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Strategic planning by institutional pharmacy administrators

Harrison, Donald Lee, M.S.

The University of Arizona, 1990

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STRATEGIC PLANNING
BY
INSTITUTIONAL PHARMACY ADMINISTRATORS

by
Donald Lee Harrison

A Thesis Submitted to the Faculty of the
DEPARTMENT OF PHARMACY PRACTICE
In Partial Fulfillment of the Requirements
for the Degree of
MASTER OF SCIENCE
WITH A MAJOR IN PHARMACY
In the Graduate College
THE UNIVERSITY OF ARIZONA

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ABSTRACT

The extent and quality of strategic planning by institutional pharmacy directors was assessed. Also examined was how the extent and quality of strategic planning, institutional characteristics, pharmacy characteristics, and pharmacy director characteristics might be associated with the pharmacy's overall level of performance in selected areas.

The majority of institutional pharmacy directors reported utilizing strategic planning for their departments. The global quality of strategic planning reported by pharmacy directors was average. However, directors conducting strategic planning reported a high level of strategic planning.

The directors' rated time available, knowledge, and importance of strategic planning were found to be significantly associated with pharmacy directors' rated quality of strategic planning. Additionally, pharmacy directors' rated quality of strategic planning was found to be significantly associated with pharmacy performance for clinical, distributive, and administrative services.

CHAPTER 1

INTRODUCTION

Strategic planning is the dominant long-term planning process in the business literature (Kotler,1984). There is overwhelming evidence in the business literature that strategic planning is extremely useful and even essential to the survival of the organization (Langley,1988). Additionally, there is plenty of evidence of a positive correlation between strategic planning and organizational performance (Langley,1988).

Institutional pharmacies today exist in a very turbulent, constantly changing health care environment. As a result, the importance of strategic planning to hospitals and hospital departments (pharmacy) continues to rise (Pathak,1985). Zellmer (1983) demonstrated the necessity of strategic planning in helping hospitals and hospital pharmacies adapt to changes in the health care reimbursement process, as well as other changes in environmental and competitive factors.

The value of strategic planning in institutional pharmacy has been documented in recent years. Birdwell and Pathak (1989) emphasized that strategic planning has become imperative in the changing health care environment. The American Society of Hospital Pharmacists (ASHP), as an

organization, has devoted much time and effort in its biannually published strategic planning activities. Recently, Anderson (1988) directly attributed ASHP's successful responses to several environmental issues to its strategic planning program. In the published results of a strategic planning panel discussion, three different hospital pharmacies documented their successful employment of strategic planning to implement clinical services (Kelly,1986, Linggi and Pelham,1986, and Anderson,1986). Even the academic field (Cope,1988) in general, and the American Association of Colleges of Pharmacy (Anon,1982, Cole,1987, and Schwartz,1989) in particular, have detailed the importance of and their activities with strategic planning.

Even though the value of strategic planning is unquestioned (Langley,1988), there is a little published research on strategic planning by institutional pharmacies. Several basic research questions must be addressed. Research is needed to determine the quality and quantity of strategic planning by institutional pharmacies. Additionally, research is needed to determine the pharmacy directors' familiarity with, attitudes toward, and perceived benefits of strategic planning. The data provided by this research may provide many answers to how this essential long-term planning tool is utilized by institutional pharmacies.

The purpose of this research is to determine the quality and quantity of strategic planning by institutional pharmacy departments. A further objective of this research is to assess the reasons for undertaking or not undertaking strategic planning. Another objective is to determine the correlation of institutional characteristics and director demographics with strategic planning.

Strategic planning has its origin in the 1950s. In response to a financial crisis faced by many American firms, the Boston Consulting Group (BCG) developed the strategic planning procedures and technologies. However, during the 1960s and 1970s hospitals and other health care organizations relied on extrapolating revenues and environmental trends as their long range planning technique (Pathak,1985).

In 1975 hospitals received their initial push toward strategic planning. The Social Security Administration made institutional planning mandatory for participation in Medicare and Medicaid. Still, most plans continued to be based on extrapolative planning (based on a stable environment) and very few were of significant detail (Mankin and Glueck,1977). The volatile environment of the 1980s forced the hospitals to switch to planning based on the assumption of planning for a changing environment (Pathak,1985). For institutional pharmacies, changes in the health care delivery system, financing, and education are cited as the major reasons for

conducting strategic planning by hospital pharmacies (Pierpaoli, 1986 and Hutchinson et al., 1989).

Strategic planning is a way of thinking about business problems and of devising solutions to solve them. It is a method of integrating organizational needs and the changing marketplace. The main goal of strategic planning is to increase the chance for success of the organization.

There many definitions of strategic planning, depending upon the author of strategic planning literature. Kotler (1984) defines strategic planning as the managerial process of developing and maintaining a strategic direction that aligns the organization's goal and resources with its changing marketing opportunities. Bryson (1988) describes strategic planning as a disciplined effort to produce decisions and actions influencing the nature and direction of an organization's activities within legal bounds. Recently, Schwartz (1989) described strategic planning as a formal process through which an organization analyzes its ability to fulfill its mission through the optimal allocation of its resources, while taking into account the impact of the external environment.

Though the wording of the various definitions of strategic planning are different, they are all essentially the same: a process to develop the means (strategies) to achieve the ends (objectives and goals) of the organization.

Strategic planning is a continuous process, adapting to change (Mankin and Glueck,1977). The output of strategic planning is not necessarily a document or plan, but a managerial philosophy (Kotler,1984).

The market served by the pharmacy will undergo evolutionary change (Kotler,1984). These changes may include: changing customers, competitors, technologies, and laws. A pharmacy director must realize there is only a short period of time when the match or "fit" between the needs of a particular market and the pharmacy's capabilities is optimal (Kotler,1984). When the director finds the market has changed, or evolved; the pharmacy may no longer be able to efficiently or effectively service this market.

Strategic planning can be viewed as a series of steps that a pharmacy can take to remain strong in the changing market environment (Buller and Timpson,1986, Bryson,1988, and Schwartz,1989). These steps include: initial agreement; environmental analysis; resource analysis; goal formulation; strategy formulation; organizational and systems review; and implementation and review. These steps form the "core" of strategic planning. Many authors give them different names and place them in different order, but the underlying purpose and procedures are essentially the same (Kotler,1984, Pathak,1985, Bryson,1988, and Schwartz,1989),.

Before a pharmacy undertakes strategic planning there must be agreement on the effort (Bryson,1988). The pharmacy management and staff must: recognize the purpose, agree on the steps, and define the role, functions, and composition of the strategic planning group. One of the most important agreements must be over commitment of resources required to carry out the strategic planning effort (Bryson,1988).

The first step in effective strategic planning is environmental analysis. Environmental analysis is a systematic scan of external forces searching for both opportunities upon which the organization may be able to capitalize and threats to which it must react (Schwartz,1989). The pharmacy director must identify leading trends and their impact on the pharmacy. Suggested areas for evaluation are: political, economic, social, and technological forces and trends; clients, customers, payers; competitive forces; and collaborative forces (Bryson,1988 and Falkson and Leavitt,1982).

A systematic method for environmental analysis has been recommended by Kotler (1984) and Pathak (1985): (1) listing the major factors and subfactors making up the environment component; (2) describing the major trends in each factor; (3) describing the implications of these trends for the pharmacy; and (4) converting these implications into specific opportunities and threats.

Mankin and Glueck (1977) reported that only 40 percent of hospital administrators included environmental analysis in their strategic planning process. The Delphi process is the common method used by pharmacy organizations to analyze their environment (Anon, 1982, Kelly, 1986, Black, 1988, and Anderson, 1988).

The next step toward effective strategic planning is to analyze the pharmacy's resources and capabilities. During this step a pharmacy will identify its major resources (strengths) and lacks (weaknesses) (Ross and Silverblatt, 1987). The pharmacy should develop goals, opportunities, and strategies that agree with or are in line with its strengths (Kotler, 1984).

Using a resource audit described by Kotler (1984) and Pathak (1985) can help identify some of the pharmacy's strengths and weaknesses. Some recommended areas for analysis include: people, money, facilities, systems, and market assets. This method will help the pharmacy director visualize the pharmacy's strengths and weaknesses. The pharmacy director must be honest and frank when assessing the pharmacy's resources. Mankin and Glueck (1977) reported effective business firms did the best job of analyzing the organizational strengths and weaknesses. Ross and Silverblatt (1987) suggest human resources as the key factor in the resource analysis process.

The environmental and resource analyses provide the needed background and purpose for a director to determine the basic goals of the pharmacy. Goals help the pharmacy determine what it should be doing, develop effective plans, set objectives and help evaluate results (Kotler,1984). The input of all pharmacy personnel is essential to the development of realistic, obtainable goals. Mission, objectives, and goals determination do not occur in a vacuum.

The majority of Fortune 1000 firms surveyed by Ross and Silverblatt (1987) include quantified objectives in their plans. Specific targets are preferred to general statements such as "efficiency," "excellence," or "customer service." Generalized statements are hard to plan for, hard to measure, and hard to understand. Finally, the director must insure there are no incompatibilities among the objectives of the pharmacy. Defining the pharmacy's goals and objectives lays the foundation for strategy formulation.

Once the pharmacy has determined "where" it wants to go, it must determine "how" it is going to get there. Strategy formulation involves the pharmacy director choosing the major directions for achieving the pharmacy's goals and allocating the resources necessary for goal attainment (Kotler,1984). Pathak (1985) defines strategies as the actions taken by a hospital pharmacy to account for opportunities and threats identified through the previous analyses and resulting in the

pharmacy achieving its objectives. Schwartz (1989) suggests formulated strategies consist of two levels: very broad, long-term, and flexible (general strategies); and very specific, short-term, and inflexible (substrategies).

The most popular tool used for strategy formulation is the portfolio analysis (Ross and Silverblatt, 1987). The authors also found that most firms use more than one method to formulate strategies. The service/market analysis is another commonly used method to assist in strategy formulation/selection. Kotler (1984) recommends two approaches to portfolio analysis: the General Electric (GE) approach and the Boston Consulting Group (BCG) approach. However, it is unclear as to the preferred method utilized by institutional pharmacies. There is no evidence of the use of these more "sophisticated" strategic tools. It appears the most commonly utilized method is group discussion (Kelly, 1986, Linggi and Pelham, 1986, and Hutchinson et al., 1989).

Once the basic organizational strategies are developed, it is recommended the pharmacy develop market strategies for each service market in which it competes (Kotler, 1984). There are three basic components to the pharmacy's market strategy: target market strategy, competitive position strategy, and marketing mix strategy. Linggi and Pelham (1986) suggest the future success of a hospital pharmacy department is largely dependent on how well the pharmacy positions itself within the

institution. There are four basic components to the pharmacy's market mix: service, fee, location, and communication.

The pharmacy's organization and systems structure must be able to carry out the strategies formulated during the strategic planning process. The strategies should dictate the structure, not the other way around. Very little reference to this step is made in the available pharmacy literature. Bryson (1988) describes structure and system review as the pharmacy's "vision of success." The pharmacy director should describe what the pharmacy should look like as it successfully implements its strategies and achieves its goals and objectives.

The chosen strategy(ies) must be implemented. The importance of this step can't be overemphasized. Buller and Timpson (1986) estimate 90 percent of all American companies failed to successfully implement their strategies. Ross and Silverblatt (1987) reported many (43 percent) firms do not maintain systems for detecting and correcting deviations in their strategic plan. Hutchinson et al. (1989) reported a great deal of times and effort dedicated to the implementation and evaluation of the their strategic plan. The implementation plan included substrategies, objectives, and action plan, and a timetable. Finally, the evaluation of strategies must be in terms of reaching the objectives and

goals of the pharmacy.

Aside from the traditional roles suggested by the steps and benefits of strategic planning, there are many non-traditional roles played by this process. Langley (1988) suggest four basic roles for the strategic planning process: public relations, information, group therapy, and direction and control.

There is no doubt that many managers find strategic planning as a valuable, useful tool. Managers almost unanimously consider strategic planning as essential to the survival of the organization (Langley,1988). Bryson (1988) detailed some of the benefits an organization can expect from strategic planning: thinking strategically, clarifying future direction, making today's decisions in light of their future consequences, developing coherent and defensible basis for decision making, exercising maximum discretion in the areas under organizational control, solving major organizational problems, improving performance, dealing effectively with rapidly changing circumstances, and building teamwork and expertise.

Many institutional pharmacies have documented much the same benefits as those described in the business literature. Kelly (1986) reported the success of strategic planning in assisting Hamot Medical Center pharmacy in addressing seven critical issues: proper use of drugs and I.V. therapy, cost-

effectiveness, space, decentralized service, role of the pharmacist and supportive personnel, growth in job, and recognition.

Linggi and Pelham (1986) reported cost-saving programs implementation, and increased efficiency of the drug distribution process as a result of St. Joseph Hospital pharmacy's strategic planning process. M.D. Anderson Hospital's strategic planning program was used by the pharmacy to provide upper-level administrators with pharmacy program descriptions, and an opportunity to present the department's proposals personally beyond the first or second level of administration (Anderson, 1986). Hutchinson et al. (1989) reported major improvements in cost-containment and improved pharmaceutical services resulting from the University of Illinois hospital pharmacy's strategic planning program.

STUDY MODEL

In order to present a clearer understanding of the research to be conducted, it is helpful to utilize a framework with which the study will be undertaken. The model to be described serves to construct the hypothesized relationships between the variables which have been discussed.

This study uses a model that demonstrates some of the influences on the director's quality of strategic planning; and ultimately, the pharmacy's level of performance (see Figure 1). In assessing institutional strategic planning; the

institution's and the pharmacy's characteristics; as well as the demographic characteristics of the pharmacy director will influence the director's attitudes and perceptions of strategic planning.

Institutional and pharmacy characteristics, demographic characteristics of the director; as well as the director's perceptions of the extent certain benefits and disadvantages are derived from strategic planning will influence the director's perceptions of strategic planning. These perceptions include: the availability of time and level of knowledge required to conduct strategic planning; and the importance of strategic planning. These variables, in turn, impact on the quality of strategic planning.

The director's attitudes/perceptions and knowledge of the strategic planning process will influence the quality of strategic planning by the pharmacy director. Ultimately, the quality of strategic planning will influence the pharmacy's level of performance.

In this assessment of the quality of institutional strategic planning, institutional characteristics to be measured are whether or not the institution conducts institution-wide strategic planning, type of institutional ownership, and the level of emphasis on the institutional strategic planning process by the institution's administration. The pharmacy characteristics to be surveyed

are the ratio of full time equivalent (FTE) pharmacists plus technicians to number of active beds, percent of FTE pharmacists' time spent in non-distributive services, and the degree of decentralization of services. The pharmacy director demographic characteristics to be surveyed are the educational degree(s) earned by the pharmacy director and whether or not the director has participated in any strategic planning educational programs.

Those independent variables listed above, along with the director's perception of the extent selected benefits and disadvantages are derived from strategic planning, influence the pharmacy director's decision-making process regarding the quality of strategic planning to undertake. This process is influenced by the director's perceived importance of strategic planning; as well as the director's perceptions of the availability of time and level of knowledge required to conduct strategic planning.

The pharmacy director's quality of strategic planning will increase when the director's perception of the benefits of strategic planning; along with his/her level of knowledge and perceived importance of strategic planning are highly rated. If the director perceives time availability as inadequate, level of knowledge as low, and importance as low; the result may provide some insight into the director's decision whether or not to conduct strategic planning, and at

what quality. Finally, the higher the quality of strategic planning, by the director, the higher the performance level attained by the pharmacy.

Figure 1. Relationships among components of the institutional pharmacy strategic planning assessment model.

PROBLEM STATEMENT

Institutional pharmacy resources are becoming more restricted and will be even more so in the future. Additionally, the health care environment is rapidly changing. These changes will accelerate in the future, as changes in the reimbursement scheme and additional regulatory measures are imposed on the health care industry. Institutional pharmacy directors must make the maximum use of all available tools in planning for future resource allocation. Strategic planning has proved to be an extremely useful tool in the business environment, and recently for hospitals. In spite of the documented importance of strategic planning, there is little published research on strategic planning by hospital pharmacies. What is the extent and quality of strategic planning by institutional pharmacies? How is this tool used by institutional pharmacies? If hospital pharmacies do not utilize the resources allocated to the department wisely, it will surely affect future resources allocated to the pharmacy. Strategic planning may be the key to providing the maximum effective resource allocation and assure the continued growth of hospital pharmacies in a rapidly changing environment.

PURPOSE

The purpose of this research is to determine the extent and quality of strategic planning by institutional pharmacies; as well as to identify some of the possible variables

associated with institutional pharmacy directors that conduct or do not conduct strategic planning for their departments.

RESEARCH OBJECTIVES

The research objectives are to determine:

- (1) Institutional characteristics as to ratio of full time equivalent pharmacists plus technicians to active beds in the institution, level of emphasis placed on strategic planning by the institution's administration, the degree of decentralization of the pharmacy department's services, whether or not the institution conducts institution-wide strategic planning, and type of institutional ownership.
- (2) Institutional pharmacy director demographics regarding educational degree(s) earned and whether or not he/she has attended any strategic planning educational programs, within the last three years.
- (3) The quality of strategic planning by institutional pharmacies.
- (4) The director's perceived level of knowledge of the strategic planning process.
- (5) The director's perception regarding the importance of strategic planning.
- (6) The director's perception of the extent selected benefits and disadvantages are derived from strategic planning.
- (7) The director's rating of his/her pharmacy's overall level of performance in selected areas.

(8) The director's rated perception of the availability of time to conduct strategic planning.

BACKGROUND AND HYPOTHESES

There are eight null hypotheses to be tested in this research. Each is presented here, preceded by its background and rationale. For all tests of hypotheses, the level of significance required to reject the null hypotheses is $\alpha = .05$. In multiple comparisons, the Bonferroni procedure will be used to control the a priori alpha level (Wilkinson, 1988). When using this procedure, each of k comparisons must be significant at $.05/k$ to maintain the overall alpha at $.05$.

It is expected that there are positive correlations between institutional pharmacies that plan strategically and a number of variables. The first such variable is the director's rated importance of strategic planning. Since attitudes directly influence behavior, it follows that a director who perceives the extent of benefits derived from strategic planning are high and the extent drawbacks occur are low; as well as the perceived importance of strategic planning as high, will be more likely to conduct strategic planning. The director's knowledge of the strategic planning process is expected to be positively correlated with the extent and quality of strategic planning by pharmacy administrators. A director may be more likely to utilize strategic planning if he/she is more knowledgeable about the process.

The next variables expected to be positively correlated with pharmacy strategic planning are the ratio of full time equivalent (FTE) pharmacists plus technicians to number of active beds of the institution and the degree of decentralization of the pharmacy department's services. Obtaining more or maintaining current resources is a major reason for undertaking strategic planning (Bryson,1988, and Hutchinson et al.,1989).

Pharmacy strategic planning is expected to be positively correlated with institutions that conduct institution-wide strategic planning and the importance placed on strategic planning by the institution. Institutions that conduct strategic planning may require its departments to conduct strategic planning in order for the departments to provide input to the institution's strategic plan. Additionally, strategic planning has been shown to improve an organization's performance (Bryson,1988 and Langlely,1988). This leads to the first, second, third and fourth hypotheses.

Hypothesis I. There is no relationship between the director's rated perception of the availability of time, as measured on a six point Likert scale, and

- (1) the pharmacy department's ratio of full time equivalent (FTE) pharmacist plus technicians to number of active beds
- (2) the pharmacy department's degree (percentage) of decentralization of services and

(3) the FTE pharmacists' percent of time spent in non-distributive services.

Hypothesis II. There is no relationship between the director's rated level of knowledge, as measured on a six point scale, and

(1) the level of emphasis placed on the institutional strategic planning process by the institution's administration (six point Likert scale)

(2) whether or not the director has attended any strategic planning educational programs within the last three years and

(3) whether or not the institution has an ongoing institution-wide strategic planning process.

Hypothesis III. There is no relationship between the director's perceived importance of strategic planning, as measured on a six point Likert scale, and

(1) ratio of FTE pharmacists plus technicians to the number of active beds of the institution

(2) the level of emphasis placed on the institutional strategic planning process by the institution's administration (six point Likert scale)

(3) degree of decentralization of the pharmacy department's services (percent decentralized)

(4) percent of FTE pharmacists' time spent in non-distributive services

(5) the director's rated perception of the extent selected benefits and drawbacks are derived from strategic planning (six point Likert scale)

(6) whether or not the pharmacy director has participated in any strategic planning educational programs within the last three years and

(7) whether or not the institution has an ongoing institution-wide strategic planning process.

Hypothesis IV. There is no relationship between the director's rated quality of strategic planning, as measured on a six point scale, and

(1) the director's perceived importance of strategic planning (six point Likert scale)

(2) the director's rated level of knowledge (six point Likert scale) and

(3) the director's perception of the availability of time (six point Likert scale).

Type of hospital ownership may have a significant impact on the director's knowledge, perceived importance, and ultimately quality of strategic planning. Investor owned (for profit) hospitals are considered by many as businesses (Williams and Torrens, 1988). As a result, it is felt that differences would exist in the director's knowledge, perceived importance, and quality of strategic planning; based on the type of hospital ownership (investor-owned, not for profit,

or non-federal government). This leads to the fifth null hypothesis.

Hypothesis V. There is no difference, based on type of hospital ownership, in

(1) the directors' perceived importance of strategic planning (six point Likert scale)

(2) the directors' rated level of knowledge (six point Likert scale) nor

(3) the directors' rated quality of strategic planning (six point Likert scale)

Parrett (1983) found a significant difference in innovativeness between directors based on educational degrees earned. It is expected that similar relationships exist between the quality of strategic planning and the educational degree(s) earned by the pharmacy director. It is expected that directors with a graduate degree would have a higher rated quality of strategic planning; as well as a higher rated perceived knowledge and importance of strategic planning than other directors of pharmacy. This leads to the sixth null hypothesis.

Hypothesis VI. There is no relationship between whether or not the director has a graduate educational degree(s) and:

(1) director's rated quality of strategic planning (six point Likert scale)

- (2) director's rated perceived importance of strategic planning (six point Likert scale), and
- (3) director's rated knowledge of strategic planning (six point Likert scale)

The benefits of strategic planning have been well documented (Bryson,1988, Anderson,1986, and Hutchinson et al.,1989). Pharmacies that plan strategically should score high in areas beneficial to strategic planning. This leads to the expectation that there should be a positive correlation between quality of strategic planning and pharmacy performance in selected areas. This leads to the seventh null hypothesis. Hypothesis VII. There is no relationship between the director's rating of his/her pharmacy's level of performance in selected areas (six point Likert scale) and the director's rated quality of strategic planning (six point Likert scale).

Finally, one of the purposes of this research is to identify possible reasons for utilizing or not utilizing strategic planning in institutional pharmacies. A director's perception of knowledge, importance, availability of time, and extent selected benefits and drawbacks are derived from strategic planning may have a significant impact on the pharmacy director's decision as to whether or not to undertake strategic planning. Finally, this leads to the eighth null hypothesis.

Hypothesis VIII. There is no relationship between whether or not the pharmacy director conducts strategic planning and:

- (1) the director's rated importance of strategic planning (six point Likert scale)
- (2) the director's rated level of knowledge (six point Likert scale)
- (3) the director's rated availability of time (six point Likert scale) and
- (4) the director's rated extent selected benefits and drawbacks are derived from strategic planning (six point Likert scale).

SIGNIFICANCE OF THE PROBLEM

Many institutional pharmacy leaders have emphasized the need for pharmacy directors to use some sort of strategic planning (Birdwell and Pathak, 1989). Strategic planning can be the institutional pharmacy department's most important tool for staying in step with its changing health care environment (Pathak, 1985). However, little published empirical evidence indicates that pharmacy directors use the strategic planning process.

Institutional pharmacies today, exist in a turbulent, rapidly changing health care environment. These changes will only accelerate in the coming years (Black, 1986). Changes in the health care reimbursement scheme and changes in regulatory guidelines are seen as the most serious cause of change.

Resources provided by health care institutions to their departments will be increasingly scrutinized. Strategic planning may give institutional pharmacies the needed edge in the fierce competition for those scarce resources.

Therefore, it was thought that research in this area would be useful. It was felt that by surveying a representative sample of the nation's institutional pharmacy directors, relationships between the extent of strategic planning, pharmacy performance, and the characteristics of pharmacy directors that plan strategically could be identified. If significant relationships can be discovered, pharmacy directors may be able to use this information to benefit the profession. This information would also be extremely valuable to colleges of pharmacy and to ASHP in pharmacy management course instruction.

DEFINITIONS

STRATEGIC PLANNING - a long-term planning tool, for the purpose of this research it is a continuous, formal process by which an organization selects its future goals and develops the strategy with which to achieve them (Maddrell,1983)

COST-BENEFIT ANALYSIS - a technique for choosing among various outcome objectives by comparing dollars of benefits to dollars of costs for alternative programs, so limited resources can be used most effectively (Bootman, McGhan and Schoendelmeyer, 1982)

CLINICAL PHARMACY SERVICE - a non-distributive patient-oriented activity to improve patient drug use, provided by a pharmacist

STRATEGIES - actions taken by a institutional pharmacy to account for opportunities and threats (Pathak,1985)

GENERAL ELECTRIC (GE) BUSINESS SCREEN - the process of rating all pharmacy services in terms of its strength and attractiveness, used in formulating and selecting strategies (Kotler,1984)

BOSTON CONSULTING GROUP (BCG) PORTFOLIO ANALYSIS - the process of rating all pharmacy services in terms of its market growth and market share, used in formulating and selecting strategies (Kotler,1984)

THREAT ANALYSIS - the process of rating the pharmacy's threats in terms of probability of occurrence and potential severity, used in the assessment of the pharmacy's external environment (Kotler,1984)

OPPORTUNITY ANALYSIS - the process of rating the pharmacy's opportunities in terms of probability of success and potential attractiveness, used in the pharmacy's external environment assessment (Kotler,1984)

GOAL - an objective of the organization, that is very specific as to magnitude, time, and responsibility (Kotler,1984)

MISSION - describes the product, market, and technological areas of emphasis for the business in a way that reflects the values and priorities of the strategic decision makers (Pearce and Robinson,1988)

OBJECTIVE - the major aspects or attributes that the pharmacy will emphasize, or strive for; an objective could be enhancing the pharmacy's reputation, or increasing the pharmacy's profitability (Kotler,1984)

INTERNAL ENVIRONMENT - this consists of the internal publics of the pharmacy, primarily the staff

MARKET ENVIRONMENT - this consists of the people and other organizations that the pharmacy directly works with to accomplish its mission. This primarily consists of patients, suppliers, and other health care providers

PUBLIC ENVIRONMENT - this consists of other groups and organizations that have an interest in the activities of the pharmacy. Primarily, regulatory agencies, professional societies, and the general public

COMPETITIVE ENVIRONMENT - individuals and organizations that compete for attention and loyalty from the markets and publics of the pharmacy. The pharmacy's competitors

MACROENVIRONMENT - large scale forces that shape opportunities and pose threats to the organization. These are the "uncontrollables". They are demographic, economic, technological, political, and social forces

MARKET - all the people and organizations that are interested in a pharmacy's service(s) and have the ability to pay for it (Kotler,1984)

EXTERNAL ENVIRONMENT - consists of all the conditions and forces that affect the pharmacy's strategic options but are typically beyond its control(Pearce and Robinson,1988)

CHAPTER 2

REVIEW OF RELATED LITERATURE

In the past, some of the success enjoyed by the armed services, certain large businesses, and to some extent the government can be attributed to strategic planning (Buller and Timpson,1986). The importance of strategic planning to hospitals and hospital departments has continued to escalate (Pathak,1985). Zellmer (1983) demonstrated the necessity of strategic planning to help hospitals and hospital pharmacies adapt to changes in the health care reimbursement process. Zellmer (1983) also noted the importance of strategic planning to adapt to changes with regard to other environmental and competitive factors.

The value of strategic planning in pharmacy has been documented in recent years (Hutchinson et al,1989, Kelly,1986, Linggi,1986, Anderson, 1986, and Anderson,1988). The American Society of Hospital Pharmacists (ASHP), as an organization, has devoted much time and effort to the strategic planning process. ASHP publishes, biannually, its strategic planning activities (Black,1987, and Black,1988). Recently, Roger W. Anderson (1988), past president of ASHP, documented some of the successful results of ASHP's strategic planning activities. In a series of articles, (Kelly,1986;

Linggi,1986; Anderson,1986; and Pierpaoli,1986) three hospital pharmacies of different sizes and focuses, documented their experiences and successes with strategic planning. Even the academic field (Cope,1988) in general, and the American Association of Colleges of Pharmacy (Anon,1982, and Cole,1987) in particular have detailed the importance of and their activities with strategic planning.

Institutional pharmacies today exist in a very turbulent, constantly changing health care environment. The health care industry has responded by seeking productivity and economic improvements that have altered the basic structure of the delivery of services (Black,1986). These changes will accelerate over the next several years, producing a fundamentally different system than the one in use today (Black,1986). These rapid changes reinforce the necessity for pharmacy directors to make a solid assessment of the environment; to ratify strategies for achieving the desired goals and objectives; and to maintain a strong and successful financial base (Black,1986).

The value of strategic planning is unquestioned (Langley,1988). There are a few published case studies documenting the necessity, value, and activities of strategic planning. However, there is little published research on strategic planning by institutional pharmacies. Birdwell and Pathak (1989) reported that more hospital pharmacy directors

are involved in strategic planning than expected. The authors also reported the director's perceptions of departmental performance appear to be related to their level of planning sophistication. Research is needed to determine the quantity and quality of institutional pharmacy strategic planning, as well as the director's familiarity, and attitudes toward strategic planning. Information from this research may provide insight as to how strategic planning is utilized by institutional pharmacies.

THE ORIGIN OF STRATEGIC PLANNING

During the mid 1950s many American firms were confronting a crisis that could not be handled by traditional management techniques. Demand for the products of many firms began to level off or decline. The development of substitute products generated by new technologies, and by foreign competitors entering the market helped bring about this crisis. The traditional techniques of long-term budgeting, financial control, and even long-term planning seemed inadequate for dealing with the new competitive pressures. By the early 1970s the Boston Consulting Group (BCG) had taken the lead in developing the technologies and procedures of strategy formulation. Since then, strategic planning has become the dominating long-term planning process.

During the 1960s and 1970s, planning systems utilized by hospitals and other health care organizations consisted of

extrapolation of revenues and environmental trends for the next five to 10 years (Pathak,1985). The initial push for hospitals to undertake some form of strategic planning came in 1975 when the Social Security Administration made institutional planning mandatory for participation in Medicare and Medicaid.

Even though planning became mandatory for participation in Medicare and Medicaid, most plans continued to be based on extrapolative planning and few of the hospitals' plans were very detailed (Mankin and Glueck,1977). During the volatile environment of the 1980s, hospitals switched emphasis from extrapolative planning based on a stable environment to strategic planning based on the assumption of planning for a changing environment (Pathak,1985). Changes in the health care delivery system, financing, and education were seen as the major impetuses for strategic planning by hospital pharmacies (Pierpaoli,1986 and Hutchinson et al.,1989).

WHAT IS STRATEGIC PLANNING?

Strategic planning is a way of thinking about business problems and of devising solutions to solve them. It is not another form of budgeting. It is a method of integrating organizational needs and the changing marketplace. The main goal of strategic planning is to increase the chance for success of the organization.

Kotler (1984) defines strategic planning as "the managerial process of developing and maintaining a strategic direction that aligns the organization's goal and resources with its changing marketing opportunities." Bryson (1987) describes strategic planning as a "disciplined effort to produce fundamental decisions and actions shaping the nature and direction of an organization's (or other entity's) activities within legal bounds. Recently, Schwartz (1989) described strategic planning as a "formal process through which an organization analyzes its ability to fulfill its mission, and develops a strategy for fulfilling its mission through the optimal allocation of its resources, with complete awareness of the impact of external forces (external environment)."

Strategic planning is a set of decisions and actions which lead to the development of an effective strategy (Mankin and Glueck, 1977). A strategy is a unified, comprehensive, and integrated plan developed to assure the basic objectives of the organization are met (Mankin and Glueck, 1977). In short, a strategy is the means used to achieve the ends, which are the objectives and goals of the organization.

Ross and Silverblatt (1987) describe strategic planning as defining the mission of a business, its product line and services offered, its markets and market segment, its investment strategy, and its differentiation. The authors

also describe the close similarity of both the components and concepts, between strategic planning and strategic marketing. However, Pathak (1985) points out that a strategic plan is not a marketing plan.

Strategic planning is a continuous process. It adapts to changing circumstances (Mankin and Glueck, 1977). The output of strategic planning is not necessarily a document or plan, but rather a managerial philosophy. The authors point out, because it is a managerial philosophy, top management (pharmacy directors) are primarily involved with the planning process.

The pharmacy director must carefully scrutinize market evolution and strategic fit. The market served by the pharmacy will undergo evolutionary change (Kotler, 1984). These changes are marked by changing customers, competitors, technologies, and laws. A pharmacy should view these changes and assess the requirements for continued success through a "strategic window." The director should realize that there is only a short period of time when the match or "fit" between the needs of a particular market and the pharmacy's capabilities is optimal (Kotler, 1984). There may be times when the director finds the market has changed, or evolved and the pharmacy may not be able, efficiently or effectively, to serve this market. When this happens, the director should consider shifting resources to another area of growing

opportunity.

Strategic planning can be viewed as a series of steps that a pharmacy can take to remain strong in the changing market environment (Buller and Timpson,1986, Kotler,1984, Bryson,1987, Mankin and Glueck,1977, Pathak,1985, and Schwartz,1989). These steps are outlined in Figure 2. The steps in figure 2 form the "core" of strategic planning and can be shaped to fit the needs of the organization (Kotler,1984 and Pathak,1985). Many authors give these steps different names (Pathak,1985, Mankin and Glueck, 1977, and Kotler,1984), but the purpose and procedures outlined in each step are generally the same.

Hutchinson et al. (1989) described a variation of this process used in their institutional pharmacy's strategic planning program. Eight steps were utilized in the strategic planning process: (1) reaffirm the department's philosophy and mission; (2) identify external and internal factors that affect the department's mission; (3) evaluate the potential impact of each factor; (4) identify potential strategies for responding to each factor that may have substantial impact; (5) review all strategies and select a limited number of strategies to implement; (6) organize and consolidate strategies into concise statements; (7) implement strategies; and (8) re-evaluate strategies annually.

Figure 2. The strategic planning process

Agreement, environmental and resource assessment, goal formulation, strategy formulation, organizational and systems review, implementation, and evaluation form the "core" of strategic planning. We will now focus our attention on these basic steps used in strategic planning.

INITIAL AGREEMENT

Before strategic planning is even attempted, there must be an agreement of the effort (Bryson,1988). The pharmacy management and staff must recognize the purpose of strategic planning, agree on its preferred steps, and timing of reports. The role, functions, and composition of the strategic planning group must also be agreed upon. It is important to emphasize that strategic planning for a pharmacy does not rest solely on the director. Kotler (1984) recommends utilizing staff members, and even some non-pharmacy personnel in the planning process. One of the most important agreements must be over commitment of the resources necessary to proceed with the strategic planning effort (Bryson,1988).

ENVIRONMENTAL ANALYSIS

Analyzing the environment in which the pharmacy operates is the first step toward effective strategic planning. Schwartz (1989) defines environmental analysis as a systematic scan of external forces searching for both opportunities upon which the organization may be able to capitalize and threats to which it must react. The pharmacy director tries to

identify leading trends and their impact on the pharmacy. Bryson (1988), Falkson and Leavitt (1982), and Schwartz (1989) refer to this step as external environmental assessment. The authors suggest evaluation of: political, economic, social, and technological forces and trends; clients, customers, and payers; competitive forces; and collaborative forces.

Pathak (1985), Kotler (1984), and Ross and Silverblatt (1987) suggest that a prerequisite of environmental analysis is identifying major components of the pharmacy's environment. There are 5 principal components of a pharmacy's environment: (1) internal environment; (2) market environment; (3) public environment; (4) competitive environment; and (5) macroenvironment. Pathak (1985) and Kotler (1984) advocate a four-step process for environmental analysis: (1) listing the major factors and subfactors making up the environment component; (2) describing the major trends in each factor; (3) describing the implications of these trends for the pharmacy; and (4) converting these implications into specific opportunities and threats.

Mankin and Glueck (1977) reported only 40 percent of hospital administrators included environmental analysis in their strategic planning process. This is astounding since this step is considered the cornerstone of strategic planning (Kotler, 1984, Pathak, 1985, and Bryson, 1988). The authors also reported hospital administrators relied more on printed

information than business managers. Ross and Silverblatt (1987) found customers were the most frequent (90 percent of surveyed executives) consideration in environmental analysis. This was followed by implementing new technology (80 percent) and update technology (75 percent).

ASHP relies heavily on environmental analysis in its strategic planning process (Black,1986,1987,1988, and Anderson,1988). ASHP uses a Delphi survey process, of ASHP Board of Directors, Commission on Goals, affiliated state chapter presidents, council and SIG Cabinet members, and ASHP professional staff. The American Association of Colleges of Pharmacy (AACP) makes extensive use of environmental analysis in its strategic planning process (Anon,1982). AACP's environmental analysis is performed by its Board of Directors.

In a study reported by Birdwell and Pathak (1989), 85.1% of pharmacy administrators surveyed indicated that they identify threats and opportunities for their pharmacy department. Hamot Medical Center pharmacy (Kelly,1986) used presentations by key members of the medical center staff on where their area was going and how the pharmacy could help them achieve their goals in their environmental analysis process. In addition to the presentations, the pharmacy used the Delphi process to identify issues and define them as critical, intermediate, or low importance to the pharmacy department (Kelly,1986).

In a study reported by Brown (1986), environmental analysis was considered (by industry executives) to consist of: organizational characteristics; industry structure; market and consumer behavior; supplier consideration; and social, economic, and political factors. Product quality was determined to be the key planning variable for improving market share.

Pharmacy management should attempt to identify the major threats and opportunities it faces or will face in the future. It is probably more important for a pharmacy director to analyze the pharmacy's opportunities than its threats (Kotler, 1984). If an organization manages its threats successfully, it will survive but will not grow! However, if the pharmacy manages its opportunities successfully it will grow.

Kotler (1984) and Pathak (1985) recommend using a threat matrix and an opportunity matrix to analyze the pharmacies threats and opportunities. Using these tools allows the pharmacy director to visualize the pharmacy's threats and opportunities. Kotler (1984) recommends that pharmacy management develop contingency plans for serious threats, ignore the least serious threats, and monitor the medium serious threats.

RESOURCE ANALYSIS

The next step toward effective strategic planning is an analysis of the pharmacy's resources and capabilities. The purpose of this step is to identify the major resources (strengths) and lacks (weaknesses) of the pharmacy (Kotler,1984, Pathak,1985, Ross and Silverblatt,1987, Mankin and Glueck,1977). The pharmacy should develop goals, opportunities, and strategies that agree with, or are in line with its strengths (Kotler,1984). Recently, Smith (1989) emphasized the importance of integrating human resource and strategic planning. The author also stressed the importance of effective human resources management on the overall success of the department's strategic planning program.

Kotler (1984) and Pathak (1985) describe the use of a resource audit to analyze the pharmacy's resources. Suggested resources to be audited can include people, money, facilities, systems, and market assets. The authors recommend identifying whether the pharmacy's position for each resource is a strength (high, medium, low), is neutral, or is a weakness (low, medium, high). Like the threat and opportunity matrix, the main purpose of the resource audit is to help the director visualize the pharmacy's strengths and weaknesses.

One of the purposes of resource analysis is to capitalize on opportunities or thwart threats by using existing resources or by justifying additional resources. Pharmacy directors

should usually avoid those opportunities for which the necessary resources are lacked by the pharmacy (Kotler,1984). Because success or failure may depend on the outcome of the resource analysis, it is recommended the director be as honest or frank as possible when analyzing the pharmacy's resources (Kotler,1984; Pathak,1985; Ross and Silverblatt,1987; and Schwartz,1989).

Mankin and Glueck (1977) refer to resource analysis as "appraising the comparative advantages." The authors recommend this analysis as a way of knowing which environmental threats are most dangerous and which opportunities are ideal for follow up. Factors that should be considered, according to Mankin and Glueck (1977), are the size, distribution of resources, and strengths or weaknesses of the organization.

In business, effective firms do the best job at analyzing its organizational strengths and weaknesses (Mankin and Glueck,1977). The authors found hospital administrators determined location and age of equipment as the two highest rated advantages for their hospitals. The authors also found that quality of service provided by the hospital was a distinct advantage.

Ross and Silverblatt (1987) refer to resource analysis as "internal organization environmental analysis." In a study conducted by the authors (on fortune 1000 firms),

organizational goals and objectives was the most frequently considered factor in this step. The nature of products/services and existing managerial skills were the second and third most frequently considered factor in the organization's resource analysis. A surprising result of the study showed concern for the human and organizational dimension, thought to be key considerations in an effective strategic planning program, was considered by fewer than 50 percent of the respondents.

Ignoring the human and organizational dimension can negatively affect both the development and implementation of the strategic plan (Ross and Silverblatt,1987). The authors also emphasize omitting these factors can block or retard the implementation of any plan.

Bryson (1988) refers to resource analysis as "internal environmental assessment." Again, the purpose of this step is to assess the organization to identify its strengths and weaknesses. The author describes three assessment categories (resembling a systems model): (1) organizational resources (inputs); (2) present strategy (process); and (3) performance (outputs). Most organizations can tell you a great deal about the resources they have, much less about their current strategy, and even less about how well they perform (Bryson,1988).

The identification of strengths, weaknesses, opportunities, and threats (SWOT analysis) is very important. Every effective strategy will build on strengths and take advantage of opportunities, while it overcomes or minimizes weaknesses and threats (Bryson,1988). Kotler (1984) recommends conducting image studies to determine how the pharmacy is perceived by its key public. Image studies may give the director another perspective in assessing the pharmacy's strengths and weaknesses.

GOAL FORMULATION

The environmental and resource analyses provide the needed background and purpose for management determination of the basic goals of the pharmacy. Establishing goals enables the pharmacy to determine what it should be doing, develop effective plans, set objectives for individual staff's performances, and help evaluate results (Kotler,1984). Without goals, anything the pharmacy does or accomplishes can be considered acceptable; since there is no standard for planning and control.

Kotler (1984) recommends a two step process for establishing goals: (1) determining what the pharmacy's current goals are, and (2) determining what the goals should be. Most authors (Kotler,1984, Bryson,1988, and Ross and Silverblatt,1987) agree the input of all pharmacy personnel is needed. The final result (goals) will be the blending of

individual and sub-group goals into one formal set all pharmacy personnel will support.

Goal formulation involves the determination of the pharmacy's appropriate mission, objectives, and goals for the current or projected environment (Kotler,1984). Mission, objectives, and goals determination do not occur in a vacuum (Bryson,1988). In addition to other staff members, the director is sure to receive input from its parent organization or hospital.

Kotler (1984) recommends periodic review of the pharmacy's mission. As the pharmacy grows and develops new services and markets, the mission may become unclear. A well written mission statement provides everyone in the pharmacy with a shared sense of purpose, direction, significance, and achievement (Kotler,1984). The author recommends a durable statement, not something that changes yearly.

Pathak (1985) refers to the goal formulation step as "determining the business." The author reports business definition requires the consideration of three dimensions: (1) the customer group dimension (who); (2) the customer function dimension (what need); and (3) the technological dimension (how). Pharmacy literature has generally defined the business of pharmacy along the first two dimensions (Pathak,1985). The author asserts business determination as a dynamic, not static decision-making process.

It is important to note the timing of this step is not unanimously agreed upon (Kotler,1984, Falkson and Leavitt,1982, and Pathak,1985). Falkson and Leavitt (1982) do not include this step in the strategic planning process. Instead, the authors assume mission, goals, and objectives have been pre-determined outside the strategic planning process. This may not be a valid assumption for most hospital pharmacies. Bryson (1988) includes goal formulation in an intermediate step (strategic issue identification) between environmental/resource analysis and strategy formulation.

Kotler (1984), Ross and Silverblatt (1987), and Bryson (1988) emphasize goal formulation should occur only after strengths, weaknesses, opportunities, and threats (SWOT) have been identified, since they directly impact on goal formulation. Pathak (1985) and Mankin and Glueck (1977) maintain goal formulation as the initial step in the formal planning process and is provided constant feedback from the steps following it. Schwartz (1989) stresses goal formulation occurs after the pharmacy's strategies are formulated.

Ross and Silverblatt (1987) found the majority of firms surveyed included quantified objectives in their plans. These included sales, earnings, return on investment, and market share. Specific targets were preferred to general statements such as "efficiency," "excellence," or "customer service." Frequently generalized statements can not be operationalized

and are left unplanned, unmeasured, and misunderstood (Ross and Silverblatt,1987). The authors also found the surveyed companies averaged 20 major product changes over the past three years.

The director must insure there are no incompatibilities among the objectives of the pharmacy. It may not be practical or possible to pursue all of the pharmacy's objectives, given budget limitations (Kotler,1984). Once the goals and objectives are agreed upon during the goal formulation step, the pharmacy can start working on formulating a detailed strategy to achieve its goals.

In a study reported by Birdwell and Pathak (1989), 79.3% of pharmacy administrators surveyed indicated that they develop specific written, documented goals and objectives for their pharmacy department.

STRATEGY FORMULATION

Once the pharmacy has decided upon its goals, it has determined "where" it wants to go. The remaining question is "how" is it going to get there? Kotler (1984) refers to this as having a "grand design" for achieving the pharmacy's goals. The grand design is called strategy. Strategy formulation means the pharmacy director must choose the major directions for pursuing the pharmacy's goals and the allocation of resources to achieve that goal (Kotler,1984). Strategy is often confused with tactics. Tactics are derived activities

developed to permit the pharmacy to complete the individual steps along the way toward achieving its goals. Kotler (1984) refers to this as the pharmacy's strategic path.

Pathak (1985) defines strategies as the actions taken by a hospital pharmacy to account for opportunities and threats identified through the previous analyses and resulting in the pharmacy achieving its objectives. The selection of a hospital pharmacy's strategies is a function of many factors: threats and opportunities, pharmacy objectives, hospital objectives and the strategic plan, strategy implementation risks, risk-taking nature of the pharmacy director, political environment of the hospital (especially the relationship of the pharmacy director with the hospital administrators), and the practical feasibility of the strategy (Pathak,1985).

There are four basic strategic options available to the hospital pharmacy director: growth, hold/defend, turnaround, and divest (Kotler,1984, Pathak,1985, and Falkson and Leavitt,1982). Pathak (1985) describes the use of a product/market expansion matrix as a means of formulating growth strategies. A hospital pharmacy can seek growth through market penetration, market development, program development, or diversification (Pathak,1985)

Pathak (1985) describes market penetration as modifying the existing drug dispensing and delivery system (using traditional hospital pharmacy programs on traditional hospital

pharmacy markets). Market development refers to extending traditional hospital pharmacy programs to nontraditional markets. The development of nontraditional hospital pharmacy programs for the traditional hospital pharmacy market (public) is referred to as program development. Diversification is serving nontraditional markets with nontraditional programs. Falkson and Leavitt (1982) suggest growth is attained by developing new services before competitors, attracting patients away from a competitor, or increasing the use of existing services by existing patients.

Hold/defend strategies may be more appropriate for those hospital pharmacy directors faced with a no-growth situation due to prospective reimbursement, diagnoses-related groups (DRGs), or other changes in the financial reimbursement scheme (Pathak,1985). The main goal is to maintain the present level of pharmaceutical care without any loss in the hospital pharmacy resource base (Pathak,1985). Falkson and Leavitt (1982) describe this as an active, not a passive strategy.

Actions that result in the improvement in overall efficiency, especially through cost-cutting measure, of the hospital pharmacy operation is referred to as turnaround strategy (Pathak,1985). The two major components of a pharmacy's operation are: personnel costs and drug costs (Pathak,1985). In order to implement the turnaround, the pharmacy director must identify the reasons for the decline,

isolate the controllable reasons, and develop strategies to reverse the trend (Falkson and Leavitt,1982).

Schwartz (1989) describes the formulated strategies as consisting of very broad, general strategies and very specific substrategies. The general strategies should be flexible, not subject to change over the short range. However, substrategies should be relatively inflexible, and periodically reviewed and updated.

The most popular tool in the "strategic kit bag" is the portfolio analysis (Ross and Silverblatt,1987). In Fortune 1000 firms, 55 percent of the firms surveyed used portfolio/market share analyses as a method of strategy formulation. The authors reported most of the firms surveyed used more than one method to formulate strategies. More than 59 percent of the surveyed firms used computer/mathematical models in formulating strategies. Ross and Silverblatt (1987) reported cash flow analysis had the most (74 percent) impact on what strategies were selected. Group discussions and "brain-storming" are the tools used by hospital pharmacies throughout all steps in the strategic planning process (Kelly,1986, Linggi and Pelham,1986, and Hutchinson et al.,1989). There is no evidence in the literature to show any of the more "sophisticated" tools in the strategic "kit bag" are used.

In a study reported by Birdwell and Pathak (1989), only 56.3% of pharmacy administrators surveyed indicated that they generate one or two strategies in response to major new problems or opportunities.

Bryson (1988) describes strategy as a pattern of purposes, policies, programs, actions, decisions, and/or resource allocations that define what the pharmacy is, what it does and why it does it. Strategies can vary by level, function and time frame (Bryson,1988). The author describes a five-part strategy development process: (1) Identify practical alternatives; (2) identify barriers to achieving those alternatives; (3) prepare or request major proposals for achieving the alternatives; (4) identify the actions needed over the next one to two years to implement the major proposals; and (5) develop a detailed work program for the next six months to a year to implement the actions.

The main objective in the strategy formulation step is to assure the most appropriate strategy is chosen (Mankin and Glueck,1977). Ninety-three percent of the hospital administrators surveyed (Mankin and Glueck,1977) held regularly scheduled meeting to discuss future strategies or major strategic choices. Most administrators (53 percent) held monthly meetings. The authors describe the strategic choice process of administrators as one of compromise.

Kotler (1984) and Pathak (1985) describe the strategy formulation/selection as a two-step process. The first step is a service portfolio analysis. This tool helps the pharmacy director decide what to do with each of the pharmacy's current major services (Kotler,1984). The next step involves developing a service/market expansion analysis. This step helps the pharmacy director decide what new services and markets the pharmacy should add.

Today's hospital pharmacies are becoming more and more multiservice in their daily operations (Kotler,1984). The services provided by the pharmacy will vary in their importance and contribution to the pharmacy's goal and mission achievement. A periodic review of the portfolio of the pharmacy's services is required, in order to help make some difficult decisions about the future of its different services (Kotler,1984).

The key assumption in portfolio analysis is a pharmacy's resources should be divided according to the attractiveness or potential for growth and profitability of each service, instead of dividing resources among all services (Kotler,1984 and Pathak,1985). Kotler (1984) and Pathak (1985) describe in great detail two methods of portfolio analysis: BCG approach and the GE approach. These two approaches can be extremely useful tools for the hospital pharmacy director (Pathak,1985).

The next step in the strategy selection process is the service/market expansion analysis (Kotler,1984). The service/market opportunity matrix is a systematic way to identify the pharmacy's growth opportunities. The service/market expansion analysis, described in detail by Kotler (1984), may be used to supplement the opportunity analysis previously discussed. Cost-benefit, cost-effectiveness, and cost-utility analyses are very valuable tools available to the pharmacy director (Pathak,1985). In today's health care environment these cost analyses could very well be the most important tool, assisting in strategy selection, available to the director.

Strategies and goals are closely related (Kotler,1984, Pathak,1985, Bryson,1988). Kotler (1985) emphasizes a pharmacy director may have to fluctuate often between goal formulation and strategy formulation to determine the final set of realistic goals and feasible strategies. An effective strategy must be technically workable, politically acceptable to all, and must be in line with the values and philosophy of the pharmacy (Bryson,1988).

FORMULATING MARKETING STRATEGIES

Once the pharmacy has developed its basic organizational strategies, it is recommended market strategies be developed for each service market it desires to compete in (Kotler,1984). Kotler (1984) defines the pharmacy's marketing

strategy as choosing target markets and competitive position, and the development of an effective marketing mix to reach and serve the chosen markets. This definition forms the three basic components of marketing strategy: target market strategy, competitive position strategy, and marketing mix strategy.

Kotler (1984) describes five basic patterns of market coverage. The pharmacy can concentrate on only one market segment. This may be necessary when only one segment of the market needs or is willing to pay for the service (Kotler,1984, Bryson,1988, and Falkson and Leavitt,1982). A pharmacy may decide to specialize in a single need for all market segments. Another option is for the pharmacy to specialize in a single market segment, serving all the needs of that segment. The fourth pattern of coverage, a pharmacy may decide to serve specific needs of specific markets that have no relation to each other except that they are attractive opportunities. The last pattern is to provide coverage of all needs for all market segments (mass marketing).

The pharmacy must develop a competitive position strategy to help compete against other organizations who have targeted the same market (Kotler,1984). The pharmacy's competitive position hinges on its ability to develop and communicate worthwhile differences between its service and those services provided by competitors in the same target market

(Kotler,1984). Falkson and Leavitt (1982) describe four factors that influence the pharmacy's competitive position. First is the pharmacy's place in the market place. The next factor is the technology possessed by the pharmacy. The third factor is the managerial capacity and capability of the pharmacy. The pharmacy's financial position is the final factor that must be evaluated. Linggi and Pelham (1986) suggest the future success of a hospital pharmacy department is largely dependent on how well the pharmacy positions itself within the institution!

The final portion of a marketing strategy is the mix of variables that can be controlled. These variables determine the pharmacy's market mix. Kotler (1984) describes four basic variables comprising the pharmacy's market mix: service, fee, location, and communication. The chosen marketing mix must support and emphasize the pharmacy's marketing position (Kotler,1984). The three components (target market strategy, competitive positioning strategy, and marketing mix strategy), of the marketing strategy formulation process, complement the organizational strategy formulation process. Above all else, the pharmacy's organizational and marketing strategies must be ethical, moral and legal (Bryson,1988).

ORGANIZATIONAL AND SYSTEMS STRUCTURE REVIEW

The pharmacy's organization and systems structure must be able to carry out the strategies formulated during the

strategic planning process. Very little reference is made to this step in the pharmacy literature. Kotler (1984) and Bryson (1988) suggest the best approach is to structure the pharmacy around the strategies developed. Logically, if the previous steps were implemented and followed closely, there should be few changes required in the organization and systems of the pharmacy (Kotler,1984).

In today's technologically advanced environment, more pharmacies depend on information systems (computer) to help collect information about the pharmacy's patients, suppliers, and competitors (Pathak,1985). The pharmacy's systems must align with the strategies, goals, and objectives selected by the pharmacy(Bryson,1988). Information systems are critical not only in information gathering and dissemination, but also in providing feedback to the pharmacy (Kotler,1984). Feedback is a critical element in the implementation and evaluation step of the strategic planning process, described in the next section.

Bryson (1988) describes the evaluation of structure and systems as the pharmacy's "vision of success." The directors should describe what the pharmacy should look like as it successfully implements its strategies and achieves its goals and objectives (Bryson,1988). The author reports few organizations have a "vision of success." A pharmacy's vision of success includes its mission, its basic strategies, its

performance criteria, some important decision rules, and the ethical standards expected of all employees (Bryson,1988).

IMPLEMENTING AND EVALUATING THE STRATEGY

The chosen strategy must now be implemented. The implementation and evaluation of strategies is considered, by some authors, to be a completely separate and detailed process (Bryson,1988, Pathak,1985, and Buller and Timpson,1986). Since the majority of the strategic plans developed fail during the implementation, several authors emphasize implementation and evaluation is an integral and important part of the strategic planning process (Mankin and Glueck,1977, Ross and Silverblatt, 1987, and Kotler,1984). There is little information in the pharmacy literature on the success rate or how strategic plans are implemented. Hutchinson et al. (1989) reported a great deal of time and effort was dedicated to this step in the planning process of the University of Illinois hospital pharmacy. An implementation plan was made for each strategy to be implemented. The implementation plan included substrategies, objectives, an action plan, and a timetable (Hutchinson et al.,1989).

Determining how specific or detailed the plans for strategy implementation are depends on the size of the pharmacy, its management, and to some extent the management of the hospital (Mankin and Glueck,1977). In order for long-

range plans to be effective and flexible they must be written in generalities (Mankin and Glueck,1977 and Schwartz,1989). Mankin and Glueck (1977) found hospital administrators' plans contained little detail in the less than one month and more than two years time frames.

More than 59 percent of Fortune 1000 firms reported feelings of disappointment with the strategic planning process due to implementation difficulties (Ross and Silverblatt,1987). Ross and Silverblatt (1987) reported many of the firms surveyed do not maintain systems for detecting and correcting deviations in the strategic plan.

Buller and Timpson (1986) estimate 90 percent of all American companies have failed to successfully implement their strategies. The best way to avoid this is to adopt a strategic management way of thinking that combines planning and implementation (Buller and Timpson). Once the strategies are in place, they must be periodically evaluated (Kotler,1984, Mankin and Glueck,1977, and Ross and Silverblatt,1987). Evaluation of strategies must be in terms of reaching the objectives and goals of the pharmacy (Kotler,1984). As previously discussed, these goals and objectives must be in specific quantitative terms.

INTEGRATING STRATEGIC PLANNING

There are many models that integrate strategic planning and strategy implementation (Pearce and Robinson,1988). The

Mckinsey Seven-S Framework is the recommended method used by strategic planners to evaluate different alignments of the internal organization in their attempts to formulate and implement strategies (Buller and Timpson,1986). It is important to remember that a good strategy is not necessarily a workable one, nor vice versa (Kotler,1984).

Buller and Timpson (1988) describe in great detail the use and relationship of the seven S's. The authors emphasize there is more to strategy implementation than just having the right strategy and the right organization. Once again, this model stresses the need for alignment of the pharmacy's systems, process, and people with and supporting the strategy (Buller and Timpson, 1988). All of these components have been described in detail during our discussion of the strategic planning process.

ROLES OF STRATEGIC PLANNING

There is no doubt many managers find strategic planning as a valuable, useful tool (Langley,1988). Managers almost unanimously consider strategic planning as essential to the survival of the organization (Langley,1988). However, there is no unanimous opinion regarding the useful roles of the strategic planning process. Langley (1988) asserts the roles played by strategic planning are as diverse as the number of organizations undertaking the process. Certainly, some of the roles of strategic planning are off-shoots of the steps in the

strategic planning process.

In addition to the traditional roles, Langley (1988) suggests some rather different roles of strategic planning. The author suggest four basic roles of strategic planning: public relations, information, group therapy, and direction and control. Quinn (1981,1984) suggests the main roles of strategic planning are: to create a network of information, to force managers to focus on the future, to encourage rigorous communications about strategic issues, to raise comfort levels for managers, and to confirm earlier strategic decisions. Bazzaz and Grinyer (1980) identified seven types of contributions (roles) of formal strategic planning. The contributions were: awareness of problems, strengths and weaknesses, profits and growth, information and communication, systematic resource allocation, coordination and control, morale and industrial relations, and quantification.

BENEFITS OF STRATEGIC PLANNING

There are no guarantees strategic planning will produce the benefits wanted or expected, but there is an almost infinite quantity of published business examples or case studies documenting success with strategic planning (Bryson,1988 and Langley,1988). There is plenty of evidence of a positive correlation between the use of strategic planning and organizational performance (Langley,1988). Bryson (1988) documents some of the benefits a pharmacy should

expect: thinking strategically, clarifying future direction, making today's decisions in light of their future consequences, developing coherent and defensible basis for decision making, exercising maximum discretion in the areas under organizational control, solving major organizational problems, improving performance, dealing effectively with rapidly changing circumstances, and building teamwork and expertise.

Anderson's (1988) article detailed four specific strategic issues (previously identified by ASHP) that have directly benefited from strategic planning. The successes documented by Anderson include: management barriers to clinical practice, changing health care environment, pharmacy technicians, and general and specialized pharmacy practice. A panel discussion (Kelly, 1986; Linggi and Pelham, 1986; Anderson, 1986; and Pierpaoli, 1986) documented some of the benefits discussed above. The panel discussion was a key event in pharmacy strategic planning, since this was the first documented success of hospital pharmacy strategic planning published!

Hamot Medical Center pharmacy used a strategic planning program to successfully address seven issues critical to the pharmacy: proper use of drugs and I.V. therapy, cost-effectiveness, space, decentralized service, role of the pharmacist and supportive personnel, growth in job, and

recognition (Kelly,1986). The benefits received by Hamot Medical Center were identical to those reported by Bryson (1988).

St. Joseph Hospital pharmacy (Linggi and Pelham,1986) reported that cost-saving programs implementation, and increased efficiency of the drug distribution process were the two major benefits of their strategic planning program. Anderson (1986) used M.D. Anderson Hospital's strategic planning program to provide upper-level administrators with pharmacy program descriptions, and an opportunity to present the department's proposals personally beyond the first or second level of administration. Hutchinson et al. (1989) reported major improvements in cost-containment and improved pharmaceutical services resulting from the University of Illinois hospital pharmacy's strategic planning program.

PROBLEMS ASSOCIATED WITH STRATEGIC PLANNING

A pharmacy's strategic plan may not always meet with the success expected. It is important for a director to be able to identify failures or "break-downs" in the strategic planning process (James,1984). If the problem(s) can be identified early, then there is an excellent chance of repairing the process and allow the pharmacy to conduct successful planning. There have been a number of articles published in the business literature depicting the failures and problems associated with strategic planning (James,1984

and Hunter,1987). There have been no such reports in the pharmacy literature, probably due to the relative newness of the concept to pharmacy and perhaps because it is not being utilized.

James (1984) identified five factors that may lead to failures in the strategic planning process: (1) change in the business environment; (2) the narrow focus of business strategies; (3) misapplication of strategic concepts; (4) implementation difficulties; and (5) blind faith in the strategies. If strategic planners remember strategy formulation is also a line job, not just a staff function, they may be able to avoid many problems associated with strategic planning.

CONCLUSIONS

This chapter serves to provide the basis upon which this research is founded. A review was done of the components involved in strategic planning. Also discussed were some of the roles, benefits, and problems of strategic planning.

Strategic planning can be the institutional pharmacy department's most important tool for staying in step with its changing environment (Kotler,1984 and Pathak,1985). Strategic planning consists of several steps, with agreement on the need for strategic planning as the first step. The pharmacy's external environment and resources are analyzed, leading to the identification of the pharmacy's opportunities and

threats. Plans must be prepared for its most significant threats and opportunities, while it monitors those of less significance.

The pharmacy's goals, objectives, and mission must be developed. After the goals are formulated, the pharmacy must formulate strategies to achieve its goals. Strategy formulation (selection) can be very detailed. There are several tools the director can use to help formulate and select a strategy. Portfolio analysis, service/market expansion analysis, and cost-benefit analysis are only a few of the more prominent ones (Kotler,1984, and Pathak,1985).

After the choice of particular service/market targets, the director develops marketing strategies for each of the pharmacy's service markets (Kotler,1984). A target market segment, competitive position, and an effective marketing mix must be selected and developed. The components of a pharmacy's marketing mix is its own blend of product, price, place, and promotion.

The pharmacy's organizational structure and systems must be consistent with the strategies formulated (Buller and Timpson,1986). The selected strategies should determine the organizational structure (Kotler,1984). Implementation of strategies can be aided by the use of the 7-S's model. After implementation, the strategy must be periodically reviewed and evaluated.

In addition to the benefits received by strategic planning process, there are four basic roles played by the process: public relations, information, group therapy, and direction and control (Langley,1988). Even though there have been documented failures and problems with strategic planning, there is overwhelming evidence in the business literature that it is extremely useful and even essential (Langley,1988).

There have been few published pharmacy-related case studies of strategic planning, and even fewer cases involving institutional pharmacies. The major impetus for institutional pharmacy involvement in strategic planning seems to be adapting to changes in the health care environment, education, and financing (Pierpaoli, 1986, Anderson,1988, Hutchinson et al.,1989, and Schwartz,1989). The benefits documented by each institutional pharmacy's involvement in strategic planning match almost identically with those benefits identified in the business literature (Bryson,1988).

The value of strategic planning is unquestioned (Langley,1988). It is imperative that every institutional pharmacy director become familiar with and understand the importance/uses of strategic planning. However, there is little published research on institutional pharmacy strategic planning. As a result, there are a number of research questions that need to be addressed. Research is needed to provide data on the quantity and quality of strategic planning

by institutional pharmacy directors. Research is also needed to determine how this useful, essential tool is utilized by institutional pharmacy administrators.

CHAPTER 3

METHODOLOGY

A survey questionnaire, with cover letter explaining the purpose of the study, was utilized to obtain data to accomplish the objectives and test the hypotheses. The research objectives were to determine:

- (1) Institutional characteristics as to ratio of full time equivalent pharmacists plus technicians to active beds in the institution, level of emphasis placed on strategic planning by the institution's administration, the degree of decentralization of the pharmacy department's services, whether or not the institution conducts institution-wide strategic planning, and type of institutional ownership.
- (2) Institutional pharmacy director demographics regarding educational degree(s) earned and whether or not he/she has attended any strategic planning educational programs, within the last three years.
- (3) The quality of strategic planning by institutional pharmacies.
- (4) The director's perceived level of knowledge of the strategic planning process.
- (5) The director's perception regarding the importance of strategic planning.

- (6) The director's perception of the extent selected benefits and disadvantages derived from strategic planning.
- (7) The director's rating of his/her pharmacy's overall level of performance in selected areas.
- (8) The director's rated perception of the availability of time to conduct strategic planning.

SUBJECTS

The sample surveyed included directors of pharmacy practicing in general, non-federal short-term United States hospitals with 100 or more beds. The sampling frame used in this study consisted of those hospitals listed in the 1988 edition of Hospital Statistics. According to this American Hospital Association publication, the defined population numbered approximately 2912 hospitals. Hospitals with less than 100 beds were not surveyed because many of these hospitals may not employ a pharmacy director on a full-time basis. Non-federal hospitals were excluded because of their differences in funding.

Krejcie and Morgan (1970) have described a formula to determine the sample size required to be representative of any defined population. This formula was used to calculate the survey sample size of 263, based on the desired confidence level of .05 and a power of .90 (beta of .10). A 60% response rate is assumed, determining a random sample of 439 directors of pharmacy to be selected from the population identified in

Hospital Statistics. For convenience, the sample size was increased to 500 directors of pharmacy.

PILOT STUDY SURVEY INSTRUMENT

The pilot study survey instrument (See Appendix A) consisted of three components. In the first component (questions 1-11), the respondent was asked questions regarding characteristics of the institution and the pharmacy department, as well as pharmacy director demographics.

The second component of the survey instrument (questions 12-18), was concerned with the director's attitudes and perceptions of strategic planning; as well as whether or not the director conducted strategic planning for his/her pharmacy. The respondent was asked to rate his/her knowledge and importance of strategic planning; as well as the availability of time to do strategic planning. Additionally, the respondent was asked to rate the extent selected benefits and drawbacks were derived from strategic planning. All responses were on a six-point Likert scale, anchored at zero.

In order to check survey instrument reliability, three parallel test questions were asked. The respondent was asked to indicate his/her level of agreement with questions concerning his/her rated knowledge, rated adequacy of time available, and rated importance of strategic planning. Response options were on a six point Likert scale from one to six.

The last question of the second component asked the respondent whether or not he/she conducted strategic planning his/her pharmacy department. There were only two (yes or no) response options. If the respondent's answer was yes, he/she was asked to complete the rest of the survey (questions eighteen through twenty). If the respondent's reply was no, he/she was informed that the survey was complete and to return the survey immediately. For the purposes of this study, those directors who indicated that they did not conduct strategic planning were given a strategic planning quality rating of zero.

The third component of the survey instrument (questions 19-21) pertained only to respondents who indicated that they conducted strategic planning for their departments. The respondent was asked to indicate how frequently he/she revised the strategic plan. Response options were annually, every two years, every three years, and greater than every three years. The respondent was also asked to check those steps taken in his/her pharmacy department's strategic planning process. One point was allotted for each item checked (six point scale). Response options included the six steps of strategic planning identified in the literature (Pearce and Robinson, 1988). These include: development of the pharmacy's mission statement and goals and objective; identification of the pharmacy's strengths and weaknesses; identification of the

pharmacy's potential threats and opportunities; formulation and selection of strategies; review of the pharmacy's structure and systems; and take steps to implement and periodically review/evaluate chosen strategies.

In order to assess survey instrument reliability, a parallel question was asked concerning the quality of strategic planning. The respondent was asked to rate the quality of their department's strategic planning process. Response options were on a six-point Likert scale.

PRETESTING THE INSTRUMENT

Prior to conducting the pilot study, the proposed survey instrument was reviewed for content validity by approximately twelve departmental graduate students and professors. Their constructive criticisms regarding clarity, potential problems, and completion time for the survey instrument were used to revise the form before conducting the pilot study.

Pilot testing of the survey questionnaire was done utilizing eight directors of hospital pharmacies in the Tucson area. In the pilot test, three mailings were done. The initial survey questionnaire, with cover letter, and a postage-paid return envelope was mailed on day one, October 16, 1989. A reminder/thank you letter was mailed to all those surveyed on day eight, October 23, 1989. Lastly, a duplicate questionnaire, with revised cover letter, and a postage-paid return envelope was mailed to all nonrespondents by day 22,

November 6, 1989.

Identifying code numbers were placed on the survey forms to monitor all responders. All mailings were sent via first class mail and addressed to the institution's director of pharmacy. A copy of the cover letters and correspondence used in the pilot study are included in Appendix B. Collection of data for the pilot study was terminated after four weeks, on November 16, 1989. At the termination of the pilot study, the response rate was 100%.

Survey instrument reliability was assessed through its measurement of parallel question reliability. To test for parallel question reliability, Pearson correlation coefficients were calculated for each of four pairs of parallel questions: the director's quality of strategic planning (.906); the director's rated importance of strategic planning (.701); director's rated knowledge of strategic planning (.928); and director's rated adequacy of time available to do strategic planning (.946).

The validity of the survey instrument was evaluated through a test of its face validity. This was done by a review of the instrument by the twelve departmental graduate students and professors. Their evaluations of the survey questionnaire served to support its validity as an instrument to measure the constructs being assessed.

The purpose of the pilot study was to detect any problems with the study design and survey instrument prior to conducting the final study. The results from the pilot study were analyzed and used to make further revisions to the survey form, if necessary. These results are presented in Appendix C.

MODIFICATIONS TO THE SURVEY INSTRUMENT

The results of the pilot study suggested that the study design and a very slightly modified survey instrument would be useful in the final survey of a sample large enough to be representative of the population concerned. Utilizing comments and informal interviews with the respondents, as well as the results of pilot study, a few changes were made to the survey instrument. Based on interviews with the respondents, few minor grammatical modifications of the survey instrument were needed. However, because the directors' subjective rating of their departments' strategic planning process were consistently lower than the objective rating, an additional question was included in the final survey instrument (Appendix D) in an effort to place the subjective responses in perspective. As a result, respondents were asked to indicate the quality of the institution's strategic planning process.

STUDY DESIGN

Four mailings were used, based on the recommendations of Berdie and Anderson (1974) and Dillman (1978), at the approximate intervals indicated during the eight week data collection period:

- (1) the initial survey questionnaire, with cover letter, and a postage paid return envelope on day 1, January 2, 1990
- (2) a reminder/thank you postcard on day 8, January 9, 1990
- (3) a duplicate questionnaire, with revised cover letter, and a postage-paid return envelope to nonrespondents on day 22, January 23, 1990
- (4) a final letter reminder to nonrespondents on day 36, February 6, 1990.

All mailings were sent via first class mail and addressed to the institution's director of pharmacy. Identifying code numbers were placed on the survey forms to monitor responders. Confidentiality was guaranteed to those surveyed.

Copies of the correspondence used in the final study are located in Appendix E.

VARIABLES

DEPENDENT

1. Director's rated level (1-6) of his/her pharmacy's performance
2. Quality of strategic planning (0-6)

INDEPENDENT

1. Educational degree(s) earned by the pharmacy director (Bachelor of Science, Pharm D, MBA, MS Pharmacy, Ph D)
2. Ratio of number FTE pharmacist plus technicians to number of active beds in the institution
3. Degree (percentage of beds) of decentralization of the pharmacy department's services
4. Director's rated importance of strategic planning (six point Likert scale)
5. Director's rated level of knowledge of the strategic planning process (six point Likert scale)
6. Director's rating of the extent selected benefits and drawbacks are derived from strategic planning (six point Likert scale)
7. Director's rating of the availability of time to conduct strategic planning (six point Likert scale)
8. Whether or not the pharmacy's institution conducts institution-wide strategic planning (yes or no)
9. Director's rating of the level of emphasis placed on strategic planning, by the hospital's administration (six point Likert scale)
10. Percent of FTE pharmacists' time spent on non-distributive clinical services

11. Whether or not the pharmacy director has participated in any educational strategic planning programs within the last three years (yes or no)

12. Type of hospital ownership (nonfederal government, not for profit, or investor-owned).

DATA COLLECTION

Attitudes have been defined as the representation of a person's ideas, convictions, or liking with regard to a specific object or idea. Attitudes represent a readiness to respond to an object, are constant over time, provide consistency in behavioral actions and have a directional quality (Churchill,1978). The measurement of attitudes consists of rules for assigning numbers to objects to determine quantities of attributes (Nunnally,1978). Interval scales are presumed to have numerically equal distances between points and that they represent equal distances in the property being measured (Kerlinger,1986). Kerlinger (1986) suggests that most Likert scaling resembles interval equality favorably, provided that researchers are aware of the possibilities of grossly unequal intervals. Additionally, Nunnally (1978) supports the use of Likert scale measurements as interval data.

In this research, the Likert scale measurement of the director's perceptions of various attributes of the strategic planning process utilized a six-point scale, all anchored at

zero. The measurement of the director's perceptions of: level of his/her knowledge of strategic planning; extent of utilization of strategic planning; importance of strategic planning; influence of the availability of time and level of knowledge required on his/her extent and quality of strategic planning were all measured on a six-point Likert scale from none (0) to great (5). The smaller numbers represented a general perception of lesser importance, impact, extent, or influence; while the larger numbers represented a perception of greater importance, impact, extent, or influence.

In order to assess survey instrument reliability, parallel questions concerning the director's knowledge, time availability, and importance of strategic planning were used. The respondent was asked to indicate his/her level of agreement with three statements concerning his/her knowledge, availability of time, and importance of strategic planning. Response options were from strongly disagree (1) to strongly agree (6). The smaller numbers represented a perception of lesser importance, knowledge, or time available. The larger numbers represented a perception of greater importance, knowledge, and time available.

Additionally, a six point Likert scale was used to measure the director's perception of the extent selected benefits and disadvantages are derived from strategic planning. Response options were from none (0) to great (5).

The smaller numbers represented a general perception of lesser impact and the larger numbers represented a perception of greater impact on his/her strategic planning.

The benefits of strategic planning included in this research were: increased efficiency in pharmacy operations; increased justification of new services; obtaining other resources. These benefits were consolidated from a review of the pharmacy literature (Kelly, 1986, Linggi and Pelham, 1986, Hutchinson et al, 1989, and Birdwell and Pathak, 1989). The disadvantages of strategic planning (Pearce and Robinson, 1988) surveyed included: cost in terms of manpower; diversion of personnel from normal duties; subordinate frustration over involvement in the process; and lack of overall impact of strategic planning.

One of the primary objectives of this research was to determine the quality of strategic planning by institutional pharmacy directors. To reach this objective, the respondent was asked to indicate which steps were utilized in his/her strategic planning process. Using the components outlined by Pearce and Robinson (1988), respondents were given a list of six steps (components) of the strategic planning process from which to choose (check). The six steps include: mission statement/ objectives/goals; internal environment (resource) analysis (strengths and/or weaknesses); external environment (threat/opportunity) analysis; formulation of strategies to

achieve its objectives and goals; and follow-up or implementation and evaluation procedures. One point was allotted for each component checked by the respondent. No attempt was made to evaluate the individual components of the plan.

In order to assess instrument reliability, a parallel question concerning quality of strategic planning was asked. The respondent was asked to rate the quality of his/her department's strategic planning process. Response options were on a six point Likert scale, from one (Poor) to six (excellent). The lower numbers represented a general perception of lower quality and the larger numbers represented a perception of higher quality strategic planning. For the purpose of this study, those directors who indicated that they did not conduct strategic planning were assigned a strategic planning quality rating of zero.

Finally, the respondent was asked to rate the level of performance of his/her pharmacy in selected areas. The areas rated were consolidated from the pharmacy literature and research previously undertaken by Birdwell and Pathak (1989). These areas included: overall pharmacy performance for clinical services; overall pharmacy performance for distributive services; and overall pharmacy performance for administrative services. Response options to these questions were on a six-point Likert scale, from one to six. The

smaller numbers represented a minimal level of performance, while the larger numbers represented a higher level of performance.

DATA ANALYSIS

The first null hypothesis stated that there was no relationship between the director's perception of the availability of time and quantitative pharmacy department characteristics. Similarly, the second null hypothesis stated there was no relationship between the director's rated level of knowledge of strategic planning and pharmacy director and institutional characteristics.

The third null hypothesis stated that there was no relationship between the director's perceived importance of strategic planning and institutional, pharmacy director, and pharmacy department characteristics; as well as the director's perception of the extent selected benefits and disadvantages are derived from strategic planning.

The fourth null hypothesis stated that there was no relationship between the director's rated quality of strategic planning and the director's perception of the availability of time, the director's level of knowledge, and the director's perception of the importance of strategic planning.

To test the first four hypotheses, Pearson correlation coefficients between the quantitative independent and dependent variables, as described, were calculated. Point

biserial correlation coefficients were calculated between those dichotomous independent variables and the continuous dependent variables.

The fifth null hypothesis dealt with theorized differences based on type of hospital ownership. It was postulated that no differences existed in the director's rated importance, knowledge, or quality of strategic planning. The categories of type of hospital ownership included: nonfederal; nongovernment, not for profit; and investor-owned (for profit). To test this hypothesis, a one way ANOVA was performed for each of the three quantitative variables listed above. Post hoc tests were done on significant findings from the ANOVA using the Tukey-Kramer HSD test, for unequal cell sizes.

The sixth null hypothesis stated that there was no relationship between whether or not the director had earned a graduate degree(s) and the quality of the director's strategic planning; as well as the director's rated importance and knowledge of strategic planning, based on the educational degree(s) earned by the director of pharmacy. The educational degree categories were Bachelor of Science, Pharm D, Masters of Science in Pharmacy, Masters in Business Administration, and Doctorate. For the categorization of respondents with multiple degrees, a Pharm D degree superseded a Bachelor of Science (BS) degree, and a Masters or Doctorate degree

superseded either a BS or Pharm D degree. For the purposes of this study, a graduate level degree was either a Masters or Doctorate.

To test this hypothesis, two-tailed student's t-tests were done on the means of the three quantitative variables described above.

The seventh null hypothesis dealt with the relationship between the quality of strategic planning, based on the director's rated quality of strategic planning, and the overall level of performance of the pharmacy (as perceived by the director). To test this hypothesis, Pearson correlation coefficients were calculated between the two quantitative variables described above.

Finally, the eighth null hypothesis stated that there was no relationship between whether or not the director conducted strategic planning and the director's rated importance, knowledge, availability of time, and quality of strategic planning. To test this hypothesis, two-tailed student's t-tests were done on the means of the four quantitative variables described above.

As a comprehensive representation of the relationships of the individual independent variables, multiple regression analyses were done. This procedure allowed the inclusion of all variables into one analysis which demonstrated the existence, magnitude and nature of each independent variable's

relationship with the number of pharmacies that conduct strategic planning.

ASSUMPTIONS

1. That the respondent reflected his/her true activities and perceptions in the institutional pharmacy
2. That the respondent interpreted the questions as intended
3. That the respondent answered all the questions, and did so truthfully rather than in a socially desirable manner
4. That the sample used is representative of the population
5. That the questions represented the concepts being measured
6. That the survey was completed by the intended person.

LIMITATIONS

1. The results of the study are generalizable only to the specific population from which the sample was drawn (directors of pharmacy of short term, nonfederal, general U.S. health care institutions with 100 or more beds, which are registered with the American Hospital Association)
2. No causal relationships can be claimed between the variables
3. The measure of attitudes/perceptions are limited by the validity and reliability of the measurement instrument
4. The measure of attitudes/perceptions are only representative of the survey institutions in the time interval encompassing the study.

CHAPTER 4

RESULTS

Utilizing a mail survey, this study gathered information from institutional pharmacy directors on their attitudes toward strategic planning. This chapter will present the analyses of the data gathered during this study. Analyses of response rate, survey instrument responses, and survey instrument reliability will be presented in this chapter. Additionally, the results of the hypotheses testing will be presented. Finally, the results of exploratory regression analyses on the components of the study's model will be presented.

ANALYSIS OF RESPONSE RATE

As stated in chapter 3, surveys were mailed to a total of 500 subjects to collect data for the study. Data collection was conducted for 56 days. During this time period two surveys were returned by the postal service as being not forwardable to the addressee's new address. At the termination of data collection, the gross response rate was 62.7% (312/498). Of these surveys returned, 6 were not usable due to total or major incompleteness of the instrument. Thus the net response rate was 61.4% (306/498). The chronology of returns is found in Table 1.

Table 1. Chronology of survey instrument returns

Day	Number Returned	Cumulative Number Returned	Cumulative % Returned
1 ^a	---		
2	---		
3	4	4	0.8
4	14	18	3.6
5 ^b	---	18	3.6
6 ^b	---	18	3.6
7	18	36	7.2
8 ^c	57	93	18.7
9	38	131	26.3
10	19	150	30.1
11	34	184	36.9
12 ^b	---	184	36.9
13 ^b	---	184	36.9
14 ^b	---	184	36.8
15	33	217	43.6
16	---	217	43.6
17	13	230	46.2
18	3	233	46.8
19 ^b	---	233	46.8
20 ^b	---	233	46.8
21	---	233	46.8

Table 1.---continued

Day	Number Returned	Cumulative Number Returned	Cumulative % Returned
22 ^d	2	235	47.2
23	---	235	47.2
24	---	235	47.2
25	27	262	52.6
26 ^b	---	262	52.6
27 ^b	---	262	52.6
28	34	296	59.4
29	---	296	59.4
30	6	302	60.6
31	---	302	60.6
32	---	302	60.6
33 ^b	---	302	60.6
34 ^b	---	302	60.6
35	---	302	60.6
36 ^e	---	302	60.6
37	3	305	61.2
39	---	305	61.2
40 ^b	---	305	61.2
41 ^b	---	305	61.2
42	3	308	61.8

Table 1.---continued

Day	Number Returned	Cumulative Number Returned	Cumulative % Returned
43	---	308	61.8
44	2	310	62.2
45	---	310	62.2
46	2	312	62.7
47 ^b	---	312	62.7
48 ^b	---	312	62.7
49	---	312	62.7
50	---	312	62.7
51	---	312	62.7
52	---	312	62.7
53	---	312	62.7
54 ^b	---	312	62.7
55 ^b	---	312	62.7
56	---	312	62.7

a first mailing of survey form

b denotes a Saturday, Sunday, or holiday

c letter reminder/thank you mailing

d second mailing of survey form to non-responders

e final follow-up letter mailing to non-responders

f data collection terminated

Measurement of nonresponse bias was accomplished through identification of late responders. Late responders generally tend to be similar to nonresponders (Berdie and Anderson, 1974). As a result, nonresponse bias can be estimated based on significant differences between early responders and late responders. Late responders were identified by those surveys received after January 16, seven days after the mailing date of the reminder/thank you letter follow-up (Berdie and Anderson, 1974). It was felt that responses after January 16 were due to follow-up mailings and not to the original request to participate in the survey.

To test for nonresponse bias, four variables were analyzed to detect for possible differences between early and late responders. A chi square analysis was done to test for differences in the number of early and late responders who conduct strategic planning and hospital size (less than 200, 200 to 399, and over 400 beds). The results, shown in Table 2, reveal no significant differences between early and late responders on these variables. A Student's t-test was also performed on the director's rated importance and knowledge of strategic planning. Table 3 contains the results of the analyses. Again, no significant differences were detected between early and late responders at the .05 alpha level.

Table 2. Chi square of institutions' size and number of directors conducting strategic planning based on early vs. late responders

Variable	<u>Responders^a</u>		Total	Chi Square	p
Size	Early	Late			
<200	92 (42.4)	36 (40.4)	128	3.997	.136
200-399	60 (27.6)	17 (19.1)	77		
≥400	65 (30.0)	36 (40.4)	101		
Total	217	89	306		
Planning					
Yes	140 (64.5)	54 (60.7)	194	0.401	.526
No	77 (35.5)	35 (39.3)	112		
Total	217	89	306		
^a Number (Percent)					

Table 3. Student's t-tests (two-tailed) of selected differences between early and late responders

Category	n	Mean	S.D.	t-value	p
Importance of strategic planning					
Early	217	3.42 ^a	1.25	0.26	.793
Late	89	3.44 ^a	1.25		
Knowledge of strategic planning					
Early	217	3.02 ^b	1.29	1.04	.301
Late	89	3.19 ^b	1.29		

t-values are based on pooled variance estimates

a 0 = not important, 5 = very important

b 0 = no knowledge, 5 = very knowledgeable

Thus, there did not appear to be significant differences between the early and late responders regarding the four variables tested. This also suggests that nonresponders may not have been significantly different from the respondents on these variables.

SUMMARY OF SURVEY INSTRUMENT RESPONSES

The survey instrument was divided into three components. The first component of the survey instrument solicited demographic data on the respondents and their institutions. Response frequencies of the categorical demographic variables are presented in Table 4. Mean values of the quantitative demographic variables appear in Tables 5 and 6. As can be seen, directors rated their departments' performance for clinical services at 3.1 ± 1.46 (1=minimal, 6=high). However, pharmacy directors rated their departments' performance for distributive services at 4.61 ± 1.12 (1=minimal, 6=high). Finally, the emphasis placed on the institution-wide strategic planning process by hospital administration was rated at only 2.96 ± 1.51 (0=no emphasis, 5=strongly emphasized).

The second component of the survey instrument was concerned with directors' attitudes and perceptions of strategic planning; as well as whether or not the director conducted strategic planning for his/her pharmacy. Of the responses received, 194 (63.4%) pharmacy directors indicated

Table 4. Response frequencies of demographic variables

Variable	Frequency ^a	
Educational degree earned		
BS Pharmacy	155	(50.7)
Pharm D	38	(12.4)
MBA	36	(11.8)
MS Pharmacy	63	(20.6)
Ph D	3	(1.0)
Other	11	(3.5)
Type of hospital ownership		
Government, nonfederal	71	(23.2)
Nongovernment, not for profit	165	(53.9)
Investor-owned (for profit)	70	(22.9)
Participation in any strategic planning educational programs within the last three years?		
Yes	209	(68.3)
No	97	(31.7)
Ongoing institution-wide strategic planning process?		
Yes	198	(64.7)
No	108	(35.3)
a Number (Percent)		

Table 5. Mean values of institutional demographic variables

Variable	Mean $\pm$ S.D. ^a
Institution's active beds	265.79 $\pm$ 162.79
FTE pharmacists	11.05 $\pm$ 10.49
FTE technicians	9.69 $\pm$ 9.28
Ratio of FTE pharmacists plus technicians to active beds	0.078 $\pm$ 0.062
Level of emphasis on institutional strategic planning process by hospital administration	2.96 $\pm$ 1.51 ^b
Percent of beds served by decentralized services	22.0 $\pm$ 37.9
Percent of time spent by FTE pharmacists on non-distributive clinical services	17.4 $\pm$ 14.8

a based on n = 306

b 0 = no emphasis, 5 = strongly emphasized

Table 6. Mean values of pharmacy performance for selected services

Variable	Mean $\pm$ S.D. ^a
Level of performance for clinical services	3.1 $\pm$ 1.46 ^b
Level of performance for distributive services	4.61 $\pm$ 1.12 ^b
Level of performance for administrative services	3.85 $\pm$ 1.42 ^b

a based on n = 306

b 1 = minimal, 6 = high

they conducted strategic planning for their pharmacies. While 112 (36.6%) respondents indicated that they did not conduct strategic planning for their pharmacies. Additionally, the mean values of the quantitative variables appear in Table 7. The average ratings given by pharmacy directors to the availability of time to do strategic planning was 2.23 ± 1.32 and the extent strategic planning resulted in selected disadvantages was 2.45 ± 1.31 . Additionally, pharmacy directors' global ratings given to the extent strategic planning resulted in selected benefits was 3.05 ± 1.34 .

The third section of the survey form contained questions concerning the quality of strategic planning reported by institutional pharmacy directors. Table 8 depicts the mean values of the subjective and objective ratings of pharmacy directors' quality of strategic planning, as well as the rated quality of their institutions' strategic planning process. It is important to note that pharmacy directors' subjective ratings of their strategic planning process were consistently lower than the objective ratings given their strategic planning process.

Additionally, Tables 9 and 10 depict the response frequencies, of the subjective and objective ratings of directors' quality of strategic planning. Table 10 (objective quality frequencies) also serves to depict the level of

Table 7. Mean values of directors' attitudes toward and perceptions of strategic planning

Variable	Mean $\pm$ S.D. ^a
Directors' rated knowledge of strategic planning	3.07 $\pm$ 1.29 ^b
Directors' rated importance of strategic planning	3.43 $\pm$ 1.25 ^c
Directors' rated availability of time to do strategic planning	2.24 $\pm$ 1.32 ^d
Extent strategic planning results in the following benefits:	
Increased efficiency in pharmacy operations	3.09 $\pm$ 1.31 ^e
Increased justification of new services	3.11 $\pm$ 1.36 ^e
Obtaining other resources	2.96 $\pm$ 1.36 ^e
Extent strategic planning results in the following disadvantages:	
Cost (in terms of manpower)	2.48 $\pm$ 1.32 ^e
Diversion of personnel from normal duties	2.63 $\pm$ 1.31 ^e
Subordinate frustration over involvement in the strategic planning process	2.18 $\pm$ 1.33 ^e
Lack of overall impact of strategic planning	2.49 $\pm$ 1.29 ^e

a based on n = 306

b 0 = no knowledge, 5 = very knowledgeable

c 0 = not important, 5 = very important

d 0 = very inadequate, 5 = very adequate

e 0 = never, 5 = very frequently

Table 8. Mean values of directors' quality of strategic planning process and their institution's institution-wide strategic planning process

Variable	Mean $\pm$ S.D. ^a
Directors' subjective rating of their strategic planning process	2.49 $\pm$ 2.03 ^b
Objective rating of directors' strategic planning process	2.98 $\pm$ 2.46 ^b
Directors' rating of the quality of their institution's institution-wide strategic planning process	2.26 $\pm$ 2.01 ^c

a based on n = 306

b 0 = no strategic planning, 6 = excellent

c 1 = poor, 6 = excellent

Table 9. Response frequencies of pharmacy directors' subjective rated quality of their strategic planning process

Response ^a	Frequency ^b
ZERO	112 (36.6)
ONE	1 (0.3)
TWO	12 (3.9)
THREE	46 (15.0)
FOUR	80 (26.2)
FIVE	51 (16.7)
SIX	4 (1.3)

a based on directors subjective rating of their strategic planning process, n = 306

b Number (Percent)

Table 10. Response frequencies of pharmacy directors' objective rated quality of their strategic planning process (level of strategic planning)

Response ^a	Frequency ^b
ZERO	112 (36.6)
ONE	1 (0.3)
TWO	8 (2.6)
THREE	26 (8.5)
FOUR	44 (14.4)
FIVE	50 (16.3)
SIX	65 (21.3)

a based on objective ratings of pharmacy directors' strategic planning process, n = 306

b Number (Percent)

strategic planning utilized by pharmacy directors. The plurality of respondents had a strategic planning level of zero (no steps utilized). Next, respondents were asked how often they revised their strategic plan. Table 11 depicts the response frequencies of how often pharmacy directors revised their strategic plans. As can be seen, the majority of pharmacy directors revised their plans on an annual basis. Finally, Table 12 depicts the frequencies various steps in the strategic planning process were utilized by pharmacy directors in their departments' strategic planning process. Not all of the directors that conducted strategic planning implemented and periodically evaluated the strategies developed during their strategic planning process.

INSTRUMENT RELIABILITY

Survey instrument reliability was assessed through its measurement of parallel question reliability. To test for parallel question reliability, Pearson correlation coefficients were calculated for each of four pairs of parallel questions: pharmacy directors' quality of strategic planning (.936); directors' rated importance of strategic planning (.838); pharmacy directors' rated knowledge of strategic planning (.834); and directors' rated adequacy of time available to do strategic planning (.820).

Table 11. Response frequencies of how often pharmacy directors revise their strategic plan

Response ^a	Frequency ^b
Greater than every three years	2 (1.0)
Every three years	8 (4.1)
Every two years	25 (12.9)
Annually	159 (82.0)

a based on directors that conduct strategic planning n = 198

b Number (Percent)

Table 12. Response frequencies of various steps utilized by pharmacy directors in their strategic planning process

Response ^a	Frequency ^b
Development of the pharmacy's mission statement and goals and objectives	171 (88.1)
Identification of the pharmacy's strengths and weaknesses	156 (80.4)
Identification of the pharmacy's potential threats and opportunities	140 (72.2)
Formulation and selection of strategies to achieve the pharmacy's objectives and goals	171 (88.1)
Conduct a formal review of the pharmacy's structure and systems	104 (53.6)
Take steps to implement and periodically review chosen strategies	170 (87.6)

a based on directors that conduct strategic planning n = 198

b Number (Percent)

HYPOTHESIS TESTING

The survey instrument served to collect data for testing the eight hypotheses stated in Chapter 1. The a priori level of significance required to reject the null hypotheses was $\alpha = .05$.

Hypothesis I

The first null hypothesis stated that there was no relationship between the directors' rated availability of time and selected quantitative demographic variables. To test this hypothesis, Pearson correlation coefficients were calculated to determine the nature and strength of the relationships between directors' rated availability of time and 1) the ratio of FTE pharmacists plus technicians to the number of active beds ($r=.183$, $p=.001$); 2) the degree of decentralization of services ($r=.168$, $p=.003$); and 3) the percent of time spent by FTE pharmacists' on non-distributive services ($r=.229$, $p<.001$). Correlation coefficients were all based on 306 subjects. These correlations were all positive and significant. Based on the above results, the first null hypothesis was rejected. Therefore, significant relationships were detected between the predictor variables and pharmacy directors' rated availability of time.

Hypothesis II

The second null hypothesis stated that there was no relationship between the directors' rated level of knowledge

and selected quantitative and categorical demographic variables. To test this hypothesis, a Pearson correlation coefficient was calculated to determine the nature and strength of the relationship between the directors' rated level of knowledge and level of emphasis placed on the institutional strategic planning process ($r=.521$, $p<.001$). Additionally, point-biserial correlation coefficients were calculated between directors' rated level of knowledge and: 1) whether or not the director had attended any strategic planning educational programs within the last three years ($r=.529$, $p<.001$) and 2) whether or not the institution had an ongoing institution-wide strategic planning process ($r=.387$, $p<.001$). Correlation coefficients were all based on 306 subjects. All correlations were significant and positive. Based on the results of these analyses, the second null hypothesis was rejected. Hence, significant relationships were detected between the predictor variables and pharmacy directors' rated level of knowledge of the strategic planning process.

Hypothesis III

The third null hypothesis stated that there was no relationship between the directors' rated importance of strategic planning and selected quantitative and categorical predictor variables. To test this hypothesis, Pearson correlation coefficients (for the quantitative predictor

variables) and point-biserial correlation coefficients (for the categorical predictor variables) were calculated to determine the nature and strength of the relationships between the directors' rated level of importance of strategic planning and 1) the ratio of FTE pharmacists plus technicians to the number of active beds; 2) the degree of decentralization of services; 3) the FTE pharmacists' percent of time spent in non-distributive services; 4) whether or not the director has attended any strategic planning educational programs within the last three years; 5) level of emphasis placed on the institutional strategic planning process; 6) whether or not the institution has an ongoing institution-wide strategic planning process; and 7) the rated extent selected benefits and disadvantages are derived from strategic planning. Results are shown in Table 13. All of the variables studied were significantly associated with importance. Pharmacy directors' rated extent strategic planning results in the three benefits studied had the strongest associations with directors' rated importance of strategic planning.

Based on the results of these analyses, the third null hypothesis was rejected. Therefore, significant relationships were detected between the predictor variables and pharmacy directors' rated level of importance of strategic planning to their departments.

Table 13. Pearson correlation coefficients between directors' rated importance of strategic planning and the study's predictor variables

	IMPORTANCE	p
RATIO	.112	.033
EMPHASIS	.474	<.001
DECENTRALIZED	.232	<.001
TIME SPENT	.145	.011
CEPLAN	.421	<.001
BENEOPNS	.614	<.001
BENEJUST	.539	<.001
BENERESR	.545	<.001
DISCOST	-.123	.031
DISDIVER	-.126	.028
DISFRUST	-.211	<.001
DISIMPAC	-.353	<.001
INSTPLAN	.332	<.001

Correlation coefficients are based on 306 subjects

RATIO = ratio of FTE pharmacists plus technicians to active beds

EMPHASIS = level of emphasis on the institutional strategic planning process by hospital administration

DECENTRALIZED = percent of beds served by decentralized services

TIME SPENT = percent of time spent by FTE pharmacists on non-distributive clinical services

CEPLAN = whether or not the pharmacy director has participated in any strategic planning educational programs within the last three years

BENEOPNS = extent strategic planning results in increased efficiency in pharmacy operations

BENEJUST = extent strategic planning results in increased justification of new services

BENERESR = extent strategic planning results in increased ability to obtain other resources

DISCOST = extent strategic planning results in costs (in terms of manpower) to the pharmacy

DISDIVER = extent strategic planning results in the diversion of personnel from normal duties

DISFRUST = extent strategic planning results in subordinate frustration over involvement in strategic planning

DISIMPAC = extent strategic planning results in the lack of overall impact

INSTPLAN = presence of an institution-wide strategic planning process

Hypothesis IV

The fourth null hypothesis stated that there was no correlation between the directors' rated quality of strategic planning and selected quantitative predictor variables. To test this hypothesis, Pearson correlation coefficients were calculated to determine the nature and strength of the relationships between the directors' rated quality of strategic planning and 1) directors' rated importance of strategic planning ($r=.717$, $p<.001$) 2) directors' rated level of knowledge ($r=.727$, $p<.001$) and 3) directors' rated availability of time ($r=.611$, $p<.001$). All correlation coefficients were based on 306 subjects. Based on the results of these analyses, the fourth null hypothesis was rejected. Hence, significant relationships were detected between the predictor variables and pharmacy directors' rated quality of strategic planning.

Hypothesis V

The fifth null hypothesis dealt with theorized differences based on the type of hospital ownership. It was postulated that there was no difference in the directors' rated importance, knowledge, and quality of strategic planning based on the type of hospital ownership.

To test this hypothesis, one-way ANOVAs were performed to detect differences between groups of respondents based on types of hospital ownership. The ANOVAs were analyzed to

determine if significant differences existed in the directors' rated importance of strategic planning, rated level of knowledge, and rated quality of strategic planning. Hospitals were categorized as either government, nonfederal; nongovernment, not for profit; or investor-owned (for profit). The results of these analyses are presented in Table 14. Significant differences between the three types of hospital ownership were detected. The means and standard deviations of the variables for the ANOVA categories are depicted in Table 15.

Post-hoc testing of the ANOVAs for importance of strategic planning, via pairwise comparisons, found that directors of pharmacy for both not-for-profit and government, nonfederal institutions had significantly higher rated importance of strategic planning than did those of investor-owned institutions ($p=.010$ and $p=.002$, respectively). The comparison between not-for-profit and government, nonfederal institutions did not prove to be significant ($p=.997$). The a priori alpha level was controlled using the Tukey-Kramer test (Wilkinson, 1988). Systat automatically computes a harmonic cell mean in order to compensate for unequal cell sizes and control for alpha slippage.

Post-hoc testing of the ANOVAs for knowledge of strategic planning, via pairwise comparisons, found that directors of pharmacy for both not-for-profit and government, nonfederal

Table 14. One way ANOVA results by the type of hospital ownership^a

Dependent Variable	F	P
Directors' rated importance of strategic planning	6.357	.002
Directors' rated knowledge of strategic planning	8.964	<.001
Directors' rated quality of strategic planning	8.587	<.001

For all tests df = 2,303

a Type of ownership = Government, nonfederal; Nongovernment, not for profit; Investor-owned (for profit)

Table 15. Means and standard deviations of selected variables by the type of hospital ownership

Dependent Variable	<u>Type of Hospital Ownership</u>		
	Government, non federal	Nongovernment, not for profit	Investor-owned (for profit)
Directors' importance of strategic planning ^a	3.58 ± 1.19 (n=71)	3.56 ± 1.14 (n=165)	2.97 ± 1.45 (n=70)
Directors' knowledge of strategic planning ^b	3.21 ± 1.19 (n=71)	3.25 ± 1.20 (n=165)	2.51 ± 1.43 (n=70)
Directors' quality of strategic planning ^c	3.14 ± 2.49 (n=71)	3.35 ± 2.38 (n=165)	1.94 ± 2.37 (n=70)

a 0 = not important, 5 = very important

b 0 = no knowledge, 5 = very knowledgeable

c 0 = no planning, 6 = excellent (six steps utilized)

institutions had significantly higher rated knowledge of strategic planning than did those of investor-owned institutions ($p < .001$ for both comparisons). The comparisons between not-for-profit and government, nonfederal institutions did not prove to be significant ($p = .983$). The a priori alpha level was controlled using the Tukey-Kramer test (Wilkinson, 1988).

Post-hoc testing of the ANOVAs for quality of strategic planning, via pairwise comparisons, found that directors of pharmacy for both not-for-profit and government, nonfederal institutions had significantly higher rated quality of strategic planning than did those of investor-owned institutions ($p < .001$ and $p = .001$ and $p = .002$, respectively). The comparisons between not-for-profit and government, nonfederal institutions did not prove to be significant ($p = .869$). The a priori alpha level was controlled using the Tukey-Kramer test (Wilkinson, 1988).

In summary, all points of the fifth null hypothesis were not supported. Hence, it was rejected in its entirety. Directors of pharmacies of investor-owned institutions had the significantly lowest rated importance, knowledge, and quality of strategic planning.

Hypothesis VI

The sixth null hypothesis stated that there was no difference in the directors' rated quality, importance, nor knowledge of strategic planning, based on whether or not the director has earned a graduate degree. For the purposes of this study, undergraduate degrees were a Bachelor of Science (BS) degree or a Pharm D degree. All other degrees were categorized as graduate degrees (MS Pharmacy, MBA, Ph D, or other). For the categorization of respondents with multiple degrees, Masters or Doctorate degrees superseded either a BS or Pharm D.

To test this hypothesis, student's t-tests (two-tailed) were performed to test measured differences regarding the directors' rated quality, importance, and knowledge of strategic planning as independent variables. These results are presented in Table 16. Pharmacy directors with graduate degree(s) had significantly higher rated quality, importance, and knowledge of strategic planning.

Therefore, as a result of these analyses, the sixth null hypothesis was rejected. Significant differences do exist between the two groups of directors. Pharmacy directors with a graduate level degree had significantly higher rated importance, quality, and knowledge of strategic planning.

Table 16. Student's t-tests (two-tailed) of selected differences between directors that have earned a graduate level (Masters or Doctorate) degree and other pharmacy directors

Category	Mean	S.D	t-value	df	p
Quality of strategic planning					
Group 1	2.46 ^a	2.45	4.97	304	<.001
Group 2	3.86 ^a	2.23			
Knowledge of strategic planning					
Group 1	2.75 ^b	1.23	6.01	304	<.001
Group 2	3.62 ^b	1.14			
Importance of strategic planning					
Group 1	3.23 ^c	1.30	3.70	304	<.001
Group 2	3.77 ^c	1.09			

Group 1 (n = 193) = directors with a BS/PharmD degree

Group 2 (n = 113) = directors with a graduate level degree

t-values are based on pooled variance estimates

a 0 = no planning (no steps utilized), 6 = excellent (six steps)

b 0 = no knowledge, 5 = very knowledgeable

c 0 = not important, 5 = very important

Hypothesis VII

The seventh null hypothesis postulated that there was no correlation between directors' quality of strategic planning and their pharmacies' level of performance in selected areas. To test this hypothesis, Pearson correlation coefficients were calculated to determine the nature and strength of relationships between the directors' rated quality of strategic planning and the pharmacies' rated performance for: clinical services ($r=.267$, $p<.001$), 2) distributive services ($r=.455$, $p<.001$) and 3) administrative services ($r=.828$, $p<.001$). All correlation coefficients were based on 306 subjects. As can be seen, all correlations were significant and positive. It is important to note the strong relationship between pharmacy directors' rated quality of strategic planning and their pharmacies' performance for administrative services.

As a result of these analyses, the seventh null hypothesis was rejected. Hence, significant relationships were detected between the directors' rated quality of strategic planning and the pharmacies' performance for clinical, distributive, and administrative services.

Hypothesis VIII

The eighth null hypothesis dealt with theorized differences between directors who conducted strategic planning for their pharmacies and those who did not. To test for

differences between the two groups of respondents, Student's t-tests (two-tailed) were calculated. These tests measured differences regarding the directors' rated level of knowledge, availability of time, importance, and extent selected benefits and disadvantages are derived from strategic planning as independent variables, based on whether or not the directors conducted strategic planning for their pharmacies. These results are presented in Table 17. As can be seen, directors that conducted strategic planning had significantly higher rated importance, time available, and knowledge of strategic planning; as well as significantly higher rated extent strategic planning results in selected benefits. However, directors that did not conduct strategic planning had a significantly higher rated lack of overall impact of strategic planning.

Therefore, seven out of ten points of the eighth null hypothesis were rejected. Significant differences were detected between the two groups of directors on knowledge, the availability of time, and quality of strategic planning; as well as the extent strategic planning resulted in selected benefits and the lack of impact of strategic planning.

Exploratory Analyses

As a comprehensive representation of the relationship of the individual variables, multiple regression analyses were done on the components of the study's model. This procedure

Table 17. Student's t-tests (two-tailed) of selected differences between directors that conduct strategic planning and those who do not conduct strategic planning

Category	Mean	S.D	t-value	df	p
Importance of strategic planning					
Group 1	2.38 ^a	1.17	14.63	304	<.001
Group 2	4.04 ^a	0.81			
Knowledge of strategic planning					
Group 1	1.96 ^b	0.98	15.08	304	<.001
Group 2	3.71 ^b	0.98			
Availability of time to do strategic planning					
Group 1	1.32 ^c	1.04	10.86	304	<.001
Group 2	2.77 ^c	1.17			
Increased efficiency in pharmacy operations					
Group 1	2.29 ^d	1.44	9.14	304	<.001
Group 2	3.55 ^d	0.97			
Increased justification of new services					
Group 1	2.46 ^d	1.47	6.78	304	<.001
Group 2	3.48 ^d	1.14			

Table 17. --- continued

Category	Mean	S.D	t-value	df	p
Increased ability to obtain other resources					
Group 1	2.30 ^d	1.35	7.33	304	<.001
Group 2	3.34 ^d	1.11			
Cost resulting from strategic planning					
Group 1	2.57 ^d	1.43	-0.95	304	.343
Group 2	2.42 ^d	1.25			
Diversion of personnel from normal duties					
Group 1	2.77 ^d	1.45	-1.36	304	.174
Group 2	2.56 ^d	1.22			
Subordinate frustration over involvement in strategic planning					
Group 1	2.36 ^d	1.48	-1.81	304	.071
Group 2	2.07 ^d	1.22			
Lack of overall impact of strategic planning					
Group 1	2.91 ^d	1.39	-4.44	304	<.001
Group 2	2.25 ^d	1.16			

Group 1 (n = 112) = Directors that do not conduct strategic planning

Group 2 (n=194) = Directors that do conduct strategic planning
t-values are based on pooled variance estimates

a 0 = not important, 5 = very important

b 0 = no knowledge, 5 = very knowledgeable

c 0 = very inadequate, 5 = very adequate

d 0 = never, 5 = very frequently

allowed the inclusion of both quantitative and categorical variables into one analysis which revealed the existence, strength and nature of the relationships among the various components of the study's model.

To perform these analyses, the categorical variables were coded according to the convention used by the software program (Wilkinson, 1985). For those questions yielding dichotomous responses, negative responses were coded as 0 and affirmative responses were coded as 1. In order to categorize respondent by type of degree, those respondents with a graduate degree were coded as 1, while those with other degrees were coded as 0. Hospital ownership was coded similarly. Government, nonfederal hospitals were coded as 1; nongovernment, not for profit hospitals were coded as 2; while investor-owned (for profit) hospitals were coded as 3. Systat will automatically generate a set of "dummy" variables, corresponding with the categorical levels coded (Wilkinson, 1985).

Table 18 depicts the results of the multiple regression of selected predictor variables on pharmacy directors' rated knowledge of strategic planning. Significant relationships were detected between the dependent variable and all of the predictor variables except whether or not the institution has an ongoing institution-wide strategic planning process and type of hospital ownership. Notably, these predictor variables accounted for over 47 percent of the variance in

Table 18. Multiple regression of selected variables on the directors' rated knowledge of strategic planning

Variable	Coefficient	Variable Significance	
		t	p
EMPHASIS	.348	3.044	.003
INSTPLAN	-0.198	-1.198	.232
EDUCATION	0.662	5.752	<.001
CEPLAN	0.999	7.779	<.001
OWNERSHIP	-0.136	-1.658	.098

Multiple R = .686

Squared Multiple R = .470

Adjusted Squared Multiple R = .461

F for total regression = 53.200; df = 5,300; p < .001

EMPHASIS = level of emphasis on the institutional strategic planning process by hospital administration

INSTPLAN = whether or not the institution has an ongoing institution-wide strategic planning process

EDUCATION = level of education of the pharmacy director (graduate or undergraduate)

CEPLAN = whether or not the director has participated in any strategic planning programs within the last three years

OWNERSHIP = type of hospital ownership (government, nonfederal; nongovernment, not for profit; investor-owned)

rated knowledge of strategic planning and proved to be significant predictors of strategic planning knowledge ($p < .001$).

Table 19 depicts the results of the multiple regression of selected predictor variables on the directors' rated importance of strategic planning. Significant relationships were detected between the dependent variable and the predictor variables of: the level of emphasis on the institutional strategic planning process by hospital administration; whether or not the director has participated in any strategic planning programs within the last three years; type of hospital ownership; extent strategic planning results in increased efficiency in pharmacy operations; and extent strategic planning results in a lack of impact. Notably, these predictor variables account for over 55 percent of the variance in rated importance of strategic planning and proved to be significant predictors of strategic planning importance ($p < .001$).

Table 20 depicts the results of the multiple regression of selected predictor variables on the directors' rated availability of time for strategic planning. Significant relationships were detected between the dependent and all of the predictor variables. However, these predictor variables accounted for only 9.2 percent of the variance in rated availability of time for strategic planning but proved to be

Table 19. Multiple regression of selected variables on the directors' rated importance of strategic planning

Variable	Coefficient	Variable Significance	
		t	p
EMPHASIS	0.180	5.105	<.001
INSTPLAN	-0.015	-0.098	.992
EDUCATION	0.170	1.571	.117
CEPLAN	0.331	3.475	.007
OWNERSHIP	-0.193	-2.552	.011
RATIO	0.002	0.003	.998
DECENT	0.267	1.940	.053
TIMESPENT	-0.013	-0.038	.970
BENEOPNS	0.314	5.418	<.001
BENERESR	0.109	1.420	.157
BENEJUST	0.056	0.774	.440
DISCOST	0.044	0.791	.430
DISDIVER	-0.002	-0.033	.973
DISFRUST	-0.074	-1.503	.134
DISIMPAC	-0.115	-2.376	.018

Multiple R = .743

Squared Multiple R = .552

Adjusted Squared Multiple R = .529

F for total regression = 23.845; df = 15,290; p < .001

Table 19. ---- continued

EMPHASIS	= level of emphasis on the institutional strategic planning process by hospital administration
INSTPLAN	= whether or not the institution has an ongoing institution-wide strategic planning process
EDUCATION	= level of education of the pharmacy director (graduate or undergraduate)
CEPLAN	= whether or not the director has participated in any strategic planning programs within the last three years
OWNERSHIP	= type of hospital ownership (government, nonfederal; nongovernment, not for profit; investor-owned)
RATIO	= ratio of FTE pharmacists plus technicians to active beds
DECENT	= percent of beds served by decentralized services
TIMESPENT	= pharmacists' percent of time spent in non-distributive services
BENEOPNS	= directors' rated extent strategic planning results in increased efficiency in pharmacy operations
BENEJUST	= directors' rated extent strategic planning results in increased justification of new services
BENERESR	= directors' rated extent strategic planning results in increased ability to obtain other resources
DISCOST	= directors' rated extent strategic planning results in costs (in terms of manpower) to the pharmacy
DISDIVER	= directors' rated extent strategic planning results in the diversion of personnel from normal duties
DISFRUST	= directors' rated extent strategic planning results in subordinate frustration over involvement in strategic planning
DISIMPAC	= directors' rated extent strategic planning results in the lack of overall impact

Table 20. Multiple regression of selected variables on the directors' rated availability of time for strategic planning

Variable	Coefficient	Variable Significance	
		t	p
RATIO	2.959	2.462	.014
DECENT	0.423	2.169	.031
TIMESPENT	1.804	3.663	<.001

Multiple R = .303

Squared Multiple R = .092

Adjusted Squared Multiple R = .083

F for total regression = 10.189; df = 3,302; p < .001

RATIO = ratio of FTE pharmacists plus technicians to active beds

DECENT = percent of beds served by decentralized services

TIMESPENT = pharmacists' percent of time spent in non-distributive services

significant predictors of strategic planning time availability ($p < .001$).

Table 21 depicts the results of the multiple regression of the directors' rated knowledge, importance, and availability of time for strategic planning on the rated quality of the directors' strategic planning. Significant relationships were detected between the dependent variable and all of the predictor variables. Notably, these predictor variables accounted for over 61 percent of the variance in rated quality of strategic planning and proved to be significant predictors of strategic planning quality ($p < .001$).

Tables 22, 23, and 24 depict the results of the simple regressions of the rated quality of the directors' strategic planning on the pharmacy's rated performance for clinical, distributive and administrative services. Significant relationships were detected between all of the dependent variables and the predictor variable. However, the predictor variable accounted for only 7.1 percent of the variance in rated clinical performance, 20.7 percent of variance in rated distributive performance, but 68.6 percent of the variance in administrative performance. Overall, quality of strategic planning proved to be a significant predictor of level performance in all areas ($p < .001$).

Table 21. Multiple regression of selected variables on the directors' quality of strategic planning

Variable	Coefficient	Variable Significance	
		t	p
TIME	0.311	3.466	.001
KNOWLEDGE	0.695	6.422	<.001
IMPORTANCE	0.686	6.438	<.001

Multiple R = .785

Squared Multiple R = .616

Adjusted Squared Multiple R = .612

F for total regression = 161.354; df = 3,302; p < .001

TIME = directors' rated availability of time to do strategic planning

KNOWLEDGE = directors' rated knowledge of the strategic planning process

IMPORTANCE = directors' rated importance of strategic planning to their pharmacies

Table 22. Simple regression of quality of strategic planning on the pharmacy's performance for clinical services

Variable	Coefficient	Variable Significance	
		t	p
QUALITY	0.158	4.829	<.001

$r = .267$

Squared $r = .071$

Adjusted Squared $r = .068$

F for total regression = 23.319; df = 1,304; $p < .001$

QUALITY = directors' quality of strategic planning

Table 23. Simple regression of quality of strategic planning on the pharmacy's performance for distributive services

Variable	Coefficient	Variable Significance	
		t	p
QUALITY	0.206	8.921	<.001

$r = .455$

Squared $r = .207$

Adjusted Squared $r = .205$

F for total regression = 79.583; df = 1,304; $p < .001$

QUALITY = directors' quality of strategic planning

Table 24. Simple regression of quality of strategic planning on the pharmacy's performance for administrative services

Variable	Coefficient	Variable Significance	
		t	p
QUALITY	0.478	25.752	<.001

$r = .828$

Squared $r = .686$

Adjusted Squared $r = .685$

F for total regression = 663.190; df = 1,304; $p < .001$

QUALITY = directors' quality of strategic planning

To show the strength of the relationships between components of the institutional pharmacy strategic planning assessment model, correlations between the components were calculated. These results are presented in Figure 3.

Figure 3. Correlations between components of the institutional pharmacy strategic planning assessment model.

CHAPTER 5

DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

This study collected data from institutional pharmacy directors via a mail survey. Information obtained included important attitudes of the respondents toward strategic planning. The survey form gathered information concerning the respondents' knowledge and importance of strategic planning. Additionally, the survey gathered information concerning respondents' belief that strategic planning results in certain (documented) benefits and disadvantages. Lastly, the survey instrument also served to compile demographic information on the respondents and their institutions. The results of the analyses conducted on the data will be discussed in this chapter, and conclusions drawn from the results will be presented. Recommendations based on the outcomes of this research are also included.

DISCUSSION

Nonresponse Bias

As stated in Chapter 4, the net response rate at the termination of data collection was 61.4%. According to Zelnio (1981), when response rate reaches 70% or more most biases due to nonresponse tend to disappear. The response rate achieved by the study was not markedly lower than the 70% standard. However, the possibility of nonresponse bias must be examined.

Attempts at estimating nonresponse bias centered around comparing the responses of early and late responders. Differences between the early and late responders on several variables were of particular interest. It was found that the two groups of responders did not differ significantly in hospital size. Most importantly, no significant differences were detected between the two groups when the number of pharmacy directors who conducted strategic planning, as well as directors' rated knowledge of strategic planning and rated importance of strategic planning were compared.

Based upon these results and the substantial net response rate obtained, it was felt that nonresponse did not present a substantive bias in the study.

Instrument Reliability

To determine the internal consistency, or reliability, of the survey instrument, four parallel questions were asked. Parallel questions were asked regarding pharmacy directors' knowledge, importance, time available, and quality of strategic planning. As reported in Chapter 4, the correlation coefficients for the four parallel questions were 0.834, 0.838, 0.820, and 0.936, respectively.

Determining a satisfactory level of reliability for the study is not unanimously agreed upon. However, Nelson (1981) points out that many researchers use 0.800 as the minimum reliability level. All four reliability coefficients for this

study reached the recommended level of 0.800. Due to the strong levels of reliability obtained, it was felt that the survey instrument was indeed a reliable measure of the four constructs surveyed in this study.

Survey Instrument Responses

Birdwell and Pathak (1989) reported that they were surprised at the number and level of sophistication of strategic planning by hospital pharmacy administrators, although they did not present an aggregate figure. In this study 63.4% (194/306) of pharmacy directors indicated that they conducted strategic planning. This high figure may be indicative of the increased attention paid to strategic planning, within the last two years, in the pharmacy literature.

In this study, the average number of steps utilized by pharmacy directors, globally, in their strategic planning programs were 2.98 ± 2.46 (out of six possible steps). This figure indicated that the global quality of strategic planning utilized by pharmacy directors could be greatly improved. It is interesting to note that only 88.1% of the directors who indicated that they conducted strategic planning developed a mission statement and goals and objectives for their pharmacy. This percentage should be 100% (Kotler, 1984), since a mission statement and goals and objectives provide the cornerstone for strategic planning and is basic in the management of any

organization.

The results of this study indicated that only 53.6% of pharmacy directors that utilized strategic planning conducted a review of their pharmacy's systems and structure. This step had the lowest percent of utilization, which coincides with the complete lack of attention paid to this step in the pharmacy literature.

The most significant result of the analysis of the frequency of utilization for the various strategic planning steps was the incomplete utilization of the final step in effective strategic planning. The results of this survey indicated that only 87.6% of the directors that conducted strategic planning took steps to implement and periodically evaluate their chosen strategies. This step is considered by many to be the most crucial (Pearce and Robinson, 1988). Certainly, this figure should be 100%.

As stated in Chapter 4, pharmacy directors' subjective rating of their departments' strategic planning process, while strongly correlated with the objective quality of strategic planning, was consistently lower than the objective quality rating given. This may indicate that pharmacy directors, in general, were not pleased with the quality of their strategic planning. However, pharmacy directors did feel that their departments' strategic planning process was higher in quality than that of their institutions' strategic planning process.

This study attempted to measure pharmacy directors' level of knowledge of the strategic planning process. The results indicated that directors, in general, rated their level of knowledge as moderate (3.07 ± 1.29 , 0 = no knowledge and 5 = very knowledgeable). This indicates there is much room for improvement in this area.

Additionally, this study measured pharmacy directors' rated importance of strategic planning to their pharmacy departments. Pharmacy directors' rated importance of strategic planning (3.43 ± 1.25 , 0 = not important and 5 = very important) indicates that there is also much room for improvement in this area; especially since the importance of strategic planning to hospital pharmacies continues to escalate (Pathak, 1985).

Another objective of this study was to measure pharmacy directors' rated availability of time to do strategic planning. This is important because the most frequent reason cited in the business literature for not conducting strategic planning is the lack of time (James, 1984). Many supervisors falsely believe that strategic planning is very time consuming (Pearce and Robinson, 1988). The results of this study indicated that pharmacy directors perceived the availability of time as inadequate (2.24 ± 1.32 , 0 = very inadequate and 5 = very adequate). These results may be partially explained by pharmacy directors' barely moderate level of knowledge of

strategic planning.

The extent strategic planning results in certain benefits and disadvantages (0 = never, 5 = very frequently) may play an important role in pharmacy directors' decisions whether or not to conduct strategic planning. The results of this study indicated that directors perceived strategic planning only moderately resulted in increased efficiency (3.09 ± 1.31), justification of new services (3.11 ± 1.36), and obtaining other resources (2.96 ± 1.36). Additionally, pharmacy directors indicated that strategic planning resulted in certain disadvantages on an average frequency: cost (2.48 ± 1.32); diversion of personnel (2.63 ± 1.31); subordinate frustration (2.18 ± 1.33); and lack of impact (2.49 ± 1.29). The high rated frequency given to the lack of impact of strategic planning is the most discouraging of these findings. This may help explain why the extent and quality of strategic planning is not as high as it could be.

Finally, the survey responses indicated that of those directors who conducted strategic planning, the majority revised their plans annually (82%). While there is no definite time frame for revising an organization's strategic plan, it is recommended that an organization revise its strategic plan as often as possible (Pearce and Robinson, 1988). Therefore, it is encouraging to find that the majority of directors revised their plans on an annual basis.

Hypothesis Testing

It was found that the ratio of FTE pharmacists plus technicians to number of active beds, the degree of decentralization of services, and the percent of time spent by FTE pharmacists' on non-distributive services had significant (positive) relationships with pharmacy directors' rated availability of time to do strategic planning.

It is possible that increased pharmacy staff, decentralization, and time spent on clinical services by the pharmacy staff may actually increase the availability of time for pharmacy directors' to do strategic planning. Additionally, there are many other factors that contribute to pharmacy directors' availability of time, many more than were possible to measure during this study. The weak positive relationships of these variables with availability of time is also encouraging. These results demonstrate that pharmacy directors need not have a large (or small) staff, provide a great (or minor) percentage of decentralized services, nor spend a large (or small) percentage of time in clinical services to have adequate time available to do strategic planning.

It was shown that pharmacy directors' attendance at any strategic planning educational program, the level of emphasis placed by the administration on the institutional strategic planning process, and the presence of an institution-wide

strategic planning program were significantly (positive) related to pharmacy directors' rated level of knowledge of strategic planning.

It was satisfying to find strong relationships between educational program attendance and institution-wide emphasis with pharmacy directors' level of knowledge of strategic planning. Educational program attendance is of particular interest. These results indicate that providing pharmacy directors with educational programs on strategic planning can help increase their knowledge of the strategic planning process.

The positive relationship between institution-wide strategic planning and level of knowledge was expected. Pharmacy departments are a major department of any health care institution. As such, institutions that conduct strategic planning usually require their pharmacy directors' input, thus increasing pharmacy directors' exposure to and knowledge of strategic planning. However, these results are not particularly encouraging since all directors, regardless of whether or not the institution conducts strategic planning, could conduct strategic planning for their departments.

It was found that a number of variables were significantly correlated with pharmacy directors' rated importance of strategic planning. The extent strategic planning resulted in selected benefits was significantly

(positive) related to directors' rated importance. The extent strategic planning resulted in increased efficiency in pharmacy operations had the strongest relationship with importance. This was expected. Pharmacy directors who perceived strategic planning frequently resulted in benefits to their departments placed a higher importance on strategic planning.

This study also revealed that there was only a weak negative relationship between importance and the extent strategic planning results in selected disadvantages. It was felt that cost, subordinate frustration, diversion of personnel from normal duties, and lack of impact of strategic planning would be strongly (negative) correlated with importance. Strategic planning is no panacea. It has its problems and disadvantages. The key to successful planning is avoidance and early recognition of its shortcomings. It is encouraging to find that these disadvantages had little influence on the importance placed on strategic planning by pharmacy directors'.

Importance of strategic planning was also found to be significantly (positive) correlated with the level of emphasis placed on the institution-wide strategic planning process by hospital administration. This also was expected. Hospital administrators who strongly emphasize strategic planning are likely to require their subordinates (pharmacy directors) to

conduct strategic planning and influence its level of importance.

The relationship between importance and institution-wide strategic planning was significant (positive) but not as strong as that between importance and emphasis, discussed above. This suggests that institution-wide strategic planning was not as strong an influence (on pharmacy directors) as the emphasis placed on strategic planning by hospital administration. These findings have significant implications for future trends, since recent evidence suggests that strategic planning is becoming increasingly utilized and emphasized by hospital administrators (Pathak, 1985).

Additionally, a significant (positive) relationship was revealed between pharmacy directors' attendance at strategic planning educational programs and level of importance. Once again, these results demonstrate the benefits achieved by providing directors with strategic planning education.

There was only a weak positive correlation between the ratio of FTE pharmacists plus technicians to active beds, percent of decentralization, and percent of time spent on clinical services with pharmacy directors' rated importance of strategic planning. These variables were chosen since they would indicate degree of complexity or sophistication of pharmacy department services. It was expected that there would be a strong positive correlation between these variables,

since many directors may feel that strategic planning is only important to those "big" pharmacy departments. These results showed that strategic planning was essentially equally important to all pharmacy directors, regardless of size or sophistication.

The significant (positive) correlations uncovered between pharmacy directors' rated knowledge, importance, and availability of time with rated quality of pharmacy directors' strategic planning was very encouraging. These results were expected. Directors who had higher rated knowledge, importance, and availability of time had higher quality strategic plans. These results may provide future strategies for improving the quality of pharmacy strategic planning. It appears that education programs aimed at pharmacy directors may help improve their knowledge, importance, and availability of time to do strategic planning; and thus help to improve quality of institutional pharmacy strategic planning.

Type of hospital ownership was revealed as a differentiating variable on the quality, importance, and knowledge of strategic planning by pharmacy directors. It was expected that for-profit institutions would have higher rated knowledge, importance, and quality. Strategic planning was originally developed as a business tool and many health care professionals refer to "for-profit" institutions as "businesses." However, for-profit institutional pharmacy

directors had the significantly lowest rated quality, knowledge, and importance of strategic planning. However, not-for-profit institutional pharmacies and government, nonfederal institutional pharmacies had almost identical ratings on all three variables. These findings may be explained by recent evidence that investor owned hospitals are less efficient, have higher administrative costs, and charge more than not-for-profit hospitals (Watt et al., 1986).

The results of this study indicated that pharmacy directors with a graduate degree had significantly higher rated knowledge, quality, and importance of strategic planning than those directors without a graduate degree. This may be attributed to the lack of undergraduate pharmacy educational courses that cover strategic planning. However, many graduate-level programs offer courses that teach strategic planning methodologies and techniques. Hence, directors with a graduate-level degree had higher rated knowledge, quality, and importance of strategic planning than those directors without a graduate-level degree. These results demonstrate the necessity in providing pharmacy directors (especially those with undergraduate degrees) with educational programs on strategic planning.

One of the main objectives of this research was to determine the relationship between pharmacy performance in selected areas and quality of strategic planning. The

significant, positive relationships detected for all three variables with quality of strategic planning were expected. Performance for administrative services had the strongest (positive) relationship with quality of strategic planning. Administrative services performance are almost exclusively under the control of the pharmacy director. Therefore, strategic planning has been proven to be extremely useful in this area.

The correlation between performance for distributive services and quality of strategic planning was moderately positive. Distributive services performance are less under the control of the pharmacy director. Other departments may influence the performance for distributive services. Therefore, the relationship is less strong than that with administrative services.

The correlation between performance for clinical services and quality of strategic planning was the weakest. Implementation, control, and performance of clinical services are even less under the control of the pharmacy director than distributive services. Other departments (including medical staff, nursing staff, and administrative staff) may influence performance. Therefore, the relationship is weaker than that with distributive services.

The implications of the significant correlations between quality of strategic planning and pharmacy performance is

clear. These results demonstrate the value of improving a department's quality of strategic planning. Improving the department's quality of strategic planning may help improve its performance for administrative, distributive, and clinical services.

The significant differences detected between directors that conducted strategic planning and those who did not on many variables was gratifying. Of these, the largest difference between the two groups was found when directors' knowledge was compared. As was pointed out earlier, knowledge was strongly related to quality of strategic planning. Therefore, it was not surprising to find such a large difference between planners and non planners. Directors who were knowledgeable of strategic planning were likely to use their knowledge. These results suggest that one reason directors did not conduct strategic planning was little knowledge of the process.

Pharmacy directors' rated importance of strategic planning had the second largest difference when the two groups were compared. This was expected, especially since there was such a strong correlation between importance and quality of strategic planning. These results suggest that another possible reason directors did not conduct strategic planning was a lack of perceived importance of the process.

The next largest difference between the two groups was found when directors' availability of time to do strategic planning was compared. This was also expected since a strong relationship was revealed between time availability and quality of planning. Therefore, a director not only must be knowledgeable of strategic planning and perceive strategic planning as important, but also must perceive there is adequate time available to do strategic planning. These results suggest that another possible reason directors did not conduct strategic planning was the perception that there was inadequate time available to do strategic planning.

Significant differences were detected between the two groups of directors' perceptions that strategic planning resulted in increased efficiency in pharmacy operations, increased justification of new services, and increased ability to obtain other resources. These differences were expected. However, the magnitude of these differences was surprising. Directors that perceived strategic planning frequently resulted in these benefits were likely to utilize it, while those who did not were not likely to conduct strategic planning. Once again, these results indicate some possible reasons directors of pharmacy did not utilize strategic planning.

The significant difference found in only one of four perceived disadvantages of strategic planning was surprising.

The perceived lack of overall impact of strategic planning yielded a significant difference between the two groups of directors. This was expected, since one of the most frequent complaints of strategic planning, in the business literature, is its lack of overall impact. In other words, many strategic planning critics feel that it just doesn't work. Therefore, it was expected that one of the possible reasons some pharmacy directors did not conduct strategic planning was their perception of its lack of impact.

Additionally, significant differences were not detected between the two groups' perception that strategic planning resulted in costs (in terms of manpower), diversion of personnel from normal duties, and subordinate frustration over involvement in strategic planning. It is possible directors who did not conduct strategic planning were not familiar with these problems while those who did, have experienced these problems. Especially since these are not as widely publicized problems as is the lack of impact. Finally, while the difference was not significant, directors who conducted strategic planning still rated these disadvantages lower than those who did not.

The results of the multiple regression analyses performed on components on the institutional strategic planning model generally reflected significant findings of other analyses. However, there were a few exceptions. Those exceptions are

largely attributable to multicollinearity between variables. A correlation matrix of variables used in the study is presented in Appendix F.

In the multiple regression of predictor variables on directors' rated knowledge of strategic planning, two irregularities with earlier findings were apparent. The most surprising irregularity was the nonsignificant finding of institution-wide strategic planning in the multiple regression. In an earlier analysis this was found to be significantly and strongly correlated with directors' knowledge. However, as was pointed out earlier this correlation was not as strong as that with the emphasis placed on the institution-wide strategic planning by hospital administration. Additionally, institution-wide strategic planning was strongly correlated with the level of emphasis ($r = .720$), which was shown to be a significant variable in the multiple regression on knowledge.

The last irregularity found in the multiple regression on knowledge was the nonsignificant finding of type of ownership. However, it must be pointed out that the earlier analyses only showed significant differences between the three types of ownerships. As was pointed out earlier, two of the three types (not for profit and government, nonfederal) of hospital ownership were essentially equal in rated knowledge. Therefore, the significant difference was largely due to the

significantly lower rated knowledge of for-profit institutional pharmacies.

It is important to note that the results of this regression yielded significant results. This analysis indicated that 47% of the variance in knowledge was accounted for by these variables.

In the multiple regression of predictor variables on directors' rated importance of strategic planning several discrepancies were uncovered. Once again institution-wide strategic planning yielded a nonsignificant result, while previously found to be significantly related. The significant relationship with level of emphasis probably accounts for the irregularity.

Secondly, level of education (graduate or undergraduate) was not significantly related to importance. This is surprising in light of the previously significant differences uncovered between the two groups. This may be partly accounted for by education's significant relationships with decentralization ($r = .208$) and ownership ($r = -.206$) which were shown to be significant variables in the multiple regression on importance.

A third discrepancy uncovered during the multiple regression on importance is the nonsignificant finding associated with the extent strategic planning resulted in increased ability to obtain additional resources and increased

ability to justify new services. Previously these were found to be highly correlated with importance ($r = .545$ and $r = .539$, respectively). However, it must be pointed out that these two variables were also strongly related to increased efficiency in pharmacy operations ($r = .710$ and $r = .704$, respectively), which was a significant variable in the multiple regression on importance.

The last discrepancy uncovered during the multiple regression on importance was the nonsignificant findings associated with the extent strategic planning resulted in subordinate frustration, costs (in terms of manpower), and diversion of personnel from normal duties. Previously, these variables were found to be significantly associated with importance. This finding may be accounted for by the significant correlations of frustration ($r = .483$), costs (.474), and diversion (.404) with lack of impact of strategic planning, which was a significant variable in the multiple regression on importance.

It is important to note that the results of this regression yielded significant results. This analysis indicated that over 55% of the variance in directors' rated importance of strategic planning was accounted for by the predictor variables.

In the multiple regression of predictor variables on directors' rated availability of time no discrepancies were

uncovered. However, it was surprising to find that these variables accounted for only 9.2% of the variance in the availability of time. This indicates that there were other variables (not examined in this study) that also influenced directors' time availability.

The multiple regression of time, knowledge, and importance of strategic planning on the quality of pharmacy directors' strategic planning yielded no irregularities. Of importance was the fact that the predictor variables accounted for over 61% of the variance in quality of strategic planning.

The simple regressions of quality of strategic planning on pharmacy performance for clinical, distributive, and administrative services yielded no discrepancies. Of particular interest is the large amount of variance (68.6%) in administrative service performance accounted for by the quality of strategic planning.

CONCLUSIONS

The objective of this research was to assess the extent and quality of strategic planning by institutional pharmacy directors. A further objective was to determine some of the reasons this important long-range planning tool is or is not being utilized. A final objective was to examine how institutional characteristics, pharmacy characteristics, and pharmacy director demographics might be associated with the quality, knowledge, availability of time, and importance of

strategic planning.

An unexpectedly large proportion of responding pharmacy directors reported using strategic planning. Of these directors conducting strategic planning, the majority reported using all six steps (planning level 6) in their strategic planning process. Finally, the majority of responding pharmacy directors who conducted strategic planning indicated that they revised their strategic plans on an annual basis.

The ratio of FTE pharmacist plus technicians to active beds, percent of time spent by FTE pharmacists on clinical services, and percent of decentralization of pharmacy services were significantly associated with directors' rated availability of time to do strategic planning. However, these variables showed weak positive correlations with directors' rated availability of time to do strategic planning.

A number of variables showed strong positive correlations with pharmacy directors' rated level of knowledge of the strategic planning process. These variables included director attendance at any strategic planning educational program, presence of an institution-wide strategic planning process, and the level of emphasis placed on the institution-wide strategic planning process by hospital administration. However, the level of emphasis on the institution-wide strategic planning process by hospital administration had the strongest relationship with knowledge.

Many variables were found to be significantly associated with pharmacy directors' rated level of importance of strategic planning to their departments. Pharmacy directors' rated extent selected benefits were derived from strategic planning had the strongest (positive) relationships with directors' rated level of importance.

Directors' rated knowledge, importance, and quality of strategic planning proved to be strongly (positive) correlated with the rated quality of pharmacy directors' strategic planning process. Directors' rated importance of strategic planning had the strongest association with quality of strategic planning.

Significant differences were found between the study's three types of hospital ownership. Differences were detected in quality, importance, and knowledge of strategic planning. For-profit institutions were found to have the significantly lowest ratings in all three variables. While, little differences were detected between not-for-profit and government, nonfederal institutions on all three dependent variables.

The study found significant differences between directors with graduate degrees and those without graduate degrees when quality, importance, and knowledge of strategic planning were compared. Directors with graduate degrees had significantly higher rated importance, quality, and knowledge of strategic

planning. The largest difference between the two groups was detected in directors' knowledge of strategic planning.

Pharmacy directors' quality of strategic planning was significantly associated with all three areas of pharmacy performance measured: clinical services; distributive services; and administrative services. Pharmacy performance for administrative services had the strongest (positive) association with directors' quality of strategic planning.

Finally, this study demonstrated significant differences between directors' who conducted strategic planning and those who did not conduct strategic planning. Directors who conducted strategic planning had significantly higher rated importance, knowledge, availability, increased efficiency in pharmacy operations, increased justification of new services, and increased ability to obtain other resources. While, directors who did not conduct strategic planning rated the lack of overall impact of strategic planning significantly higher than those directors who did conduct strategic planning.

RECOMMENDATIONS

The results of this study exhibit valuable utility supporting the advancement of the pharmacy profession. Significant relationships between this study's variables and quality, knowledge, time availability, and importance of strategic planning as well as significant relationships

between pharmacy performance for clinical, distributive, and administrative services with the quality of strategic planning were identified. By using this information, hospital pharmacy directors can enhance the provision of pharmacy services and possibly thrive in this era of rapidly decreasing resources availability.

There are limitations and assumptions involved in this research. The conclusions reached can only be applied to the specific population studied. Additionally, the responses obtained in the survey were assumed to be truthful ones, and not provided in a socially desirable manner. The meaning of the results, must be tempered with the study's assumptions and limitations in mind.

A weakness of this survey research is that it did not allow the researcher to validate the responses obtained from respondents. To see if the responses provided were truthful, follow-up personal interviews and objective grading of the respondents' strategic plans could be done. Further, providing the respondents with a follow-up examination, designed to objectively test their knowledge of strategic planning could also be utilized.

One of the components of the institutional pharmacy strategic planning assessment model was pharmacy directors' rated availability of time. Although the relationships uncovered by this study were significant, pharmacy department

characteristics accounted for only 9.2% of the variance in time availability. Further research on the availability of time should be done. Additional variables should be measured, such as length of time the director has been in his/her current position and total length of experience as a director of pharmacy.

The results of this research demonstrate the value of providing pharmacy directors with educational programs on strategic planning. Therefore, providing institutional pharmacy directors (especially those without an ongoing departmental strategic plan) with training in strategic planning, possibly through seminars or continuing education programs may help increase the knowledge and quality of strategic planning. Education programs aimed at pharmacy directors could help improve their knowledge, importance, and availability of time to do strategic planning. Thus helping to improve quality of institutional pharmacy strategic planning. Finally, education programs may help overcome the differences uncovered between planners and non-planners in rated importance, knowledge, availability of time, and extent strategic planning resulted in selected benefits.

Institutional pharmacy directors' with a graduate degree had a significantly higher rated level of knowledge of strategic planning than did those without a graduate degree. It was felt that exposure to the process, during graduate-

level education was a major reason for the difference. Therefore, a special effort must be undertaken to provide pharmacy directors without a graduate degree with educational programs on strategic planning. This could possibly be attained through inclusion of strategic planning in the American Society of Hospital Pharmacists' (ASHP) management ACCRUE seminars.

Research is now needed on the basic components of pharmacy directors' strategic planning activities. Research is need to determine how pharmacy directors perform each of the steps in their strategic planning processes. Are pharmacy directors utilizing some of the sophisticated strategic planning tools identified in the business and hospital administration literature?

Research is needed to determine the best method to educate pharmacy directors on the strategic planning process. Additional research is needed to determine if the application of strategic planning to institutional pharmacy settings has uncovered disadvantages (specific to institutional pharmacy) not identified in this research.

Lastly, additional research is need on the success rate of the strategies developed. As was pointed out earlier, strategic planning's major criticism is its lack of impact. This has been largely attributed to American businesses' failure to properly implement their strategies. However, this

shortcoming has caused some recent questioning about the value of strategic planning. In an effort to avoid this problem, research is need on how pharmacy directors implement their strategies and their success rate.

APPENDIX A

PILOT STUDY SURVEY INSTRUMENT

INSTITUTIONAL PHARMACY DIRECTOR SURVEY

DIRECTIONS: THIS SURVEY FORM IS TO BE COMPLETED BY THE INSTITUTION'S DIRECTOR OF PHARMACY.

THE PURPOSE OF THIS SURVEY IS TO ASSESS THE EXTENT AND QUALITY OF STRATEGIC PLANNING BY INSTITUTIONAL PHARMACY DIRECTORS. FOR THE PURPOSES OF THIS SURVEY, STRATEGIC PLANNING IS DEFINED AS A PROCESS BY WHICH AN ORGANIZATION SELECTS ITS FUTURE GOALS AND DEVELOPS STRATEGIES TO ACHIEVE THEM

1. What type(s) of degree(s) do you have? (circle those that apply)
 - a. BS Pharmacy
 - b. Pharm D
 - c. MBA
 - d. MS Pharmacy
 - e. Ph D
 - f. other_____
2. At what type of hospital are you employed? (Circle one)
 - a. Government, nonfederal
 - b. Nongovernment, not for profit
 - c. Investor-owned (for profit)
3. How many active beds does your institution currently have?
_____beds
4. Within your institution, how many full time equivalent (FTE) pharmacists are employed?_____
5. Within your institution, how many FTE technicians are employed?_____

6. With respect to distributive services, what percent of beds are served by decentralized services?

_____ Percent

7. Please estimate the percent of time spent by FTE pharmacists on non-distributive clinical services.

_____ Percent

8. Please rate your pharmacy's performance in the following areas.

AREA	Performance Level Rating					
	Minimal			High		
Overall performance for clinical services	1	2	3	4	5	6
Overall performance for distributive services	1	2	3	4	5	6
Overall performance for administrative services	1	2	3	4	5	6

9. Does your institution have an ongoing institution-wide strategic planning process?(circle one)

a. yes

b. no

10. What is the level of emphasis on the institutional strategic planning process by hospital administration?

No Emphasis						Strongly Emphasized	
0	1	2	3	4	5		

11. Have you participated in any strategic planning educational programs (workshops, management seminars, continuing education, etc.) within the last three years?

_____ Yes _____ No

12. In general, how would you rate your knowledge of the strategic planning process?

No knowledge						Very knowledgeable
0	1	2	3	4	5	

13. How important is strategic planning to the operation of your pharmacy?

0	1	2	3	4	5
Not important					Very important

14. How would you rate the availability of time to do strategic planning?

0	1	2	3	4	5
Very inadequate					Very adequate

15. To what extent does strategic planning result in the following benefits:

	Never					Very Frequently
Increased efficiency in pharmacy operations	0	1	2	3	4	5
Increased justification of new services	0	1	2	3	4	5
Increased ability to obtain other resources	0	1	2	3	4	5

16. To what extent does strategic planning result in the following disadvantages:

	Never					Very Frequently
Cost (in terms of manpower)	0	1	2	3	4	5
Diversion of personnel from normal duties	0	1	2	3	4	5
Subordinate frustration over involvement in the strategic planning process	0	1	2	3	4	5
Lack of overall impact of strategic planning	0	1	2	3	4	5

17. Indicate your level of agreement with the following statements:

	Strongly Disagree				Strongly Agree	
Strategic planning is important to the operation of my pharmacy	1	2	3	4	5	6
I am knowledgeable about strategic planning	1	2	3	4	5	6
There is adequate time available to do strategic planning	1	2	3	4	5	6

18. Do you conduct strategic planning for your pharmacy department?

Yes_____ If yes, please answer questions 19 through 21

No_____ If no, the survey is complete. Please return the survey immediately.

19. How frequently do you revise your strategic plan (Check one)?

- ☐ Annually
- ☐ Every 2 years
- ☐ Every 3 years
- ☐ Greater than every 3 years

20. How would you rate the quality of your department's strategic planning process?

1	2	3	4	5	6
Poor					Excellent

21. Indicate which of the following steps are used in your department's strategic planning process. (CHECK all those that apply)

- ☐ development of your pharmacy's mission statement and goals and objectives
- ☐ identification of your pharmacy's strengths and weaknesses
- ☐ identification of your pharmacy's potential threats and opportunities
- ☐ formulation and selection of strategies to achieve your pharmacy's objectives and goals
- ☐ conduct a formal review of your pharmacy's structure and systems (computers, calculators, etc.) to insure alignment with objectives/goals and chosen strategies
- ☐ take steps to implement chosen strategies and periodically review and evaluate implemented strategies.

Please return the completed survey in the enclosed postage-paid self-addressed envelope to:

Department of Pharmacy Practice
College of Pharmacy
University of Arizona
Tucson, Arizona 85721

THANK YOU VERY MUCH FOR YOUR HELP!

APPENDIX B

CORRESPONDENCE USED IN PILOT STUDY

October 16, 1989

Dear Colleague,

Directors of institutional pharmacies, such as yourself, are tasked with making many important long-range decisions. In this era of decreasing resources availability, institutional pharmacy directors must use a well documented and thorough long-range planning tool. Strategic planning by institutional pharmacy administrators may be the key to staying in step with today's rapidly changing, and highly resource-competitive, health care environment. In spite of the documented value of strategic planning, little is known about the extent and quality of strategic planning by institutional pharmacy directors.

You have been selected to participate in a pilot survey preceding a final study which will assess the extent and quality of strategic planning by institutional pharmacy directors. The particular focus of the study will be on whether or not institutional pharmacy directors plan strategically and if so, to what extent and at what quality. Additionally, results of this study may provide valuable insights into why strategic planning is or is not being utilized.

I encourage you to make comments and suggestions directly on the survey form regarding any questions you feel are unclear or unanswerable. Also, feel free to write in additional responses to any questions which you believe require it. Your suggestions for improving this instrument will be carefully considered in its revision.

I fully realize the value of your time, as I too have been a director of hospital pharmacy. However, your response is needed if this study is to be successful. The information you take the time to provide will prove valuable in identifying ways to increase the utilization and quality of strategic planning.

You may notice a code number on the first page of your survey. This is necessary to conduct follow ups with nonresponders. Be assured that I will guarantee the strictest confidentiality to all those surveyed.

Please complete the attached survey form and return it in the enclosed postage-paid self-addressed envelope as soon as you can. If you have any questions call Don at (602) 626-4291. Thank you for your helpful participation.

October 23, 1989

Dear Colleague,

Last week a University of Arizona survey of hospital pharmacy directors was mailed to you. If you have already completed and returned the survey please accept my sincere thanks. If not, please do so today. It is of utmost importance that your responses be included in this study if the results are to be an accurate reflection of the extent and quality of institutional pharmacy directors' strategic planning activities. If the survey form has been misplaced or you don't believe you received one, please call me right now at (602) 626-4291 and I will mail another one to you.

Sincerely,

Donald Harrison, R.Ph

November 13, 1989

Dear Colleague,

About two weeks ago I wrote to you seeking your participation in a pilot survey of hospital pharmacy directors. The focus of the survey is on institutional pharmacy directors' extent and quality of strategic planning. As of today I have not yet received your completed survey form.

This research is being conducted to determine whether or not institutional pharmacy directors conduct strategic planning and if so, to what extent and at what quality. The results of this research may provide useful information to identify the reasons strategic planning is or is not being utilized.

I am writing you again because of the significant contribution you can make to this research. Only a limited number of institutional pharmacy directors were selected for participation in this pilot study. Therefore, it is necessary that you respond to provide an adequate assessment of the survey instrument. Please include your comments and suggestions directly on the survey form regarding any questions you find to be ambiguous or with inadequate answer choices.

For your convenience I have enclosed a replacement survey form and return envelope. Please complete the survey form and return it as soon as possible. If you have any questions call me at (602) 626-4291. Your cooperation is greatly appreciated.

Sincerely,

Donald Harrison, R.Ph.

APPENDIX C

PILOT STUDY RESULTS

The results from the pilot study were analyzed using The System for Statistics (SYSTAT) statistical analysis software package. Hardware used was a SAI 286 microcomputer.

The first step taken in analyzing the data collected in the pilot study was to determine the response frequencies, or mean values, for the questions asked in the survey instrument. These analyses revealed the variability of the responses obtained.

The first component of the survey instrument solicited demographic data on the respondents and their institutions. Response frequencies of the categorical demographic variables are presented in Table 1. Mean values of the quantitative demographic variables appear in Table 2.

The second component of the survey instrument was concerned with directors' attitudes and perceptions of strategic planning; as well as whether or not the director conducts strategic planning for his/her pharmacy. Of the responses received, 6 (75%) pharmacy directors indicated they conduct strategic planning for their pharmacies. While only 2 (25%) respondents indicated they do not conduct strategic planning for their pharmacies. This result is somewhat surprising. Although Birdwell and Pathak also reported that they were "surprised" at the number and level of institutional pharmacy strategic planning. Additionally, the mean values of the quantitative variables appear in Table 3.

Table 1. Response frequencies of demographic variables

Variable	Frequency ^a	
Educational degree earned		
BS Pharmacy	3	(37.5)
Pharm D	0	(0)
MBA	2	(25)
MS Pharmacy	3	(37.5)
Type of hospital ownership		
Government, nonfederal	1	(12.5)
Nongovernment, not for profit	4	(50)
Investor-owned (for profit)	3	(37.5)
Participation in any strategic planning educational programs within the last three years?		
Yes	7	(87.5)
No	1	(12.5)
Ongoing institution-wide strategic planning process?		
Yes	5	(62.5)
No	3	(37.5)
a Number (Percent)		

Table 2. Mean values of demographic variables

Variable	Mean $\pm$ S.D. ^a
Institution's active beds	270.38 $\pm$ 162.67
FTE pharmacists	15.91 $\pm$ 10.37
FTE technicians	9.93 $\pm$ 10.06
Ratio of FTE pharmacists plus technicians to active beds	0.097 $\pm$ 0.053
Level of emphasis on institutional strategic planning process	3.00 $\pm$ 1.07 ^b
Percent of beds served by decentralized services	46.0 $\pm$ 50.1
Percent of time spent by FTE pharmacists on non-distributive clinical services	15.1 $\pm$ 16.5
Level of performance for clinical services	4.0 $\pm$ 1.41 ^c
Level of performance for distributive services	4.88 $\pm$ 0.64 ^c
Level of performance for administrative services	4.63 $\pm$ 0.52 ^c

a based on n = 8

b 0 = no emphasis, 5 = strongly emphasized

c 1 = minimal, 6 = high

Table 3. Mean values of directors' attitudes toward and perceptions of strategic planning

Variable	Mean $\pm$ S.D. ^a
Directors' rated knowledge of strategic planning	3.50 $\pm$ 0.76 ^b
Directors' rated importance of strategic planning	4.38 $\pm$ 0.52 ^c
Directors' rated availability of time to do strategic planning	2.13 $\pm$ 1.46 ^d
Extent strategic planning results in the following benefits:	
Increased efficiency in pharmacy operations	3.75 $\pm$ 0.89 ^e
Increased justification of new services	3.63 $\pm$ 0.52 ^e
Obtaining other resources	3.50 $\pm$ 0.54 ^e
Extent strategic planning results in the following disadvantages:	
Cost (in terms of manpower)	2.25 $\pm$ 1.49 ^e
Diversion of personnel from normal duties	2.38 $\pm$ 1.19 ^e
Subordinate frustration over involvement in the strategic planning process	1.00 $\pm$ 0.93 ^e
Lack of overall impact of strategic planning	1.50 $\pm$ 1.31 ^e

a based on n = 8

b 0 = no knowledge, 5 = very knowledgeable

c 0 = not important, 5 = very important

d 0 = very inadequate, 5 = very adequate

e 0 = never, 5 = very frequently

The third section of the survey form contained questions concerning the quality of strategic planning reported by institutional pharmacy directors. The mean quality of strategic planning, as rated by pharmacy directors was 2.63 ± 1.69 (1=poor and 6=excellent). Those respondents who indicated they did not conduct strategic planning for their pharmacies were assigned a quality rating of zero. Additionally, the mean quality of strategic planning reported by pharmacy directors through indicating which components (one point for each step) of the strategic planning process were utilized in their pharmacies was 3.75 ± 2.55 . Once again, those respondents who indicated they did not conduct strategic planning were assigned a quality rating of zero. Finally, respondents were asked how often they revised their strategic plan. Of the five directors who indicated they conduct strategic planning, all six (100%) indicated they revise their plans on an annual basis.

Pearson correlation coefficients were calculated to determine the nature and strength of relationships between the directors' rated availability of time and 1) the ratio of FTE pharmacists plus technicians to the number of active beds (-.695) 2) the degree of decentralization of services (.360) and 3) the percent of time spent by FTE pharmacists' on non-distributive services (.106). Pearson correlation coefficients were also calculated to determine the nature and

strength of relationships between the directors' rated level of knowledge and 1) whether or not the director has attended any strategic planning educational programs within the last three years (.267) 2) level of emphasis placed on the institutional strategic planning process (.177) and 3) whether or not the institution has an ongoing institution-wide strategic planning process (.548). Additionally, Pearson correlation coefficients were calculated to determine the nature and strength of relationships between the directors' rated quality of strategic planning and 1) the directors' rated importance of strategic planning (.081) 2) the directors' rated level of knowledge (.148) and 3) the directors' rated availability of time (-.106).

Pearson correlation coefficients were also calculated to determine the nature and strength of relationships between the directors' perceived importance of strategic planning and 1) the ratio of FTE pharmacists plus technicians to the number of active beds 2) the degree of decentralization of services 3) the FTE pharmacists' percent of time spent in non-distributive services 4) whether or not the director has attended any strategic planning educational programs within the last three years 5) level of emphasis placed on the institutional strategic planning process 6) whether or not the institution has an ongoing institution-wide strategic planning process and 7) the rated extent selected benefits and

disadvantages are derived from strategic planning. Results are shown in Table 4.

A multiple regression was done in an effort to explain the quality of strategic planning conducted by pharmacy directors. These results are presented in Table 5.

One-way ANOVAs were performed to detect differences between groups of respondents based on types of hospital ownership. The anovas were done to determine if significant differences existed in the directors' rated importance of strategic planning, rated level of knowledge, and rated quality of strategic planning. The results of these analyses are presented in Table 6. As you can see, significant differences between the three types of hospital ownership were not detected.

T-tests were performed to detect differences between groups of respondents. The first set of t-tests were done between respondents with a graduate degree and those with undergraduate degrees. These tests measured differences regarding the directors' rated quality, importance, and knowledge of strategic planning as independent variables. These results are presented in Table 7.

The second set of t-tests were done between respondents who conducted strategic planning and those who did not. These tests measured differences regarding the directors' rated level of knowledge, availability of time, importance, and the

Table 4. Pearson correlation coefficients between directors' rated importance of strategic planning and the study's independent variables

	IMPORTANCE
RATIO	-.236
EMPHASIS	-.258
DECENTRALIZED	.331
TIME SPENT	-.275
CEPLAN	.293
BENEOPNS	-.389
BENEJUST	-.467
BENERESR	-.258
DISCOST	-.139
DISDIVER	.203
DISFRUST	.000
DISIMPAC	-.316
INSTPLAN	-.467

Correlation coefficients are based on 8 subjects

RATIO = ratio of FTE pharmacists plus technicians to active beds

EMPHASIS = level of emphasis on the institutional strategic planning process by hospital administration

DECENTRALIZED = percent of beds served by decentralized services

TIME SPENT = percent of time spent by FTE pharmacists on non-distributive clinical services

CEPLAN = whether or not the pharmacy director has participated in any strategic planning educational programs within the last three years

BENEOPNS = extent strategic planning results in increased efficiency in pharmacy operations

BENEJUST = extent strategic planning results in increased justification of new services

BENERESR = extent strategic planning results in increased ability to obtain other resources

DISCOST = extent strategic planning results in costs (in terms of manpower) to the pharmacy

DISDIVER = extent strategic planning results in the diversion of personnel from normal duties

DISFRUST = extent strategic planning results in subordinate frustration over involvement in strategic planning

DISIMPAC = extent strategic planning results in the lack of overall impact

Table 5. Multiple regression of selected variables on the directors' quality of strategic planning

Variable	Coefficient	Variable Significance	
		t	p
Ratio	23.429	11.401	.008
Decent	3.904	17.744	.003
Instplan	-1.360	-5.280	.034
Education	0.783	3.172	.087
Beneopns	1.446	10.191	.009

Multiple R = .999

Squared Multiple R = .998

Adjusted Squared Multiple R = .992

F for total regression = 175.973; df = 5,2; p = .006

Ratio = ratio of FTE pharmacists plus technicians to active beds

Decent = percent of beds served by decentralized services

Instplan = whether or not the institution has an ongoing institution-wide strategic planning process

Beneopns = directors' rated extent strategic planning results in increased efficiency in pharmacy operations

Education = level of education of the pharmacy director (graduate or undergraduate)

Table 6. One way ANOVA results by the type of hospital ownership^a

Dependent Variable	F	P
Directors' rated importance of strategic planning	.313	.745
Directors' rated knowledge of strategic planning	.227	.805
Directors' rated quality of strategic planning	.161	.856

For all tests df = 2,5

a Type of ownership = Government, nonfederal; Nongovernment, not for profit; Investor-owned (for profit)

Table 7. Student's t-tests (two-tailed) of selected differences between directors that have earned a graduate level (Masters or Doctorate) degree and other pharmacy directors

Category	Mean	S.D	t-value	df	p
Quality of strategic planning					
Group 1	4.00 ^a	3.46	-.200	6	.848
Group 2	3.60 ^a	2.30			
Knowledge of strategic planning					
Group 1	3.33 ^b	0.58	.455	6	.665
Group 2	3.60 ^b	0.58			
Importance of strategic planning					
Group 1	4.33 ^c	0.58	.164	6	.875
Group 2	4.40 ^c	0.55			

Group 1 (n = 3) = other pharmacies

Group 2 (n = 5) = institutional director of pharmacies with a graduate level degree

t-values are based on pooled variance estimates

a 0 = no planning (no steps utilized), 6 = excellent (six steps)

b 0 = no knowledge, 5 = very knowledgeable

c 0 = not important, 5 = very important

extent selected benefits and disadvantages are derived from strategic planning as independent variables. These results are presented in Table 8.

Since there were only two respondents who indicated that they didn't conduct strategic planning, no variance occurred in the extent strategic planning results in the following disadvantages: costs, frustration, and lack of impact. It was felt that with the larger sample size of the final survey, variances would occur in these measures. However, it appears there are considerable differences between the two groups based on these three measures. These results indicate that those directors (in this small sample) who do not conduct strategic planning have not yet experienced some of its disadvantages, hence they rate them as zero.

Finally Pearson correlation coefficients were calculated to determine the nature and strength of the relationships between the directors' rated quality of strategic planning and 1) level of performance for clinical services (-.396) 2) level of performance for administrative services (.677) and 3) level of performance for distributive services (.415).

Table 8. Student's t-tests (two-tailed) of selected differences between directors that conduct strategic planning and those who do not conduct strategic planning

Category	Mean	S.D	t-value	df	p
Importance of strategic planning					
Group 1	4.50 ^a	0.71	.367	6	.725
Group 2	4.33 ^a	0.52			
Knowledge of strategic planning					
Group 1	3.50 ^b	0.71	.000	6	1.000
Group 2	3.50 ^b	0.84			
Availability of time to do strategic planning					
Group 1	3.00 ^c	1.41	.977	6	.366
Group 2	1.83 ^c	1.47			
Increased efficiency in pharmacy operations					
Group 1	3.00 ^d	1.41	-1.500	6	.184
Group 2	4.00 ^d	0.63			
Increased justification of new services					
Group 1	3.50 ^d	0.71	-.369	6	.725
Group 2	3.68 ^d	0.52			

Table 8. --- continued

Category	Mean	S.D	t-value	df	p
Increased ability to obtain other resources					
Group 1	3.50 ^d	0.71	.000	6	1.000
Group 2	3.50 ^d	0.55			
Cost resulting from strategic planning					
Group 1	0.00 ^d	0.00	----	-	----
Group 2	3.00 ^d	0.63			
Diversion of personnel from normal duties					
Group 1	1.50 ^d	2.12	1.251	6	.258
Group 2	2.68 ^d	0.82			
Subordinate frustration over involvement in strategic planning					
Group 1	0.00 ^d	0.00	----	-	----
Group 2	1.33 ^d	0.82			
Lack of overall impact of strategic planning					
Group 1	0.00 ^d	0.00	----	-	----
Group 2	2.00 ^d	1.10			

Group 1 (n = 2) = Directors that do not conduct strategic planning

Group 2 (n = 6) = Directors that do conduct strategic planning
t-values are based on pooled variance estimates

a 0 = not important, 5 = very important

b 0 = no knowledge, 5 = very knowledgeable

c 0 = very inadequate, 5 = very adequate

d 0 = never, 5 = very frequently

APPENDIX D
FINAL SURVEY INSTRUMENT

INSTITUTIONAL PHARMACY DIRECTOR SURVEY

DIRECTIONS: THIS SURVEY FORM IS TO BE COMPLETED BY THE INSTITUTION'S DIRECTOR OF PHARMACY.

THE PURPOSE OF THIS SURVEY IS TO ASSESS THE EXTENT AND QUALITY OF STRATEGIC PLANNING BY INSTITUTIONAL PHARMACY DIRECTORS. FOR THE PURPOSES OF THIS SURVEY, STRATEGIC PLANNING IS DEFINED AS A PROCESS BY WHICH AN ORGANIZATION SELECTS ITS FUTURE GOALS AND DEVELOPS STRATEGIES TO ACHIEVE THEM

1. What type(s) of degree(s) do you have? (circle those that apply)
 - a. BS Pharmacy
 - b. Pharm D
 - c. MBA
 - d. MS Pharmacy
 - e. Ph D
 - f. other_____
2. At what type of hospital are you employed? (Circle one)
 - a. Government, nonfederal
 - b. Nongovernment, not for profit
 - c. Investor-owned (for profit)
3. How many active beds does your institution currently have?
_____beds
4. Within your institution, how many full time equivalent (FTE) pharmacists (including residents) are employed?_____
5. Within your institution, how many FTE technicians are employed?_____

6. With respect to distributive services, what percent of beds are served by decentralized services?

_____ Percent

7. Please estimate the percent of time spent by FTE pharmacists on non-distributive clinical services.

_____ Percent

8. Please rate your pharmacy's performance in the following areas.

AREA	Performance Level Rating					
	Minimal			High		
Overall performance for clinical services	1	2	3	4	5	6
Overall performance for distributive services	1	2	3	4	5	6
Overall performance for administrative services	1	2	3	4	5	6

9. Does your institution have an ongoing institution-wide strategic planning process?(circle one)

a. yes

b. no

10. What is the level of emphasis on the institutional strategic planning process by hospital administration?

No Emphasis						Strongly Emphasized	
0	1	2	3	4	5		

11. Have you participated in any strategic planning educational programs (workshops, management seminars, continuing education, etc.) within the last three years?

_____ Yes _____ No

12. In general, how would you rate your knowledge of the strategic planning process?

No knowledge						Very knowledgeable
0	1	2	3	4	5	

13. How important is strategic planning to the operation of your pharmacy?

0	1	2	3	4	5
Not important					Very important

14. How would you rate the availability of time to do strategic planning?

0	1	2	3	4	5
Very inadequate					Very adequate

15. To what extent does strategic planning result in the following benefits:

	Never					Very Frequently
Increased efficiency in pharmacy operations	0	1	2	3	4	5
Increased justification of new services	0	1	2	3	4	5
Increased ability to obtain other resources	0	1	2	3	4	5

16. To what extent does strategic planning result in the following disadvantages:

	Never					Very Frequently
Cost (in terms of manpower)	0	1	2	3	4	5
Diversion of personnel from normal duties	0	1	2	3	4	5
Subordinate frustration over involvement in the strategic planning process	0	1	2	3	4	5
Lack of overall impact of strategic planning	0	1	2	3	4	5

17. Indicate your level of agreement with the following statements:

	Strongly Disagree					Strongly Agree
Strategic planning is important to the operation of my pharmacy	1	2	3	4	5	6
I am knowledgeable about strategic planning	1	2	3	4	5	6
There is adequate time available to do strategic planning	1	2	3	4	5	6

18. Do you conduct strategic planning for your pharmacy department?

Yes_____ If yes, please answer questions 19 through 22 (next page).

No_____ If no, the survey is complete. Please return the survey immediately.

20. How would you rate the quality of your department's strategic planning process?

21. How would you rate the quality of your institution's institution-wide strategic planning process

21. Indicate which of the following steps are used in your department's strategic planning process. (CHECK all those that apply)

- Please return the completed survey in the enclosed postage-paid self-addressed envelope to:

THANK YOU VERY MUCH FOR YOUR HELP!

APPENDIX E

CORRESPONDENCE USED IN FINAL STUDY

January 2, 1990

Dear Colleague,

Directors of institutional pharmacies, such as yourself, are tasked with making many important long-range decisions. In this era of decreasing resources availability, institutional pharmacy directors must use a well documented and thorough long-range planning tool. Strategic planning by institutional pharmacy administrators may be the key to staying is step with today's rapidly changing, and highly resource-competitive, health care environment. In spite of the documented value of strategic planning, little is known about the extent and quality of strategic planning by institutional pharmacy directors.

You have been identified as being representative of a special group who will be studied to assess the extent and quality of strategic planning by institutional pharmacy directors. The particular focus of the study is on whether or not institutional pharmacy directors plan strategically and if so, to what extent and at what quality. Additionally, results of this study may provide valuable insights into why strategic planning is or is not being utilized.

I fully realize the value of your time, as I too have been a director of hospital pharmacy. However, your response is needed if this study is to be successful. The information you take the time to provide will prove valuable in identifying ways to increase the utilization and quality of strategic planning.

You may notice a code number on the first page of your survey. This is necessary to conduct follow ups with nonresponders. Be assured that I will guarantee the strictest confidentiality to all those surveyed.

Please complete the attached survey form and return it in the enclosed postage-paid self-addressed envelope as soon as you can. If you have any questions call Don at (602) 626-4291. Thank you for your helpful participation.

Sincerely,

Donald Harrison, R.Ph.

January 9, 1990

Dear Colleague,

Last week a University of Arizona survey of institutional pharmacy directors was mailed to you. If you have already completed and returned the survey please accept my sincere thanks. If not, please do so today. It is of utmost importance that your responses be included in this study if the results are to be an accurate reflection of the extent and quality of institutional pharmacy directors' strategic planning activities. If the survey form has been misplaced or you don't believe you received one, please call me right now at (602) 626-4291 and I will mail another one to you.

Sincerely,

Donald Harrison, R.Ph

January 23, 1990

Dear Colleague,

About three weeks ago I wrote to you seeking your participation in a survey of hospital pharmacy directors. The focus of the survey is on institutional pharmacy directors' extent and quality of strategic planning. As of today I have not yet received your completed survey form.

This research is being conducted to determine whether or not institutional pharmacy directors conduct strategic planning and if so, to what extent and at what quality. The results of this research may provide useful information to identify the reasons strategic planning is or is not being utilized.

I am writing you again because of the significant contribution you can make to this research. Only a limited number of institutional pharmacy directors were selected for participation in this study. Therefore, it is necessary that you respond to provide an adequate assessment of the survey instrument. Please take less than 10 minutes of your time to provide the information requested so other members of the profession might benefit from your experiences.

For your convenience I have enclosed a replacement survey form and return envelope. Please complete the survey form and return it as soon as possible. If you have any questions call me at (602) 626-4291. Your cooperation is greatly appreciated.

Sincerely,

Donald Harrison, R.Ph.

February 6, 1990

Dear Colleague,

I am writing to you about the study of institutional pharmacy directors' strategic planning activities. I have not yet received your completed questionnaire.

The large number of questionnaires already returned is very encouraging. But, whether these strategic planning activities will be accurately described depends upon you and the institutional pharmacy directors who have not yet responded. This is because those of you who have not yet returned your questionnaire may have different experiences and responses than those who have.

The purpose of this study is to determine the quantity and quality of strategic planning by pharmacy directors. By sharing your experiences, you have the unique opportunity to benefit the pharmacy profession with a minimum of effort. The usefulness of the study's results depends on how accurately the extent and quality of strategic planning can be assessed.

It is for this reason that I am sending you this follow-up letter. I urge you to complete the survey form previously provided and return it in the postage-paid envelope as quickly as possible. Your contribution to the success of this study will be greatly appreciated.

Sincerely,

Donald Harrison, R.Ph.

APPENDIX F

CORRELATION MATRIX OF VARIABLES

Table 1. Definitions of variable abbreviations used in correlation matrix

RATIO - the ratio of FTE pharmacists plus technicians to active beds

OWNERSHIP - type of hospital ownership

INSTITUTIONAL PLAN - institutions with an institution-wide strategic planning process

EMPHASIS - level of emphasis placed on the institution-wide strategic planning process by hospital administration

DECENTRALIZATION - percent of beds served by decentralized services

TIME SPENT - percent of time spent by FTE pharmacists on non-distributive clinical services

CLINICAL PERF - pharmacy's performance for clinical services

DISTRIBUTIVE PERF - pharmacy's performance for distributive services

ADMINISTRATIVE PERF - pharmacy's performance for administrative services

EDUCATION PROGRAM - directors' attendance of any strategic planning educational programs within the last three years

KNOWLEDGE - directors' rated knowledge of strategic planning

IMPORTANCE - directors' rated importance of the strategic planning process to their pharmacies

TIME AVAILABLE - directors' rated availability of time to do strategic planning

PHARMACY OPERATIONS - extent strategic planning results in increased efficiency in pharmacy operations

SERVICES JUSTIFY - extent strategic planning results in increased justification of new services

OBTAIN RESOURCES - extent strategic planning results in increased ability to obtain other resources

COST - extent strategic planning results in cost to the pharmacy (in terms of manpower)

DIVERSION - extent strategic planning results in diversion of personnel from normal duties

FRUSTRATION - extent strategic planning results in subordinate frustration over involvement in the strategic planning process

IMPACT - extent strategic planning results in the lack of overall impact

STRATEGIC PLAN - pharmacy directors conducting strategic planning for their departments

SUBJECTIVE QUALITY - pharmacy directors' rating of their strategic planning processes

OBJECTIVE QUALITY - objective rating of pharmacy directors' quality of their strategic planning processes

GRADUATE DEGREE - pharmacy directors having a graduate level (Masters or Doctorate) degree

Table 2. Correlation matrix of variables used in the study

	(1)	(2)	(3)	(4)	(5)
(1) RATIO					
(2) OWNERSHIP	-.117				
(3) INSTITUTIONAL PLAN	-.043	-.114			
(4) EMPHASIS	-.001	-.083	.720		
(5) DECENTRALIZATION	.194	-.011	.005	.076	
(6) TIME SPENT	.104	-.089	-.009	.058	.096
(7) CLINICAL PERF	.086	-.006	.147	.211	.155
(8) DISTRIBUTIVE PERF	-.009	-.123	.182	.279	-.038
(9) ADMINISTRATIVE PERF	.044	-.153	.333	.415	.119
(10) EDUCATION PROGRAM	.087	-.096	.379	.393	.167
(11) KNOWLEDGE	.115	-.183	.387	.521	.202
(12) IMPORTANCE	.122	-.164	.332	.474	.232
(13) TIME AVAILABLE	.183	-.145	.284	.388	.168
(14) PHARMACY OPERATIONS	.151	-.014	.205	.327	.176
(15) SERVICES JUSTIFY	.082	-.031	.187	.304	.133
(16) OBTAIN RESOURCES	.101	-.015	.181	.319	.130
(17) COST	-.053	.042	-.091	-.088	-.070
(18) DIVERSION	-.101	.131	-.144	-.123	-.048
(19) FRUSTRATION	-.071	.044	-.123	-.112	-.101
(20) IMPACT	-.030	.047	-.094	-.217	-.120
(21) STRATEGIC PLAN	.099	-.144	.319	.413	.131
(22) SUBJECTIVE QUALITY	.078	-.129	.333	.446	.162

Table 2.--continued

	(1)	(2)	(3)	(4)	(5)
(23) OBJECTIVE QUALITY	.096	-.165	.341	.426	.166
(24) GRADUATE DEGREE	.153	-.206	.083	.068	.208
	(6)	(7)	(8)	(9)	(10)
(6) TIME SPENT					
(7) CLINICAL PERF	.386				
(8) DISTRIBUTIVE PERF	.042	.173			
(9) ADMINISTRATIVE PERF	.165	.260	.578		
(10) EDUCATION PROGRAM	.055	.140	.145	.375	
(11) KNOWLEDGE	.146	.291	.417	.682	.529
(12) IMPORTANCE	.145	.248	.397	.689	.421
(13) TIME AVAILABLE	.229	.322	.338	.588	.358
(14) PHARMACY OPERATIONS	.170	.230	.301	.459	.302
(15) SERVICES JUSTIFY	.178	.261	.226	.417	.274
(16) OBTAIN RESOURCES	.174	.251	.239	.402	.259
(17) COST	-.078	-.152	-.053	-.022	-.111
(18) DIVERSION	-.102	-.088	-.049	-.070	-.105
(19) FRUSTRATION	-.099	-.098	-.019	-.036	-.190
(20) IMPACT	-.116	-.222	-.226	-.256	-.236
(21) STRATEGIC PLAN	.156	.251	.409	.720	.474
(22) SUBJECTIVE QUALITY	.192	.304	.450	.778	.465
(23) OBJECTIVE QUALITY	.175	.267	.455	.828	.479

Table 2.--continued

	(6)	(7)	(8)	(9)	(10)
(24) GRADUATE DEGREE	.085	.078	.069	.218	.114
	(11)	(12)	(13)	(14)	(15)
(11) KNOWLEDGE					
(12) IMPORTANCE	.733				
(13) TIME AVAILABLE	.645	.601			
(14) PHARMACY OPERATIONS	.501	.614	.483		
(15) SERVICES JUSTIFY	.440	.539	.453	.704	
(16) OBTAIN RESOURCES	.463	.545	.453	.710	.853
(17) COST	-.111	-.123	-.139	-.014	-.094
(18) DIVERSION	-.119	-.126	-.196	.009	-.039
(19) FRUSTRATION	-.243	-.211	-.136	-.039	-.111
(20) IMPACT	-.322	-.353	-.324	-.239	-.228
(21) STRATEGIC PLAN	.654	.643	.529	.464	.362
(22) SUBJECTIVE QUALITY	.721	.700	.604	.511	.411
(23) OBJECTIVE QUALITY	.727	.716	.611	.532	.433
(24) GRADUATE DEGREE	.326	.207	.257	.116	.086
	(16)	(17)	(18)	(19)	(20)
(16) OBTAIN RESOURCES					
(17) COST	-.109				
(18) DIVERSION	-.028	.697			

Table 2.--continued

	(16)	(17)	(18)	(19)	(20)
(19) FRUSTRATION	-.104	.555	.552		
(20) IMPACT	-.230	.474	.404	.483	
(21) STRATEGIC PLAN	.388	-.054	-.078	-.103	-.247
(22) SUBJECTIVE QUALITY	.421	-.065	-.090	-.114	-.321
(23) OBJECTIVE QUALITY	.451	-.046	-.074	-.076	-.289
(24) GRADUATE DEGREE	.056	-.066	-.097	-.147	-.141

	(21)	(22)	(23)	(24)
(21) STRATEGIC PLAN				
(22) SUBJECTIVE QUALITY	.931			
(23) OBJECTIVE QUALITY	.920	.939		
(24) GRADUATE DEGREE	.244	.259	.274	

n = 306

critical r for alpha = .05 is 0.113

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