

H_{T2}: A positive relationship exists between the intensity of strategic planning and the short-range change in performance of not-for-profit hospitals in Virginia.

H_{T3}: A positive relationship exists between the intensity of strategic implementation and the short-range change in performance of not-for-profit hospitals in Virginia.

Selection of these hypotheses was influenced by a series of studies showing benefits arising from formalized strategic planning and formalized strategic implementation (for example, see Henry, 1965; Grant and King, 1982; Thune and House, 1970; Wood and LaForge, 1979). These hypotheses were also shaped by the woeful lack of empirical research evident on strategic management within the hospital literature (for a review, see Carper, 1983). These theoretical hypotheses are related to the strategic management process as shown in Figure 3.2.

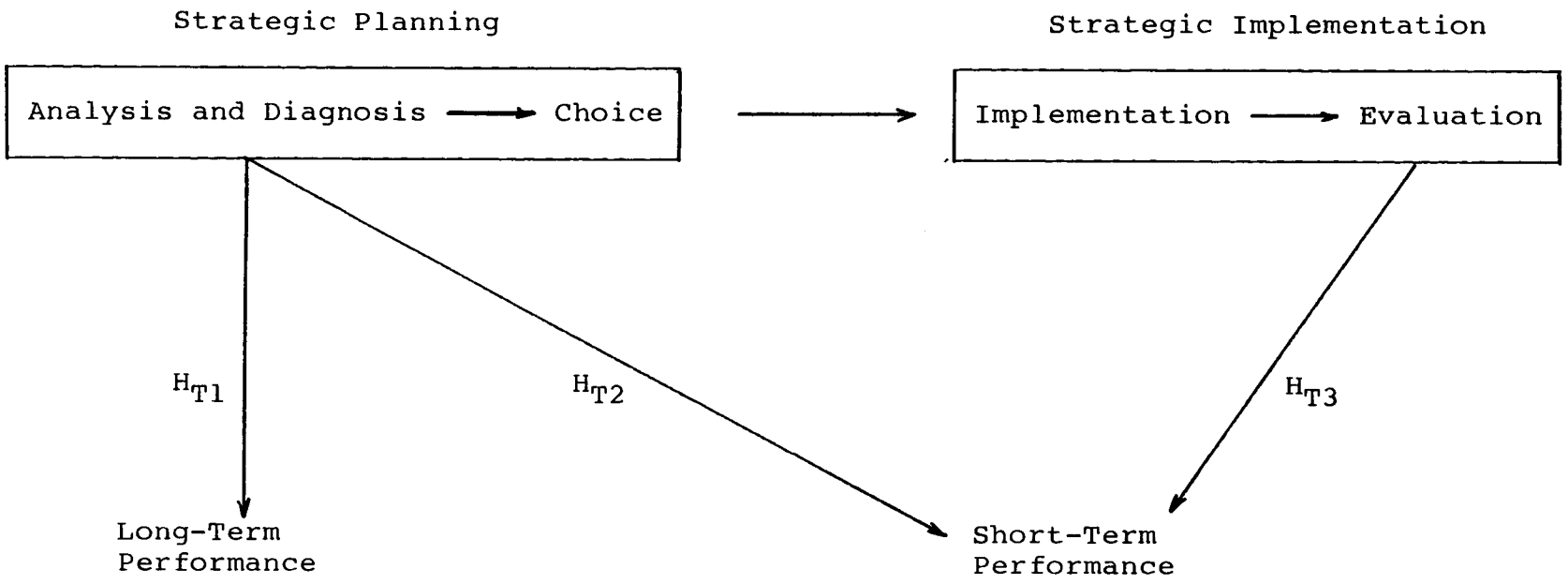


Figure 3.2

Relationship of Strategic Management Process
To Theoretical Hypotheses

Operational Hypotheses

From the three theoretical hypotheses, 15 specific testable hypotheses were formulated. For clarity they will be presented by examining the strategic planning hypotheses first, then the strategic implementation hypotheses. The first five hypotheses explore the relationship between strategic planning intensity in 1979 and the change in performance over the 1978-1982 period.

A. Strategic Planning Hypotheses

H_1: Compared to those hospitals having a less intense strategic planning system (as defined by the designated classification procedure discussed later), the hospital having more intense strategic planning systems will have a higher five-year average percent increase in occupancy rate.

The logic behind a higher average mean occupancy rate over a five-year period lies in the fact that a more formalized strategic planning system should more adequately match beds to community demand.

H_2: Compared to those hospitals having a less intense strategic planning system, the hospitals having a more intense strategic planning system will have a lower five-year average percent increase in total personnel per occupied bed.

Grimes and Moseley (1976) found that administrators wishing to improve their administrative effectiveness should emphasize greater standardization of personnel activities. They found that hospitals performing better in terms of patient care effectiveness had more specialized task and role functions.

H_3: Compared to those hospitals having a less intense strategic planning system, the hospitals having a more intense strategic planning system will have a lower five-year average percent increase in total expenses per occupied bed.

This hypothesis is another measure of long-range performance and is supported by the planning literature's discussion on financial performance benefits arising from formalized strategic planning (for example, Wood and LaForge, 1979).

H_4: Compared to those hospitals having a less intense strategic planning system, the hospitals having a more intense strategic planning system will have a lower five-year average percent increase in total personnel expenses per occupied bed.

A corollary to this can be observed in the work in Ruchin, Pointer, and Connedy (1973) who found that failing hospitals had higher per-employee payroll expenses.

H_5: Compared to those hospitals having a less intense strategic planning system, the hospitals having a

more intense strategic planning system will have a higher five-year average percent increase in relative market share.

This is consistent with the relationship between growth and market share that has been discussed within the planning literature (Boston Consulting Group, 1968; Schoeffler, Buzzell, and Heany, 1974).

Hypotheses H_6 through H_{10} test the short term, or contemporaneous, effect of intense strategic planning on hospital performance. This was accomplished by examining first the relationship between 1979 strategic planning scores and changes in performance measures from 1978 to 1979. A second test of each hypothesis was conducted using 1983 strategic planning scores and the most recent performance measures.

H_6: Compared to those hospitals having a less intense strategic planning system, the hospitals having a more intense strategic planning system will have a higher yearly increase in occupancy rate.

H_7: Compared to those hospitals having a less intense strategic planning system, the hospitals having a more intense strategic planning system will have a lower yearly increase in total personnel per occupied bed.

H_8: Compared to those hospitals having a less intense strategic planning system, the hospitals having a more intense strategic planning system will have a lower yearly increase in total expenses per occupied bed.

H_9: Compared to those hospitals having a less intense strategic planning system, the hospitals having a more intense strategic planning system will have a lower yearly increase in total personnel expenses per occupied bed.

H_{10}: Compared to those hospitals having a less intense strategic planning system, the hospitals having a more intense strategic planning system will have a higher yearly increase in relative market share.

Analyzing the data on a yearly basis was used to pinpoint the effects of strategic planning on short-range performance variations.

B. Strategic Implementation

Strategic implementation hypotheses examined only the short-range, or contemporaneous, relationship between strategic implementation and the most recent performance data. Long-range performance was not studied due to the lack of a prior (1979) strategic implementation score. With this in mind, the strategic implementation hypotheses are:

H_{11}: Compared to those hospitals having a less intense strategic implementation system, the hospitals having a more intense strategic implementation system will exhibit a higher percent increase (1982 over 1981) in occupancy rate.

H_{12}: Compared to those hospitals having a less intense strategic implementation system, the hospitals having a more intense strategic implementation system will exhibit a lower percent increase (1982 over 1981) in total personnel per occupied bed.

H_{13}: Compared to those hospitals having a less intense strategic implementation system, the hospitals having a more intense strategic implementation system will exhibit a lower percent increase (1982 over 1981) in total expenses per occupied bed.

H_{14}: Compared to those hospitals having a less intense strategic implementation system, the hospitals having a more intense strategic implementation system will exhibit a lower percent increase (1982 over 1981) in personnel expenses per occupied bed.

H_{15}: Compared to those hospitals having a less intense strategic implementation system, the hospitals having a more intense strategic implementation system will exhibit a higher percent increase (1982 over 1981) in relative market share.

The benefits of sound strategic implementation are distinct. Schendel and Hofer concluded that ". . . in practice they (strategy formulation and implementation) must be integrated if organizational purpose is to be achieved" (1979, p. 219). This reflects the necessity to place plans, programs, and strategies into action for the strategic management process to be complete.

Table 3.1 visually establishes the relationships predicted by the theoretical and operational hypotheses.

DEFINITION AND MEASUREMENT OF VARIABLES

Emory has stated that ". . . effective conduct of research . . . is complicated by the lack of agreement on concept meanings and the use of different abstraction levels" (1980, p. 27). This problem exists in the field of strategic management due to the lack of standardization in terminology. In order to reduce this confusion, the following definitions have been developed and divided into two broad categories: strategic management, and hospital performance. A discussion of each will be presented.

Strategic Management Terminology

Strategic management is a relatively new paradigm (Ansoff, 1972) that is seen as a means for integrating different levels of strategy within an entity (Schendel and Hofer, 1979). As terminology goes, strategic management appears to represent many things. Schendel and Hofer have

Table 3.1

PREDICTED RELATIONSHIPS[a] AMONG STRATEGIC MANAGEMENT COMPONENTS AND SELECTED PERFORMANCE CRITERIA

Variables	H_{T1}	H_{T2}	H_{T3}
Independent	Strategic Planning	Strategic Planning	Strategic Implementation
Dependent	Long-Term Change in Performance	Short-Term Change in Performance	Short-Term Change in Performance
Performance Measures			
Occupancy Rate	+	+	+
Personnel per Occupied Bed	-	-	-
Total Expenses per Occupied Bed	-	-	-
Total Personnel Expenses per Occupied Bed	-	-	-
Relative Market Share	+	+	+

[a] A plus sign indicates that formal strategic management components improve performance through increasing that variable. A negative sign indicates improved performance through decreasing that variable.

described it as a ". . . process that deals with the entrepreneurial work of the organization . . . and more particularly, with developing and utilizing the strategy which is to guide the organization's operations" (1979, p. 11). This says little about an operational definition that can be empirically tested. Glueck and Jauch have found that terms such as "strategic management" have ". . . as many definitions as there are experts" (1984, p. 5). For the purposes of this research, strategic management must be viewed as a broader concept that has largely eclipsed the older concept of "strategic planning." This means that "strategic planning" is now a subpart of strategic management and can be discussed as such. The definitions used in this study are as follows:

A. Strategic Planning. A cursory review of the literature finds that strategic planning also suffers from Glueck and Jauch's earlier comment on strategic management. The earlier stream of literature (Chandler, 1962; Ansoff, 1965; Learned, Christensen, Andrews and Guth, 1965) emphasized a broad view of strategic planning. Chandler defined strategy as:

> . . . the determination of the basic long-term goals and objectives of an enterprise, and the adoption of courses of action and the allocation of resources necessary for carrying out these goals (1962, p. 16).

Schendel and Hofer (1979) found this definition to be lacking since it said nothing about the content of strategy, nor did it state anything about the linkage between the firm and its environment. Ansoff (1965) emphasized strategy as a "common thread" that ran through all the firm's activities. Hrebiniak and Joyce (1984) found this definition to be extremely complex. Grant and King saw strategic planning as a process by which ". . . the choice of organizational missions, objectives, strategy, policies, programs, goals, and major resource allocations are made" (1982, p. 3).

With this variety of definitions it is little wonder that some authors have chosen to decry the confusion over what strategic planning is. Leontiades (1980) believes that the term "strategic planning" exists only because of the popular connotation of the prefix "strategic." Steiner, Miner, and Gray (1982) felt that the lack of a consistent lexicon has tended to isolate the policy/strategy field from the initiated person. Strategic planning was defined as:

> The process which seeks to establish an organizational mission, environmental analysis, set of goals, and a set of strategic alternatives from which one or

a combination are chosen for implementation. To be considered "strategic" in nature, plans must be developed for periods extending beyond one fiscal year.

B. Strategic Planning Intensity. Strategic planning intensity is defined as the level of comprehensiveness of the strategic plan. It was assessed by examining the following characteristics, namely does the hospital have:

- A written planning document.
- Covering in excess of the required one-year budgetary cycle covered in P.L. 92-603.
- Including an environmental analysis and description of the hospital mission (Domanico, 1981).
- With a list of objectives, preferably in writing and in rank order (Glueck and Jauch, 1984; Hrebiniak and Joyce, 1984).
- Consisting of specific action plans, programs, and methods for achieving objectives (Thune and House, 1970).
- Approved and reviewed by a planning committee preferably one existing at the board level (Steiner, Miner, and Gray, 1981; Tashakori and Boulton, 1982).

Although this appears to be an overly stringent guide for determining the level of formal strategic planning, it

is consistent with other research (Henry, 1965; Thune and House, 1970; Wood and LaForge, 1979). These questions allowed for establishing different classifications of strategic planners for the testing of the research hypotheses. Table 3.2 shows the various components examined and the points assigned to each. The scoring method utilized replicates Breindel's (1980) earlier planning intensity score, thus providing for consistency in the measurement instrument used.

C. Strategic Implementation. Strategy implementation is generally viewed as placing a chosen strategy into action (Glueck and Jauch, 1984). This is a fairly simplistic view since implementation involves a variety of components. This is not to say that this truism is not important. Schendel and Hofer cautioned that ". . . strategy formulation . . . that do(es) not consider the problems associated with implementation risk being ineffective" (1979, p. 222). This feeling has been mirrored by others (Chandler, 1962; Galbraith and Nathanson, 1977; Khandwalla, 1973; Lorange, 1982).

Schendel and Hofer (1979) have shown that the implementation task can be accomplished by a variety of structural, process, and behaviorally-oriented administrative

Table 3.2

MEASURE OF HOSPITAL PLANNING INTENSITY, AS A POINTS TOTAL

Measures of Intensity	Points
Long-Range Plan	
Completed board approved	10 points
In preparation currently	5 points
Contents of a Long-Range Plan	1 point each
Adequacy of physical facilities and equipment	
New patient care services	
Organization and management of services	
Manpower	
Market/service area	
Usage of services	
External environment	
Other	
Planning Committee	
Existence of board planning committee	10 points
Existence of some board committee with planning responsibilities	5 points
Existence of administrative/clinical planning committee	5 points
Planner	
Full-time staff	10 points
Part-time staff	5 points
Planning Department	
Currently operational	10 points
Being developed	5 points

Source: Charles L. Breindel, "Hospital Planning in Virginia after P.L. 93-641," Inquiry, 1980, 17(4), p. 345.

tools. This only heightens the complexity of "putting a strategy into action."

Strategic implementation in this study was defined in the broadened terms described by Schendel and Hofer (1979, p. 222) to include both the administrative/behavioral components of executing a strategic plan and the strategic control process. This allowed for collapsing the strategic control process into a more narrowly defined implementation process.

D. Strategic Implementation Intensity. Strategic implementation intensity is defined as the level of comprehensiveness of executing the strategic plan. It was assessed by examining the following characteristics, namely:

1. Communication(s) of strategic plan;
2. Coordination and integration of strategic plans and budget;
3. Performance Measurement;
4. Evaluation and Control Process;
5. Usage of Plan(s).

Table 3.3 shows a listing of each of these components and their assigned points. The examination, and subsequent scoring, of these areas was derived from personal interviews held at each hospital. While this is not an all-inclusive list, research generally supports the concepts behind each

Table 3.3

MEASURE OF STRATEGIC IMPLEMENTATION INTENSITY, AS A POINTS TOTAL

Measure Of Intensity	Points
Communication of Plan	
Finalized plan is distributed within hospital	1 point per group (Maximum 5)
Coordination and Integration of Strategic Plans with Operations	
Detailed budget beyond one fiscal year, excluding required three year capital budget	3 points
Existence of coordination mechanisms (task forces and/or departmental liaisons)	3 points
Performance Measurement	
Managerial and staff compensation adjustments based on meeting performance objectives	9 points
Plan is used to judge:	3 points each
A. Managerial Performance	
B. Staff Performance	
C. Physician Performance	
D. Nursing Performance	
Evaluation and Control Process	
Formal planning review meetings held:	
A. At least monthly	3 points
B. At least quarterly	2 points
C. At least yearly	1 point
Existence of review groups	1 point each (Maximum 3)

Table 3.3 (Continued)

Measure Of Intensity	Points
A formal procedure exists for adjusting plan within planning cycle	3 points
Plan is used to measure cost performance	3 points
Usage of Plan	
Board actively makes use of plan	3 points
Medical staff makes use of plan	3 points

area. For example, the communications section is cogently discussed by Lorange:

> In total, communicability . .. means developing time schedules, agendas for meetings, delineation of tasks . . . and carefully planned and explained formats. An ad hoc . . . process probably has less chance of becoming implemented effectively (1982, p. 9).

Hrebiniak and Joyce (1984) stated that a communications plan should be developed in order to disseminate information to those persons directly and indirectly affected by the implementation.

Steiner (1982) developed a list of "pitfalls" to avoid in developing formal planning systems that included the failure to "balance and line . . . the major elements of the strategic planning and implementation process" (in Lorange, 1982, p. 40). Hrebiniak and Joyce also found coordination via budgets to be "critical" since budgets support objectives and operating plans. Other major work on coordination and integration is well known (for example, see Lawrence and Lorsch, 1967).

Regarding the performance measurement and evaluation and control processes, Steiner and Schollhammer's (1975) study of 460 large multinational firms found the failure to use plans as managerial performance standards one of ten most crucial mistakes. Hrebiniak and Joyce were more emphatic when they said:

> . . . formal performance appraisal and review is part of control . . . . This type of evaluation

> and feedback is central to the control process and is critically important for the reinforcement of behavior that is consistent with the successful implementation of strategy (1984, p. 197).

Finally, the plan must actually be used if it is expected to strategically guide the organization. This is consistent with studies showing that the organizations who used the strategic planning process (through written action programs) normally outperformed those firms who were considered "informal" planners (see Glueck and Jauch, 1984, pp. 32-33 for an overview).

In summary, this section on strategic management has examined the two major components of this concept, namely strategic planning and strategic implementation. The instruments for scoring each of these variables were also described.

Hospital Performance

The discussion on performance is invariably linked to the concepts of effectiveness and efficiency. This research is no different. Effectiveness and efficiency have received great attention in the literature (Hatten, 1979; Pfeffer, 1973; Provan and Stewart, 1983; Steers, 1975; Yuchtman and Seashore, 1967). For example, Kirchoff commented that defining effectiveness has the problem of searching for an ultimate measure which yields ". . . trying to visualize a cube without depth perception--the result of distortion" (1977, p. 347). Steers (1975) found that the search for a

univariate measure of success has been questionable even when such "measures" were thought to have been developed. Yuchtman and Seashore (1967) felt that effectiveness was a conceptually vague construct that had limited the understanding of a large body of empirical data. Even if a definition is developed, a variety of reference points can be utilized. Yuchtman and Seashore (1967) defined three possibilities--goal attainment, a functional approach, and the systems resource approach. The goal attainment approach defines effectiveness with regards to the goals that the organization are seeking to attain. The major limitation here is the lack of consensus about the goals. The functional approach broadens the corporation by defining organizational effectiveness in regards to external standards. Finally, the systems resource approach states that effectiveness of the firm is reflected in its ability to exploit its environment in acquiring scarce and valued resources. This definition does not imply any specific corporation goal, nor does it imply any societal function as a property of the firm. Scott, Flood, Ewy, and Forrest (1978) concur with this view. They felt that goal achievement defined effectiveness, but once again this depended on which model one chose to follow.

As for hospitals, the search for performance measures has been debated for years with proposals and counter-

proposals. Donabedian (1966) felt that an index of hospital performance should include measures of patient outcome. These type of measures have been extremely difficult to implement due to what Grimes and Moseley defined as ". . . the complex web of endogenous and exogenous factors that affect the recovery of hospital patients" (1976, p. 289). In the absence of such measures, the authors said the performance index should include measures dealing with patient care (process) and system efficiency (structure). Once again these quantities have been difficult to define. Moseley and Grimes liken the idea of a good patient care to that of pornography, which ". . . cannot be defined but everybody knows it when they see it" (1976, p. 15). Their subsequent review of hospital performance literature revealed 30 variables of hospital performance that had been suggested as measures. In their development of an index of hospital performance, they grouped these variables into patient care measures and administrative, or efficiency, measures. The efficiency measures were in four categories:

- Structural (physical facilities, personnel capabilities, and organizational characteristics of the hospital);
- Process (functions, activities, and aspects of medical and administrative practice);
- Outcome (result of health care on the patient);
- Attitudinal (behavioral).

By utilizing a delphi survey method, stability was gained in the rankings of these 30 variables. An empirical application to 32 short-term general hospitals in Houston, Texas found that no single component dominated the index, thus reflecting the multidimensional nature of hospital performance. This concept of multidimensionalism was also reflected in Kirchoff's (1977) discussion on effectiveness.

Two weaknesses found in most hospital research are the usage of effectiveness and efficiency as interchangeable terms, and in the concentration of research efforts on short-range performance. In order to standardize the operationalization of measurements, and in order to capture a longitudinal dimension in the data, the performance terms were defined as:

Long-Range Performance: The five-year percentage change in a given dependent variable (Longitudinal approach).

Short-Range Performance: The yearly change in a given dependent variable (Yearly approach).

The long-range performance measurement was calculated by observing the percentage increase (or decrease) in each dependent variable for each hospital over the five year (1978 to 1982) time period. This was arrived at by taking

the difference between the measure in 1982 and the measure in 1978, and then dividing the difference by 1978's figure. This represented longitudinal change. Using percentage change controlled for any discrepancies that might have been attributable to size if absolute change(s) had been used.

Longitudinal analysis was considered necessary for defining performance. This is because the hospitals surveyed were considered to be operating under an "open-systems" concept, which views each organization as being highly dependent upon its external environment for survival (Thompson, 1967). It is felt that open-systems are best examined in a dynamic context. Hatten wrote:

> Although efficiency and effectiveness are primary characteristics of successful management systems, the theory of strategy suggests that efficiency alone, . . . cannot maintain success in the long run--that is, effectiveness dominates efficiency; and if the model is estimated over an extensive time-period . . . , the effects of strategic decisions will be revealed . . . .
>
> (In Schendel and Hofer, 1979, p. 459)

Other research tends to support the longitudinal nature of performance (Ansoff, Avner, Brandenburg, Portner, and Radosevich, 1970; Armstrong, 1982; Chandler, 1962; Mintzberg and Waters, 1982; Wood and LaForge, 1979). Chandler, for example, viewed strategy in this light. Strategy was seen as ". . . determination of the basic long-term goals . . . and the adoption of courses of action . . . for carrying out these goals" (1962, p. 15). Mintzberg and Waters concluded

that longitudinal research is necessary because ". . . strategies do not change on schedule . . . even when they do change, the process can be complex" (1982, p. 465).

Meyer believed that longitudinal data do not suffer the limitations of cross-sectional data in several respects:

1. They require no assumptions about the ordering of variables;
2. They allow for the possibility of reciprocal causation;
3. The value of any variable at an earlier time does not restrict the value of any variable at a later time;
4. The interval between measurements need not correspond to actual lag times to yield accurate results, especially if changes are . . . incremental . . . .

(1972, p. 435)

In this research, longitudinal data were available on 22 hospitals. The data covered a period from 1979 to 1983 (performance variables cover 1978 to 1982 due to lags in their publication). This time period was selected due to the existence of Breindel's (1980) hospital planning capacity score for 1979. Breindel found only one facility had a board approved plan at this time. Coupling this fact with the interim environmental changes (see Chapter 2) may have represented a period of emerging strategic management

in these NFP Virginia hospitals. Kudla and Cesta said ". . . planning systems do not spring into being 'full-blown' but evolve over time" (1982, p. 33).

In order to measure performance changes over this time, the following variables were utilized.

Occupancy Rate--A hospital's occupancy rate is defined as the proportion of hospital beds filled with patients on an average day for a year's period of time (Guide to the Health Care Field, 1983, p. A3). The usage of a yearly period eliminates the problem of dealing with daily, or weekly, fluctuations in occupancy. Neuhauser (1971) likened the daily or weekly data to moving along a firm's short-run average cost curve. The majority of the hospital's costs are fixed within the short run, but become flexible over a longer time frame. Therefore, the yearly average occupancy rate does not pick up variations due to changes in the short-run average cost curve. Hage (1965) commented that occupancy should be used as a short-range measure of organizational performance due to its strong relationship with other measures. According to Rushing:

> All other things being equal, a hospital is more efficient to the extent that it utilizes its facilities more, which may be indexed by the occupancy rate. A given amount of resources produces a greater result when the hospital occupancy rate is high than when it is low (1974, p. 477).

Other hospital research (Coyne, 1982; Deegan and O'Donovan, 1982; Longest, 1972; Moseley and Grimes, 1976; Neuhauser, 1971) tends to agree with these views. Only Rushing (1974) differs in how occupancy rate is measured. He utilized a five-year average in order to reduce the problem of year-to-year fluctuations.

Personnel Per Occupied Bed--This is the ratio of full-time equivalent (FTE) personnel to occupied beds. Grimes and Moseley stated that ". . . unusually high or low figures are indicators of ineffective functions" (1976, p. 23). Personnel per occupied bed (PPOB) can be measured as the ratio of:

$$PPOB = \frac{\text{Total Personnel (FTE)}}{\text{Beds x Occupancy Rate}}$$

Once again, research tends to use this variable as a short-range measure (see Coyne, 1982; Grimes and Moseley, 1976).

Total Expenses Per Occupied Bed--The ratio of total expenses to occupied beds. This ratio can be calculated as:

$$TEPOB = \frac{\text{Total Expenses}}{\text{Beds x Occupancy Rate}}$$

This measure approximates Grimes' and Moseley's (1976) attempt to develop a cost per unit of output measure. The measure developed here is more macro in nature, reflecting the total expenses that a hospital must deal with. This should indicate an outcome of the existence of a strategic

management process in that more formalized strategic planning and strategic implementation would yield better control over expenses. Harris suggested that "Financial viability . . . must be planned, not left to become a de facto occurrence" (1982, p. 44).

Personnel Expenses Per Occupied Bed--The ratio of payroll expenses to occupied beds. This ratio can be calculated as:

$$\text{PEPOB} = \frac{\text{Total Payroll Expenses}}{\text{Beds x Occupancy Rate}}$$

Once again this is a measure of how efficiently costs are controlled within the hospital. This represents a more micro view in that a major hospital expense is partitioned for closer observation. Payrolls represented 56.7 percent of community hospital expenditures in 1982 (Hospital Statistics, 1982).

Both of the expenditure-related measures (TEPOB and PEPOB) are relevant for this research given the emphasis on cost containment within the health care field. Smith, Fottler, and Saxberg (1981) have called cost containment the dominant problem in health care for the 1980's. These authors felt that planning has the propensity to resolve containment problems within the health care field. This view is shared by several other articles ("Competition May

Still Take a Back Seat," 1982; "No More Business as Usual," 1982; Vraciu and Griffith, 1979).

Relative Market Share--The relative market share variable is defined as the ratio of:

$$RMS = \frac{\text{Number of Admissions to Hospital}}{\sum_{i=1}^{n} \text{Admissions to Perceived Competitor Hospitals}}$$

This variable was included to represent the realities of marketplace competition within the hospital industry. The usage of market share (and market growth) is well documented in the field of strategic management. The most notable research lies within the Boston Consulting Group (BCG) matrix and the Profit Impact of Market Strategies (PIMS) models. Both models have postulated, and supported a positive relationship between market share and profitability (for details see Boston Consulting Group, 1968; Schoeffler, Buzzell, and Heany, 1974).

Although these studies are widely applied within the strategic management field, sparse documentation of their usage exists within the hospital literature. Most of the application centers around the work of Milch and Martinelli (1978) and Milch (1980) who examined the market performance of 17 Baltimore hospitals using the BCG growth/share matrix. Milch and Martinelli asserted that hospitals were to be considered growing, highly competitive, entrepreneurial entities who competed for scarce resources. To measure this

assertion, they utilized the hospital's percentage of total gross patient service revenues, expressed in current dollars, over all 17 hospitals as the proxy for relative market share. This can be somewhat misleading if the hospitals are in different geographical locations that are experiencing revenue fluctuations. Later, Milch (1980) proposed using the number of inpatient admissions as equalling "units sold." This variable could be observed for changes over time, and would reflect the competitive nature of the marketplace. Domanico's (1981) research focused upon discharges as the object of interest, while using the ratio formula shown on the previous page. Due to the lack of availability of discharge statistics, Milch's "inpatient admissions" was substituted into Domanico's formula. Domanico noted that inpatient admissions was acceptable for predicting future capacity utilization rates. Measurement of this variable was complicated by the lack of reciprocity between, or among, some respondents. A heuristic used in these cases was to observe factors such as:

- The geographical distance between (or among) hospitals;
- Terrain (i.e. mountains, rivers, and other natural, or man-made, barriers separating hospitals);

- Whether one of the hospitals was located in a "feeder" position. This primarily refers to the rural-urban dichotomy where larger hospitals in cities were perceived to provide more, and better, service(s).

If warranted, reciprocity was then established. This is not felt to have posed any special problems since the number of instances were small.

These variables represented the dependent variables examined in the study. Other pertinent variables such as the difference between gross and net patient revenues (gross revenues less discounts, contractual, and uncollectible accounts) were also considered. Due to inconsistent reporting to various state health agencies, and the lack of a five-year data base for all sampled hospitals, these other variables were dropped from further consideration. The five dependent variables used were chosen due to the ease with which their components were obtained from the AHA's Guide to the Health Care Field. The data in this publication were reported in a consistent manner over all years in the study.

These variables are ratio terms with three measures (TEPOB, PEPOB, PPOB) sharing the same denominator. This raises the problem of multicollinearity within the data. As Table 3.4 shows, the intercorrelations are weak in 1979 (1978 data), but are much stronger by 1983 (1982 data).

TABLE 3.4

ZERO-ORDER CORRELATIONS[a] AMONG DEPENDENT VARIABLES[b]
(N=22)

	PPOB	OR	TEPOB	PEPOB	RMS
PPOB	--	-15	-03	10	-21
OR	-69***	--	-08	-33	21
TEPOB	48**	-61***	--	73***	14
PEPOB	72***	-83***	77***	--	08
RMS	-37*	43**	-50**	-39*	--

a Correlations above the diagonal are for time 1 and below the diagonal are for time 2. Two-tailed test of statistical significance. Decimals have been omitted.

b Variables are defined as follows: PPOB = Personnel per occupied bed; OR = Occupancy rate; TEPOB = Total expenses per occupied bed; PEPOB = Personnel expenses per occupied bed; RMS = Relative Market Share.

* $P \leq .10$
** $P \leq .05$
*** $P \leq .01$

This posed no special limitations on analyzing the data since terms sharing a common denominator (occupied beds, in this case) are statistically controlled with respect to the correlation between the two ratios (Rushing, 1974). Usage of multivariate techniques (described later in this chapter) also served to control for these intercorrelations while permitting examination of the multidimensional nature of the strategic management-performance relationship (Hair, Anderson, Tatham, and Brabowski, 1979).

Finally, the selected dependent variables had the quality of being comparable statistics. For the expense-based data, all in-state regional variations were controlled for by adjusting these data by the yearly Virginia Metropolitan CPI for health care. This adjusted all hospitals to a statewide index of 100, thus eliminating variations in expenses by location (May and Sheatsley, 1978 through 1982). Adjusting for inflation strengthened the quality of comparability by allowing different hospitals to be measured against one another along a common base.

SAMPLING TECHNIQUE

Population Definition

The American hospital industry is comprised of nearly 7,000 institutions. According to the American Hospital Association, this population can be divided into two

distinct groups: community hospitals and noncommunity hospitals (Hospital Statistics, 1981). Community hospitals included nonfederal, short-term hospitals providing general and other special services. Noncommunity hospitals would include all federal hospitals plus those hospitals treating disorders such as alcoholism, mental retardation, psychiatric disorders, and tuberculosis.

Community hospitals today represent the bulk of the American health care industry. They:

- represent nearly 84 percent of total national health facilities.
- employ approximately three million workers with a total payroll of 51 billion dollars.
- provide for 70 percent of the total inpatient-days in the United States.
- provide in excess of 90 percent of the total United States hospital admissions (Hospital Statistics, 1983 edition).

The American Hospital Association's (AHA) categories of size, control, and census division can be used to categorize the community hospitals. These are shown as follows:

- Size: Hospitals in the United States range in size from six beds to in excess of 500 beds (22.6 percent of all beds). The standard AHA size categories can be seen in Table 3.5. This table shows that the "small" and "medium"

Table 3.5

AHA CLASSIFICATION OF HOSPITALS BY SIZE--
ALL NONGOVERNMENT, NFP HOSPITALS

Category	Beds	Number	Percent
Small Hospitals	0-99	1149	34.2
Medium Hospitals	100-399	1716	51.2
Large Hospitals	400 and over	489	14.6
Total		3354	100.0

Note: Some confusion exists in the reported size categories used by the AHA. All statistical tables separate hospitals into eight size categories (6-24; 25-49; 50-99; 100-199; 200-299; 300-399; 400-499; 500 and over). However, the same statistical guides define "small," "medium," and "large" by the categories used in the table.

Source: American Hospital Association, Hospital Statistics. 1983 edition. Chicago, 1983, p. 14.

combined groups represent 90 percent of all nongovernment, not-for-profit (NFP) hospitals.

- Control: Community hospitals vary with respect to legal status and method of control. The three main types of control are:

1. Governmental, nonfederal hospitals--Those hospitals managed by departments or agencies of state and local governments;

2. Nongovernmental, not-for-profit hospitals--Those hospitals that are either church operated or truly community hospitals. Not-for-profit is a legal term defined by Section 501(c)(3) of the Internal Revenue Code. The Code states that any corporation organized for charitable purposes is a tax-exempt organization (1980, p. 533). Carper (1979) found this to include almost 300 categories of organizations;

3. Investor-owned hospitals--Those hospitals managed on a profit-seeking basis by an individual, a partnership, or a profit-making corporation.

Study Population

Restrictions such as time, distance, and monetary limitations place the consideration of studying all 3,354 nongovernment, NFP hospitals beyond the scope of this research. However, through the use of selected criteria, a portion of the total population was examined.

In this research, the study population was defined as follows:

Control Code 23--Indicates that the hospital in question is a nongovernment, not-for-profit, nonchurch, nonteaching hospital.

Service Code 10--Indicates a general medical and surgical care hospital.

Stay Code "S"--Indicates a short-term hospital. "Short-term" refers to any hospital that has an average length of stay (for all patients) of less than thirty days duration, or over fifty percent of all patients admitted to units where the average length of stay is less than thirty days duration.

Accreditation Code JCAH--Indicates a hospital which is accredited by the Joint Commission on Accreditation of Hospitals.

Membership Code AHA--Indicates a hospital which is a member of the American Hospital Association.

For purposes of comparability all hospitals had to meet these requirements in both 1979 and 1983 (1978 and 1982 data). Also, all hospitals had to report data to the AHA in each of the five years in question. This allowed for uniformity in reported data. Graeff (1980) pointed out that a classification scheme of using specific definitions prevents

the mixing of "apples and oranges" when sampling across either different domains or different categories.

The sampled institutions were also required to meet one additional requirement, namely:

Geographical Location--All selected hospitals came from the Commonwealth of Virginia. Limiting the study population to a single state serves to reduce the generalizability of the findings to other states, but does control for state-by-state variations due to different enacted legislation.

These criteria served to narrow the study population to a maximum of 43 NFP hospitals (n=70 for entire state). These hospitals can be further subdivided by the variable of size. According to the AHA, the number of beds represents hospital size. Other research (Carper, 1979; Kimberly and Evanisko, 1981; Neuhauser, 1971; Perlin, 1971; Pfeffer, 1973) also tends to document number of beds as the primary means of defining hospital size. As seen in Table 3.5, the AHA classification format shows unequally sized categories with more hospitals falling into the "medium" grouping. Table 3.6 shows that Virginia follows roughly the same pattern but is fairly over-represented in the "medium" grouping and under-represented in the "small" grouping. This posed no problem since Breindel (1980) found the existence of long-range plans in Virginia hospitals to be unrelated to size. Due to this finding, and in order to

Table 3.6

SAMPLED VIRGINIA HOSPITALS AS CLASSIFIED BY AHA CATEGORIES

Category	Beds	Number	Percent
Small Hospitals	0-99	2	5.9
Medium Hospitals	100-399	27	79.4
Large Hospitals	400 and over	5	14.7
Total		34	100.0

maintain consistency in data comparison, the AHA classification format was retained.

In order to comprehend more fully the strategic management process that operated within the selected hospitals, it was necessary to collect information that attempted to describe adequately the process. This information also had to reflect the stated research hypotheses since this is our primary means for theory testing (Hunt, 1976). In this research, the method of collecting this information was through the use of a mail questionnaire and a personal interview process.

Questionnaire Development

For the purpose of gathering data about hospital planning efforts, a questionnaire was developed under a grant sponsored by the Virginia Hospital Association (VHA) and the Virginia Hospital Research and Education Foundation (VHREF). This questionnaire was mailed out to all hospital administrators (CEO's) within the state of Virginia under the supervision of Dr. Charles Breindel, Assistant Professor of Health Administration, Medical College/Virginia Commonwealth University. In order to increase the response rate, the questionnaire was mailed out under the letterhead of the VHA (Kanuk and Berenson, 1975).

The questionnaire was prescreened by the following person(s):

- Researcher's major advisor(s),
- Colleagues at Virginia Commonwealth University,
- Dr. Charles Breindel,
- VHA Committee on Health Planning.

The inclusion of these groups helped to filter out any grammatical, semantic, or other problems that may have occurred in the questionnaire itself.

In terms of questionnaire content, the major areas of interest covered within the questionnaire were:

A. Preparation of written planning document;

B. Analysis of content of written plan including formulation of mission, objectives, environmental analysis, and specific action programs;

C. Identification of planning review and approval process;

D. Identification of existence of a regular planning cycle;

E. Descriptive statistics such as the time period covered by strategic plans.

These items were used to discriminate among degrees of strategic planning intensity (see Data Analysis section).

Personal Interview Guide

In order to assess the level of strategic implementation and to cross-validate (and supplement) the mail questionnaire data, a series of personal interviews were

conducted. These interviews were conducted over a period of two months (mid-November, 1983 to early January, 1984) with the hospital administrator (CEO) and/or the corporate planner in each of the hospitals described below.

The personal interviews were selected from only those NFP hospitals operating within a 200-mile radius of Richmond, Virginia. Combined with the previous controls, this served to narrow the study population to 43 hospitals. This geographical limitation was deemed essential due to constraints on time and monetary resources.

The interview process was conducted using a mixed mode analogous to Bouchard's (1976) Type II interview (specified questions but answers left open to the respondent) and Type IV interview (a nondirective interview, primarily interactive in nature). This combination served to:

- Improve measurement reliability by standardizing questions across respondents while maintaining flexibility in ordering of questions.
- Improve data exchange by building a rapport between the researcher and the interviewer.

The granting of anonymity probably increased the level of candid responses. Good rapport is felt to have been established based on the sensitive nature of some collected information.

The personal interview guide (PIG, see Appendix E) concentrated on gaining information about how the strategic

implementation processes were structured. The major focus was on the strategic implementation process. Interviews were felt to be preferred in this case in order to prevent adding an extra section to the mail questionnaire, thus controlling for questionnaire length. Also, personal face-to-face discussions allowed for elaboration of responses.

Sampling Method

From the 43 hospitals in the study population, 36 were chosen for closer examination. Only those hospitals operating within a 200-mile radius of Richmond, Virginia were selected. In order to control for any potential bias in selection, a probability sampling technique was used. The probability technique used was a simple random sample which assured each element of the relevant population an equal chance for inclusion. This task was accomplished by using a random digit table from the Rand Corporation (see Emory, 1980, p. 518). Each hospital was assigned a two-digit code number (beginning with 00) based on its alphabetical position, then the table was checked for appearance of these numbers until 36 positions were filled. Although a probability sampling technique controls for external bias, there is still a possibility that some type of periodicity or trend existed in the AHA listing. Perlin (1971) stated that while the hospitals are listed alphabetically in the Guide issue of the AHA, periodicity in the list is

improbable. This is because hospitals of different sizes and controls appear at random within the list.

Sampling Results

Of the 36 hospitals chosen for examination, two were later eliminated from further observation due to the addition of long-term care facilities in the period between 1978 and 1982. Even though these changes can be considered "strategic" in nature, inclusion of these facilities may have contaminated the research findings. This belief is due to the obvious difference of these facilities from the remainder of the sample.

The response rate for the mail questionnaire was 70.6 percent (24 out of 34 hospitals). The statewide response was only 46 percent (63 out of 137 hospitals). A probable explanation is the post-mailing telephone contacts requesting personal interviews in conjunction with the questionnaire(s). Table 3.7 shows both the mail questionnaire response rate and the interview response rate.

The response rate of the personal interviews was 100 percent. This response rate is encouraging since it showed a desire for the participants to gain a greater understanding of the strategic management process through external contacts. Several participants mentioned concerns along these lines.

Table 3.7

RESPONSE RATE OF SAMPLED HOSPITALS IN VIRGINIA
(1983 SURVEY)

Category	Breindel's Original Sample (1979)	New Respondants (1983)	Total
1. Questionnaire Data			
Questionnaires Mailed	22	12	34
Returns	15	9	24
Percent Returns	68.2	75.0	70.6
2. Interview Data			
Hospital Visits	22	12	34
Percent Interviews	100.0	100.0	100.0

DATA ANALYSIS

As previously mentioned, the research sought to examine the effect(s) of strategic planning and strategic implementation (independent variables) on five selected dependent variables. The research examined these effects by using both longitudinal and yearly time frames.

In order to test the hypotheses relating strategic planning to performance, two strategic planning scores were developed. The mail questionnaire allowed for building a longitudinal strategic planning score since the questionnaire replicated Breindel's 1979 mailing. This approach was valid because the instrument was similar at both time periods (Emory, 1980, p. 129). Thus, the mail questionnaire represents a more objective, and more mechanical, method for assessing levels of strategic planning.

The second strategic planning score was developed from the researcher's personal interviews at the 36 institutions. Each hospital was assigned a judgmental score (0-50 point scale) upon completion of the interview. It was not expected that the judgmental score would exactly replicate the mail questionnaire score due to interviewer bias, maturation, and history as the interview process evolved. However, this score was felt to have validity as a "best judgment" of a hospital's "real" planning level. The interview score also prompted a review of the mail questionnaire

(and any other documentation) whenever a discrepancy existed. The correlation between the 1979 mail questionnaire score with the 1983 judgmental score was r=.43 ($p \leq .01$). The "old" mail questionnaire planning score was correlated with the "new" mail questionnaire score at r=.73 ($p \leq .01$) (see Table 3.8 for complete listing of zero-order correlations among the independent variables).

Requiring strategic planning scores at two intervals reduced the longitudinal sample to 22 hospitals. Although this appeared to have limited the analysis, addition of the 1983 judgmental planning score (JPS) allowed for multiple longitudinal combinations.

The strategic implementation score was also derived from the interviews, and is therefore judgmental. The implementation score was static in content since no prior (i.e. 1979) measurement was available.

Strategic planning and strategic implementation groupings were formulated based on the median score on all three scales. This allowed for forming two groups under each variable. Other research has used a similar approach (Ansoff, et al., 1970; Fulmer and Rue, 1974; Thune and House, 1970).

In order to test the hypotheses, two procedures were utilized:

1. Multivariate Analysis of Variance (MANOVA).
2. Cross-Lagged Correlation Analysis (CLC).

Table 3.8

ZERO-ORDER CORRELATIONS[a] AMONG INDEPENDENT VARIABLES[b]

	OldPS	NewMQS	NewJPS	ImpScore
OldPS	--	73***	43***	65***
NewMQS		--	44*	50**
NewJPS			--	65***
ImpScore				--

a Correlations are based on N=22 except for those under new mail questionnaire score (N=15). Decimals have been omitted. Two-tailed test of statistical significance.

b Variables defined as: OldPs = Old mail questionnaire planning score; New MPS = New mail questionnaire score; NewJPS = New judgmental planning score; ImpScore = Implementation score.

* $P \leq .10$
** $P \leq .05$
*** $P \leq .01$

Hypotheses 1 through 5 (long-term performance) were examined using both of the methods stated above. Hypotheses 6 through 10 and hypotheses 11 through 15 (short-term performance) were tested using only the multivariate analysis of variance technique.

Multivariate analysis of variance was chosen due to the perception of interactive effects of strategic planning and strategic implementation on performance, and due to the multidimensional nature of strategic management and performance (Hatten, in Schendel and Hofer, 1979; Kirchoff, 1977). MANOVA is appropriate because it:

- Takes correlations among independent variables into account.
- Allows for testing the significance of mean differences k-dimensionally (univariate tests use a unidimensional mode).
- Allows for considering more than one dependent variable as a set. This controls for the fact that separate univariate tests may not show significance.
- Reduces the possibility of erroneous results vis-à-vis testing a hypothesis on the interaction of two independent variables on a given dependent variable using simple "t" tests.

MANOVA was also deemed appropriate given the presence of multiple dependent and independent variables, especially

since the dependent variables were metric (interval scale) and the independent variables were nonmetric (Emory, 1980). Usage of multivariate analysis also provided a "gatekeeper" function in that added univariate tests may be performed to see which variates exhibit the greatest mean differences (Finn, 1974). Wherever multivariate tests were significant ($F \leq .10$), further analysis was taken along these lines. The multivariate analyses were run as 2x2 and 2x2x2 factorials. This allowed for examining both main effects and any interactions.

The second procedure chosen was that of cross-lagged correlation analysis (CLC). Cross-lagged correlation allows for determining the direction of causality in a given relationship. Causation has long been sought in explaining strategic relationships (Chandler, 1962; Galbraith and Nathanson, 1979; Patton, 1976). Cross-lagged correlation also provides certain contextual information about a two-variable relationship, namely:

- Two static correlations for time 1 and time 2 (rx_1y_1, rx_2y_2).
- Two autocorrelations (rx_1x_2, ry_1y_2).
- Two cross-lagged correlations (rx_1y_2, ry_1x_2).

The autocorrelations are considered to be representative of the stabilities of the two examined variables (Bateman and Strasser, 1984). The method described is known

generally as a two-wave, two-variable (2w2v) approach (Kenny, 1973). Rogosa (1980), however, has severely criticized this approach to CLC due to discarded information. He also noted that the process may actually lead to erroneous conclusions. Due to these weaknesses, a structural regression approach to CLC was chosen. The structural regression method states that the causal influence for a given set of variables (x and y) is represented by the regression parameter of the path from x at time 1 (t_1) to y at time 2 (t_2). Similarly, the causal influence from y to x is represented by the regression parameter of y at t_1 to x at t_2. In equation form this is represented as:

$$x_2 = \beta_0 + \beta_1 x_1 + \gamma_2 y_1 + u$$

$$y_2 = \gamma_0 + \beta_2 x_1 + \gamma_1 y_1 + v$$

The standardized parameters β_1 and γ_1 represent the lagged influence of a variable on itself over time, while β_2 and γ_2 represent the reciprocal time-lagged causal effects between x and y. Given the normal assumptions of regression analysis (for example, linearity and additivity) a nonzero value of a relevant parameter indicates a significant causal effect. Therefore if:

$\beta_2 = \gamma_2 = 0$ (No causal effect)

$\beta_2 > \gamma_2$ (x "causes" y)

$\gamma_2 > \beta_2$ (y "causes" x)

According to Bateman and Strasser (1983, 1984), this method controls for the "dependent" variable's t_1 influence

upon itself. They caution that this procedure does not ultimately "prove" causality, but strengthens the confidence in making causal inferences. This is especially true if one of the pertinent regression parameters is statistically significant. Reciprocal causation can also be assumed if both β_2 and γ_2 are significant. Cross-lagged correlations were used as a supportive means of determining causality in the research. The structural equations utilized were in the same format as mentioned above with equations run on on the 1983 mail questionnaire score.

Figure 3.3 visually depicts the relationships between the strategic management components and performance. This figure also shows the sources of the strategic planning and strategic implementation scores plus the source of the long-range and short-range performance measures.

SUMMARY

Chapter 3 examined the research methodology used in the study. The chapter examined the generation of hypotheses, definition and measurement of critical variables, sampling technique, and the data analysis procedures.

In terms of hypotheses, three theoretical and fifteen testable hypotheses were formulated dealing with the strategic management components and their relationship to performance.

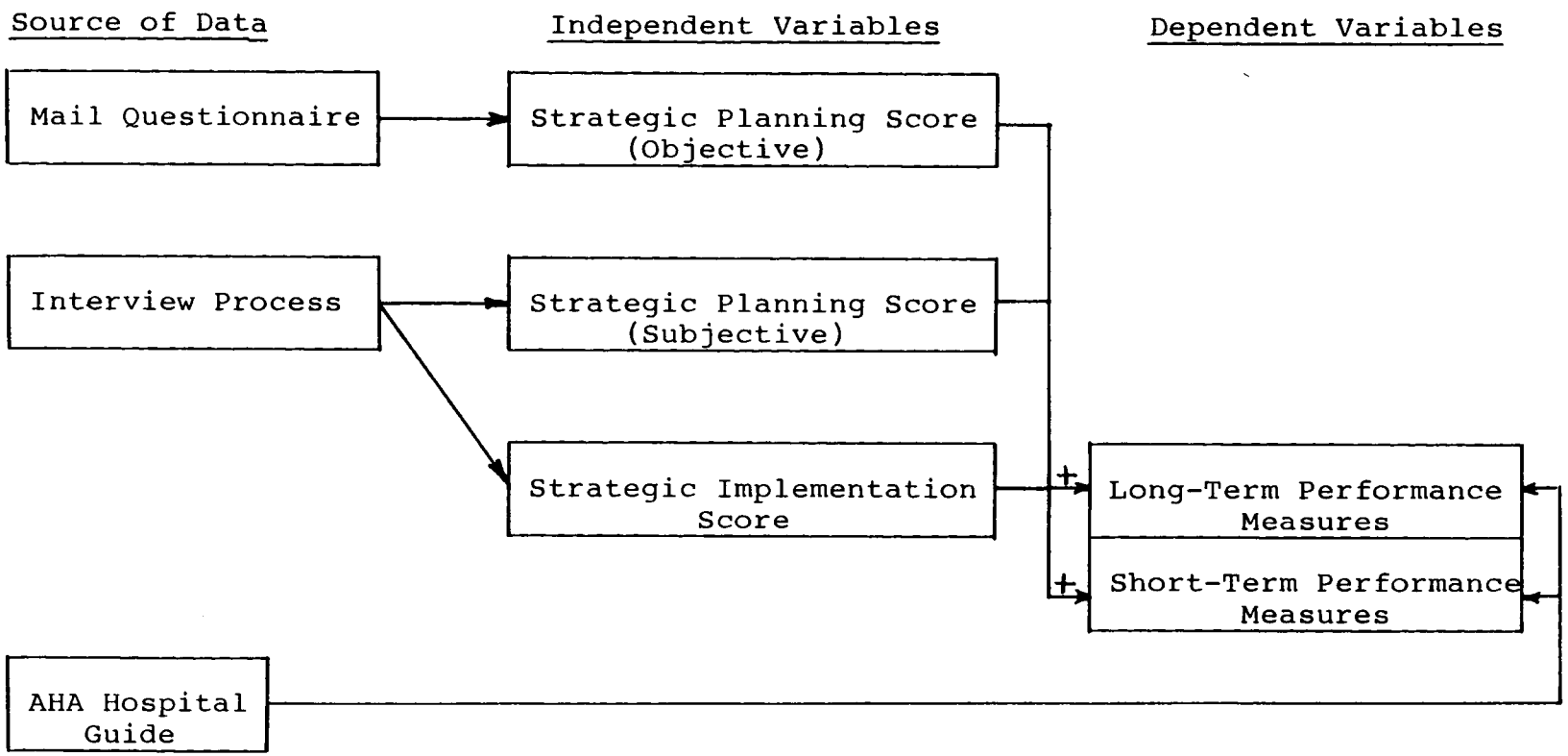


Figure 3.3

Measurement and Hypothesized Relationships Between Strategic Management Variables and Performance

The section dealing with the definition and measurement of the critical variables formalized the concept of strategic management that was used in the study. This was done, only after a discussion of the components making up strategic management (strategic planning plus strategic implementation/evaluation and control) and the confusion existing within the field as to a precise definition of these terms.

In order to arrive at performance measures, a literature search was undertaken that revealed the scope of the debate as to what constitutes "performance." From this discussion, and the literature, long-range and short-range performance definitions were generated. Five dependent variables (occupancy rate, personnel per occupied bed, total expenses per occupied bed, personnel expenses per occupied bed, and relative market share) were also developed. A brief logic was given for the selection of each.

The third part of the chapter discussed the population and sample definition of the study. It was found that the community (NFP) hospital segment represents nearly 84 percent of total health care facilities while providing a payroll of nearly 51 billion dollars.

Using classification variables of size, control, census division, and data reporting methods, the study population was subdivided into those NFP hospitals operating within 200 miles of Richmond, Virginia. This represented 43 hospitals.

In order to gather data for measuring and testing the hypotheses the data collection procedures selected were a mail questionnaire and a personal interview process (see Appendices C and E, respectively). The sample was narrowed down to 36 hospitals. From this group, 36 interviews were held and 22 longitudinal scores established.

The chapter then discussed the data analysis procedure. In order to test statistically the hypotheses, two methods were used:

1. Multivariate Analysis of Variance (MANOVA).
2. Cross-Lagged Correlation Analysis (CLC).

The prescribed hypotheses were then matched up with each of these procedures. The multivariate technique was selected due to the perceived multidimensional relationship among the variables. Cross-lagged correlation was chosen in order to test for reciprocal causation.

A model of the strategic management components and their relationship(s) to long-range and short-range performance was then developed.

CHAPTER 4

RESEARCH FINDINGS

This chapter presents the research findings. An overview based on descriptive statistics and interview results is discussed first. Empirical results dealing with the longitudinal and the short-term changes in performance as a result of strategic management are then analyzed.

OVERVIEW OF STRATEGIC MANAGEMENT IN VIRGINIA HOSPITALS

This section discusses the results of the mail questionnaire first. The interview findings will be discussed after this section.

Mail Questionnaire Results

One of the premises discussed earlier was that of the increasing amount of pressure being exerted on, and within, the hospital industry as a result of increasing competition, environmental topics such as increasing competition, changing regulatory actions, financial pressures, and so on. It was felt that a well-designed (and well-implemented) strategic planning system is the means for meeting this change. Previous research (Bander, 1980; Breindel, 1980; Mankin and Glueck, 1977) has found little evidence of the existence of well-developed planning processes in hospitals. This study finds that this has changed, at least in Virginia. The

strategic planning process has begun to emerge and is taking a more prominent place within the operations of the hospital. The average planning intensity score for the most current mail survey was 27 out of a possible 50 points (range = 5 to 47 points). This is higher than the mean of 21 points (out of 50) exhibited by those hospitals used in this research who returned a 1979 mail questionnaire. Table 4.1 shows Breindel's 1979 mail survey results against this study's findings in other major categories. The table clearly shows an increased level of strategic planning within the Commonwealth of Virginia. This difference may actually be greater since 13 of Breindel's mail questionnaires came from investor-owned (profit-oriented) hospitals. The current research controls this factor by omitting this type of hospital.

In the 1979 survey only 62 percent of responding institutions indicated the existence of a long-range plan. The current survey showed a 71 percent level. Including those hospitals who stated that completion of a long-range plan was imminent increased the current response rate to 92 percent. All finalized plans in the current survey, except one, were approved by the board of trustees. It is possible that this increase in the existence of long-range plans (both completed and those nearing completion) is due to the context of changes in the external environment, especially that of increased medical care inflation which has continued

Table 4.1

AREAS OF HOSPITAL PLANNING INTENSITY
MAIL SURVEY RESULTS 1979 AND 1983

	Breindel 1979		Pitts 1983	
Area	Number	Percent	Number	Percent
Response Rate	71/123	57.7	24/34	70.6
Mean Size	211 Beds	--	264 Beds	--
Existence of a Long-Range Plan	44	62.0	17	70.8
Hospital Planning Department (Operational)	4	9.1	4	16.7
Hospital Planner (Full-Time)	4	9.1	5	20.8

to outpace the general price index (CPI). As this inflation has progressed, several factions have sought reforms ranging from championing alternative healthcare systems to fixed-rate reimbursement plans (DRGs). These actions, besides being complex, are apparently sufficient to change the basic structure of healthcare in this country.

The remaining areas also showed an increase over 1979 levels. The areas of "hospital planners" and "hospital planning departments" showed increases at rates below that of other areas. This was originally believed to reflect an earlier finding by Breindel (1980), namely that the chief executive officer is the "chief planner." A detailed examination of those hospitals having completed plans showed this was no longer the case. Of these 17 hospitals, the CEO was the main planner in only six of the institutions, while the planning director was considered the chief planner in seven institutions. (Table 4.2 presents a more complete breakdown of the response rate of those hospitals returning the 1983 mail questionnaire.) A statistical regression analysis (see Table 4.3) shows that the existence of a hospital planning department and the presence of a hospital planner are both significantly correlated to hospital size. In this survey, all hospitals exhibiting these two areas were larger than the mean of 264 beds. The table shows that these were the only two areas showing statistical significance.

Table 4.2

1983 MAIL QUESTIONNAIRE PERCENTAGE RESPONSE RATE
BY CATEGORY
(N=24)

Category		Percentage Response
1.	Existence of long-range plan	71.0
2.	Existence of board approved long-range plan	67.0
3.	Plan preparation date:	
	A) 1976-1978	13.0
	B) 1979-1981	33.0
	C) 1982-1984	25.0
	D) In progress	29.0
4.	Period covered by plan:	
	A) Less than 3 years	13.0
	B) 3-5 years	50.0
	C) 5-7 years	4.0
	D) Greater than 7 years	4.0
	E) No plans	29.0
5.	Plan updated:	
	A) Yearly	33.0
	B) Every two years	13.0
	C) No long-range plan	29.0
	D) No response	25.0
6.	Plan contents:	
	A) Mission	67.0
	B) External Environmental Analysis	63.0
	C) Internal Environmental Analysis	58.0
	D) Master facilities plan	38.0
	E) Financial plan	29.0
	F) Capital budget	29.0
	G) Goals	21.0
	H) Marketing plan	13.0
	I) Operating budget	4.0
	J) Contingency plan	0.0

Table 4.2 (Continued)

Category		Percentage Response
7.	Plan reviewed by:	
	A) Planning committee	46.0
	B) Finance committee	25.0
	C) Executive committee	21.0
	D) Planning and facilities committee	13.0
	E) Other committees	13.0
8.	Existence of a formal planning department	17.0
9.	Planning function delegated to:	
	A) Planning director	29.0
	B) CEO	25.0
	C) Vice-President, Assistant, or Associate Administrator	13.0
	D) Other	4.0
	E) No response	29.0
10.	Planners' roles:	
	A) Facilities planning	50.0
	B) Prepare long-range plan	46.0
	C) Staff assistant	46.0
	D) Data collection	46.0
	E) Management-by-objectives development	24.0
	F) Financial planning	21.0
	G) Annual budget	17.0
	H) Other	8.0
11.	Plan development assisted by:	
	A) Board of trustees	58.0
	B) Medical staff	58.0
	C) Hospital personnel	50.0
	D) Consultants	42.0
	E) Other groups	38.0
12.	Amount of time (hours per week) spent on planning by planner:	
	A) $\geq$ 35	21.0
	B) 25-34	4.0
	C) 15-24	8.0
	D) 5-14	8.0
	E) < 5	29.0
	F) No response	29.0

Table 4.2 (Continued)

Category		Percentage Response
13.	Plan distributed to:	
	A) Administration	71.0
	B) Board of trustees	67.0
	C) Medical staff	58.0
	D) Hospital personnel	21.0
	E) Other	13.0
	F) Plan in progress	29.0
14.	Planning done on:	
	A) As needed basis	13.0
	B) Period basis	13.0
	C) Continuous basis	46.0
	D) No plans	29.0
15.	Hospitals considering expanding planning activity in near future	42.0

Table 4.3

MULTIPLE REGRESSION ANALYSIS OF PLANNING COMPONENTS WITH SIZE
(N=24)

Variable	R^2	PR>F (Significance of F-Test)
Board Approved Plan	.00	.800
Plan Content	.03	.410
Existence of Planning Committee	.07	.210
Planning Department	.18	.038
Planner	.32	.004

As for an explanation of the findings regarding the existence of a planning department and/or a planner, several alternative explanations exist. First, it is possible that this relationship is due to existence of surplus resources that would allow establishment of a department and/or hiring a planner. A secondary explanation lies in the location of each hospital having these factors. All of these hospitals were in urban locations except one. It is probable that urban hospitals facing more numerous competitive pressures require a formalized planning department. A more likely explanation is the increased complexity of a hospital that comes with size. In this case, a planning department and a planner would serve as a "division of labor" thus freeing up the CEO's time for dealing with other matters. This facet, in conjunction with the urban location, would appear to be a logical explanation of the findings.

Other statistics show that the majority of the surveyed hospitals (n=14; 58 percent) have prepared their "long-range" plan since 1979. On the average, a hospital updated their plan yearly.

These "long-range" plans appeared to be comprised primarily of mission and environmental statements. A mission document was included in 16 of the completed plans, while an external environmental analysis was found in 15 plans. (The internal environmental analysis was found in

only 14 plans.) These three documents dominated the plan content section.

A general lack of goal-oriented documentation and a lack of marketing plans occurred within the sample. Only five facilities (21 percent) stated that their long-range plans included a set of goals (or objectives if so indicated). Only three hospitals (13 percent) indicated an existence of marketing plans. Both of these findings were in hospitals below the mean size of 264 beds. As for marketing plans, perhaps these smaller hospitals are attempting to carve out a niche in their given market. Usage of a detailed marketing plan by a smaller urban hospital would not necessarily be unusual if a highly competitive local situation existed, and if this hospital wanted to solidify its market position versus its larger rivals. Existence of a marketing plan in smaller rural hospitals is more difficult to explain. It is possible that larger hospitals in nearby urban centers have begun to diversify geographically either by using mobile services or by the use of "satellite" operations such as outlying clinics or doctor's offices. Therefore, a rural hospital operating in this situation would be forced to protect its territorial market.

The lack of goal documentation casts doubt on the completeness of the strategic planning process in the surveyed hospitals. It is likely that the goal sets in each

hospital was a flexible, more informal list of items to be accomplished. It is also possible that some hospitals simply did not consider the inclusion of goals as part of the finalized plan. It is hard to understand why this would be true unless an administrator would not desire to be held to specific targets (Wrapp, 1967).

Less than half of the hospitals (n=7; 29 percent) included a financial plan as part of their content. When included, existence of a financial plan did not appear to be related to hospital size or geographical location. It does appear that overall strategic "completeness" was relevant in explaining the existence of these plans. The majority of the seven hospitals having a financial plan had higher strategic planning scores (not counting the points awarded for having this plan section). Therefore, this finding becomes less surprising if the more intense strategic planners are establishing funding mechanisms for future strategic moves. This would be consistent with expectations of what a more "complete" strategic planner should be doing with its resource base. Since most plans (n=12; 50 percent) were developed three to five years into the future, existence of a financial plan would be in line with future resource acquisition, and the meshing of these with other plan areas.

In developing the content area of a hospital's plan, four groups appear to be dominant, outside of the CEO. These groups include the board of trustees, hospital personnel, the medical staff, and outside consultants. The board of trustees and the medical staff have long been discussed as part of a power triad existing with the hospital. (See for example, Saltman and Young, 1981). The finding that hospital personnel and outside consultants were also involved is consistent with the literature. Regarding the personnel, there did appear to be a difference in how input was received, and how the distribution of plan results were handled. While all hospitals welcomed some form of employee input, only 21 percent (n=5) of the hospitals distributed copies of the plan to the general employees. The board of trustees, administration, and the medical staff all had ready access to the plan, except in one hospital where the full plan was not distributed to its board members. The hospital employee's knowledge of plan content came primarily through formal channels, mainly their supervisor. Most hospitals appeared to operate on a "need to know" basis when communicating details to the lower levels of the hospital. This is not to say that only a select few observe the end results. A plethora of review committees existed in the hospitals. The majority of these (n=15; 63 percent) carried the word "planning" in their title. Approximately 38 percent of the hospitals (n=9) used more than one committee

to review the plans. One smaller hospital had four committees reviewing its plans. Only one other hospital had in excess of two committees for its review process.

While most hospitals considered their planning process to be dynamic and continuous (n=11; 46 percent) an apparent level of stability appears to have been reached. Fourteen of the hospitals indicated that no expansion of planning facilities would occur in the near future. The ten hospitals that indicated change were evenly spread out across the size categories except for a small cluster in the 125 to 200 bed range. Overall, these hospitals were planning to add new activities, new personnel, or new functions. Apparently most hospitals perceived themselves as having reached the proper mix of people and activities for executing their current long-range plan.

In conclusion, it appears that the level of planning may have increased in Virginia since 1979. It is also apparent that size, except for its impact on the presence of planning departments and planners, had little relationship with the amount of planning carried out in the sampled institutions. A typical hospital from the sample would be a medium-sized facility having a board-approved plan covering a three to five year time horizon. This plan would be updated yearly and would have been completed between 1979 and 1983. The preparation of the planning documents was

done internally with some consulting help. Hospital employees on the lower levels had bottom-up input, but also had limited access to the final completed project. As one moved up the hierarchy, access to the plan increased. Formal planning departments and formal planning positions were scarce in this typical hospital. The CEO was likely to still be the chief planner, but had apparently begun to delegate this task to a person holding a position with "planning" in the title. This planner was basically a staff assistant responsible for collecting and analyzing data, and for preparing the long-range plan.

A typical hospital in the survey also viewed planning as a dynamic, continuous function, hence the yearly update and the number of committees. These hospitals were about evenly split on whether changes would be occurring in future planning activities. If the hospital was considering expansion it was most likely to occur through the addition of new activities. The typical hospital did not yet have a financial or marketing plan in place for supporting these expansionary moves. The planning documents were still oriented towards having a mission statement and towards having an environmental analysis.

These survey results tend to contradict portions of earlier research. Perlin (1971) found that the median time period for a completed planning document was ten years. The current survey found a median time period of only three to

five years in duration. The impression gathered from the interviews was that a period of three to five years represented a maximum workable horizon for composing plans. A period beyond five years was felt by the administrators as being too uncertain to plan for. This recognition of the environment and its changes is also different from the research of Mankin and Glueck (1977) who found ineffectual amounts of environmental analysis. Divergence from these earlier results should be expected given the dynamic environmental changes since these research pieces were published. The current study appears to be more consistent with recently published work. For example, the findings on the percentage of hospitals having long-range plans, and the findings on the usage of consultants, is consistent with the 1982 results of a nationwide survey by the University of Southern California's Center for Health Services Research ("Survey provides data on in-house planners," 1982).

Personal Interview Results

Interview results were available for 34 hospitals, or 100 percent of those invited to participate. The focus of the personal interviews was to gather data on the strategic implementation process within each hospital. The interview process also yielded a judgmental planning score for comparison against the mail questionnaire results. The areas examined under strategic implementation were: communication

of the plan, coordination and integration mechanisms, performance measurements, evaluation and control processes, and plan usage. Table 4.4 presents a detailed analysis of the response rate in each category. The average implementation score was only 16 out of a possible 50 points (range = 5 to 43 points).

In terms of plan distribution, an average of three groups received the completed plan. This was consistent with the mail questionnaire finding that the main groups receiving the plan were the administration, board of trustees, and the medical staff. One large ($\geq$ 400 beds) hospital stated that they distributed their plan to five groups. This was the only hospital to distribute their plan to more than four groups. Eight (total n=27; 30 percent response) medium-sized hospitals indicated that four groups received the plan. One of these hospitals, however, indicated in their mail questionnaire that a long-range plan was only in the preparation stage. It is possible that portions of the plan had been distributed by the date of the interview. Plan distribution was not related to hospital size ($r=-.08$, $p=.65$).

In examining the coordinating and integrating mechanisms, several unexpected results were found. While the majority of hospitals had a long-range plan of at least three years' duration, only eight hospitals had a long-range

Table 4.4

1983 PERSONAL INTERVIEW PERCENTAGE RESPONSE RATE
BY CATEGORY
(N=34)

Category		Percentage Response
1.	Number of groups receiving final plan:	
	A) ≤1	0.0
	B) 2	32.0
	C) 3	35.0
	D) 4	29.0
	E) 5	3.0
2.	Existence of:	
	A) Long-range budgets	24.0
	B) Existence of other coordinating mechanisms	29.0
3.	Plan used for:	
	A) Making salary adjustments	26.0
	B) Judging managerial performance	47.0
	C) Judging staff performance	26.0
	D) Judging physician performance	6.0
	E) Judging nursing performance	21.0
	F) Monitoring cost performance	35.0
4.	Planning review meetings held:	
	A) Monthly	9.0
	B) Quarterly	26.0
	C) Yearly	65.0
5.	Number of groups reviewing plan:	
	A) 1	12.0
	B) 2	59.0
	C) 3	29.0
6.	Existence of a formal plan adjustment procedure	18.0
7.	Plan used by:	
	A) Board of trustees	24.0
	B) Medical staff	0.0

budget supporting the planning documents (see Table 4.5). The existence of these budgets was not significantly related to size (r=.22, p=.20), and were found in the slightly larger medium-sized hospitals ($\bar{x}$=310 beds). Only one large hospital had a long-range budget. It would appear that hospitals actually doing long-range "strategic" planning were planning beyond their resource base. This finding is similar to that of Holder (1978) and Cochran and White (1979) who found budgets to be yearly in nature, if they were established at all. In the interviews, those hospitals having long-range budgets were found to be more intense in both their strategic planning and strategic implementation processes. It would appear that these hospitals were truly considering their long-range plans and the funding of these plans. If this process continued, one should expect the strategic gap to widen between the more intensive planners and implementers, and those hospitals less intensive in each area.

The hospitals interviewed were more likely to have coordinating and integrating mechanisms other than a long-range budget. This would include departmental liaisons, staff and employee meetings, internal newsletters, and other similar mechanisms. Size was not significantly related to the use of these coordinating mechanisms (r=.28; p=.11). Once again the ten hospitals indicating existence of these mechanisms were in the upper-middle size range ($\bar{x}$=314 beds).

Table 4.5

PERCENTAGE OF HOSPITALS USING
LONG-RANGE BUDGETS AS COORDINATING AND
INTEGRATING MECHANISMS
(N=34)

Hospital Size	Percentage Response
Small (n=2)	0.0
Medium (n=27)	26.0
Large (n=5)	20.0
Total (n=34)	24.0

These hospitals also demonstrated a higher intensity of strategic planning and strategic implementation (28 versus 26 points and 22 versus 14 points, respectively).

The plan itself was not widely used for measuring performance. As Table 4.6 shows, salary adjustments, staff performance, physician performance, and nursing performance are in the minority when regarding performance measurement. Only when judging the performance of top management was a nearly equal proportion achieved, and even then primarily in the medium-sized hospitals. Since the upper levels of management (especially the CEO) are more visible, and are usually held accountable for outcomes affecting the hospital, this finding was as expected. The plan was more relevant for rewarding and controlling those who were more responsible regarding the hospital's long-range direction(s).

A correlation analysis was run which included the components of the strategic implementation score. In general the components were not highly correlated; however, several interesting relationships were noted. For example, those hospitals having a long-range budget were more likely to use the plan for judging the performance of top management ($r=.31$; $p=.07$). Management in these hospitals were held accountable for the setting aside of resources for accomplishing future plans. Hospital size may be an explanation for this finding. Correlation analysis, though, showed size

Table 4.6

PERCENTAGE OF HOSPITALS USING
STRATEGIC PLAN FOR JUDGING PERFORMANCE AND
SALARY ADJUSTMENTS
(N=34)

Strategic plan used for:	Hospital Size			
	Small (n=2)	Medium (n=27)	Large (n=5)	Total (n=34)
A. Salary adjustments	0.0	33.0	0.0	26.0
B. Managerial performance measurement	0.0	56.0	20.0	47.0
C. Staff performance measurement	0.0	26.0	40.0	26.0
D. Physician performance measurement	0.0	7.0	0.0	6.0
E. Nursing performance measurement	0.0	19.0	40.0	21.0

was not related to the monitoring of managerial performance (r=-.07; p=.67). Noting that the hospitals having a long-range budget were considered the more intense strategic planners is a more likely explanation of the linkage between the budget and managerial performance. This simply means that managerial performance analysis was found in those hospitals considered more intense in their approach to strategic planning and strategic implementation.

The remaining performance areas depended upon several different factors. Staff evaluation was related to both nursing evaluations and to the usage of the plan by the board of trustees. Since certain nurses (supervisors, etc.) may have been considered staff, the positive relationship (r=.35; p=.04) between staff evaluation and nursing evaluation is to be expected. The relationship between staff evaluation and board usage of the plan (r=-.33, p=.05) is puzzling. Thus, staff evaluation probably decreased as the board made greater use of the plan (or vice versa). This was a spurious relationship since the CEO was found to have substantial impact on compensation adjustments. The board probably would make salary adjustments in conjunction with the CEO, and then in only exceptional cases. Most administrators stated in the interviews that their board members were not interested in dealing with the daily affairs of running the hospital.

Evaluation of physician performance was closely related to four areas. Although few physicians were hospital employees, control was still exercised by the board and the administrator through the granting of privileges. Due to the onset of DRG's, physician performance was mentioned by many administrators as an area of major future concern. This concern did not lie in the quality-control area, which is carefully monitored, but lay instead in tracking physician costs in relation to their generated revenues. This would explain the positive relationship between using the plan to monitor cost performance and the evaluation of physician performance ($r=.34$, $p=.05$). Although only two hospitals tracked both physician costs and revenues, the majority of the administrators said that more attention would be paid to this process.

The physicians were also more closely monitored the more the board used the plan ($r=.45$, $p<.01$), the more groups the plan was distributed to ($r=.28$, $p=.10$), and the more frequent the meetings held for reviewing the plan ($r=.63$, $p<.01$). While the relationship between board usage of the plan and staff evaluations was considered possibly spurious, it is unlikely that this is the case with physician evaluations. A general employee does not carry either the power or the revenue clout that a physician does. This can become magnified where medical specialists are concerned. The interviews revealed that a medical staff liaison (usually

the chief of staff) either sat on the board or reported directly to the board. This may have artificially increased the correlation between board usage of the plan and physician evaluations since the medical staff has a more direct linkage to the board than the hospital staff does. This input may also explain the relationship between amount of plan distribution and physician evaluations. With regard to the frequency of plan reviews, only three hospitals held meetings on at least a monthly basis. Most reviews (n=22, 65 percent) occurred on a yearly basis. The number of meetings was the strongest correlate to whether the plan was used for measuring physician performance. This seemed to say that most boards perceived a yearly review as being sufficient. Tactical adjustments regarding physician performance were found to usually consist of personal meetings between the administrator, the physician, and the chief medical staff officer. Once again this finding indicates the desire of the board(s) to delegate daily operating tasks to the administrator.

The only area where hospital size had a statistically significant relationship was in the area of evaluating nursing performance (R^2=.16, F=5.90, p=.02). Nursing performance evaluations were clearly evident in the hospitals having a more sophisticated strategic planning function. The average size of hospitals using the plan to judge nurs-

ing performance was 330 beds while the average size for hospitals not using this procedure was 201 beds. In 1982, payrolls represented nearly 57 percent of total hospital expenditures (Hospital Statistics, 1983). Given that nurses are likely to represent the largest personnel cost item, those hospitals carefully monitoring their nursing performance should exhibit cost advantages in their total wage bill. Several hospitals mentioned that they were trying to control staffing by establishing a better overall employee-per-patient ratio. Techniques utilized ranged from operations research methods to an increased usage of part-time workers.

Throughout the discussion on the interview findings, the subject of cost control has appeared. Even though many hospitals expressed the importance of good cost awareness, only 35 percent (n=12) exhibited that they used the plan as a vehicle for monitoring costs. As with the majority of previous findings, the larger hospitals appear to be most active in this area. The mean size of hospitals using the plan for cost monitoring was 299 beds versus only 229 for those not having this characteristic. This is also the only place where a majority of the large ($\geq$ 400 beds) hospitals indicated a positive usage of the plan. Except for this area, the medium hospitals led the way in the usage of the planning documents. This was true even in the area of board usage of the plan. Only one large hospital acknowledged

that their board actively made use of the plan while seven medium-sized hospitals made the same statement. No administrator stated that the medical staff made use of the completed plan. The main consideration for the medical staff was in having the ability to provide input into the planning process. The implementation phase was of little concern to the medical staff as long as implementation did not negatively affect their specific domain.

In summary, few good implementers were found. To repeat, the average implementation score was 16 out a possible 50 points. The best implementers tended to exist in the upper range of the mid-sized category. Only two of the large hospitals were considered to be formal strategic implementers. A composite analysis of a typical implementation program showed a completed plan distributed to three groups. This plan was unlikely to contain a long-range budget even though it had approximately a three to five year time horizon. Other coordinating mechanisms were more likely to be used in place of the long-range budget. The implementation process also showed that the plan was used mainly to judge managerial performance; little support existed for its usage in evaluating the remainder of the hierarchy.

While the daily operations of the hospital were constantly changing, the plan itself was reviewed basically on a yearly schedule by two to three groups. These groups were

likely to be the board, the administrator, and the medical staff (or its representative). If a contingency should have arisen, most hospitals did not have a formal procedure for adjusting the plan. Finally, our composite hospital would have seen usage of the plan limited to mainly the top management of the hospital.

If completeness is the object under examination, the hospitals within the 275-390 bed range appear to have been the primary users of the components that were considered necessary for being a strategic implementer.

EMPIRICAL RESULTS

Longitudinal Analysis (Long-Range Performance)

In the previous chapter, several hypotheses were proposed that strategic planning would have a positive effect on long-term performance as measured by the five-year period on selected performance measures. The dependent variables selected for measurement were the hospital's occupancy rate, personnel per occupied bed, personnel expenses per occupied bed, total expenses per occupied bed, and relative market share. Those hospitals considered "intense" planners were hypothesized to out-perform the less intense planners over the time period of 1978-1982, thus representing performance in a dynamic context (Hatten, 1979).

Mail questionnaire scores from 1979 were available for 22 of the sampled hospitals thus establishing a baseline for longitudinally analyzing the hypotheses. Unfortunately, only 15 of the original 22 hospitals returned the 1983 mail questionnaire. For those hospitals not returning the questionnaire, a judgmental strategic planning score was substituted for the more objective planning score based on questionnaire results. The correlation between the planning score from the old mail questionnaire and the new judgmental score was acceptable ($r=.43$, $p=.04$), but not as high ($r=.73$) as the correlation between the 1979 and 1983 planning scores when both were based on questionnaire responses.

The majority of the hospitals used in the longitudinal analysis were medium-sized ($n=18$) with two small hospitals and two large hospitals included as well. The mean size of the hospitals included in the longitudinal survey was 231 beds. Ten of the hospitals were in urban locations.

For analytical purposes, all data were examined using a multivariate analysis of variance (MANOVA) procedure. Since the data did not contain the same number of hospitals in each level (cell) of the experiment, a general linear models (GLM) method was applied (Ray, 1982, p. 114). Usage of GLM prevented against erroneous ANOVA results (such as negative sums of squares), thus increasing the validity of the findings. Since missing cells occurred in some of the analyses,

Type III sums of squares were used for testing the hypotheses.

The long-range changes in performance were analyzed using a 2x2 factorial layout where the intensity of strategic planning (high versus low) was one factor and location (urban versus rural) was the other factor. The short-range analysis used a similar design, except for the 1983 analysis a 2x2x2 design was used, adding strategic implementation as the third factor. The selection of factorial designs provided for economy in the usage of subjects, controlled for the magnitude of the error term, and allowed for examination of interaction effects (Keppel, 1982) thereby permitting observation of the multidimensional nature of strategic management. Kerlinger and Pedhazur (1973) stated that factorial designs also allow for broader generalizations than do single-variable designs.

When examining changes in long-term performance (see Chapter 3 for methodology details), no significant multivariate effects were found. Table 4.7 shows the multivariate and univariate F-ratios for each independent and dependent variable (Table 4.8 presents the means of each dependent variable). Only four of the eighteen F-ratios exceeded unity. While the univariate F-ratio for the effect of location on changes in personnel per occupied bed was significant, the finding is not interpretable since the multivariate F for location was not significant.

Table 4.7

MULTIVARIATE ANALYSIS OF VARIANCE
F-RATIOS FOR DEPENDENT VARIABLES
(N=22)

Dependent Variables	Main and Interaction Effects		
	Planning (Multivariate F^a=0.39) Univariate F	Location (Multivariate F=1.29) Univariate F	Planning x Location (Multivariate F=0.53) Univariate F
1. Occupancy Rate	0.15	0.01	0.00
2. Personnel per Occupied Bed	0.31	4.57*	0.99
3. Personnel Expenses per Occupied Bed	0.18	0.00	1.33
4. Total Expenses per Occupied Bed	0.00	0.75	0.08
5. Relative Market Share	0.53	1.26	0.37

a Multivariate F's are exact F's determined by using Wilks' lambda (Ray, 1982, p. 176).

* p=.05

Table 4.8

MEANS OF DEPENDENT VARIABLES
FIVE-YEAR PERCENTAGE CHANGE IN PERFORMANCE MEASURES
(N=22)

	Location			
	Rural		Urban	
Dependent Variables	Low Planning Intensity (n=3)	High Planning Intensity (n=4)	Low Planning Intensity (n=4)	High Planning Intensity (n=6)
1. Occupancy Rate	0.93	1.28	0.85	1.17
2. Personnel per Occupied Bed	2.53	4.70	0.93	0.32
3. Personnel Expense per Occupied Bed	15.96	17.45	18.23	15.02
4. Total Expense per Occupied Bed	17.86	18.53	16.75	16.30
5. Relative Market Share	-0.40	0.08	1.55	6.58

Overall, these longitudinal results were disappointing and might indicate that the resources expended on strategic planning over the five-year period would have provided little, if any, benefits. However, closer examination of the data used in the preceding analysis indicated that four (total n=15) hospitals had been classified differently from one time period to the next with respect to strategic planning intensity. Three of these hospitals had moved into the more intensive category of strategic planners. When the judgmental planning scores for 1983 were used in conjunction with the old mail questionnaire scores, nine changes occurred with five hospitals moving into the more intensive strategic planning category. Either method showed that changes did take place; therefore, the performance changes in the previous analysis could have been confounded by the lack of stability in group membership. In order to control for inter-group movements, only those hospitals considered intense or less intense in both 1979 and 1983 were examined. This analysis involved taking the mail questionnaires at both points in time and assigning the hospitals to either the more intense strategic planning group or to the less intense strategic planning group based on the individual hospital's planning intensity score versus a median cut-off point (see p. 58). This method produced a usable sample of 11 hospitals.

Table 4.9 presents the results for the n=11 group. Strong multivariate significance was exhibited in both the main effects and in the interaction of planning with location. Mean changes in performance measures are shown in Table 4.10. The focus was upon the interaction effects since anything that might be stated about the effect of either independent variable would have to be tempered by a discussion on the levels of the other variable (Keppel, 1982).

Figure 4.1 shows the interaction effects of planning and location upon longitudinal changes in total expenses per occupied bed. Due to the crossing of group means, a non-ordinal interaction was present. From the graphical analysis, it can be seen that more intense strategic planning was not as important for rural hospitals compared to those operating in an urban area. The mean change for the less intense urban strategic planner was 20.80 percent versus a mean change of 11.45 percent for the more intense urban planners. For the urban hospitals, the hypothesis that high strategic planning intensity leads to improved long-range performance (with regards to total expenses per occupied bed) was supported. This conclusion did not hold for the rural hospitals.

The single urban hospital showing low strategic planning intensity under-performed the rural planners having low planning intensity even though all data were controlled

Table 4.9

MULTIVARIATE ANALYSIS OF VARIANCE
ANALYSIS WITH STABLE PLANNING GROUP MEMBERSHIP
F-RATIOS FOR DEPENDENT VARIABLES
(N=11)

Dependent Variables	Main and Interaction Effects		
	Planning (Multivariate F^a=9.60)**	Location (Multivariate F=18.84)**	Planning x Location (Multivariate F=14.23)**
	Univariate F	Univariate F	Univariate F
1. Occupancy Rate	0.28	0.09	0.09
2. Personnel per Occupied Bed	0.55	1.57	0.12
3. Personnel Expenses per Occupied Bed	0.16	0.01	1.44
4. Total Expenses per Occupied Bed	1.26	0.12	4.38*
5. Relative Market Share	22.58***	40.24***	29.75***

a Multivariate F's are exact F's determined by using Wilks' lambda (Ray, 1982, p. 176).

* $p \leq .10$

** $p \leq .05$

*** $p \leq .01$

Table 4.10

MEANS OF DEPENDENT VARIABLES
FIVE-YEAR PERCENTAGE CHANGE IN PERFORMANCE MEASURES
PLANNING BY LOCATION INTERACTION
(N=11)

	Location			
	Rural		Urban	
Dependent Variables	Low Planning Intensity (n=4)	High Planning Intensity (n=4)	Low Planning Intensity (n=1)	High Planning Intensity (n=2)
1. Occupancy Rate	0.90	1.28	-0.10	1.30
2. Personnel per Occupied Bed	1.80	4.70	-0.60	0.45
3. Personnel Expense per Occupied Bed	15.70	17.45	19.40	12.85
4. Total Expense per Occupied Bed*	14.18	18.53	20.80	11.45
5. Relative Market Share**	-0.30	0.08	6.00	0.55

* $p \leq .10$

** $p \leq .01$

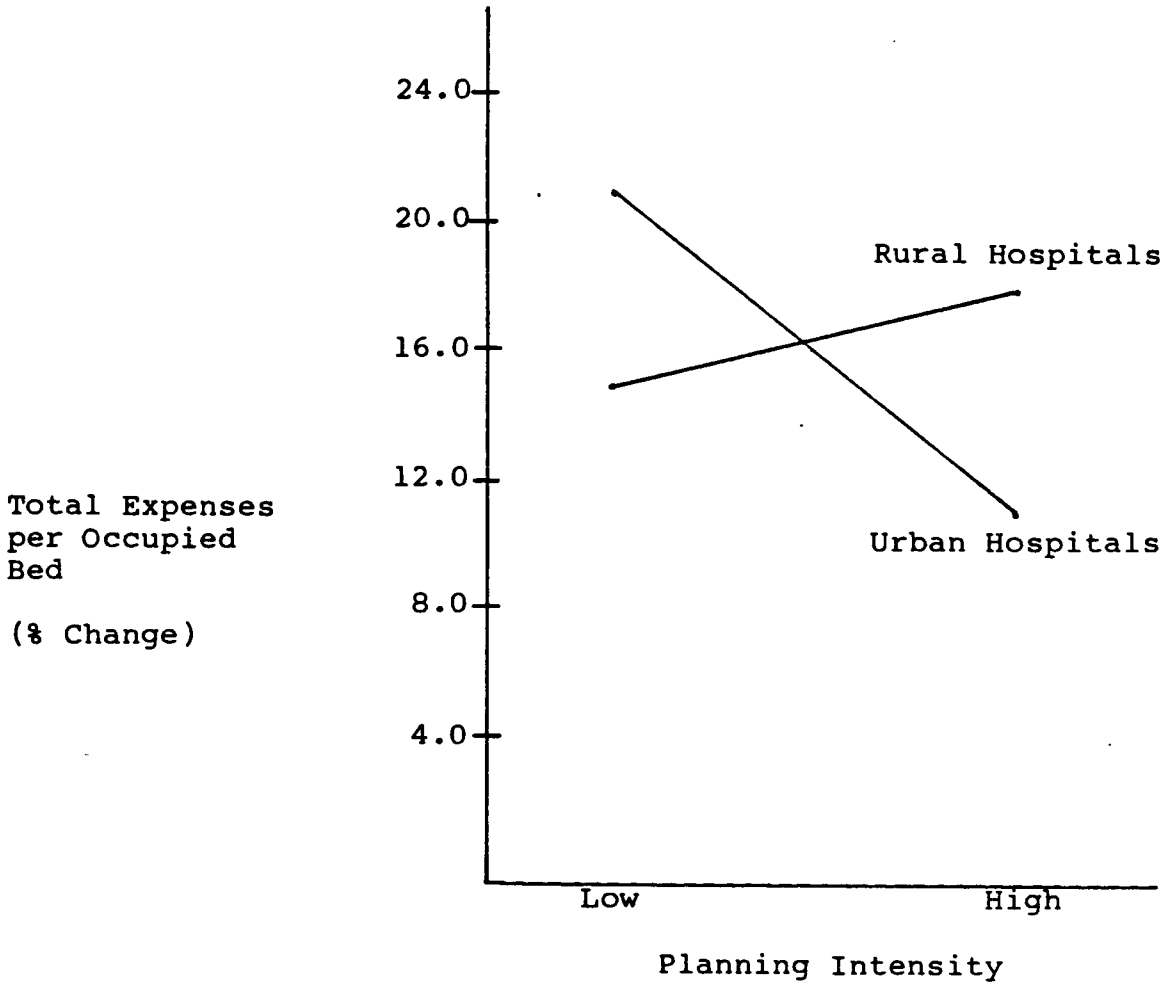


Figure 4.1

Interaction of Planning and Location on Longitudinal Change in Total Expenses per Occupied Bed

for inflation. While a possible explanation may lie in the competitive dynamics of an urban marketplace that tends to magnify the results of low planning intensity, the small sample limits further inferences regarding this outcome.

The observed differences between planning groups and between locations were also important since 43 percent of the variation in total expenses (per occupied bed) was explained by these factors. This is a useful diagnostic for those administrators considering changes in planning effort, or even possibly changes in location. Neither planning nor location alone were sufficient for explaining the change in total expenses.

Regarding changes in relative market share, a significant planning-by-location interaction was also discovered. Table 4.9 shows the various F-ratios for this variable, while Table 4.10 shows the mean percentage changes. The results for relative market share changes are very strong, showing a R^2 of .89 for the regression model. While the more intense strategic planners tended to have larger gains in market share in rural areas (see Figure 4.2 for interactions), the less intense urban planning group outperformed all other combinations. Based on this result intensive strategic planning appeared to aid long-range market share performance only in a rural setting, and then only at a one-half percentage point advantage. An

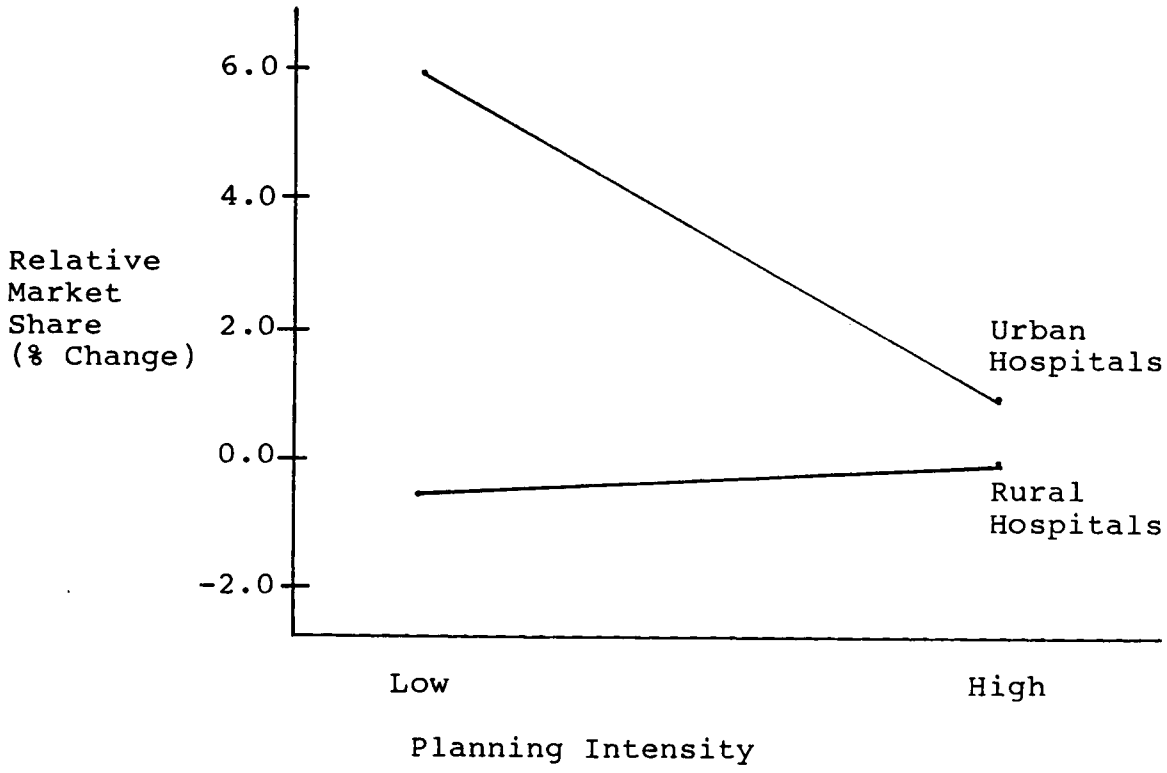


Figure 4.2

Interaction of Planning and Location on
Longitudinal Change in Relative
Market Share

alternative explanation is that poor performance (i.e. failure to gain market share) caused a more intensive strategic planning effort. Before a conclusion can be reached on the importance of this difference, a more detailed analysis would have to be carried out. If a rural area were exhibiting low growth (or a loss in population), relatively minor gains in market share might be very important. This analysis was beyond the scope of this paper. Location was important in explaining changes in relative market share since the urban hospitals outperformed the rural hospitals at each planning intensity level. The results must be interpreted with extreme care since only three hospitals comprised the urban group.

The sensitivity in the data can be partially explained by the relatively small samples that were used. As these samples were divided into more intensive strategic planners and less intensive strategic planners, smaller groupings were formed. Therefore, it is probable that the lack of significant results was due to random error in the specified model.

The previous analyses were based on the 1979 planning intensity score with five-year change in performance measures, thus examining the cumulative effect of the planning-performance relationship(s). In order to study the time-lagged effect of planning intensity on long-range performance, the analysis was repeated using the 1979 planning

intensity score with the final year's change data (1982 over 1981). Strategic implementation was added to this analysis as an independent variable. Table 4.11 shows that multivariate significance was found in both the implementation and location main effects, and in the planning-by-location and planning-by-implementation interactions. Figures 4.3 and 4.4 show that the urban hospitals out-performed the rural hospitals in the change in both personnel and personnel expenses per occupied bed regardless of planning intensity. The "high planning intensity" urban hospitals did the best in each of these variables (see Table 4.12 for planning-by-location means of each dependent variable). This finding would support the hypothesis that high planning intensity leads to better performance (for these two categories). The rural based "high planners" did the poorest in personnel per occupied bed, yet did the best in controlling personnel expense per occupied bed versus the low planning intensity rural hospitals. For personnel expenses per occupied bed, the "high" planners out-performed their "low" planning counterparts regardless of location. Finding that the urban hospitals out-performed the rural hospitals, appeared to represent the competitive dynamics of an urban marketplace. This was also true for the number of personnel per occupied bed.

Table 4.11

MULTIVARIATE ANALYSIS OF VARIANCE
F-RATIOS FOR DEPENDENT VARIABLES
LAGGED EFFECTS
(N=22)

		Main and Interaction Effects				
		Planning (Multivariate F^a = 2.01) Univariate F	Location (Multivariate F = 2.45*) Univariate F	Implementation (Multivariate F = 4.33**) Univariate F	Plan x Loc (Multivariate F = 2.70*) Univariate F	Plan x Imp (Multivariate F = 2.90*) Univariate F
1.	Occupancy Rate	0.70	3.23*	1.45	2.33	4.45**
2.	Personnel Per Occupied Bed	0.22	5.50**	2.73	4.23*	4.48**
3.	Personnel Expenses Per Occupied Bed	0.04	9.10***	6.27**	7.76***	12.96***
4.	Total Expenses Per Occupied Bed	0.41	3.96*	0.00	1.02	4.56**
5.	Relative Market Share	4.71**	5.04**	0.91	0.82	1.78

a Multivariate F's are exact F's determined by using Wilks' lambda (Ray, 1982, p. 176).
* $p \leq .10$
** $p \leq .05$
*** $p \leq .01$

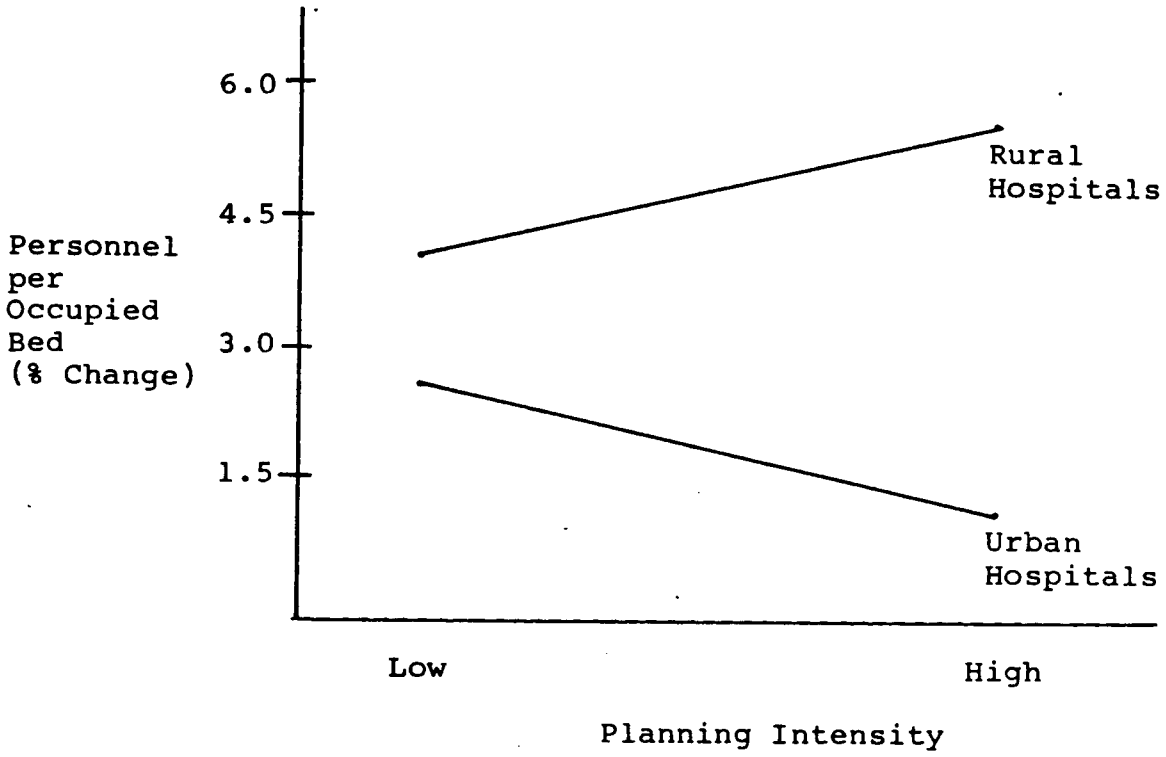


Figure 4.3

Interaction of Planning and Location on Lagged Change in Personnel per Occupied Bed

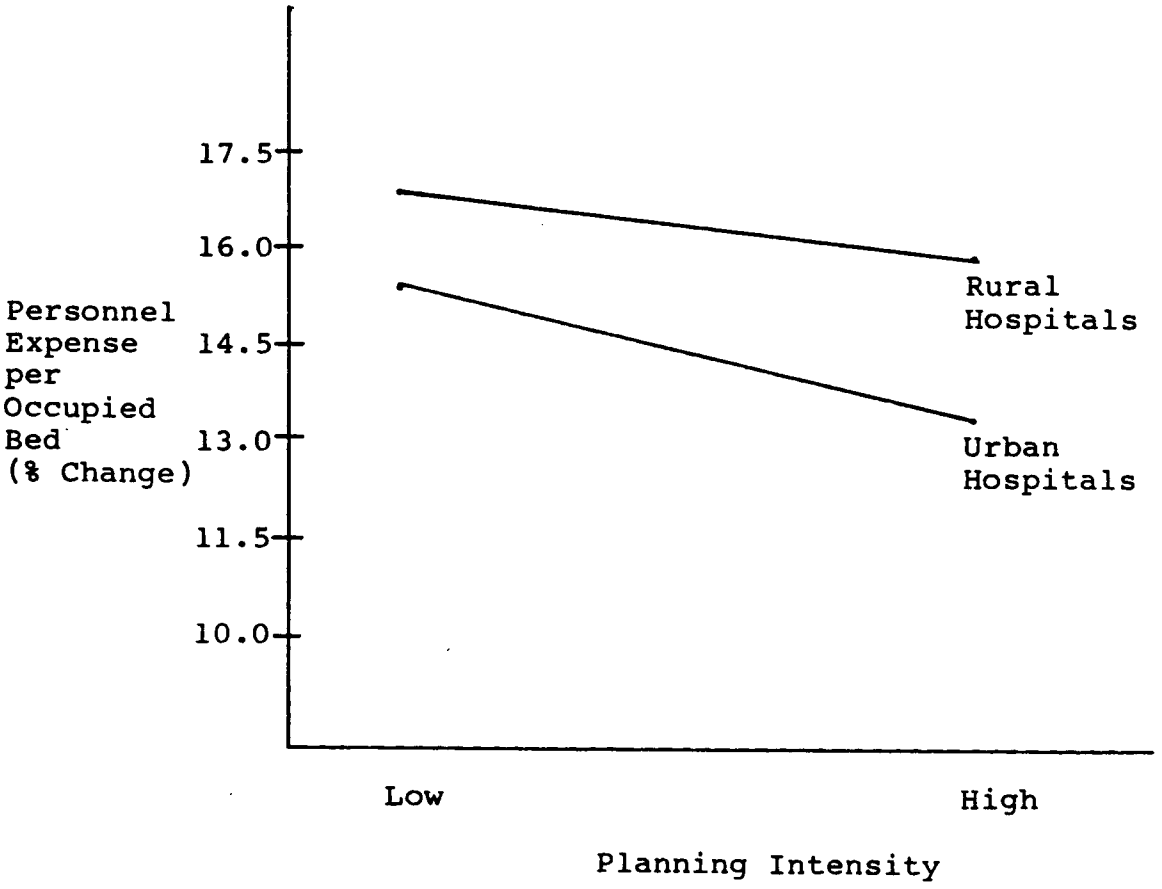


Figure 4.4

Interaction of Planning and Location on Lagged Change in Personnel Expense per Occupied Bed

Table 4.12

MEANS OF DEPENDENT VARIABLES
FIVE-YEAR PERCENTAGE CHANGE IN PERFORMANCE MEASURES
LAGGED EFFECT, PLANNING BY LOCATION INTERACTION
(N=22)

	Location			
	Rural		Urban	
Dependent Variables	Low Planning Intensity (n=8)	High Planning Intensity (n=4)	Low Planning Intensity (n=4)	High Planning Intensity (n=6)
1. Occupancy Rate	-2.28	-0.20	-0.80	1.70
2. Personnel per Occupied Bed*	4.00	5.90	2.60	1.30
3. Personnel Expense per Occupied Bed**	17.40	16.30	15.80	13.50
4. Total Expense per Occupied Bed	19.10	20.60	13.30	15.90
5. Relative Market Share	0.54	-3.80	5.13	0.36

* $p \leq .10$

** $p \leq .01$

When analyzing the interaction of planning with implementation, significant univariate results were found in all dependent variables except relative market share. Figures 4.5 through 4.8 graphically indicate the nature of these interactions. The interpretation of these interactions is complex. A combination of high planning intensity and good implementation did not appear as the most favorable combination in any of the dependent variables (see Table 4.13 for statement of means). This tends to contradict earlier literature calling for good planning and good implementation in tandem. The findings showed that high intensity planning and poor (i.e. low) implementation was the best combination for increasing occupancy rate and for containing personnel expenses. Good implementation with low planning intensity was best at explaining the control over the number of personnel per occupied bed and total expenses. Hospitals who were low intensity planners and poor implementers had the worst performance on each of the significant dependent variables. Therefore, while a high intensity-good implementation combination did not perform well on every variable, a low intensity-low implementation match was certain to yield the poorest results. It would seem that certain variables (occupance rate and personnel expenses) were most influenced by high planning intensity while other variables (personnel per occupied bed and total expenses) were best controlled by good implementation. For the

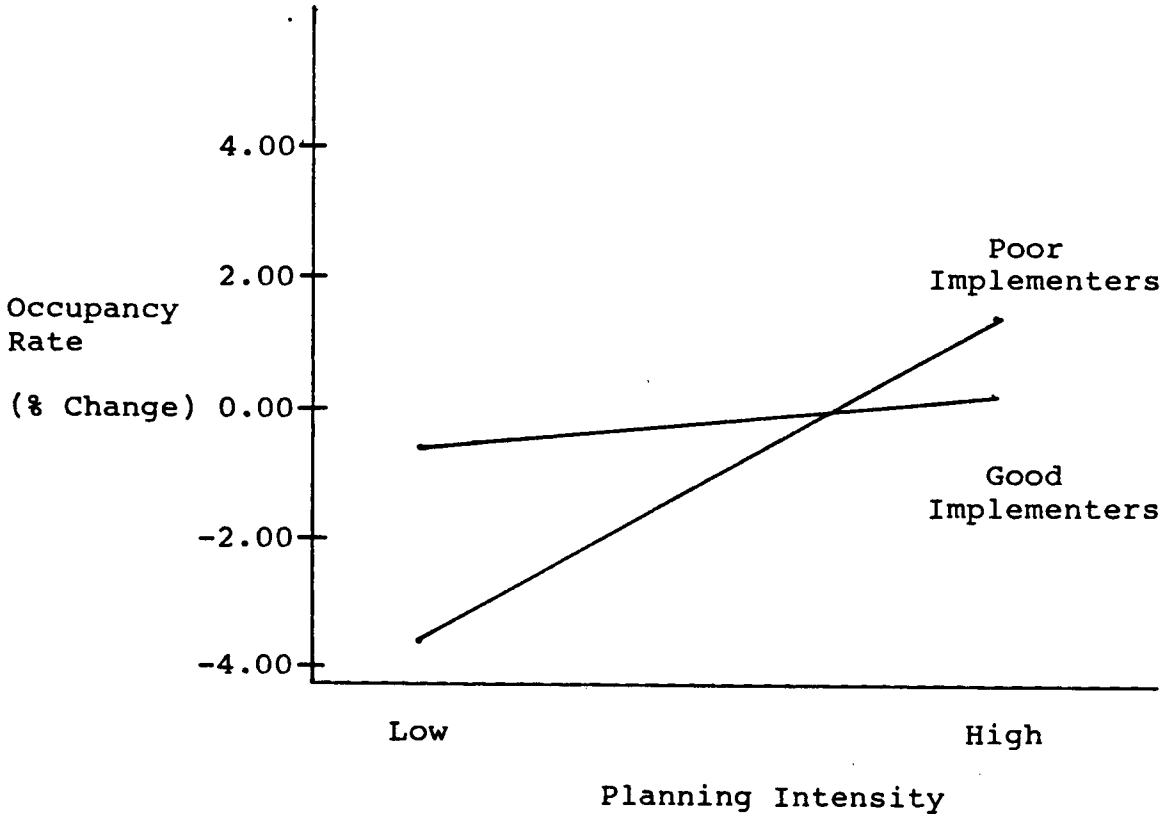


Figure 4.5

Interaction Between Planning and Implementation on Lagged Change in Occupancy Rate

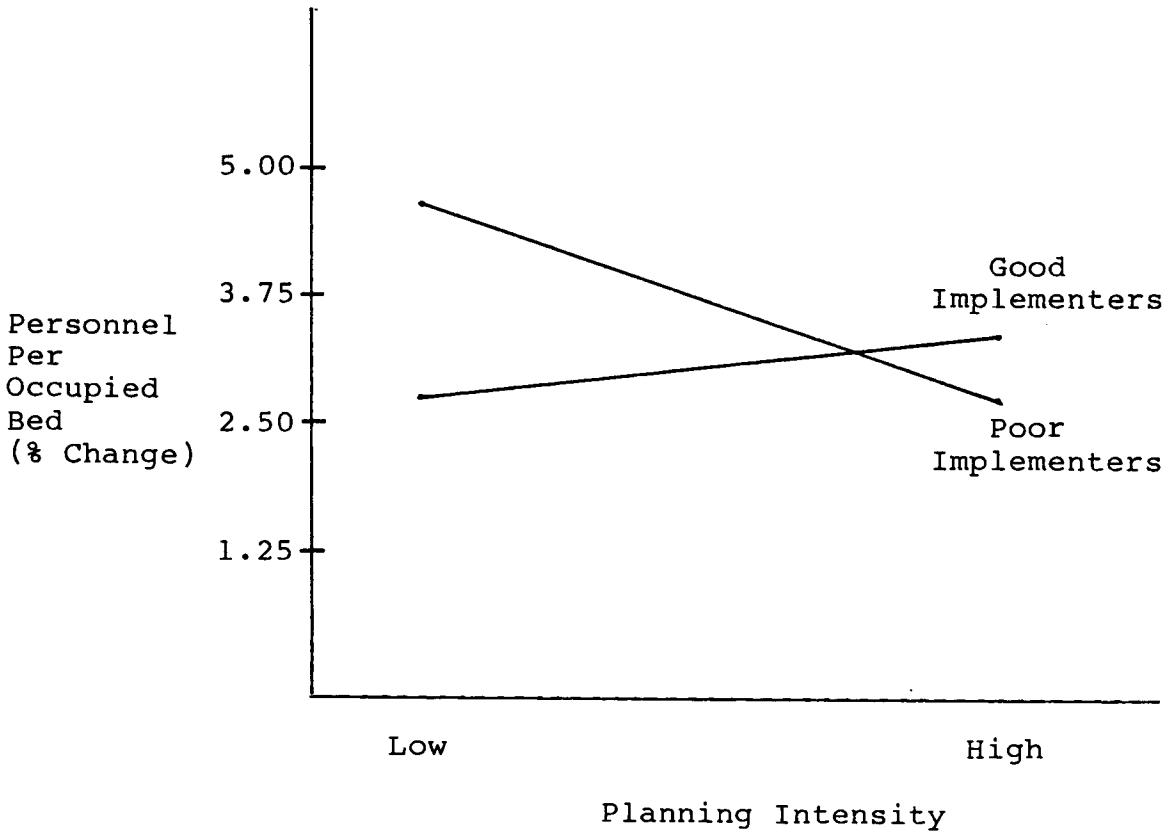


Figure 4.6

Interaction Of Planning and Implementation
on Lagged Change in
Personnel per Occupied Bed

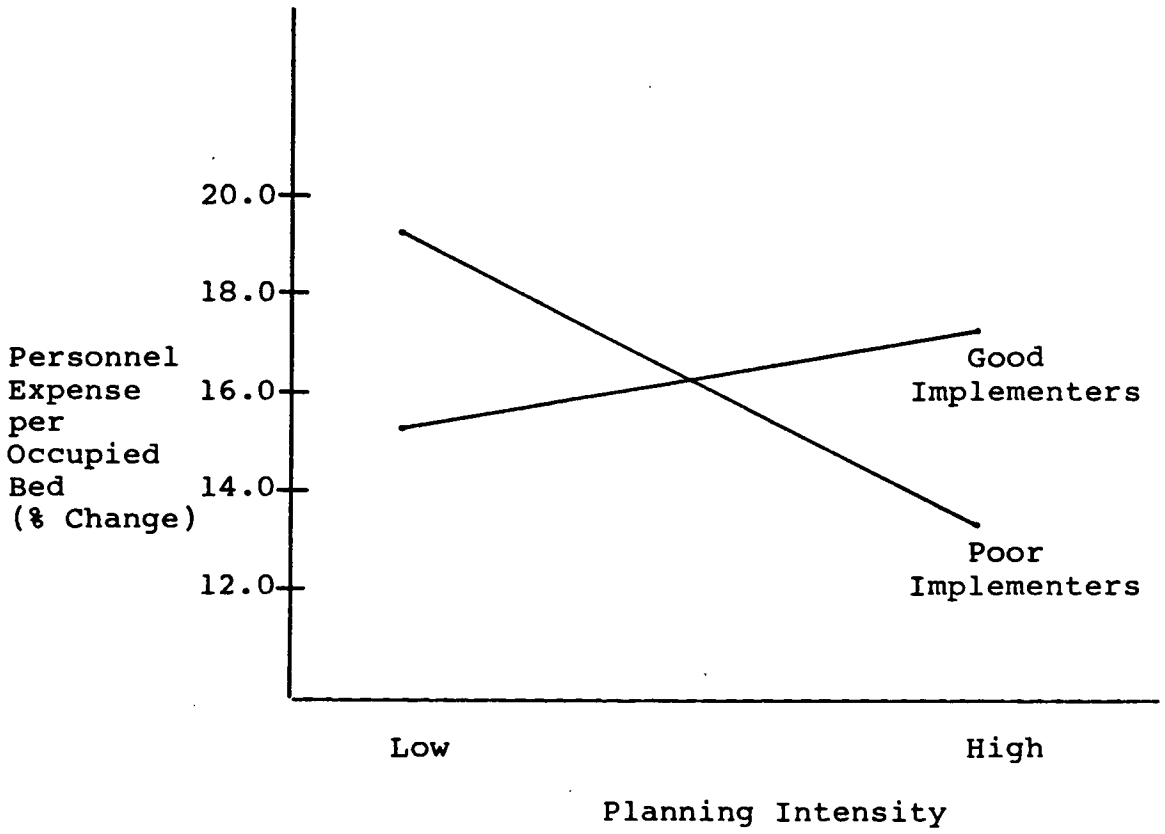


Figure 4.7

Interaction Between Planning and Implementation on Lagged Change in Personnel Expenses per Occupied Bed

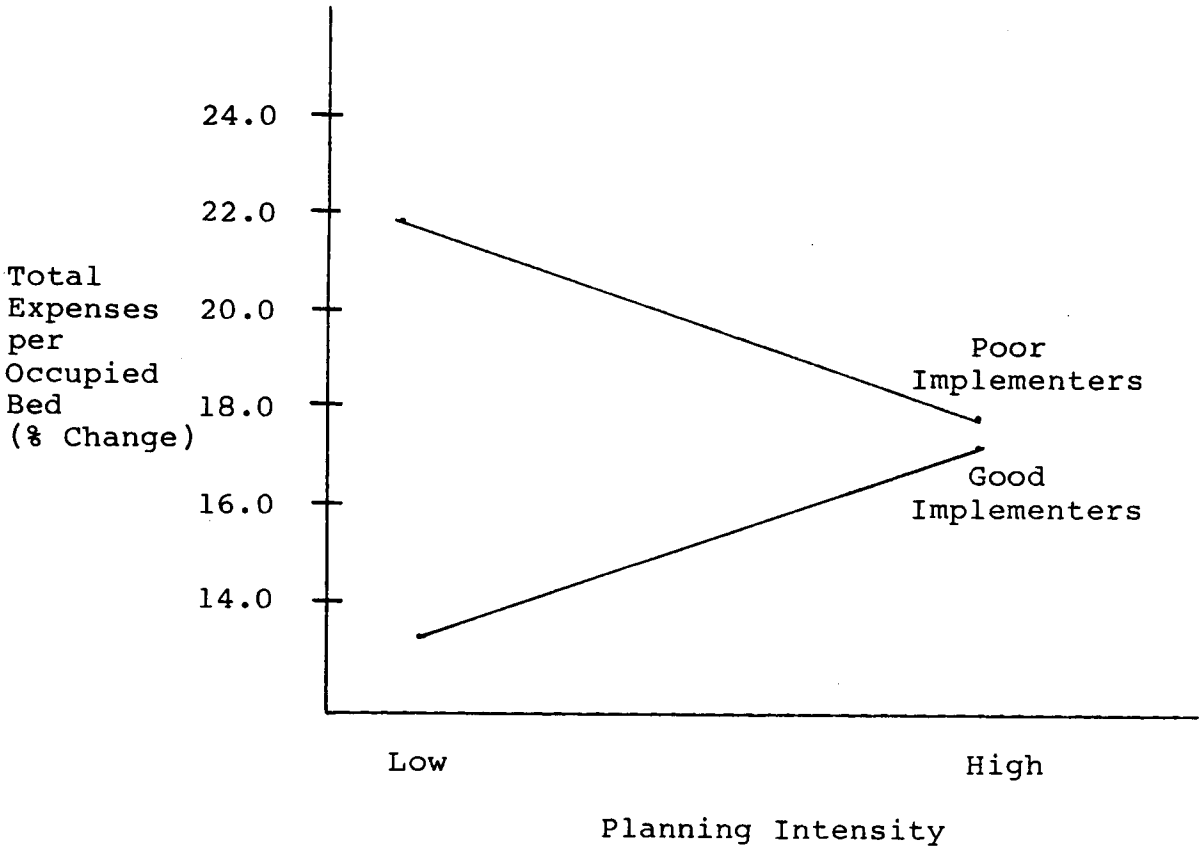


Figure 4.8

Interaction Between Planning and Implementation on Lagged Change in Total Expenses Per Occupied Bed

Table 4.13

MEANS OF DEPENDENT VARIABLES
FIVE-YEAR PERCENTAGE CHANGE IN PERFORMANCE MEASURES
LAGGED EFFECT, PLANNING BY IMPLEMENTATION INTERACTION
(N=22)

	Implementation			
	Low		High	
Dependent Variables	Low Planning Intensity (n=5)	High Planning Intensity (n=5)	Low Planning Intensity (n=7)	High Planning Intensity (n=5)
1. Occupancy Rate**	-3.44	1.80	-0.60	0.08
2. Personnel per Occupied Bed**	4.60	2.90	2.80	3.40
3. Personnel Expense per Occupied Bed***	18.90	12.50	15.30	16.70
4. Total Expense per Occupied Bed**	22.20	18.30	13.50	17.30
5. Relative Market Share	0.80	-1.76	3.00	-0.82

** $p \leq .05$

*** $p \leq .01$

personnel-related variables, it appeared that those hospitals having a high level of planning intensity controlled personnel expenses only when doing a good job of implementing changes in personnel per occupied bed. The validity of this result is only conjecture at this point, and requires further exploration.

Overall, the planning-by-implementation results are representative of the complexity in understanding and interpreting the effects of strategic management on performance. Given the small sample size, the results must be interpreted with caution. They do suggest that strategic planning and implementation may not influence performance as the literature generally suggests.

Up to this point, the discussion has centered on strategic planning as the primary "cause" of changes in performance. Most previous research of this nature has maintained that this is the case. It is plausible that circularity exists in this relationship: (i.e.) improved performance allowed for the "purchasing" of additional planning expertise, and for greater freedom in selecting strategic actions. Alternatively, it may be that environmental pressure (i.e. poor performance resulting from increasing competition) caused more effort to be devoted to strategic planning and implementation. If this circularity existed in the data, an important discovery would have been

made regarding the potential impact of changing strategic planning capabilities. Knowing that variables other than strategic planning led to changes in performance would have significance for those hospitals considering a modification to their existing planning functions.

In order to examine for the direction of causation in the research, cross-lagged correlation techniques were utilized (see Chapter 3 for discussion). While these methods did not conclusively "prove" causality, they do allow for strengthening inferences made regarding causality (Bateman and Strasser, 1984).

Under this cross-lagged approach, structural regression analysis of 15 hospitals (those returning mail questionnaires at both survey dates) found strategic planning to be a result of, rather than a cause of, performance. This relationship was found in the performance measures of personnel per occupied bed which all had significant gamma (γ) regression parameters. Beta (β_2) and gamma (γ_2) represent the time-lagged causal effects between x and y. If β_2 (i.e. $\beta x_1 y_2$) is significant then "x" (in this case strategic planning) is said to have "caused" changes in the dependent variables (in this case performance measures). The reverse is true if γ_2 (i.e. $\gamma y_1 x 2$) is significant. Where both parameters are significant reciprocal causation exists (Bateman and Strasser, 1984).

The results found in this study were strengthened by the high test-retest reliabilities of each variable, and by the relatively stable and positive cross-lagged correlations (see Table 4.14 for tabular data. Figure 4.9 graphically depicts the significant relationships). Those hospitals experiencing high levels of personnel, personnel expenses, and total expenses had a stronger incentive for increasing the amount of their planning intensity. Analysis of the planning intensity scores showed that of those considered "low" planners in 1979 (n=8), all but two had increased their planning score by 1983 ($\bar{x}$ increase = 10.1 points). Five of the "high" planners (n=7) increased their score ($\bar{x}$=2.9 points). It is probable that changes in the environment exacerbated the impact of these three variables (see also Chapter 2). This would be consistent with previous empirical research on environmental conditions and organizational performance (for example, Hatten and Schendel, 1977; Porter, 1977).

Finding that the "low" planners had increased their planning scores only indicates the existence of more planning. It did not indicate that more planning was better planning. A cursory examination of the two planning groups showed that the "low" planning group increased total expenses ($\bar{x}_{\Delta}$=$39,500 versus $33,400) and personnel per occupied bed (10.8 percent versus 10.0 percent) at the rates that do not support the notion that increased planning

Table 4.14

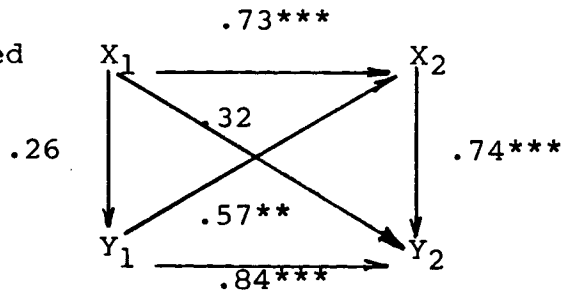
CROSS-LAGGED CORRELATION ANALYSIS [a]
AND REGRESSION PARAMETERS
(N=15)

	Reliabilities	Static Correlations			Cross-Lagged Correlations		Time-Lagged Regression Parameters	
Variables[c]	r_{x1x2}[d]	r_{y1y2}	r_{x1y1}	r_{x2y2}	r_{x1y2}	r_{y1x2}	β_{x1y2}	γ_{y1x2}
OldPS[b]	73***							
PPOB		84***	26	74***	32	57**	11	40**
RMS		99***	31	35	31	35	00	13
OR		79***	30	32	28	23	04	01
PE		93***	56**	70***	47*	70***	-08	42*
TE		79***	44*	62***	28	82***	-09	62***

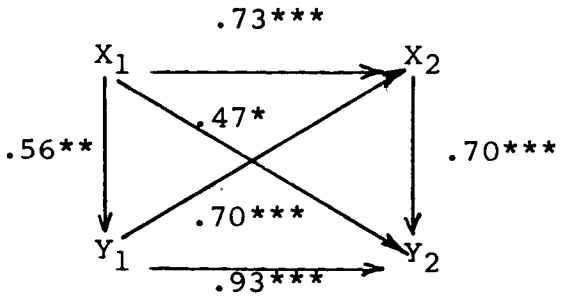
a Decimal-points omitted. Two-tailed t-tests of statistical significance.
b Reliability based on old planning score and new mail questionnaire score.
c Variables are defined as follows: OLDPS=Old Mail Planning Score; PPOB=Personnel Per Occupied Bed; RMS=Relative Market Share; OR=Occupancy Rate; PE=Personnel Expenses per occupied bed; TE=Total Expenses per occupied bed.
d x_1 is the 1979 planning intensity score while x_2 is the 1983 planning intensity score. y_1 is a performance measure in 1978, where y_2 is the same measure in 1982. Beta (β_{x1y2}) is the time-lagged regression parameter representing the causal influence of x at time 1 to y at time 2. Gamma (γ_{y1x2}) represents the causal influence of y at time 1 to x at time 2.

* $P \leq .10$ ** $P \leq .05$ *** $P \leq .01$

A) Personnel Per Occupied Bed



B) Personnel Expenses Per Occupied Bed



C) Total Expenses Per Occupied Bed

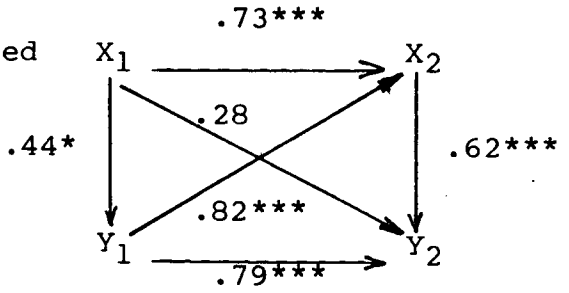


Figure 4.9

Diagrams of Significant Time-Lagged Regression Variables

intensity from the "low" group represented better strategic planning. Only the change in personnel expenses ($\bar{x}_{\Delta}$=$17,400 versus $19,100) appeared to support this idea.

Summary: Tests of Hypotheses Concerning the Long-Range Effect of Strategic Planning

For the hypotheses of the effect of strategic planning intensity on performance, the results were mixed. The findings tended to support the complexity of strategic planning's relationship to performance while presenting causal results that were not expected. When controlling for intergroup movements over time, the multivariate process demonstrated that the interaction of planning with location was significant within a linear combination of the dependent variables. The usage of univariate statistics failed to support the hypotheses except for the variables of relative market share and total expenses per occupied bed. Therefore, univariate statistics found only four (out of 15) significant relationships while, multivariately, all dependent variables were affected in combination. While multivariate significance (and some significant univariate findings) were noticed for planning and location as separate independent variables, these findings were superseded by the multivariate significance of the interaction of these two terms. Under this interaction, formal strategic planning was more important statistically in the urban hospitals for

controlling the longitudinal change in total expenses per occupied bed. In terms of average percentage change in relative market share, high levels of strategic planning were determined to be the more important factor in both the urban and rural hospitals when the single low intensity urban strategic planner (who had the largest share gain) was omitted.

Using a lagged method (which included implementation as an independent variable) found multivariate significance in all interactions and main effects, except for the planning main effect. These findings were complex and reflected the intricate process of strategic management. In terms of the interaction of planning with location, high strategic planning was more important for controlling personnel and personnel expenses in the urban hospitals. The low-intensity urban strategic planners out-performed the best rural planners in both of these variables. The planning-by-implementation interactions did not show such straightforward results. The most interpretable finding was that those hospitals exhibiting both low planning and low implementation levels performed the poorest of all groups (on the significant dependent variables). The "high-high" group did not perform the best on any significant variable. This led to difficulty in the interpretation of the results since the findings supported the notion that low intensity planners

can control performance with good implementation and that high intensity planning offsets poor implementation. Clearly this seems illogical, and may be the result of a small sample size.

Cross-lagged correlation techniques showed that three of the variables (personnel per occupied bed, personnel expenses per occupied bed, and total expenses per occupied bed) were antecedent to the level of strategic planning intensity in the sample. This finding lended support to the reactionary nature of strategic planning by NFP hospitals in the late 1970's.

Relationship Between Strategic Planning, Strategic Implementation, and Short-Range Performance

The influence of strategic planning on short-range performance was first analyzed using the 1979 strategic planning intensity score and the short-range change in performance (1978-1979). The second test of this relationship utilized 1983 strategic planning scores and the most recent performance data (1981-1982). For this second analysis, the strategic implementation score for 1983 was also included. It was recognized that performance measures for this second should have been based on 1983 data rather than 1982 data (the latest that was available). However, given the relative stability of both planning intensity scores and performance measures over time (the reliabilities over five

years ranging between .73 and .99) it was felt that this approach was reasonable.

The results of the 1979 analysis are presented in Table 4.15. There were no significant results. This finding held true regardless whether interactions were included, or when main effects alone were examined. This did not mean that the data had no variation. Total expenses per occupied bed, for example, ranged from an increase of 7 percent (high intensity rural planners) to 14 percent (low intensity rural planners). Although this difference was not statistically significant, the absolute percentage point gap of 7.0 is suggestive. Table 4.16 shows the means for each of these groups. Lack of statistical significance did not allow for further inferences about this finding.

The 1979 data did not support the hypotheses regarding high levels of strategic planning intensity leading to improved short-range performance. Although this may have simply represented an aberration, the findings were not surprising given the results of the cross-lagged correlation technique.

An examination of the 1983 (1982 over 1981) yearly changes showed no significant main or interaction effects on performance (see Tables 4.17 and 4.18). This was true whether using only the 24 hospitals who returned a mail questionnaire in 1983, or whether using the total sample of

Table 4.15

MULTIVARIATE ANALYSIS OF VARIANCE
F-RATIOS FOR DEPENDENT VARIABLES
1979 SHORT-RANGE CHANGE IN PERFORMANCE MEASURES
(N=22)

Dependent Variables	Main and Interaction Effects		
	Planning (Multivariate F^a=0.82)	Location (Multivariate F=0.82)	Planning x Location (Multivariate F=1.12)
	Univariate F	Univariate F	Univariate F
1. Occupancy Rate	0.01	0.44	0.09
2. Personnel per Occupied Bed	1.76	0.09	0.20
3. Personnel Expenses per Occupied Bed	1.65	0.97	1.28
4. Total Expenses per Occupied Bed	1.59	0.02	0.11
5. Relative Market Share	1.09	1.74	0.17

a Multivariate F's are exact F's determined by using Wilks' lambda (Ray, 1982, p. 176).

Table 4.16

MEANS OF DEPENDENT VARIABLES
1979 SHORT-RANGE CHANGE IN PERFORMANCE MEASURES
PLANNING BY LOCATION INTERACTION
(N=22)

	Location			
	Rural		Urban	
Dependent Variables	Low Planning Intensity (n=8)	High Planning Intensity (n=4)	Low Planning Intensity (n=4)	High Planning Intensity (n=6)
1. Occupancy Rate	3.78	3.33	1.65	2.55
2. Personnel per Occupied Bed	-0.50	2.78	-3.25	3.30
3. Personnel Expense per Occupied Bed	9.21	8.70	16.33	8.20
4. Total Expense per Occupied Bed	13.96	7.10	13.20	9.17
5. Relative Market Share	-0.95	-2.18	2.38	-0.42

Table 4.17

MULTIVARIATE ANALYSIS OF VARIANCE
F-RATIOS FOR DEPENDENT VARIABLES
1983 SHORT-RANGE PERCENTAGE CHANGE IN PERFORMANCE MEASURES
(N=24)

Dependent Variables	Main and Interaction Effects		
	Planning (Multivariate F^a=1.60) Univariate F	Implemetation (Multivariate F=1.00) Univariate F	Planning x Implementation (Multivariate F=1.64) Univariate F
1. Occupancy Rate	1.16	0.01	0.04
2. Personnel per Occupied Bed	0.01	1.27	0.80
3. Personnel Expenses per Occupied Bed	2.34	1.41	0.27
4. Total Expenses per Occupied Bed	3.50*	2.58	1.56
5. Relative Market Share	0.63	0.25	1.21

a Multivariate F's are exact F's determined by using Wilks' lambda (Ray, 1982, p. 176).

* p=.08

Table 4.18

MULTIVARIATE ANALYSIS OF VARIANCE
F-RATIOS FOR DEPENDENT VARIABLES
1979 SHORT-RANGE PERCENTAGE CHANGE IN PERFORMANCE MEASURES
(N=34)

Dependent Variables	Main and Interaction Effects		
	Planning (Multivariate F^a=0.82) Univariate F	Implemetation (Multivariate F=0.65) Univariate F	Planning x Implementation (Multivariate F=0.41) Univariate F
1. Occupancy Rate	0.25	0.37	0.04
2. Personnel per Occupied Bed	0.51	0.40	0.05
3. Personnel Expenses per Occupied Bed	1.08	0.45	0.72
4. Total Expenses per Occupied Bed	0.16	2.78	0.10
5. Relative Market Share	0.10	1.02	0.19

[a] Multivariate F's are exact F's determined by using Wilks' lambda (Ray, 1982, p. 176).

34 (mixed measurement-judgmental score plus mail questionnaire score). Eliminating the non-significant interactions in both analyses yielded no significant findings (see Tables 4.19 and 4.20 for means).

These results are disappointing. It is likely that the short-range effects were impaired by the small n's used in the research. The lack of significant short-range findings may simply reflect the inability to capture the cumulative nature of strategic management in a single year. This might explain why the longitudinal data exhibited better results.

SUMMARY

Chapter 4 presented the research findings. Included in these findings were a discussion of the descriptive statistics gathered from the mail questionnaires and the personal interviews, plus an analysis and discussion on the empirical results and their relationship to various stated hypotheses.

The descriptive statistics found the hospitals to be emerging planners and implementers when compared to Breindel's (1980) earlier research on Virginia hospitals. Whereas Breindel found few hospitals with long-range plans, nearly 71 percent of the hospitals returning mail questionnaires indicated existence of a finalized long-range plan. All but one of these were board approved. The existence of a long-range plan was unrelated to hospital size.

Table 4.19

MEANS OF DEPENDENT VARIABLES
1983 SHORT-RANGE PERCENTAGE CHANGE IN PERFORMANCE MEASURES
PLANNING BY IMPLEMENTATION INTERACTION
(N=24)

	Implementation			
	Low		High	
Dependent Variables	Low Planning Intensity (n=8)	High Planning Intensity (n=4)	Low Planning Intensity (n=5)	High Planning Intensity (n=7)
1. Occupancy Rate	-3.29	-2.65	-0.28	-0.57
2. Personnel per Occupied Bed	3.90	3.36	6.46	1.36
3. Personnel Expense per Occupied Bed	21.18	16.35	15.38	13.49
4. Total Expense per Occupied Bed	24.14	15.98	15.22	14.20
5. Relative Market Share	-2.34	1.45	2.14	0.72

Table 4.20

MEANS OF DEPENDENT VARIABLES
1983 SHORT-RANGE PERCENTAGE CHANGE IN PERFORMANCE MEASURES
PLANNING BY IMPLEMENTATION INTERACTION
(N=34)

	Implementation			
	Low		High	
Dependent Variables	Low Planning Intensity (n=13)	High Planning Intensity (n=4)	Low Planning Intensity (n=4)	High Planning Intensity (n=13)
1. Occupancy Rate	-2.77	-0.73	-1.00	-0.01
2. Personnel per Occupied Bed	2.23	1.10	4.82	2.45
3. Personnel Expense per Occupied Bed	19.15	14.85	13.80	14.30
4. Total Expense per Occupied Bed	20.00	14.45	17.98	14.14
5. Relative Market Share	-0.38	1.30	-2.60	1.67

For those hospitals having a long-range plan, nearly 85 percent had completed their plan since 1979. Composition of the plan was accomplished primarily by top management, the board of trustees, medical staff, and outside consultants. Only one facility had requested assistance from their HSA (Health Systems Agency). The finalized plan was reviewed by at least one committee in each hospital. Most hospitals had more than one review committee. The review process was basically annual in nature.

Although most hospitals indicated existence of a "long-range" plan, content analysis of the questionnaires and the interviews found the process was incomplete in many hospitals. The plans were comprised of mainly a mission statement, an environmental analysis, and a master facilities plan. Only five hospitals completing the mail questionnaire reported having documented goals. Twenty-two hospitals indicated documented goals in the interview process. Only about one-third of the hospitals had a capital budget for supporting their plans. This was considered a definite weakness in the strategic management of these hospitals since a majority of the hospitals stated that their "plan" covered at least three to five years into the future. The budgetary process was yearly at best.

Strategic management leadership was provided by the CEO with assistance from the board of trustees. Several hospitals had staff planners (some planners had line authority).

Only four institutions though had a formal planning department. These existed primarily in the larger mid-sized hospital with one present in a large facility ($\geq$ 400 beds). Size was significantly correlated with the existence of these departments. The role of the planners was basically one of collecting data, facilities planning, and providing overall staff assistance.

Personal interviews indicated that while several groups had input for developing the plan, its distribution upon completion was limited and was not related to hospital size. Once the plan was put into action, it was coordinated through the usage of liaisons, meetings, and other similar approaches. The long-range budget was not a widely used coordinating mechanism.

The plan did not appear to be used extensively for evaluating performance. Only nine hospitals used the plan for making salary adjustments. If the plan was used for judgment, it was most likely to be used for assessing top management's activities. Once again this was likely to be the case in the mid-sized hospitals. Only one large hospital used the plan for this purpose. Few hospitals, mainly the larger ones, used the plan for assessing nursing performance. The larger hospitals used the plan more for measuring nursing performance than they did for measuring top management performance. This may have been due to the

large percentage of labor expenses represented by the nursing staff. This was the only implementation variable significantly related to hospital size. Overall, the plan was not used for monitoring cost performance. Only 35 percent used the plan for this purpose. The large hospital category did make heavy use of the plan for this reason, but size had little bearing on this variable.

The descriptive statistics tended to indicate that strategic management leadership existed in only a small group of hospitals operating primarily in the upper mid-sized range. These findings also established a principle of emergence within Virginia hospitals since 1979. Based on Wheelwright and Banks' (1979) stages-of-planning the majority of the observed hospitals could be classified as either Stage II or early Stage III in nature. These stages would be characterized by the heavy usage of staff and consultants with some line management involvement for developing a planning system. There is also less emphasis on numerical and financial analysis and more emphasis on issues.

A few hospitals appear to have entered the fourth stage (Wheelwright and Banks, 1979) of planning system development (advanced/comprehensive). In this stage contingency plans are established, line management planning is emphasized, and there is a high commitment to the plan. This stage also uses the plan for evaluating performance over both the

short, and longer, range time periods. The type of hospitals likely to be classified in this category were those of somewhat larger size.

The empirical results tended to give only limited support to the multidimensional nature of strategic management and its relationship to performance. A summary of empirical findings related to strategic planning and its relationship to long-term changes in performance is presented in Table 4.21. When analyzing performance over the long-term, high levels of strategic planning intensity had their greatest impact on total expenses per occupied bed and on relative market share. These findings were significant only when geographical location was included in the analysis as a moderating variable. Strategic planning intensity was more important to the urban hospitals. The results must be interpreted with care given the small (n=11) sample.

Using a lagged method (1979 planning intensity score with 1982/1981 change data) showed more significant results. Once again, interactions were important (planning with location and planning with implementation). Planning results were once again moderated by location, while implementation effects interacted with the planning intensity groupings. While the urban hospitals out-performed the rural hospitals in both personnel and personnel expenses (per occupied bed), strategic planning intensity appeared to be most significant

Table 4.21
RESULTS OF HYPOTHESES TESTS--
HIGH STRATEGIC PLANNING INTENSITY WITH FIVE-YEAR
PERCENTAGE CHANGES[a] IN PERFORMANCE MEASURES

High Strategic Planning Leads To:		Result
H_1	higher change in occupancy rate	NS[b]
H_2	lower change in personnel per occupied bed	Hypothesized direction for urban hospitals yet cross-lagged correlation showed reverse causality.
H_3	lower change in total expenses per occupied bed	Hypothesized direction for urban hospitals yet cross-lagged correlation showed reverse causality.
H_4	lower change in personnel expenses per occupied	Hypothesized direction for both urban hospitals and rural hospitals yet cross-lagged correlation showed reverse causality.
H_5	higher change in relative market share	Hypothesized direction for rural hospitals. Urban hospitals out-performed rural hospitals regardless of planning intensity.

a Hypotheses examined percentage changes in data except cross-lagged correlations which used raw data.

b Finding not significant.

in explaining changes in personnel expenses. This conclusion was reached due to the fact that both the high intensity urban and high intensity rural planners statistically out-performed their less intense counterparts.

The planning-by-implementation interactions showed more complexity in their analysis. High planning intensity and good implementation did not appear as the best combination with any performance measure. This would tend to cloud the literature calling for high levels of each variable. One positive finding was that a "low-low" combination in these areas consistently showed the poorest performance.

In order to examine the direction of causality in the data, the technique of cross-lagged correlations was utilized. The structural regression approach to cross-lagged correlations found that strategic planning intensity appeared to result from, rather than be caused by, performance in three areas (personnel per occupied bed, personnel expenses per occupied bed, and total expenses per occupied bed). This would tend to point out the relevance of the environment as a trigger for increasing the amount of planning intensity. Subanalyses showed that more planning was not generally better planning.

Analysis of the short-range impact of strategic planning and strategic implementation on performance revealed no significant results. Thus there was no support for hypotheses H_6 through H_{15} which were concerned with the short-

term impact of strategic management on performance. These results indicate, more than likely, that strategic planning and strategic implementation require more than one year to have an impact on performance.

CHAPTER 5

CONCLUSION

This chapter provides for a review of the purpose of the research, the hypotheses included in the study, the methodology utilized, the research results, and a discussion of the findings. Limitations of the methodology, implications for practitioners, and suggestions for future research are also examined.

Overview of Research Findings

The purposes of this study were threefold: (1) to gather and analyze information, both published and unpublished, about the nature of strategic management in the not-for-profit (NFP) segment of the American hospital industry; (2) to evaluate the effect of strategic management on performance within selected Virginia NFP hospitals; and (3) to offer a prescriptive model for practitioners to use in their planning efforts in order to improve hospital performance. From these purposes a series of 15 hypotheses (five long-range, ten short-range) were established (see Table 5.1 for review). These hypotheses were tested against a sample of 34 NFP hospitals operating within a 200-mile radius of Richmond, Virginia. The sample was standardized in terms of ownership, accreditation, membership (American Hospital Association) and in terms of uniformity of reported data.

Table 5.1

RESEARCH HYPOTHESES[a] ON
STRATEGIC PLANNING AND STRATEGIC IMPLEMENTATION

A.	High Strategic Planning Intensity Leads To:	
	H_1	Higher increase in occupancy rate over the long term
	H_2	Lower increase in personnel per occupied bed over the long term
	H_3	Lower increase in total expenses per occupied bed over the long term
	H_4	Lower increase in personnel expenses per occupied bed over the long term
	H_5	Higher increase in relative market share over the long term
	H_6	Higher increase in occupancy rate over the short term
	H_7	Lower increase in personnel per occupied bed over the short term
	H_8	Lower increase in total expenses per occupied bed over the short term
	H_9	Lower increase in personnel expenses per occupied bed over the short term
	H_{10}	Higher increase in relative market share over the short term

[a] Hypotheses H_1-H_5 deal with long-range (5-year) change; H_6-H_{10} are short-range performance changes (1979 and 1983). Hypotheses H_{11}-H_{15} deal with 1983 data only (1982 change over 1981). All hypotheses examined by percentage changes except where cross-lagged correlations (raw data) were used.

Table 5.1 (Continued)

B. High Strategic Implementation Intensity Leads To:

H_{11} Higher increase in occupancy rate over the short term

H_{12} Lower increase in personnel per occupied bed over the short term

H_{13} Lower increase in total expenses per occupied bed over the short term

H_{14} Lower increase in personnel expenses per occupied bed over the short term

H_{15} Higher increase in relative market share over the short term

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[a] Hypotheses H_1-H_5 deal with long-range (5-year) change; H_6-H_{10} are short-range performance changes (1979 and 1983). Hypotheses H_{11}-H_{15} deal with 1983 data only (1982 change over 1981). All hypotheses examined by percentage changes except where cross-lagged correlations (raw data) were used.

This standardization controlled for the "apples and oranges" effect mentioned by Graeff (1980).

Strategic planning intensity was measured using a 0-50 point scale that included an examination of the existence of a written plan, the plan's contents, the existence of a planning department, a staff planner, and a board and/or administrative planning committee. Points were assigned from each category based on responses to a mail questionnaire. These scores were cross-checked by comparing the responses to data gathered in the field interviews. Each hospital was given a judgmental (interview-based) strategic planning intensity score. This score was determined before mail questionnaire responses were examined.

The strategic implementation score was gathered by observing five areas: communication of the strategic plan; coordinating and integrating mechanisms; performance measurement; evaluation and control process; and plan usage. Points were assigned based on responses to field interviews. This was on a 0-50 point basis.

Performance measures were developed that reflected the diverse operations areas of each hospital. These variables were occupancy rate, personnel per occupied bed, personnel expenses per occupied bed, total expenses per occupied bed, and relative market share. A brief logic was developed for each variable. These measures were defined in both long-range (five-year change) and short-range (yearly) terms.

The usage of longitudinal measurement overcame the weakness in the hospital literature of concentrating on short-range performance.

In order to test the hypotheses, two statistical procedures, multivariate analysis of variance (MANOVA) and cross-lagged correlation analysis (CLC), were used. Cross-lagged correlation was used with hypotheses one through five only (long-range performance).

MANOVA was chosen due to the perceived interactive effects of strategic planning and strategic implementation on performance, and due to the multidimensional nature of strategic management and performance. MANOVA was also deemed feasible given the presence of multiple dependent and independent variables.

Cross-lagged correlations were chosen for determining the direction of causality in the relationships. Using a structural regression approach provided for increased confidence in making these causal inferences.

In terms of research findings, two research streams, descriptive (from the interviews and questionnaires) and empirical (statistical tests) were developed.

The descriptive results tended to support an emergence of strategic planning within the sampled hospitals. Most of the hospitals still had "first-generation" planning systems (Glueck and Jauch, 1984) in that no written contingency

plans had been developed. Very few hospitals indicated that a more formalized approach to contingency planning would occur in the future. Several administrators expressed difficulty in planning for the future given the uncertain nature of the environment.

This represented a contradiction versus the mail questionnaires since a clear majority of the hospitals stated that they had plans covering a three to five year period. Closer examination found that what most hospitals actually had was a mission and a projected environmental analysis. Therefore, while moving in the correct direction of managing strategically, the process was still incomplete. The research also found that many hospitals were content with their current planning systems.

Overall, the sample of hospitals was characterized by a small core of progressive hospitals in their strategic management process. While most of these hospitals were located in urban areas, size was not important in explaining the level of strategic management within this group. All of these hospitals appeared to have had a commitment from their respective boards to doing strategic planning. These institutions also demonstrated a clear set of future-oriented objectives and the means for attaining them. These qualities also existed in many of the other hospitals but were not supported by a complete strategic management process. This lack of comprehensive strategic management

appears to have limited these hospitals in the amount of flexibility they possess. The progressive core was felt to have built up more "slack" (excess) resources (Litschert and Bonham, 1978) thus giving them more strategic "degrees of freedom" (Ohmae, 1982) in their operations. While most boards of directors were perceived by the administrator (or planner) as conceptualizing the hospital as a business, some had difficulty with making "profits" (excess revenues over costs). This fact was clearly demonstrated in the interviews by some administrators who lamented the board's inability to comprehend why these surpluses were required. The primary concern of the board appeared to be one of providing good quality services while not gouging the public. This is understandable since many board members were also members of the community in which the hospital was located. For those boards that targeted a level of surplus, administrators and planners had more freedom with which to build up competitive advantages. Some hospitals used funds for reorganization into holding companies, for diversifying into concentric (closely-related) products, markets, and services (i.e. home health care, nuclear medicine, fitness/ wellness centers, and so on), for extra consulting, and for a combination of some or all of these. Very few hospitals had used their resources for establishing planning departments or for hiring planners. Some of these planning

departments made progressive use of techniques usually found in profit-oriented firms. An example is shown in Figure 5.1 which exhibits one hospital's approach to using a portfolio planning technique similar to that of the Boston Consulting Group's 2x2 growth-share matrix. Progressive strategies were found in vertical integration, market segmentation, joint ventures, and diversification as well.

The empirical results were somewhat disappointing. While it was hypothesized that high levels of strategic management would lead to improved performance, none of the implementation hypotheses were supported. In terms of strategic planning the results were as expected for all of the long-range performance changes except that of occupancy rate. These results were tempered by the moderating effect of location and by the existence of reverse causality in the data. The urban hospitals which had high strategic planning out-performed their low planning intensity counterparts in terms of controlling personnel, personnel expenses, and total expenses. The rural planners having high intensity scores out-performed the low planning group in both personnel expenses and relative market share. (The urban hospitals out-performed the rural hospitals regardless of planning intensity.)

These findings would appear to support the hypothesis that better (more intense) strategic planning caused better performance within the sample. Except for the relative

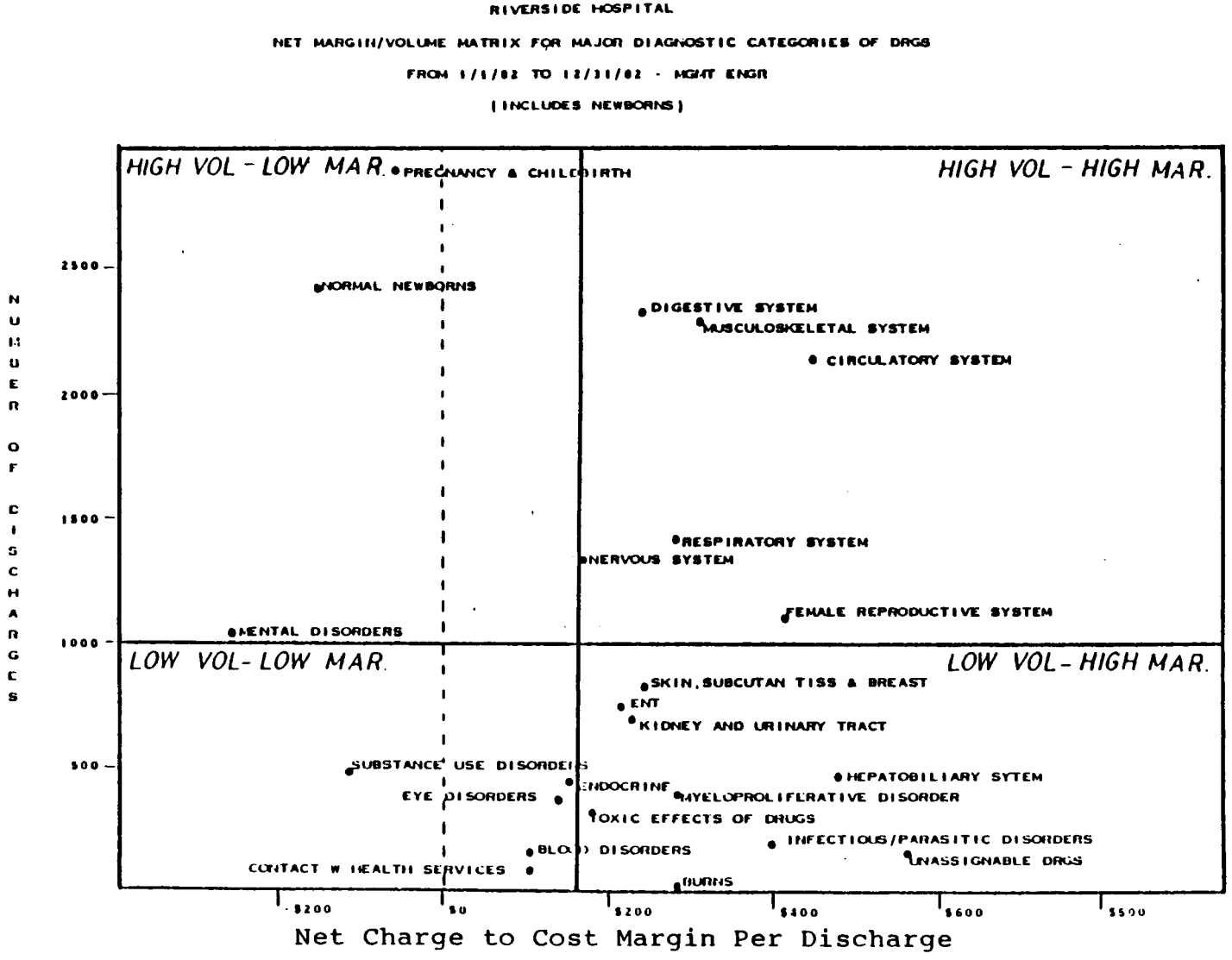

Figure 5.1
Net Margin/Volume Matrix for Major Diagnostic Categories of DRG's

market share findings, this was not the case. The cross-lagged correlation technique showed that performance changes in the three remaining variables were antecedent to the level of strategic planning. This finding is important since it provided some evidence that the sampled hospitals were reactionary planners. Subanalyses of those hospitals who had high levels of personnel, personnel expenses, and total expenses showed that they had increased their strategic planning intensity since 1979 but not their performance. More planning was, therefore, not shown to have been better planning. It is probable that the core of high planning hospitals discussed earlier are the truly progressive performers.

Discussion

Do these findings indicate that some administrators were poor strategic managers? Not necessarily. Qualitative factors such as "goodness" or "badness" cannot be determined by a single visit. What the research did show was that some hospital managements held different perceptions as to the severity of a given problem. This fact is part of the strategic management process and is hard to measure. The correctness of each decision, and subsequent action, can only be determined in hindsight. Therefore, the research made no attempt to measure right or wrong, it only attempted to measure strategic management intensity. Obviously, a

high degree of strategic intensity might not be the preferred choice for all hospitals. This represents a question of balance between strategic management and the internal culture of the hospital.

It is more likely that the failure to find statistically significant results was due to the methodology utilized. The research was hampered by the small number of hospitals appearing within the various categories in the research. It is hard to generalize to a given population from a handful of institutions.

The research also found a dichotomy in the type of geographical markets in which the hospitals operated. The hospitals in the research were coded as being either rural or urban in scope, even though some urban areas were larger than others. Findings showed that, as expected, most rural hospitals had large relative market shares since they operated within relatively protected geographical territories. Lower competition did not mean that a more formal strategic management system was found to exist. The rural hospitals primarily exhibited a somewhat lower acceptance of strategic planning and strategic implementation. Given the geographical barrier to entry (see Porter, 1980 for further details), it seemed that many rural hospitals felt that strategic planning was of a lesser priority. Therefore, the dichotomy found in the operating environments of the hospitals weakened the homogenity of the groupings. At

least two strategic groups (see Porter, 1980 for an overview) existed within the data. If the study had controlled for a single environment and had a larger sample the results might have been more favorable.

The results were also confounded by the existence of legislation that established a fixed-reimbursement system (DRG's). While indications of some form of legislation were known in 1982, the measurement of the strategic management intensity scores were post-DRG in nature. This was true since DRG's actually began on October 1, 1983 (for most hospitals). Accordingly, the dependent variables were really examined pre-DRG's since the last year for these measures represented 1982 changes over 1981 levels. It is highly probable that the lag in measuring planning and implementation reflected scores that were modified in relation to the performance changes. This would be one possible explanation for the lack of significant results in testing the final year's change measurements. Future measurements might show very different results.

The research results indicated that performance is a function of the combination of many factors some of which (such as legislation) are beyond the direct control of the hospital. This finding is similar to other research (see Lenz, 1981 for an overview) that there exists little evidence for a simplified, unidirectional relationship between

strategic management and performance. Evidence that location of the hospital affected performance is a good example of the complexity that occurs when attempting to examine the impact of strategic management. This complexity is also elaborated on by the finding of reverse causality in some of the data.

Limitations

Research has tended to focus upon what "strategists" intend to do by studying artifacts such as documented "plans" (Mintzberg and Waters, 1982). This method ignores any enacted or emerging strategies. The research conducted in this dissertation was no different in that inferences were made based on perceptions of what appeared to be occurring in each hospital. The research also utilized a five-year time interval for examining the perceived effects of strategic management on performance. There is, of course, no guarantee that the five-year period selected was the most relevant one for consideration. Even if this was a reasonable (and relevant) period, it is still likely that some important events may have been left undiscovered.

With regard to strategic implementation, it is unlikely that a yearly approach fully captured the complex nature of this process. This is due partially to a single measurement interval and the inability to canvas the entire organization (see Duncan, 1979). The latter concern also limited the

derivation of the strategic planning score to the perceptions of the CEO and/or staff planner. It must be assumed that the measurement instruments provided adequate coverage of the topic under examination (e.g. content validity; see Emory, 1980, p. 129).

Generalization of the results to other hospitals is limited due to the composition of the sample. Although this is strengthened by using probability random sampling, a chi-square analysis between the sample composition and the AHA national composition showed this research not to be generalizable to the remainder of the U.S. hospital industry. The "large" (in excess of 400 beds) category was the same in composition as the national breakdown. Therefore, the research conclusions for this group are generalizable, yet there exists a small (n=5) sample.

At first glance these concerns appear damaging, but it is not felt that this is the case. Although validity is questioned, confidence in the external validity is strengthened by the probabilistic sampling technique mentioned above. The cross-lagged correlation approach increased the internal validity of the research by controlling for instrumentation, regression, selection, and mortality factors (Campbell, 1967).

Implications for Practitioners

Based on this study, the recommended model for improving the effectiveness of strategic management in hospitals is shown in Figure 5.2. The model is based on field interviews and analyses of the data described in this research. The field interviews still generated a perceived necessity for improved planning and implementation processes. Although the suggestions that follow are the researcher's alone, it is felt that they offer practical ramifications for successfully operating in both today's and tomorrow's environment.

The suggestions are as follows:

1. Strategic management is a useful tool for all sizes of hospital. This was evidenced by the amount of planning and implementation occurring in some of the smaller hospitals. Although some hospitals chose to bring in consultants there is no harm in this if a proper cost-benefit analysis shows that the expenditures produced something the hospital can use and is comfortable with.
2. More emphasis is needed on proactive planning, even in areas facing little direct competition. The proactive nature of strategic management can help the hospital(s) to avoid future problems by considering what the hospital is, and should be, over the projected planning period.

Strategic Management

Strategic Planning → ← Strategic Implementation

Mission	Environmental Analysis External and Internal	Objectives	Alternate Strategic Choices	Resource Acquisition and Allocation	Organizational Structure and Climate	Evaluation and Control
Link mission to environmental changes	Improved market research	More written objectives	Improved analysis techniques	Better financial planning	Improved distribution and communication of plans	Improved cost monitoring procedures
	Improved competitor analysis	Prioritized objectives	More innovation in considering and developing strategic alternatives		More employee involvement	More usage of plan to monitor managerial performance
					Increased board education	
			More joint ventures (multi-institutional arrangements)		Increased usage of key plan components by medical staff	

Figure 5.2

Strategic Management Topics Needing More Emphasis in Virginia Hospitals

3. Extension of planning content is needed. Too many hospitals viewed strategic planning as having a mission and an environmental analysis. These are diminished in importance if written documentation is not developed for their fulfillment.

4. Increased emphasis on employee involvement. Although no direct discussions were held with lower-level employees, the interviews with the administrators and others indicated that most hospitals only inform their employees of the plan content on a "need-to-know" basis. While obviously sensitive strategic moves cannot be released at random, employees need to know, and need to be made to understand, what is happening and why. Research has generally shown that people perform better if they understand what is expected of them and where the firm is headed. According to Glueck and Jauch, "Effective strategic management points the way for the employees to follow" (1984, p. 13).

5. Increased involvement of medical staff. Although many hospitals receive <u>input</u> from the medical staff, none indicated that the medical staff made use of the finalized plan. This will probably change as emphasis on cost control due to DRG's accelerates. Front-end involvement of the medical

staff in the process will prevent problems later. The medical staff should not be allowed to usurp the strategy formulation process from the board and top management. This will only serve to shift power and impede hospital progress.

6. More commitment to written content (see number 3). Written analysis forces commitment. The CEO should be involved in this process.

7. Extension of the use of specific objectives (see numbers 3 and 6). Several hospitals appeared to have only vague objectives with little emphasis on time frame for accomplishment, or on level of objective desired. Few hospitals have ranked, specific objectives. This is generally considered a difficult step because it calls for trade-offs among objectives. Some of these objectives may be championed by specific groups within the hospital, and, therefore, compromise might be necessary.

8. Increased emphasis on using the plan for monitoring performance. A clear majority of hospitals did not utilize the plan for performance measurement. Even at the top levels of the institutions studied, only approximately half of the executives were measured against objective plan performance. The performance aspect of control needs both

objective and subjective criteria so that the reward system can be adequately managed. Recommendation number eight is closer tied to the lack of specific objectives mentioned in suggestion number seven.

9. Better cost monitoring. Only a handful of hospitals indicated they had a firm grip, or were developing one, over their cost-revenue picture. Unfortunately, the pressure for developing an adequate cost monitoring process was apparently external in the form of DRG's and other environmental pressures. The more formalized hospitals seemingly had a system before DRG's. Cost monitoring will become extremely important for gaining a clearer picture of the physician revenue-cost situation.

10. Greater usage of capital budgeting and financial planning. Where most hospitals expressed the existence of plans covering three to five years less than 40 percent had a financial plan and/or a capital budget. This places resource allocation on a short-term perspective thus possibly damaging the hospital's ability for building future strategic advantages or for reacting to competitive (or other external) threats and/or opportunities.

11. Strengthening of market research. This aspect of

strategic management is crucial in defining market opportunities prior to making strategic choices. Since no statewide market data base exists, each individual hospital will have to determine what their target markets are. Most hospitals were observed moving towards accomplishing this objective. This is important for even the rural hospitals since they are unlikely to be able to rely upon large increases in population growth.

This list does not represent an all-inclusive statement of what each hospital in the survey needs. It is presented as a starting point for prompting a review of each institution's existing strategic management system. The final decisions, of course, as to what actions to follow regarding the use of strategic management lies with each hospital's strategic managers.

Implications for Researchers

It is hoped that this research marks only the beginning of comprehensive study on the nature of strategic management as a complete system on hospital performance. With this in mind, future research must build upon the findings and methods of this study. Perhaps one basic area for starting would be a call for more longitudinal research since this study has not conclusively proven that strategic management in not-for-profit hospitals lends to better performance in

either the short or long range. Longitudinal research would help strengthen the prescriptive recommendations that board members and administrators are interested in. This is especially important since the cross-lagged correlation results suggest that strategic planning was a reaction to poor performance rather than a proactive process.

As a part of future research, careful attention should be focused on the variables selected for inclusion. The five dependent variables used in this study are by no means the only ones important for managing a hospital. More emphasis on budgetary and managerial variables would be a good starting place. While the derivation of dependent variables by extensive in-house interviews or questionnaires is likely to depress sample size, a greater richness in the variables might be obtained. This could only add to our understanding of the multidimensional aspect of strategic management in hospitals. Due to this multidimensionality it is likely that future research should continue the usage of multivariate techniques. Principal component analysis, factor analysis, and canonical correlation analysis are all possible extension techniques. It is not recommended that univariate techniques alone be used in either an independent variable or dependent variable context. It is also suggested that finer distinction of the variables is possible. This would involve segmenting primarily the strategic

planning and the strategic implementation independent variables. Separate hypotheses could be developed from the various component parts of each of these variables.

In terms of adding other independent variables future studies should be aware of possible moderating or interviewing factors that might alter the hypothesized relationships. Research also needs to examine alternate ways of defining relative market share. If doing a small sample investigation, an exploration of zip codes might be possible. This might allow for greater accuracy in measuring a hospital's share of its market.

Closer observation of other factors in the strategic process would be fruitful. An investigation of the board of trustees' role in strategic management, especially strategic planning, would be helpful in seeing if not-for-profit boards carry out functions differently from their traditional profit-oriented counterparts. A study in this area should examine the board's perceptions of strategic management; this could be especially robust in rural areas where board membership is diverse. Including lower-level employees in the study would provide a more complete description on the usefulness of the strategic management process. This type of in-depth analysis could also be used to discover (as best as possible) the true objectives of each hospital, and their relationship to strategic performance. A good starting point would be the work of

Carper (1982) and Carper and Litschert (1983).

Willingness to accept a smaller sample could have beneficial trade-offs from the ability to study strategic management in-depth. While gaining cooperation in this style of venture is more difficult, it is felt that a foundation has been laid in those Virginia hospitals included in the research. A spirit of openness was found among hospitals included in the sample. Observation also showed that some hospitals had a desire for two-way communication of results from this style of research. This would help to provide the field with not just more, but better, prescriptive theories; theories based on empirical research. A movement in this direction could only help in avoiding an addition of unnecessary remedies to the literature. Examining the not-for-profit hospital in other states would be useful for extending the findings to other legislative confines. At this point in time the research findings can be extended to only those hospitals included in the study. Extension to other political situations would prevent misuse of the findings contained within this paper.

For those interested in studying the sampled hospitals, or a cross-section of them, one replication would be a comparison of strategic management and performance against the for-profit hospitals operating in Virginia. At this juncture, many for-profit entities (HCA, Humana, and Charter

Medical to name a few) operate institutions within the state. While Graeff (1980) has cautioned against mixing "apples" with "oranges", the findings of such a study would be helpful in determining the impact of the for-profit hospitals. If political variations were controlled for by observing only a single state the concerns expressed by Graeff could be reduced. It is also suggested that future research group together hospitals operating within similar environments. This controls for the urban versus rural dichotomy, and would provide for examination of strategic groups. This, too, would greatly help those practitioners functioning within a given strategic group context. Strategic group analysis, or analysis of the environment's effect on performance will continue to be important in the future. The coming of DRG's presents a major discontinuity in the way hospitals operate, and also presents a research opportunity for examining how dramatic changes in the environment are reflected in the strategic management process. This fits with the current research since it was found that environmental feedback drove people into planning strategically.

The methodology could be broadened by including definitions of long-range and short-range performance other than within this paper. Before these definitions are developed a review of the literature is imperative. It would appear that there are as many possible definitions as there are

researchers. Kirchoff's (1977) article provides a good review in this area.

The research would also be solidified by replicating, both longitudinally and cross-sectionally, the approach contained in the research. While the time period selected for inclusion in this research was deemed to be an appropriate one, a different time period might yield substantially different outcomes. Replication of the strategic planning results would provide for a historical perspective from which strategic performance could be observed. This is important for tracing strategic development and for preparing a life-cycle analysis. The implementation score should definitely be replicated since it was derived for only a single year. This would provide for a more complete longitudinal analysis of the strategic management process, thereby building on the short-range findings included within this study. Scores for both the strategic planning and the strategic implementation factors should be derived by a standardized instrument if possible. This does not mean that the researcher's judgment should be eliminated; that is both impossible and impractical. The judgmentally derived scores developed in the methodology of this research were shown to have some validity. This validity was much lower than the test-retest reliabilities gathered in a replication of the standardized mail questionnaire. A true replication

of the implementation score would necessitate further interviews with the administrator and/or planner of the sampled hospitals.

These recommendations are numerous, and were not prescribed for accomplishment by a single study. The suggestions are meant to be like seeds from which a richer literature base and from which richer prescriptive theories can be developed. If this can be done, and it should, then participants of the "revolution" Dr. Relman described on the opening page will have, hopefully, a higher chance for survival.

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APPENDIXES

APPENDIX A

SURVEYED HOSPITALS BY BED SIZE CATEGORY
(Number of Beds in Parentheses)

City	Name of Institution
	99 or Fewer Beds
Rocky Mount	Franklin Memorial Hospital (62)
Warrenton	Fauquier Hospital (91)
	100-399 Beds
Alexandria	Alexandria Hospital (374)
Alexandria	Mount Vernon Hospital (192)
Arlington	Arlington Hospital (350)
Charlottesville	Martha Jefferson Hospital (199)
Culpeper	Culpeper Memorial Hospital (106)
Emporia	Greensville Memorial Hospital (127)
Fairfax	Commonwealth Doctors Hospital (137)
Franklin	Southampton Memorial Hospital (226)
Fredericksburg	Mary Washington Hospital (285)
Front Royal	Warren Memorial Hospital (151)
Hampton	Hampton General Hospital (337)
Harrisonburg	Rockingham Memorial Hospital (330)
Leesburg	Loudoun Memorial Hospital (207)
Lexington	Stonewall Jackson Hospital (130)
Low Moor	Alleghany Regional Hospital (214)
Lynchburg	Lynchburg General-Marshall Lodge Hospitals (380)
Martinsville	Memorial Hospital of Martinsville and Henry County (232)

Newport News	Mary Immaculate Hospital (120)
Norfolk	Norfolk Community Hospital (165)
Richmond	Richmond Community Hospital (104)
Richmond	St. Mary's Hospital (369)
South Boston	Halifax-South Boston Community Hospital (192)
South Hill	Community Memorial Hospital (260)
Staunton	King's Daughters' Hospital (260)
Suffolk	Louise Obici Memorial Hospital (240)
Waynesboro	Waynesboro Community Hospital (171)
Williamsburg	Williamsburg Community Hospital (119)
Woodbridge	Potomac Hospital (158)
Woodstock	Shenandoah County Memorial Hospital (133)

400 or More Beds

Danville	Memorial Hospital (473)
Falls Church	Fairfax Hospital (646)
Newport News	Riverside Hospital (641)
Roanoke	Community Hospital of Roanoke Valley (400)
Winchester	Winchester Memorial Hospital (415)

APPENDIX B

COVER LETTER--VHA HOSPITAL SURVEY

October 14, 1983

TO: Chief Executive Officers

FROM: Charles L. Breindel, Ph.D., Chairman,
Committee on Health Planning

SUBJECT: Survey of Hospital Planning Activities

The Council on Administration and Health Planning received a charge to study the activities of VHA in members with institutional planning and assigned it to the Committee on Health Planning. The Committee found that it was necessary to determine what type of planning activities hospitals are currently conducting, and a survey was constructed to provide the information. The questionnaire is a shortened version of one used by the VHA for the same purpose in 1979.

The survey questionnaire has been divided into two parts for ease of completion. Part 1 contains questions that concern the hospital's planning process. Part 2 contains questions for the Chief Executive Officers. Some hospitals will appropriately have Part 1 filled out by the person directly responsible for providing planning support. When this is the case we are asking that the CEO review and verify Part 1 before completing Part 2. Your responses will be utilized to develop VHA decisions and future directions. Once the questionnaire is received by VHA, all hospital identifiers will be removed to protect the privacy of your responses.

Thank you for your cooperation in this endeavor.

/bjb

Encls.

APPENDIX C

VIRGINIA HOSPITAL ASSOCIATION

SURVEY OF HOSPITAL PLANNING
October 1983

Signature of Person Completing Part 1

Signature of Chief Executive Officer

Return to:
Katherine Webb
Virginia Hospital Association
P.O. Box 31394
Richmond, VA 23294

VHA Survey of Hospital Planning Activities

In order to provide greater clarity in answering the survey, a set of definitions has been provided.

Short-range plan -- Plan comprised of tactical and budgetary actions occurring within the next fiscal year.

Long-range plan -- Greater than three fiscal years.

New service -- Change in clinical capacity by addition or deletion of a bed or by a transfer of a bed.

Goals -- Longer range statements about future directions, not necessarily measurable.

Objectives -- Shorter range statements about future directions, usually stated in tangible and measurable time.

MBO -- Management-by-objectives.

SURVEY QUESTIONS
(Part 1)

1. Does your institution have a long-range plan?
   YES _____ NO _____
   If NO, is a long-range plan being prepared?
   YES _____ NO _____
   (If NO, go to question 14).

2. If you have a long-range plan,
   a) Is it approved by the board of trustees?
   YES _____ NO _____
   b) When was it prepared? _____
   c) Is it being updated?
   YES _____ NO _____
   If NO, when was it last updated? _____
   d) How often is it updated? _____

3. What written documents constitute your long-range plan? (Check all that apply)
   _____ No written documents
   _____ Mission statement
   _____ External environmental analysis
   _____ Internal environmental analysis
   _____ Statement of goals
   _____ Marketing plan
   _____ Master facilities plan
   _____ Financing plan
   _____ Capital budget
   _____ Operating budget
   _____ Contingency plan
   _____ Other, please specify _____

---

4. When formulating your long-range plans, do you use a written planning manual that provides guidelines for developing long-range plans?
   YES _____ NO _____

5. How far into the future does your long-range plan cover?
   _____ Up to 3 years
   _____ 3-5 years
   _____ 5-7 years
   _____ 7-10 years
   _____ Over 10 years, please specify _____

6. Who assists in developing your long-range plans? (Check all that apply)

____ Architectural firm
____ Hospital consultant
____ Hospital personnel only
____ Consultant and architectural firm
____ Medical staff
____ Board of trustees
____ HSA
____ Other, please specify _____

---

7. What committee(s) review your long-range plans?

____ Not reviewed by a committee
____ Planning
____ Planning and Policy
____ Planning and Facilities
____ Building and Grounds
____ Executive
____ Finance
____ Other, please specify _____

---

8. Is there a formal planning department at your institution?

YES ____ NO ____ If YES, what is its title? _____

---

a) How long has it existed? _____
b) Approximately how large is its professional staff?

_____

c) Does it have a separate budget?
YES ____ NO ____

9. To whom is the planning process delegated at your hospital?

____ Not delegated, done by CEO
____ Associate or Assistant Administrator
____ Hospital Consultant
____ Vice-President--Planning
____ Director of Planning
____ Other, please specify _____

---

10. How much time does this person spend on institution planning duties?

____ More than 35 hours a week
____ 25-34 hours a week
____ 15-24 hours a week
____ 5-14 hours a week
____ Less than 5 hours a week

11. Within your institution who receives the long-range plan? (Check all that apply)

____ Trustees
____ Hospital Personnel
____ Medical Staff Members
____ Administration
____ Other, please specify _____

---

12. With whom is your plan shared outside of the institutions? (Check all that apply)

____ HSA
____ Other hospitals (how many? _____)
____ State Health Department (Whom? _____)
____ Public--Immediate Communities
____ Municipality--Local Government
____ Other, please specify _____

---

13. What planning roles is the planner(s) responsible for? (Check all that apply)

____ No specific planning roles
____ Preparing long-range plan
____ Staff assistant for special projects
____ Financial planning
____ MBO development
____ Annual budgeting
____ Data collection and analysis
____ Facilities planning
____ Other, please specify _____

---

14. Which one of the following statements best describes the nature of your hospital's long-range or institutional planning? (Please check one answer.)

____ The hospital engages in institutional planning as needed when developing new programs or expanding the hospital.
____ The hospital engages in regular period planning.
____ The hospital's institutional planning is a continuous ongoing process.
____ The hospital does not carry out institutional planning.
____ Other, please specify _____

---

15. Are you (the Hospital) planning to initiate or expand your planning capacity within the next 12 months?
YES ____ NO ____
If YES, what will it be?

____ Consultant for special project(s)
____ Consultant for long-range plans
____ Employ initial planner (full time)
____ Employ initial planner (part time)
____ Employ additional planner (full time)
____ Employ additional planner (part time)
____ Add new activities
____ Add new functions
____ Other, please specify _____

If not in existence, will you establish a planning department?
YES ____ NO ____

16. Is the hospital part of a multi-hospital arrangement with other health facilities? YES ____ NO ____
If YES, what is the nature of the multi-hospital arrangement?

____ Hospitals are jointly owned
____ Hospitals are jointly managed
____ Hospitals are in a consortion
____ Hospitals are in shared services (What major services are shared?)

_____

_____

____ Other arrangements (briefly discuss)

_____

_____

a) Is the planner shared with other hospitals?
YES ____ NO ____

b) Are the hospital plans shared with the other hospitals within the group?
YES ____ NO ____

c) Hospitals outside the group?
YES ____ NO ____

d) When was the multi-unit formed? YEAR _____

e) When did you become a member? YEAR _____

APPENDIX D

COVER LETTER--PERSONAL INTERVIEW GUIDE

This letter is to confirm our upcoming meeting on at . Others, such as your staff planner, may be present at this meeting.

The project has as its goal to serve as a vehicle for learning more about the planning process at your hospital and within the State of Virginia. As mentioned in our conversation, the project is part of a study being conducted jointly under the sponsorship of the VHA's Committee on Health Planning.

All information provided will be handled in complete confidence and explicit permission will be sought before any fact is directly associated with your hospital's name. In addition, a summary of the results will be distributed upon completion of the study.

Your permission to interview is greatly appreciated.

Sincerely,

Michael W. Pitts
Assistant Professor

APPENDIX E

PERSONAL INTERVIEW GUIDE

Hospital Code _____

Date of Interview _____

Time of Interview: Start _____; Finish_____

Interview Location _____

Anyone else present: Yes ___ No ___

If Yes, who? _____

_____

_____

==========

I would like to ask you a few questions about your current planning method.

1. How would you describe your current planning process?

_____

_____

_____

_____

_____

(Respondent may verbalize or may draw out the process.)

2. Who participates in the planning process? _____

_____

_____

_____

_____

3. A. What role does the Board of Trustees play in the planning process? _____

_____

_____

B. How large is the board of trustees? _____ members

C. What is the composition of the board of trustees?

_____

_____

_____

4. How do the hospital employees participate in the planning process? _____

_____

_____

5. When developing the written documents that constitute your plans (show list from Question 3 of mail questionnaire):

A. How is the process carried out? _____

_____

_____

_____

B. Is a manual used in preparing the long-range plan?

Yes ____ No ____

C. Who receives a copy of the finalized plan? _____

_____

_____

6. Is the organizational mission part of your plan?

Yes ____ No ____

7. A. Does your planning process distinguish between the terms "goals" and "objectives"? Yes ____ No ____

B. Does your planning process develop quantified objectives (or goals, if respondent so identifies) for each planning cycle? Yes ____ No ____

1) Could you give me some examples? _____

_____

_____

2) Who is involved in this process? _____

_____

_____

_____

_____

8. Do you publish a list of organizational goals?

Yes ____ No ____

Do you publish a list of quantified objectives (or goals, if so indicated)? Yes ____ No ____

If YES, who receives this (these) list(s)? _____

_____

_____

9. Are the objectives (or goals) ranked? Yes ____ No ___

How is this done? _____

_____

_____

10. Does your planning process develop alternate plans?

Yes ____ No ____

How is this process carried out? _____

_____

_____

11. A. How does your planning process integrate the short and longer-range plans? _____

_____

_____

B. Who is involved in this process? _____

_____

_____

C. How is this integration carried out? _____

_____

_____

12. How are the plans made available to others within the hospital? _____

_____

_____

13. How is the planning process used as a measurement device for:

A. Managerial performance? _____

_____

_____

_____

B. Staff performance? _____

_____

_____

_____

C. Nursing performance? _____

_____

_____

D. Physician performance? _____

_____

_____

14. How are managerial and staff compensation adjustments tied to performance as defined within the plan? _____

_____

_____

_____

15. How are total revenues and total costs monitored within the hospital? _____

_____

_____

16. What perceived impact will DRG's (Diagnosis Related Groups) have on the hospital? _____

_____

_____

17. How do you market the hospital to:

A. Customers? _____

_____

_____

B. Nurses (existing and potential)? _____

_____

_____

C. Physicians (existing and potential)? _____

_____

_____

D. Suppliers (existing and potential)? _____

_____

_____

18. A. What other hospitals are your competitors? _____

_____

_____

_____

B. What is the threat of emergicenters, surgicenters, or other alternative health care providers, to the hospital?

_____

_____

_____

C. Has the hospital organized itself as a holding company? Yes ____ No ____ If YES, what services are offered on a for-profit basis? _____

_____

19. How do the following groups make use of the plan(s)?

A. Board of Trustees? _____

_____

_____

B. Medical Staff? _____

_____

_____

20. How are the plans used in the routine operation of the hospital? _____

_____

_____

_____

21. What problems (if any) have you noted in your current planning system? _____

_____

_____

_____

22. What benefits have you noticed as a result of having a planning system? _____

_____

_____

_____

23. What changes (if any) do you project you will be making in your planning system? _____

_____

VITA

Michael William Pitts was born in Nashville, Tennessee on March 14, 1953. He graduated from Central High School, in that city, in June, 1971. In July, 1974, the author was married to the former Cheryl Ann Howe. In August, 1975, he received a Bachelor of Arts degree in Business Administration from the University of North Carolina at Charlotte. In January, 1976, he entered Winthrop College in Rock Hill, South Carolina, and began study toward a Master's degree in business. This degree was awarded in April, 1977.

Upon completion of the MBA, he accepted a teaching position in business with Bemidji State University in Bemidji, Minnesota. He entered The Graduate School of The University of Tennessee, Knoxville, in September, 1978. He received the Doctor of Business Administration degree with a major in Management in December, 1984.

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