Environmental Uncertainty, Business Strategy and

Financial Performance:

A Study of the Lodging Industry

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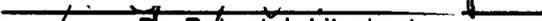
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(ABSTRACT)

The primary objective of this study was to investigate the relationship between perceived environmental uncertainty, business strategy, and financial performance in the lodging industry. Using a contingency framework, this study investigated the match between strategy content and environmental uncertainty which, from previous research, appear to distinguish between high and low performing organizations (Miles & Snow, 1978; Bourgeois, 1978; Schaffer, 1986). The key question that forms the basis of this research is whether the empirical evidence supports previous theory relating to the environment, strategy, and performance relationship.

The findings of this study indicate that a "match" between the state of the environment facing an organization and its business strategy is required for high performance. Hotels employing a defender strategy in a stable environment tend to perform better than hotels that employing other strategies. Similarly, hotels employing an analyzer strategy in a volatile environment tend to perform better than hotels that employing other strategies. Furthermore, irrespective of the environment faced, smaller hotels do better than larger hotels in terms of profit, while larger properties tend to fare better in terms of revenue.

From an industry application perspective, this study provides the strategy planner in the lodging industry with empirical information relating to:

1. A means to assess the state of the business environment perceived by individual unit general managers,

2. A repertoire of business strategies that emphasize different competitive postures, and

3. A "decision rule" to apply in appropriately matching their strategy to an environmental state for maximal performance outcome reflected in revenues and earnings.

The results obtained provide an invaluable planning and analysis tool for all levels of management involved in charting a firm's future.

Acknowledgements

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love, guidance and support I have cherished throughout my academic odyssey that has
taken me across three continents in search of intellectual nirvana.

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Chapter 1

INTRODUCTION

INTRODUCTION

Problem Statement

A key premise in the normative literature is that the proper business strategy will favorably align an organization with its environment (Andrews, 1971; Hofer & Schendel, 1978; Porter, 1980). One of the most fundamental assumptions that is made in studying organizations is that the organization's strategy significantly influences the organization's overall long-term performance. It is further assumed that certain strategies will produce better results than others under varying environmental conditions. Thus, strategy is viewed as an adaptive mechanism to be utilized for achieving optimal performance. Perhaps, more importantly, it is argued that the strategy that will produce the best results is dependent on existing environmental circumstances (Miles & Snow, 1978).

There has been no published research which has studied this environment-strategy link in the hospitality industry. Specifically, the relationship between a lodging organization's performance, its external environment, and its strategy remains unexplored. This study investigates the tenet that, for firms in the lodging industry, there exists an optimal pattern or "fit" between the environment and the firm's business strategy that separates the more successful operations from the less successful ones. The research problem is to identify the optimal fit under varying environmental conditions.

Theoretical Underpinnings

Thompson (1967) postulated that one of the chief administrative functions of top management is coalignment of the organization's technology and task environment with a viable domain, and the adoption of an organization design appropriate to that domain.

> The central function of administration is to keep the organization at the nexus of several necessary streams of action; and because the streams are variable and moving, the nexus is not only moving but sometimes quite difficult to fathom (148).

Thompson views uncertainty as a fundamental problem for complex organizations. He suggests that the success of the administrative process depends on the understanding, analysis, and resolution of uncertainty. Uncertainty, he contends, stems from three sources: (1) generalized uncertainty (cause/effect), (2) contingencies (outcomes), and (3) interdependence. The last of these sources, interdependence, is the thrust of the present research.

In a situation of interdependence, concerted action derives from coordination which has three facets: (1) standardization, (2) coordination by plan, and (3) coordination by feedback or mutual adjustment (March and Simon, 1958). The focus of this study is on one of these facets, the coordination by plan (strategy) aspect that deals with uncertainty; to wit, the relationship between the organization and its environment which Ford and Slocum (1977) have called: "One of the most widely discussed and least understood concepts in the field of organization analysis today... (566)." Regardless, a consensus exists among researchers of the genre that organizations must adapt to their environment if they are to maintain and/or increase their effectiveness.

Numerous scholars have emphasized the need to study organization-environment relations. In example, Bedian (1986) states,

[a] major concern is to understand the structure and functioning of organizations. Although numerous variables are of significance in developing this understanding, an enhancement of...organization-environment interactions...seems especially critical for advancing the field in general(186).

Bourgeois (1980) found a basis for the relationship between levels of the environment (general and task) and levels of strategy (corporate and business) in what he called a conceptual integration. This conceptual integration delineates Dill's (1958) distinction between the two levels of the environment: general and task. Bourgeois matched these environment levels to two levels of strategy: corporate and business. Astley (1984) amplified on this as follows:

At the business level, strategy focuses on competition within particular product/market segments. Corporate strategy is concerned primarily with defining the set of businesses that the organization should be in (Hofer & Schendel, 1978). Thus, business strategy and corporate strategy directly correspond to task environment and general environment. Task environments are organizations' current product/market segments and hence are relevant

in the formulation of business strategy. General environments, because they lie beyond present operating domains, are relevant only when corporate strategy attempts to reorient organizational missions (528).

The recognition and use of strategy are motivated by the growing complexity of the environment and the growth in size and complexity of firms (Schendel & Hofer, 1979). In fact, according to Porter (1980), the very essence of formulating competitive strategy is relating a company to its environment.

Context of the Study

The context of this study is the lodging industry which, in recent years, has endured a period of environmental uncertainty and less than satisfactory performance. In 1987, the industry had its sixth year of slow growth. Demand, growing at an annual average rate of 2%, continued to lag behind supply which increased at 2.6%. Occupancy rates continued to decline throughout this period. An analysis of the recent history of the industry follows.[1]

- **Industry sales level with resulting lower margins** Laventhol and Horwath report: "Profits are being squeezed. Labor costs are rising while productivity is declining. At the same time, a competitive environment and low inflation are preventing hotels from passing on cost increases in the form of even higher room rates."

- **Greater emphasis put on price and service** In many of the older established markets, new properties with modern amenities and services are opening with very

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[1] The following industry analysis is based on the *U.S. Lodging Industry (1987)* report published by Laventhol & Horwath.

competitive rates forcing older properties to lower rates or upgrade services to match the new entrants. There is an increased emphasis on service. Hotels are offering a wide variety of special services to attract the increasingly value-conscious traveler.

- **Price competition reflected in couponing, rate wars and special price promotions** The phenomenal growth of the budget sector in the early 70's was direct evidence of the unfulfilled need for basic lodging facilities. Hotels are teaming up with other segments of the travel business to attract customers with joint promotions in the hope of projecting a value added image.

- **Competitor shakeout occurring** This has resulted in a number of lodging operations changing hands or simply going out of business. Many have blamed this on overbuilding. Laventhol and Horwath report "reinforcement of this [overbuilding] theory is derived from **Dodge Construction Reports**, which cites that hotel/motel building inventory grew three times the rate of all nonresidential building between 1970 and 1985." However, Gomes (1985), in a landmark history of the industry found that the number of hotel rooms per capita in 1984 was approximately the same as in 1930. Gomes construes the problem not as the number of rooms but as the number of the wrong rooms, i.e., a shifting of markets and changes in competition.

- **Increased product segmentation continues** This has the outward appearance of dividing the overall market pie into finer and more narrowly defined consumer groups. Lodging organizations have tried to define their products to serve the needs of specific markets, each defining its niche in trying to be one thing to one type of customer. The results have been hazy in spite of successful new products such as economy and all-suite properties. According to Laventhol and Horwath,

The economy and all-suite sectors of the lodging industry are currently experiencing rapid growth. The fast growing economy segment experienced a twelvefold increase since 1970; it now involves 60 chains and comprises about 270,000 rooms, approximately 10 percent of the total room supply. The all-suite segment, the second fastest growing segment, has 750 properties comprising 2 percent of the total room supply.

- **Distribution methods undergo change** This area is characterized by two kinds of developments. The first is the rapid growth of lodging organizations through franchising. Second, more and more lodging establishments are affiliating themselves with a regional or national referral/reservation network. A need to benefit from large referral systems offered by large organizations is being considered essential to the survival of many lodging units. This is especially true for the small independent/roadside motel owners.

- **Intensified international competition** Laventhol and Horwath reports that, "According to a study by **Hotels and Restaurants International**, the number of rooms affiliated with the top 20 multinational chains increased from 576,000 to 1.43 million between 1970 and 1985." There are an ever increasing number of foreign international chains with operations in the U.S. Some of these are Four Seasons (Canada), Trusthouse Forte (U.K.), and Meridien and Accor (France).

In addition to the pressures brought to bear as part of industry maturity, many other pressures from the business environment are posing challenges to operators and managers. These include changes relating to supply (labor) and government (legislation).

- **Changes relating to supply** The lodging industry along with the rest of the hospitality, travel and tourism industries employs one out of every 15 Americans. By 1995, it is expected that this figure will rise to one in five according to industry pundits. Yet, one of the most crucial problems facing the industry through the year 2000 is the growing shortage of qualified individuals to fill job vacancies. The 16 to 24 age group, the major age group for workers entering the industry, is expected to decline 26 percent from today's levels by the year 2000. For the same period, employment needs are expected to increase by 25 to 39 percent (Jankura, 1987).

- **Changes in tax legislation** A major reduction in industry tax benefits caused by Congressional legislation in 1986 has slowed the construction of new hotels and motels. Laventhol and Horwath report:

> The Tax Reform Act of 1986 will decrease the attractiveness of investing in new hotel projects. The elimination of the investment tax credit and lengthening of the depreciation period for buildings will significantly increase operating and capital expenses. As a result, break even occupancies may increase from approximately 60 percent (currently) to 70 percent.

The events and factors described above leave little doubt that the lodging operator is facing an increasingly dynamic, complex, and illiberal environment (Slattery & Olsen, 1984). The decision maker has to contend not only with the rapid changes in the way of doing business, but with an increasing array of interrelationships between the factors to be considered in the decision process. This study investigates the relationship between environmental uncertainty, business strategy, and performance in the lodging industry under these conditions.

OVERVIEW OF THE RESEARCH STUDY

Research Questions

The foregoing discussion highlights some of the major events and issues confronting the lodging industry today. These issues give rise to some basic questions which address the ability to understand and deal with the phenomena triggered by changing times. This study examines the situation in the context of the following research questions:

- Is there an observable relationship between choice of a strategy and financial performance in lodging operations?

- Given the continuing building boom, an almost static demand, inflationary, regulatory, and competitive market pressures, what business strategies are appropriate, i.e. what strategic choices offer the best prospect of favorable financial performance under different environmental conditions?

- What other variables impact upon this relationship?

In sum, the key question that forms the basis of this research is whether the empirical evidence from the lodging sector of the hospitality service industries supports the theory relating to environmental uncertainty, business strategy, and financial performance grounded in other industries.

Purpose and Objectives

The principal purpose of this study is to define the association between utilized strategies under conditions of environmental uncertainty and their relationship to the

financial performance of lodging operations. The research focuses on the business unit (hotel/motel) as the unit of analysis. In that context the research explores perceived environmental uncertainty, business strategy, and financial performance and examines the relationships between these three variables in a cross sectional study. No attempt is made to imply causality or to label variables as independent or dependent. Instead, as elaborated on in Chapters 5 and 6, the three variables are assumed to operate in a dynamic and homeostatic state where reciprocal causation may be implied.

The classification of the strategies of hotels is based on the typology developed by Miles and Snow (1978). The universality of the Miles and Snow typology makes it ideal for testing in a variety of situations (Hambrick, 1980). For example, the typology has been empirically tested in another service industry setting: hospitals.

Specifically, the objectives of the study can be stated as follows:

1. To investigate the relationship between perceived environmental uncertainty and the content of strategic choice within the lodging industry.

2. To determine if, in the lodging industry, there are significant differences in the level of performance of business units grouped according to strategy archetype.

3. To determine if there are any significant differences in the performance of those units that achieve a "match" between environmental state and strategy type and those that do not.

Overview of the Study Design

Researchers have operationalized the environment in terms of internal and external elements (Dill, 1958; Lawrence & Lorsch, 1967; Duncan, 1972). This study will be concerned exclusively with the external environment. To fulfill the objectives of the study,

the questionnaire used is adapted from the one used by Miles and Snow (1978:200) in their study of two industries (food processing and electronics). Specifically, the 20 item six point semantic differential scale based questionnaire measures perceived environmental uncertainty based on the degree of stability of the components of an organization's task environment-suppliers, competitors, customers, and regulatory groups.

The study utilized multiple measures of strategy to tap the Miles and Snow (1978) strategy types. An instrument developed by Snow and Hrebiniak (1980) was used to determine the type of strategy being used by a lodging operation. A modified version of the instrument developed by Schaffer (1986) was used to determine the profile of the strategy. Business strategy was measured using the self typing approach of Snow and Hambrick, (1980) by having two members of each organization's top management team (TMT), the General Manager and one member of the executive committee, type the organization's present strategy.

Performance comparisons of different lodging entities, in spite of differences in number of rooms and rack rates, was made possible by use of the standardized measure of the "Income Before Fixed Charges" (IBFC) as a percentage of total sales. Laventhol & Horwath (1987) define this measure as follows:

> Income before fixed charges is defined as total departmental revenue from all sources (rooms, food & beverage, minor departments, rentals, telephone and other income) LESS all departmental and undistributed operating expenses. This is income from all operations before deducting rent, property taxes, property insurance, interest, depreciation, income tax, and reserve for replacement.

The relevance of this measure, apart from its intuitive appeal, derives from its relationship with other variables being studied. To assess operating performance as the criterion variable that substantiates the extent of "fit" or coalignment of environment and strategy, the IBFC ratio takes into account all discretionary resource allocation expense items under the control of a typical hotel manager. In the typical income statement, all items before fixed charges are, as the definition suggests, operating expenses; those that follow are fixed charges beyond the management's strategic planning control. Thus, the measure is not contaminated by variations caused by unique financial structures (e.g., interest expense) or the nature of the property ownership (owned, leased, etc.). Thus, the appropriateness of the business strategy of the unit can be measured against the business decisions that are reflected in the performance measure. Further, by using IBFC as a ratio to total sales, comparison is possible among diverse properties. A second measure, sales per available room per day (SPAR), was used to cross-validate the findings derived from the performance measure.

Research Hypotheses

The research hypotheses tested in this study, stated in the null form, are as follows:

HYPOTHESIS ONE: No difference will be found in the performance of hotels classified according to their strategy type.

HYPOTHESIS TWO: In stable environments, there will be no difference in performance between hotels employing different strategies.

HYPOTHESIS THREE: In volatile environments, there will be no difference in performance between hotels employing different strategies.

CONTRIBUTION OF THIS RESEARCH

Current normative theory in strategic management holds that an organization is embedded in its environment and has to manage the interdependence thus created. To prosper, an organization must coalign itself with the elements of its environment.

The state-of-the-art in this area has been summed up quite succinctly by Walker and Reukert (1987):

> Underlying most of this [organization-environment] research is the rather deterministic assumption that the organization must react to external conditions by aligning...its strategy.... Though the question of external environment fit with business-level strategy is important, very little empirical evidence is available on...how business unit strategies...must coalign for successful implementation (18).

Grover (1987) has called for interdisciplinary research to advance the understanding of service organizations. He has made it quite clear that, to effectively cope with future events, a better understanding of service organization management is needed. While it is not suggested that research in the manufacturing sector be diminished, a shift in research priorities is needed to better reflect the economic importance of the service sector. This study extends the research on coalignment in a service industry setting.

A number of researchers have subscribed to the notion that organization effectiveness is closely related to the "strategic response" to environmental challenges. They indicate that a void exists in the literature pertaining to selecting a strategy to cope with a specific set of environmental conditions. Even greater, they mention, is the lack of empirical information relating an environment x strategy combination to firm performance (Jauch, Osborn & Glueck, 1980).

Very little empirical research has been done on business level strategy, due in part to methodological difficulties in identifying and measuring business level strategy, for which no generally accepted approach has been developed (Hambrick, 1980). Insight into the nature and content of business level strategies as realized may lead to a better understanding of business level strategic choices, the patterns of managerial actions by which their implementation is accomplished, and reasons for their relative effectiveness (Herbert & Deresky, 1987).

Hambrick (1983) argues that, although there have been a number of studies that have empirically tested the validity of the Miles and Snow strategic typology, it warrants more development and testing. He attributes this to a limitation that threatens the "universality" of the typology. Its generic character ignores industry and environmental peculiarities. He is also concerned about the *post hoc* nature of the typology that emerged from a study of publishing firms.

This study represents the first attempt at an empirical assessment of the Miles and Snow typology at the business unit level of lodging organizations in the United States.

LIMITATIONS

This study is designed to satisfy the dual objectives of rigor coupled with parsimony (Occam's razor) in the research design. Issues such as the nature of constraints, sample selection, and statistical tests proposed have all been given careful consideration. No research is without its flaws (McGrath, 1982). Listed below are some of the limitations of this study.

One limitation concerns the lack of use of causal analysis techniques. The strongest claims that can be made for any of the results is that although the particular variables are associated statistically, causality cannot be implied. The nature of this study was not intended to determine causal relationships.

Another limitation of this research deals with the number of intervening variables that could possibly confound relationships with the ones selected for this study. Confounding could be caused by the explanation of additional or shared variance, as well as by interactions that may exist. For example, management of a lodging property involves a multitude of decisions that can affect the IBFC regardless, or in spite of, the strategy employed.

In measuring environmental volatility and strategy, the study utilizes the self-typing approach. Perception based responses from humans is subject to error. The inherent interaction in a person's cognitive processes in decoding perceptions into a specific response will affect the outcome. This could, in this case for example, result in a respondent's reporting an intended strategy instead of an actual one (Mintzberg, 1978). Perceptions of the dominant coalition (as in the case of strategy research) were utilized to partially alleviate this problem.

A further limitation of this study is its lack of a longitudinal design, which does not take into account the time-lag between adoption of a strategy and its consequent impact on performance. Nevertheless, the relationship reveals general strategic tendencies based on past actions and consequently reflects the dynamics of the situation (Thietart & Vivas, 1984).

The generalizability of the results obtained from this study is limited due to the nature of the sample. The source of the data and the constraints listed limit the extent to which inferences can be drawn about the general population. Because hotels that are not included in the Laventhol and Horwath database were not included in the sample, the findings cannot be generalized to the entire population of hotels in the country. Given the pioneering nature of this study, the results should be viewed as indicative rather than definitive.

Chapter 2

LITERATURE REVIEW

INTRODUCTION

Organizations function in a setting that is determined by the nature of their physical, social, and economic exchange relationships. It is the nature and scope of this setting, or environment, that has been the subject of much study by organization theorists over the last thirty to forty years. The focus of their work has centered around the coalignment between the organization and its environment (Barnard, 1938; Thompson, 1967). Specifically, the issues examined relate to the manner in which organizations respond to environmental imperatives and the resulting consequences for their survival.

The purpose of the following sections is to review the conceptual and empirical body of knowledge relating to the three variables of interest: environment, strategy, and performance. First, the theoretical development of each variable will be elaborated upon and the variable defined. Second, a number of studies that have looked at the

relationships between these variables will be summarized and discussed. Finally, the specific dimension of the variable that is of relevance for this research will be delineated.

ENVIRONMENT

Historical Perspective

At the turn of this century, organization theorists were concerned primarily with the development of universalist principles of structure, planning, and control. Weber (translated:1947) implied that the bureaucratic structure and processes could be applied to all organization settings. In the same vein, Taylor (1911) espoused his principles of scientific management as applicable in all situations keeping organizational objectives and environmental influences constant.

Economists' concerns with organizational adjustment were treated as formal exercises in profit maximizing logic and limited to a focus on the production function; the blend of capital and labor which was dictated by the quest for cost minimization (Miles, Snow & Pfeffer, 1974). Entrepreneurial and marketing decisions were important and applicable theories were qualified by the *ceteris paribus* assumption of "everything else" remaining constant.

The preoccupation with the contingent nature of the organization-environment interface and its implications can be traced to the recognition of the systems properties of organizations (Barnard, 1938). A natural extension of the systems approach was the

viewing of organizations as open systems (Burns & Stalker, 1961). Burns and Stalker developed the notion of contingent organization adaptation by noting that successful firms in stable environments tend to have "mechanistic" or highly defined structures and processes while successful firms in changing and uncertain environments tend to have "organic" or flexible structures, and processes.

In the business policy literature, the need to scan the environment and assess the opportunities and threats facing the organization has long been stressed as the first step in the strategic planning process. In this context, a great deal of attention has been focussed on attempting to establish the nature and scope of organizational environments.

Dill (1958) in his study of two Norwegian manufacturing firms introduced the concept of the task environment. In defining this he included customers, suppliers, competitors, and regulatory groups. Thompson (1967) distinguished between task environment as defined by Dill and an additional "residual" environment composed of potential task environment members. In the same conceptual framework, Emery and Trist (1965) and Terreberry (1968) emphasized the exchange relationships between the organization and objective units immediately surrounding it, and the inter-organization interaction occurring outside of the focal organization's "organization-set."

Duncan (1972a) defined an organization's environment as: "the totality of physical and social factors that are taken *directly into consideration* (emphasis added) in the decision making behavior of individuals in the organization (4)." He proposed a dichotomy between the system's internal and external environment. He offered a comprehensive list of the factors that comprise the internal and external environments.

Thus far, the general theoretical development regarded environment as an independent variable. It was assumed that the constraints and contingencies imposed by the environment were to be dealt with by management action. This causal texture (Emery & Trist, 1961) also known as a "response field" model (Lenz, 1978) viewed organizational environment as the "sources of events and changing trends which create opportunities and threats for individual firms (17)." While this has been the prevalent school of thought in conceptualizing organization-environment relations, other authors have suggested that managers and performance of their organizations influence the environment (Jauch & Kraft, 1986).

Environmental Attributes: Certainty-Uncertainty

Burns and Stalker (1961) were among the first to take a two-dimensional approach to environmental states. It was implied that a mechanistic structure is more suitable to conditions of certainty where, under conditions of uncertainty, an organic structure would be more responsive to changes. Emery and Trist (1965) developed a typology of environments based on rate of change in the environment and nature of interrelationships. The four types proposed by them were: placid-randomized, placid-clustered, disturbed-reactive, and turbulent fields. These are arranged in ascending order of change and uncertainty, and Emery and Trist argue that each type of organization requires a different type of structure and strategy.

Thompson's (1967) concept of coalignment builds on the basic thesis of prior researchers regarding the stable-unstable nature of the environment. This concept supports the idea that the key to effective management is the continuous adaptation to

external conditions likened to "shooting at a moving target (148)." Another typology was proposed by Child (1972) who characterized the environment by three states: (1) variability (frequency of change in relevant environmental activities), (2) complexity (the degree of difference involved at each change), and (3) illiberality (the degree of irregularity in the overall pattern of change).

Environmental Uncertainty: Objective or Perceived

An issue that has frequently been debated in the literature deals with the significance of objective versus perceived environment. Child (1972) suggests that the environment can only have an impact on the organization (by way of strategic choice) if it is perceived. Downey and Slocum (1975) also developed a model of the environment in terms of perceived uncertainty (Figure 1). They posited that environmental uncertainty is a function of the individual's cognitive processes, behavioral response repertoire, social expectations, and perceived environmental characteristics. Since this model is related to the individual's cognitive domain, all other things remaining the same, individuals could correctly perceive the degree of environmental uncertainty if they possessed increased knowledge of it.

This issue has been debated from both philosophical and methodological perspectives. Anderson and Paine (1975) explained that:

internal characteristics (rather than the objective characteristics of the environment) are the most important properties to consider (831).

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SOURCES OF VARIABILITY

1. Perceived Environmental Characteristics
2. Individual Cognitive Processes
3. Behavioral Response Repertoire
4. Social Expectations
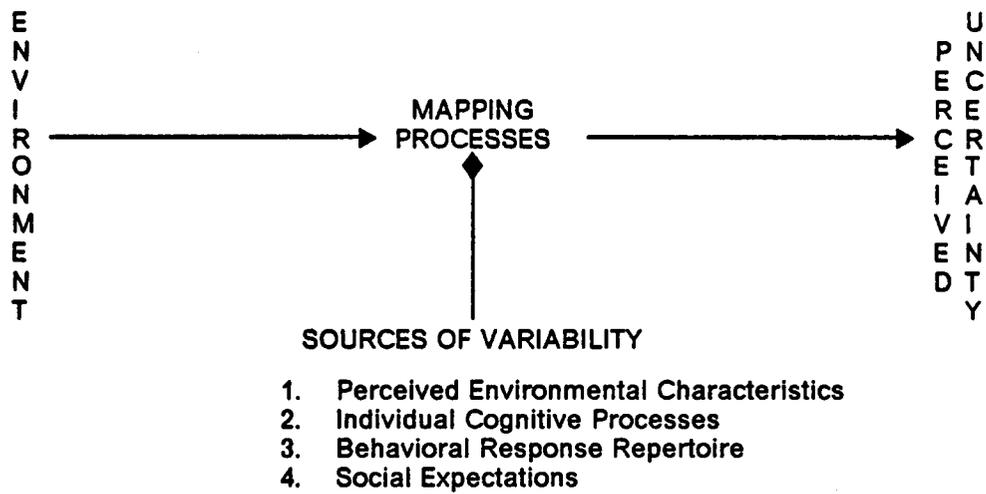
Figure 1. **A basic model for uncertainty perception:** Source: Downey, H.K., & Slocum, J.W. 1975b. Uncertainty: Measures, research and sources of variation. *Academy of Management Journal*, 18:573.

Snow and Darran (1975) argued:

> ...that perceptual measures are appropriate when an investigation is attempting to determine how an organization (its managers) views the behavior of the environment, because any response subsequently developed will be consistent with these perceptions. However, this approach is less appropriate when the investigation is trying to describe the nature of the environment; in these cases, it is preferable to have both perceptual and objective measures (279).

A growing body of research centers on the relationship between managerial beliefs and perceptions, and organizational survival and performance. Top level managers derive strategies from a world-view held by a dominant coalition. These views form a cognitive map which is reality to the individuals. Central to the development of adaptive organizational strategies is a consistency between reality and the world-view held by top level managers (Child 1972; Thompson 1967; Bourgeois, 1985). It was in a study conducted by Bourgeois (1985), using both objective and perceived measures, that a match between perceived and objective uncertainty scores were reported. In addition, the view taken by Child (1972) implies that managers will make strategic decisions based on their perception of the environment. In this case, what the objective state of the environment is becomes inconsequential.

The arguments developed by Anderson and Paine, and Snow and Darran converge when the research focus is the study of managerial decisions. This provides an important direction for this study in making a case for the use of perceptual measures of environmental uncertainty.

Thus, in this study a position will be taken that strategic decisions are made to interface managers' perceptions of the environment. This is in clear accordance with

researchers that have pointed out that firms will organize in accordance with the dominant coalition's "world-view" of the environment (DeNoble & Olsen, 1986).

Environmental Uncertainty: Organizational Research

In the interpretations of contingency theory propositions, Burns and Stalker (1961) were among the first to explicitly and systematically utilize the concept of uncertainty. In a study describing the environment of twenty British firms they operationalized the concept of uncertainty. The information was obtained on the basis of anecdotal impressions of the researchers generated through unstructured interviews and observation of firm members. There were no efforts made, however, to identify the dimensions that could be attributed to or be used to measure uncertainty. This was not surprising given the exploratory nature of the study and its propositions. The study provided an impetus to the work in organization-environment related areas and established a basis for further research.

In an extension of the work done by Burns and Stalker, Lawrence and Lorsch (1967) studied ten U.S. industrial firms. They developed and used an instrument to assess environmental characteristics in three of the firms' sub-environments: production, marketing, and research and development. Lawrence and Lorsch developed an environment uncertainty index for each of the sub-environments based on three scales dealing with: (1) lack of clarity of information about the environment, based on the degree to which the job requirements in each sub-environment was clearly stated or known, (2) general uncertainty of causal relationships which exist between environmental constraints and organizational effectiveness, based on the degree of difficulty faced by

each department given the limitation of resources available to it, and (3) the time span of feedback regarding information on the efforts of each sub-environment related to success of job performance.

The firms and sub-environments selected for the study were expected to confirm the researchers' expectations of the differences in environmental uncertainty within industries by sub-environment (e.g., production vs. research and development) and between industries (e.g., containers and plastics). Sub-environmental uncertainty scores for the three departments within each industry type were obtained by summing three questions related to the uncertainty dimensions mentioned above. A total firm (industry type) score was obtained by summing across the sub-environment scores. The researchers accepted their operationalization of uncertainty based on their "feel" for the concept as well as feedback received from managers interviewed. This study represented a major milestone and is among the seminal works in the realm of organization-environment relations. It had a marked impact on the general thinking about how organizations function, based on the supporting research.

A contribution to the empirical work in this area was made by Tosi, Aldag and Storey (1973). In a study involving 122 top and middle level managers in twenty-two firms representing twelve industries, Tosi and his colleagues undertook a direct replication of Lawrence and Lorsch's work in an effort to validate the methodological rigor of their study.

A priori, Tosi et al. raised a few questions relating to the validity and reliability of the scale/instruments used by Lawrence and Lorsch. Specifically, they questioned the fact that, although the concept of uncertainty was critical to the Lawrence and Lorsch

study, only cursory mention was made of any effort to establish the reliability and/or validity of their instrument. Another query relates to aggregation of the three environmental sub-scales to develop a total score without reporting inter-item correlations.

Tosi *et al.* sought to validate the Lawrence and Lorsch uncertainty instrument by correlating scores obtained from using this questionnaire with objective measures of uncertainty based on coefficient of variation scores computed from published information. They employed factor analysis to determine major groupings of the uncertainty measures. Their criterion measures of uncertainty included coefficient of variation indices designed to measure environmental volatility with respect to income, technology, and sales.

A test of internal reliability of the Lawrence and Lorsch scale revealed basic inadequacies. Nunnally's (1967) criteria for exploratory research (rkk = .50) was barely met by the total scale. Of the three sub-scales, only one (marketing) met this criteria (rkk = .523). The results of the correlation were "low and inconsistent, ranging from -0.294 to 0.036 (36)." The statistically significant correlations were in the negative direction. Further, the factor analysis generated four factors which, according to Tosi *et al.*, "are not interpretable in a manner similar to that proposed by Lawrence and Lorsch (33)."

Questions raised by Tosi *et al.*, *a posteriori*, relate to expecting measures of perceived uncertainty and volatility to correlate based on underlying contingency theory that relates perceived uncertainty to environmental characteristics. They suggested that the Lawrence and Lorsch nine-item questionnaire failed to capture the intuitive appeal of their contingency approach.

The contribution of the above study and questions raised regarding contingency theory in general has been acknowledged by many researchers (Miles, Snow & Pfeffer, 1974; Downey & Slocum, 1975; Downey, Hellreigel & Slocum, 1975; DeNoble & Olsen, 1986; Jauch & Kraft 1986). However, some problems exist with their study that raised doubts regarding the validity of their interpretation. One such issue concerned the use of middle level managers as research subjects. It is possible that their perceptions may be biased due to their having inadequate information on the uncertainty faced by the total firm. Second, the Tosi *et al.*, study implicitly assumed environmental uncertainty to be a trait that can be objectively measured. If uncertainty can be defined as a perceptual quality (Downey & Slocum 1975), the volatility indices based on coefficients of variation of an organization's activities may not suffice as a measure of uncertainty. Downey and Slocum (1975) argued that, in order to link uncertainty to the ability/inability of a firm to predict its future performance, studies measuring environmental uncertainty should focus on the deviation from the expected (unpredictability) rather than size of the variation which may be high but steady.

Snyder and Glueck (1982) sought to resolve the controversy surrounding the work of Tosi *et al.*, (1973) by conducting a study to determine the validity of their objective volatility measures for scaling industry environments. A volatility index was calculated for 30 firms in six industries for the period 1972-1977 using two of Tosi's sub-scales (technology and market volatility). The scores obtained were compared with the volatility perception of nineteen industry analysts from four major stockbrokerage firms on a five point scale designed to capture their assessment of market and technological volatility. The results supported the validity of the measures adopted by Tosi *et al.* A high correlation was found between industry analysts' perceptions and objective measures of environmental volatility ($.867; p < .02$).

Duncan (1972a), in an effort to further contingency research, developed an instrument to measure uncertainty. In attempting to develop a theory of organization-environment interaction, Duncan sought to facilitate contingency research through clarifying uncertainty concepts by relating two dimensions of an organizations environment – complexity and dynamism – to a manager's perception of uncertainty. Building on earlier work in this area (Emery & Trist 1965; Thompson, 1967; Terreberry, 1968) Duncan sought to develop a measure of uncertainty from an analysis of individuals' verbalizations of the concept of uncertainty. The validity of this approach is based on the ability of individuals to verbalize their views concerning the breadth and scope of the dimensions of uncertainty (Downey & Slocum 1975).

The three dimensions included in Duncan's measure of uncertainty include: (1) lack of information regarding the environmental factors associated with a given decision making situation; (2) lack of knowledge about the outcome of a specific decision in terms of how much the organization would lose if the decision were incorrect; and (3) the ability or inability to assign probabilities as to the effect of a given factor on the success or failure of a decision unit in performing its function. Both uncertainty and environmental dimensions were drawn from organizational members' perceptions.

Relating perceived environmental dimensions to perceived uncertainty, Duncan reported that decision units in simple-static environments experienced the least amount of perceived uncertainty. The highest degree of perceived uncertainty was reported in decision units in dynamic complex environments. Additionally, the dynamic dimension appeared to be more important than the complexity dimension in terms of understanding perceived uncertainty. Duncan also emphasized that environmental characteristics are:

"...dependent on the perceptions of organizational members and thus can vary in their incidence to the extent that individuals differ in their perceptions (325)."

The dimensions of the environment considered by Duncan, *simple–complex* and *static–dynamic*, were measured on the basis of very objective criteria. How accurately these reflect the construct being measured has been questioned by Downey *et al.*, (1975). In a study aimed at examining the methodological adequacy of Duncan's and Lawrence and Lorsch's uncertainty scales, fifty-one division managers of a U.S. conglomerate were studied. The authors contend that "contingency researchers have not adequately tested their uncertainty conceptualizations or the methodological adequacy of their application (616)."

Four criterion uncertainty measures were used to explore the construct validity of the two uncertainty instruments. These were: (1) Department of Commerce change in projections volatility; (2) perceived degree of competition in the division's industry; (3) detrended volatility of the division's prices; and (4) perceived, detrended volatility of the division's sales.

Reliability coefficients for the two scales were found to be inadequate. Neither the Lawrence and Lorsch sub-scales nor the total uncertainty scale (rkk = .39) met Nunnally's (1967) suggested criterion for exploratory research instruments (rkk = .50). Two of Duncan's sub-scales; lack of information (rkk = .59), and ability to assign probabilities (rkk = .66); as well as the total scale (rkk = .67) met this criteria. In an attempt to further explore the methodological rigor of the scales, the researchers rescored the Lawrence and Lorsch scale by summing across topics (job requirements, degree of difficulty, and feedback time) rather than sub-environments, as was done

earlier. When considered in this manner, the reliability coefficients were considerably enhanced for two of the sub-scales: degree of difficulty (rkk = .62) and feedback time (rkk = .64), as well as the total scale (rkk = .57). As a result, two of Duncan's sub-scales and the two reconceptualized Lawrence and Lorsch sub-scales were correlated with the criterion measures developed.

The findings showed that Duncan's total uncertainty score did not correlate with any of the criterion measures. The Lawrence and Lorsch total uncertainty score correlated with only one of the four criterion measures (perceived detrended sales volatility). These results suggest that the construct validity of the two scales is not supported if, in fact, the criterion measures are meaningful. On examination, correlation between the two scales was not found to be statistically significant (r = .14, p < .30). This implies that, perhaps, the two scales are measuring different constructs. A correction for attenuation using Nunnally's (1967) method revealed an estimated value of the true correlation to be significant at the p = .05 level (r = .23).

In a study of environmental uncertainty and the internal power and process of electronic and food-processing organizations, Miles and Snow (1978) developed an instrument to measure environmental uncertainty of the task environment. The six-component 25 item questionnaire was designed to measure the degree of predictability of the four task environment components: customers, competitors, suppliers, and regulatory groups. No reliability or validity measures were reported.

The bulk of the research reviewed here regarding the concept of uncertainty has primarily concerned the testing of contingency propositions. It was noted that, in

operationalization of uncertainty concepts, congruence with researcher's expectations and face validity of instruments are the primary means for supporting the analysis.

Of the relatively few direct attempts made to analyze the key contingency theory concept of uncertainty, Lawrence and Lorsch (1967), Duncan (1972), and Tosi *et al.* (1973), represent three of the significant ones. Tosi *et al.*, in questioning the methodological rigor of the Lawrence and Lorsch scales, have raised some interesting issues in objectively defining criterion measures of uncertainty. Lawrence and Lorsch, and Duncan, on the other hand, in proposing measurement of uncertainty perception, sought to demonstrate the importance of individual characteristics. Miles and Snow (1978), in further refining the operational measures of environmental uncertainty, developed and empirically tested an instrument that has been used in multiple settings (Coleman & Gaetan, 1985).

STRATEGY

Strategy derives its meaning from the ancient Greek word "strategos" or art of the general (Galbraith, 1980). It is from the domain of military science that this notion of strategy has been adapted to the study of organizations and their actions.

Chandler's (1962) research was a significant departure from the established trend of normative thinking. He was the first to employ strategy as a descriptive concept. He concluded that strategy was the key mechanism for charting a new direction, and that the adoption of a strategy had an impact on the structure of the organization. His perspective was growth, and product/market oriented.

Organization strategy can be viewed from many different perspectives. Strategy has been defined as a "pattern" of major or minor decisions about a firm's domain (Mintzberg, 1978; Miles & Snow, 1978). From a biological perspective, the notion of strategy approximates the action of an organism in interacting with its environment in terms of how it protects itself and reacts to external stimuli. The notion of strategy as developed above relates closely to Thompson's (1967) notion of coalignment. From another perspective, Porter (1980) defines strategy in terms of steps taken by an organization to ensure or protect its competitive position in the market.

An economist's view of strategy would reflect the immutable (given) nature of the environment and the choice of strategy as a rational decision based on equating marginal cost with marginal revenue. From a marketing perspective, strategies would manifest in terms of a marketing plan (a coordinated sequence of activities) to achieve a specific objective such as market share, market growth, etc. These linkages, along with providing a multidisciplinary view of strategy, serve to put this definition in perspective.

Strategic management is a process that deals with the entrepreneurial work of the organization, with organizational renewal and growth, and with developing and utilizing the strategy which is to guide the organization's operations. In the words of Hofer and Schendel (1978), strategic management is "the way the organizations aspirations are linked to its non-controllable environment." The concept of strategy has four components: (1) scope, defined in terms of product/market and geographic territories; (2) resource deployments and distinctive competencies; (3) competitive advantage; and (4) synergy (Schendel & Hofer, 1979). In essence, the organization's strategy can be conceived as the way by which it attempts to assess, interpret, adapt to, or influence its environment.

Strategy Levels

The problem of integrating different functional areas in a firm now occurs as much as four or five levels below the president's office. Such integration has required an elaboration of the basic concept of strategy that is at the core of the policy and planning field today. These initial strategy paradigms were incomplete on several counts. They did not distinguish or differentiate between corporate level and business level strategy. There was no indication of how to integrate the firm with its environment (Schendel & Hofer, 1979).

Vancil and Lorange (1975) introduced the corporate/business strategy hierarchy in a normative context and defined the portfolio selection and business competition orientations. Hofer (1975) suggested that the corporate/business distinction has both practical and theoretical significance. Whereas the content/process dichotomy is a disciplinary and methodological artifact, the hierarchical distinction is a theoretical one and has been articulated by relatively few empirical researchers (Bourgeois, 1980).

Corporate strategy is primarily concerned with defining the business(es) an organization should be in. Included here are decisions reflecting the concerns of stockholders and society (Rumelt, 1974). The focus is on the portfolio approach and distinctive competencies of the organization. These include concentration, product/market development, innovation, horizontal/vertical integration, joint ventures, concentric/conglomerate diversification, retrenchment/turnaround, divestiture, and liquidation. Typically these decisions are made by the Board, CEO, administrative, and

executive officers. The focus of coalignment is clearly on the general or macro-environment issues.

Business strategy, on the other hand, focuses on how an organization competes within a particular product/market segment (Hofer & Schendel, 1978). Included here are decisions regarding specific strategies such as differentiation, segmentation, positioning, productivity, profitability, employee development, employee relations, technical leadership, and public responsibility. Typically these decisions are made by the managers of the business unit and interface with the specific nature of the task or operating environment.

An organization's business level strategy is largely predicated on industry conditions and competitors' actions. The most important problem concerns the degree of homogeneity/heterogeneity in the industry. As a rule for sampling within an industry, it should be assumed that the industry will contain a number of segments. All of the organizations in the industry will not operate in all of these segments (Snow & Hambrick, 1980). In this case, the task environment elements come into play when formulating strategic decisions.

Functional strategies relate to decisions regarding "How best to implement/execute the companies' strategic plan?" in product, geographic, or functional areas (Pearce & Robinson, 1982). Included here are strategies for management functions (planning, organizing, controlling, etc.) for each functional area (marketing, finance, etc.). The emphasis here is on the internal environment that will shape strategic choices.

Very little empirical research has been done on business level strategy, due in part to methodological difficulties in identifying and measuring business level strategy, for which no generally accepted approach has been developed (Hambrick, 1980). Insight into the nature and content of business level strategies as realized may lead to a better understanding of business level strategic choices, the patterns of managerial actions by which their implementation is accomplished, and reasons for their relative effectiveness (Herbert & Deresky, 1987).

Strategy Content and Process

Strategy content focuses on the specifics of what was decided, whereas strategy process addresses how such decisions are reached in an organizational setting. Strategy content research is defined as research which examines the content of decisions regarding the goals, scope, and/or competitive strategies of corporations, or of one or more of their business units. Because strategy content questions emphasize the posturing of the firm with respect to its environment, strategy content studies typically examine conditions external to the organization.

Strategy Content Typologies

The approaches used to describe strategy content have been primarily taxonomic, frequently referred to as gestalts, strategic archetypes, or generic strategies. A generic strategy is a broad categorization of strategic choice which would apply generally regardless of industry, organization type, size, etc. (Herbert & Deresky, 1987) These efforts aim to provide an analytical (empirical) mechanism through which different

strategies or patterns of strategic behavior can be classified, and to investigate the differential performance implications of generic strategies.

The Miles and Snow (1978) Typology

The Miles and Snow typology offers a useful framework for classifying the different capabilities displayed by organizations within the same industry (Snow & Hrebiniak, 1980). The typology consists of the following four strategy types:

- **Defenders**: These organizations emphasize efficiency. Their competencies extend to production, applied engineering, and financial control. Defender organizations prosper under conditions of relative environmental stability.

- **Prospectors**: Prospector organizations emphasize innovation through product and market effectiveness. Their competencies relate mainly to product research and development, market research, and basic engineering. Prospector organizations thrive under conditions of relative environmental volatility.

- **Analyzers**: These organizations blend aspects of both defenders and prospectors. They imitate successful product innovations of prospectors (to avoid large investment and risk), adapt them to efficient production using technology, and market them heavily. Competencies they have extend to production, applied engineering, and marketing.

- **Reactors**: Reactor organizations have no clearly defined competencies, pattern, or focus. In fact, this strategy is unstable and not viable in the long run.

It is important to note that the typology is aimed at explaining business level phenomena. Its applicability at the corporate level is not clear (Hambrick, 1983). This typology is based largely on an organization's orientation toward product market development (Snow & Hambrick, 1980).

Hambrick (1983) contends that, although there have been a number of studies which have empirically tested the validity of the Miles and Snow strategic typology, it warrants more development and testing. He attributes this to a limitation that threatens the

"universality" of the typology. Its generic character ignores industry and environmental peculiarities. He is also concerned about the post hoc nature of the typology that emerged from a study of publishing firms.

Strategy Content Research

The major focus of research in this area has been to identify linkages among environmental conditions, corporate or business unit strategic decisions, and economic performance. Research on content has examined various conditions under which different types of strategies (decision outcomes) are, or should be, used. Researchers have attempted to provide a basis for practitioners to be able to prescribe what strategies are likely to lead to success for given firms in given environments. The major variables examined in this research stream include: (a) strategy and performance; (b) environment, strategy, and structure; and (c) strategy taxonomies (Jauch, 1983).

STRUCTURE

Organizational structure has been defined from many perspectives. Perrow (1967) defined structure as the form of interaction between individuals in the course of changing material in an organization setting. This, he said, involves arrangements or relationships that permit coordination and control of work.

A basic consensus of the commonly accepted operational dimensions of structure include formalization, centralization, and complexity (Ford & Slocum, 1977; Lenz, 1980).

Formalization refers to the degree to which the organizational processes are governed by documented rules and regulations, policies and procedures, and job descriptions.

Centralization refers to the concentration of decision making power in the organization. The locus of decision making can be assessed along two dimensions: level and dispersion. That is to say, decision making power could be located higher or lower in the hierarchy and it could be concentrated or dispersed. The decisions could relate to resource allocation, compensation, reward distribution, etc. (Ouchi & Harris, 1976).

Complexity, encompassing the idea of levels, refers to the degree of vertical, horizontal, spatial, or personal differentiation. Complexity can be thought of as consisting of two dimensions: differentiation and specialization. Differentiation includes both the number and levels of hierarchy (vertical differentiation) and the number of divisions or departments (horizontal differentiation). Specialization refers to the division of labor reflected in the number of different job titles. Therefore, complexity reflects the degree to which organizational sub-units are differentiated, either functionally, by geographical area, or by product. In addition to these, administrative intensity, often calculated as a ratio of administrative personnel to total production personnel, is another dimension included here.

The size of the organization relates strongly to determinants of organizational structure (Ford & Slocum, 1977). The Aston group studies found the following relationship between size and structure: "larger organizations are more specialized, have more rules, more documentation, more extended hierarchies, and a greater decentralization of decision making further down such hierarchies" (Child, 1976:50). They showed that neither Woodward's measure of technology, nor their own had a strong relationship to

the major organizational structure variables as found between size and structure (Pugh *et al.*, 1969). The statistical tests showed that both zero-order correlations and coefficients of regression were higher for size (logarithm of the number of employees) than for technology (workflow integration and automaticity) in relation to the dependent variable (structuring of activities) which measures formalization, specialization, and routinization (Hickson, Pugh & Pheysey, 1969). In another study, Blau *et al.* (1976) stated that "organizational size, rather than production technology appeared to exert the more significant influence on the division of labor and organization of work (20)."

In the case of hotels most of the determinants of structure are, at the individual property level, fairly uniform. The typical hotel is configured in a functional form with a standard number of departments. The nature and detail of the policies and procedures as well as the job descriptions are very similar. The reporting relationships are, as a result, very comparable. If there is a difference in the structural configuration of hotel properties, it is in the degree of complexity in the larger properties. This is a function of the size of the operation. The very small properties (less than 150 rooms) tend to have considerably fewer departments and less distinct functional demarcations. Hotels over 150 rooms, however, have all the functional areas defined with area supervisors. In instances of very large properties, the functional subdivisions tend to remain the same; but the number of personnel allocated to each department, and the functional specialization *within* the department may increase. For purposes of this study, as the sample frame will comprise hotels with more than 150 rooms (for reasons elaborated upon in the section on sample selection), the principal focus will be on estimating the moderating effect of size on the hypothesized relationships being investigated.

PERFORMANCE

The end result of an appropriate coalignment, determined by the choice of appropriate strategies given environmental conditions, should be reflected in greater organization efficiency and effectiveness. Although organizational performance is often a dominant variable in the study of organizations, it remains one of the most used, yet least understood, concepts in organization theory. This has led to a fragmented, scattered, and theoretically unintegrated analysis; divergent definitions, and identification of many different explanatory variable sets; and diverse schemes (Bedian, 1986).

Performance improvement is at the heart of strategic management (Venkatraman & Ramanujam, 1986). The importance of business performance in strategic management can be argued along three dimensions: theoretical, empirical, and managerial. Theoretically, performance is the time test of any strategy (Schendel & Hofer, 1979); empirically, it is used to test content and process issues (Miles & Snow, 1978). The managerial aspect relates to prescriptions offered for performance improvement. Hofer (1983) stated that different fields will and should differentiate measures of organizational performance because of the difference in their research questions.

Business performance, which reflects the perspective of strategic management, is a subset of the overall concept of organizational effectiveness (Venkatraman & Ramanujam, 1986). Measures of economic performance in the literature have concentrated on two aspects: profitability and growth. These measures have been operationalized in a number of ways related to liquidity, profitability, solvency, and asset utilization.

Tosi and Slocum (1984) have said that profitability is a primary criterion for measuring effectiveness in business organizations. This notion is supported by Bedian (1986) who suggested the criterion of profitability as potentially relevant for measuring the effectiveness of business firms. Some operational performance measures, which have been used in organization-environment research, are discussed in the ensuing section.

ENVIRONMENT UNCERTAINTY, STRATEGY CONTENT, AND PERFORMANCE STUDIES

The bulk of the studies investigating the relationship between environment, strategy, and performance indicate that the influence of environment on performance is higher in heavily regulated industries. In cases where discretion is relatively unconstrained, strategy has a major impact upon performance (Lenz, 1981). Lenz urged researchers to consider both industry (market) conditions and the particular strategy employed by the firm when assessing performance.

In his study of two Norwegian manufacturing firms, Dill (1958) described the task environment in terms of structure, accessibility of information, and managerial perception. He found that the organization's environment had relevance to the nature of managerial autonomy reflected in discretion and decision making activities in the organization. He observed that, faced with a relatively dynamic environment, a manager had more autonomy than in a relatively stable environment situation. He concluded that the amount of autonomy in a leader's behavior was a function of four factors: (1) the ease of formulating task assignments for different work groups in the firm, (2) leaders'

estimates of the probability that action on tasks would lead to unpleasant personal consequences by producing unwanted results, (3) the exclusiveness of each leader's control over information, and (4) leader's estimates of costs and gains associated with attempts to give/seek advice.

Lawrence and Lorsch (1967), in their study of ten U.S. firms in the plastics, food, and container industries, examined the degree of differentiation and integration that existed in situations of different environmental uncertainty. The results of the research revealed that there was a difference in the structure of different sub-units within firms, given the nature of the environment. Also, there was a difference in structure (differentiation and integration) between different industries based on degree of uncertainty. Further, differences also existed between the structure of high and low performing firms within each industry. They found that differentiation and integration was greater within high performing firms facing dynamic environments, whereas, in relatively stable environments, integration was not as marked, although differentiation was still high.

Duncan (1972), in a study of 22 decision units in three manufacturing and three research and development firms, examined the relationship between managerial decision making and adapting to uncertainty within the environment. He developed a model of environmental uncertainty along two dimensions: complexity and dynamism. The simple-complex dimension referred to the number of factors considered in decision making. The static-dynamic dimension referred to the variability in these factors.

In another study, Duncan (1973) found differences in the structuring of decision units in situations of differing perceived uncertainty and influence over the environment. In relating environmental uncertainty to organizational effectiveness, he found that the

degree of perceived influence of the decision unit over the environment depended on whether the decision unit could affect the demands/expectations of the environmental factors.

Osborn and Hunt (1974), in a study of 26 social service agencies, examined the relationship between environmental complexity and organizational effectiveness. They examined complexity in the context of risk, dependency, and inter-organizational interactions. Effectiveness was measured by whether the stated goals were/were not met. They found positive and significant correlations between task environment dependency, inter-organizational interaction, and organizational effectiveness. Dependency alone was a significant predictor, while risk was not.

Downey et al., (1975a, 1975b) surveyed fifty-one division managers in a major U.S. conglomerate. They intended to examine the conceptual and methodological adequacy of the Lawrence and Lorsch (1967) and the Duncan (1972) perceived environmental uncertainty instrument. In addition to the findings related to the shortcomings of the instruments (detailed in an earlier section), Downey et al., reported that the perception of uncertainty was related to individual cognitive processes of trivialization, fragmentation, dissociation, and value systems.

Based on a study of 80 savings and loan firms, Lenz (1980) examined the effect on performance (measured by return on average assets) of an organization's environment (measured by stability and homogeneity), strategy (measured by resource allocation), and structure (measured by the shape and processes of organizational sub-unit interaction). He concluded that the combination of environment, strategy, and organizational structure of high performing organizations differs from the combination associated with low

performance at a very conservative significance (p < .000) level. He found that high-performance firms resided in environments characterized by lower levels of socioeconomic development, obtained higher prices for items sold, and seemed to have flatter organizational hierarchies. In contrast, low-performance firms were located in more developed environments, used more media for advertising, charged lower prices, and employed peaked organizational hierarchies.

Lindsay and Rue (1980), in a study of 198 firms (durable, non-durable, and service industry related), researched the relationship between the state of the organization's environment (complexity-instability) and the nature of the long range planning process (divided into impoverished, programmed, and progressive categories). They hypothesized that the completeness of the long range planning process will increase with the increasing complexity and instability of the environment. They concluded that the overall planning completeness, the length of time the planning had been in use, and the immediacy and type of goals were significantly related to the external stability dimension. Also, considerable differences were noted between large and small firms in the area of planning completeness, use of open systems, and duration of planning horizon. Further, they found that the degree of openness in the long range planning process is directly related to the complexity/stability for large firms and inversely for small firms.

In a review of the literature related to environmental uncertainty, Olsen (1980) hypothesized a relationship between an increased understanding of the dimensions and dynamic character of the environment and improved organizational performance. In a clarion call to all hospitality managers, he emphasized the importance of understanding environmental influences and their relation to organization efficiency. He posited that the

success and effectiveness of the organization is dependant on the way the organization is structured to respond to environmental influences.

From a questionnaire administered to individuals in 103 organizations, Boulton, Lindsay, Franklin, and Rue (1980) gathered information on the relationship between the environment and strategic planning practices. The focus of their efforts was to determine if there was a relationship between planning activities, environmental characteristics (customers, suppliers, competitors, sociopolitics, and technology), and environmental uncertainty (level and range). They concluded that uncertainty does not have a consistent impact on all aspects of strategic planning. Further, they found uncertainty to be a strong moderator of environmental characteristics and industry groupings.

Jauch, Osborn, and Glueck (1980) examined the interrelationships between environmental challenges, strategic action, and financial performance in 358 large businesses over a 45 year period. The focus of their study was to determine if any unique link existed between environment and strategy *per se,* and if any of these combinations can be used to differentiate firms on the basis of financial performance. The data did not provide sufficient evidence to indicate a relationship between environmental challenge and strategy type. In testing for interactions, none of the 72 possible interactions between environment and strategy were significant.

In a study of four different industries, Snow and Hrebiniak (1980) examined the relationship between strategy, distinctive competence, and performance. They found that, except for product research and development, none of the distinctive competencies, by themselves, could discriminate among the four organizational strategies. Industry and strategy explained 54% of the variance in performance, with strategy being a

substantially more powerful explanatory variable than industry. They posited that substantially different strategies can be used contemporaneously in a particular industry.

In a study of sixty-four firms in eight major domestic manufacturing industries, Hall (1980) investigated the nature of strategies employed by firms facing hostile environments and related them to financial performance. The results indicated, in general, that adoption of one or both of two basic strategies distinguished successful firms faced with hostile environments from unsuccessful ones: (1) achieving the lowest delivered cost position relative to competition, coupled with both an acceptable delivered quality, and a pricing policy to gain profitable volume and market share growth; and (2) achieving the highest product / service / quality differentiated position relative to competition. This study, in the process of studying strategies employed by firms in hostile environments, offers some support to the contingency framework as proposed in the organization-environment literature.

Lenz (1981), in his review of the literature on determinants of organizational performance, attempts to pin down the notion of mutual causality and interdependence between the organization and the environment. He attempts to tie together all possible determinants of a firm's performance (environment, strategy, structure, size, technology, and administration) and proposes that the task environment, strategy, and structure establish an evolving coalignment with a particular level of performance.

Downey and Slocum (1982), in a study of fifty-one firms, used Duncan's uncertainty instrument to test the relationship between perceived uncertainty and performance. They hypothesized that perceived uncertainty (measured by the simple-complex dimension as well as cognitive processes related to complexity, independence of judgement, and

anomy) is negatively associated with performance measured objectively (return on investment) and behaviorally (approach to the job, technical competence, administrative competence, and interpersonal competence). They also proposed that environmental attributes and individual characteristics tend to moderate the relationship between perceived uncertainty and performance. They found a negative relationship between perceived uncertainty and performance. A positive relationship, however, was found between perceived complexity and performance. They concluded that the manager's cognitive complexity moderates the relationship between his perceptions of uncertainty and his superior's rating of his performance.

In an exploratory study of six commercial banks, Lyles and Lenz (1982) analyzed the possible effects of behavioral problems and roles played by managers on overall strategic planning effectiveness. They obtained mixed results and concluded that while behavioral problems do impact on planning effectiveness, the effect of roles occupied by individuals varied according to the level (strategic vs. operational) of the role.

Galbraith and Schendel (1983), in an empirical study to identify business strategy types, utilized a two stage methodology combining principal component and cluster analysis on both a consumer products and an industrial products data base. They found significant heterogeneity among the clusters identified, providing a basis for their empirically derived typology of strategy. They reaffirmed the arguments of previous studies that distinct, consistent, and recurring patterns of strategic behavior exists, and that different strategy types are associated with different performance outcomes.

Hambrick (1983) used the Profit Impact of Market Share (PIMS) data base to test the Miles and Snow typology at the business unit level. He sought to explore the

effectiveness of the strategic types in different environments and the ways in which defenders and prospectors differ in their functional attributes. He found that defenders and prospectors differed in their performance tendencies, depending on the nature of the environment and the performance measures used. This study supports the general contention that choice of strategy should be a function of the requirements of the environment and the type of performance being sought at the time.

Dess and Beard (1984), in a study designed to explore the dimension's of an organizations task environment, sought to factor analyze different factor components. They hypothesized that factors related to organizational task environments will load on: munificence, complexity, or dynamism. The hypothesis was supported by at least three *a priori* variables loading on to each of the factors. Also, variables that load on to the factors were found to be similar, supporting the orthogonality of the factors.

Coleman and Gaetan (1985), in a study of eighty-six firms in the apparel industry, investigated the relationship between perceived environmental uncertainty and capital budgeting decisions. The found that uncertainty in the firms' task environment correlated with certain reasons for business failure. The internal consistency reliability of their perceived environmental uncertainty instrument, using a Pearson product-moment test of correlation, found all the six components to be significantly correlated at the $p < .05$ level.

In a study of twenty non-diversified single business public corporations, Bourgeois (1985) sought to test the relationship between environmental uncertainty perceptions, goal structures, industry volatility, and performance (profitability). He hypothesized that the economic performance of a firm will be positively related to: (1) a match between true

environmental volatility and managers' perception of it, (2) homogeneity of perceived environmental uncertainty within top management team, (3) goal consensus within the top management team, and (4) the association between strategic choices and volatility. He found that congruence between perceived environmental uncertainty and volatility tended to associate positively with performance even when volatility was controlled. Also, performance was found to relate positively to the level of disagreement of perceptions among the members of the top management team. Goal diversity was also found to relate positively and significantly to performance.

Prescott (1986), in a study of 1638 firms, analyzed data from the Profit Impact of Market Share (PIMS) data base to test the relationship between environment, strategy, and performance. He developed a typology of environments (emerging, fragmented, fragmented with auxiliary services, global importing, global exporting, stable, mature, and declining) and strategy (cost efficiency, asset parsimony, and scale-scope), and regressed these against a single measure of profitability: return on investment (ROI). He found that the strategy variables accounted for 40% of the variance in ROI. This result was open to question on account of the large sample size. He did not find that strategy and environment variables related overall. He concluded by suggesting that, perhaps, strategy variables linked to ROI vary by sub-environment.

In a pioneering empirical study of the lodging industry, Schaffer (1986) investigated the relationship between corporate strategy, structure, and performance of 101 lodging organizations. The Miles and Snow (1978) perspective on organizations was used as the basis of his study. He found that organizational performance is contingent upon a strategy-structure match moderated by sub-environmental factors. The proposition that organizational variables are in direct relationship with contextual variables was not

supported by his study. In offering a proposition for further study, he states: "The content of competitive strategies are a function of the particular industry environment in which the organizations compete (296)."

Ginn and McDaniel (1987), in longitudinal a study of 82 hospitals in Texas, compared strategies in a placid period to strategies in a turbulent period. They found that, as a group, hospitals responded to increased turbulence by moving from a defender strategy to a prospector strategy. This result, supporting the direction hypothesized by Miles and Snow (1978), forms the basis of the hypothesized direction of the relationship posited in this study.

DISCUSSION

In beginning this discourse, a rather broad question was asked: "How is environmental uncertainty and strategy linked to organizational performance?" In a review of empirical and case studies, general patterns and relationships associated with different research streams were identified. The objective was to put into perspective a diverse array of research--which bears upon the a matter of considerable importance to researcher and practitioner alike--that has contributed to the understanding of the organization-environment interface.

The studies described above examined the relationship between different environmental dimensions, strategy and structure variables, and economic performance. Two approaches were used to measure environmental uncertainty: perceived and objective. Researchers such as Dill (1958), Lawrence and Lorsch (1967), Duncan (1972),

Downey (1975a, 1975b, 1982), and Bourgeois (1985) advocated use of the perceived environmental uncertainty approach. The objective approach to measuring uncertainty was adopted by Tosi *et al.* (1973), Snyder and Glueck (1982), Bourgeois (1985), and Prescott (1986). The uncertainty index computed by the objectivists were mainly derived from published information relating to operational or financial indices.

There has been considerable discussion regarding the justification for either approach (Downey and Slocum 1975, Bourgeois, 1980). The debate seems to favor adopting the perceived approach due to the fact that strategic choices are made on the basis of individual perceptions. A match between perceived and objective measures is likely to be the best method, as it was found to associate positively with improved performance (Bourgeois 1985). In the studies described and discussed above, it seems evident that variations in environmental uncertainty are related differently to the coping responses of organizations and thus economic performance.

An elaboration of the concepts of strategy and environment can be achieved by categorizing environment into its objective and perceived states, and by subdividing strategy according to content (outcomes) or process. The objective environment can be further categorized into task or general. An alternative subdivision of strategy is primary (domain selection or corporate strategy) and secondary (competitive approach or business strategy). Primary strategy concerns opportunities in the general environment and secondary strategy involves navigating within a task environment (Bourgeois, 1980).

The tentative linkages described above seem to indicate the need for a "meshing" between environment and strategy as a prerequisite for performance. Throughout this investigation one thing has been evident: there is little evidence to show that relatively

simple, unidirectional causal relationships exist among the determinants of organizational performance. Instead, a complex network of interdependent elements was observed in which causes and effects were far from obvious.

Thompson (1967) asserts that the survival of an enterprise is largely dependent upon management's ability to maintain a "coalignment" among task environments, technology, domain, and organizational structure. It is clear that, irrespective of the directional nature of the interrelationships, to effectively operate in a complex and dynamic environment, organizations will have to make a choice to "configure" the various elements. Lenz (1980) proposes a dynamic model of mutual interdependency among elements that evolve over a passage of time and have a bearing on strategic choice decisions. In this framework, the task environment, strategy (including decisions about workflow technology), and structure establish a co-alignment with a level of performance that changes over time.

In the ultimate analysis, strategic choice can be viewed as being dependent on and a determinant of the organization's environment. On the one hand, the choice of strategy places the organization in an environmental space. The choice may be determined by the control or power the organization can exercise over the elements of the environment (e.g., suppliers, customers, etc.). On the other hand, the predominant or immutable nature of environmental influences may determine the most appropriate niche for the organization given its capabilities. Finally, once the strategic choice has been made, internal adjustments to conform to strategic imperatives will be required to enable the firm to improve performance.

Chapter 3

METHODOLOGY

INTRODUCTION

In his article, "Towards a contingency theory of business strategy," Hofer (1975) raised several issues that relate to and make a case for the generation of empirically tested propositions relating to the further development of business and corporate strategy theories. The important message he sought to convey was that studies to identify environmental variables and their relationship to business strategy need to be conducted to identify significant relationships.

Harrigan (1983), in her article "Research methodology for contingency approaches to business strategy," offers a number of propositions to enhance the value of strategy research. Her main message is to optimize the contribution of research by using a multi-method approach that seeks to maximize the generalizability and statistical rigor

as in the case of large-sample coarse-grained studies on the one hand, and the ability to capture nuances and insights, as in case studies, on the other.

The preceding chapter defined the domain of interest as the relationship between environment, strategy, and performance. This chapter is more defined in its focus in that it presents a methodology to test the relationship between environmental uncertainty, business unit level strategy, and financial performance. This sharpening of focus defines more appropriately the substance of the proposed research. This chapter presents a methodology relating to the assessment of the financial performance correlates of the content of strategy of lodging firms in varying levels of environmental volatility.

Following from the conceptual framework developed earlier, this chapter presents the operational definition of the variables; states the working hypotheses that guided the empirical exploration; outlines the design for testing the hypothesis and making observations (collection and aggregation of data); describes the instruments developed to measure the variables; details the pilot test used to refine the questionnaire; and spells out the data collection procedure.

OBJECTIVES OF THE STUDY

The principal purpose of this study is to investigate the association between strategy content, environmental uncertainty, and its relation to the financial performance of lodging operations. From this, the following objectives were sought:

1. To investigate the relationship between perceived environmental uncertainty and the content of strategic choice within the lodging industry.

2. To determine if, in the lodging industry, there are significant differences in the level of performance of business units grouped according to strategy type.

3. To determine if there are any significant differences in the performance of those units that achieve a "match" between environmental state and strategy type and those that do not.

The research model presented in Figure 2 reflects the relationship at the business unit level between an environmental state and strategy archetype that this research tested within the context of a single service industry environment.

Based on the perceived environmental state of an organization, those organizations whose strategies approximate Miles and Snow's (1978) contention will be placed in subgroups. The performance level of each subgroup will then be statistically analyzed to determine if significant differences exist between groups of lodging units where environmental state and strategy match as opposed to those where a match is not achieved. The expectation is that the performance levels will be higher for those groups where environment and strategy are "matched."

OPERATIONAL DEFINITIONS: Key variables

Perceived Environmental Uncertainty

It was stated in the previous chapter that the environment faced by hospitality organizations is complex (heterogeneous), dynamic (changing), and illiberal (threat from
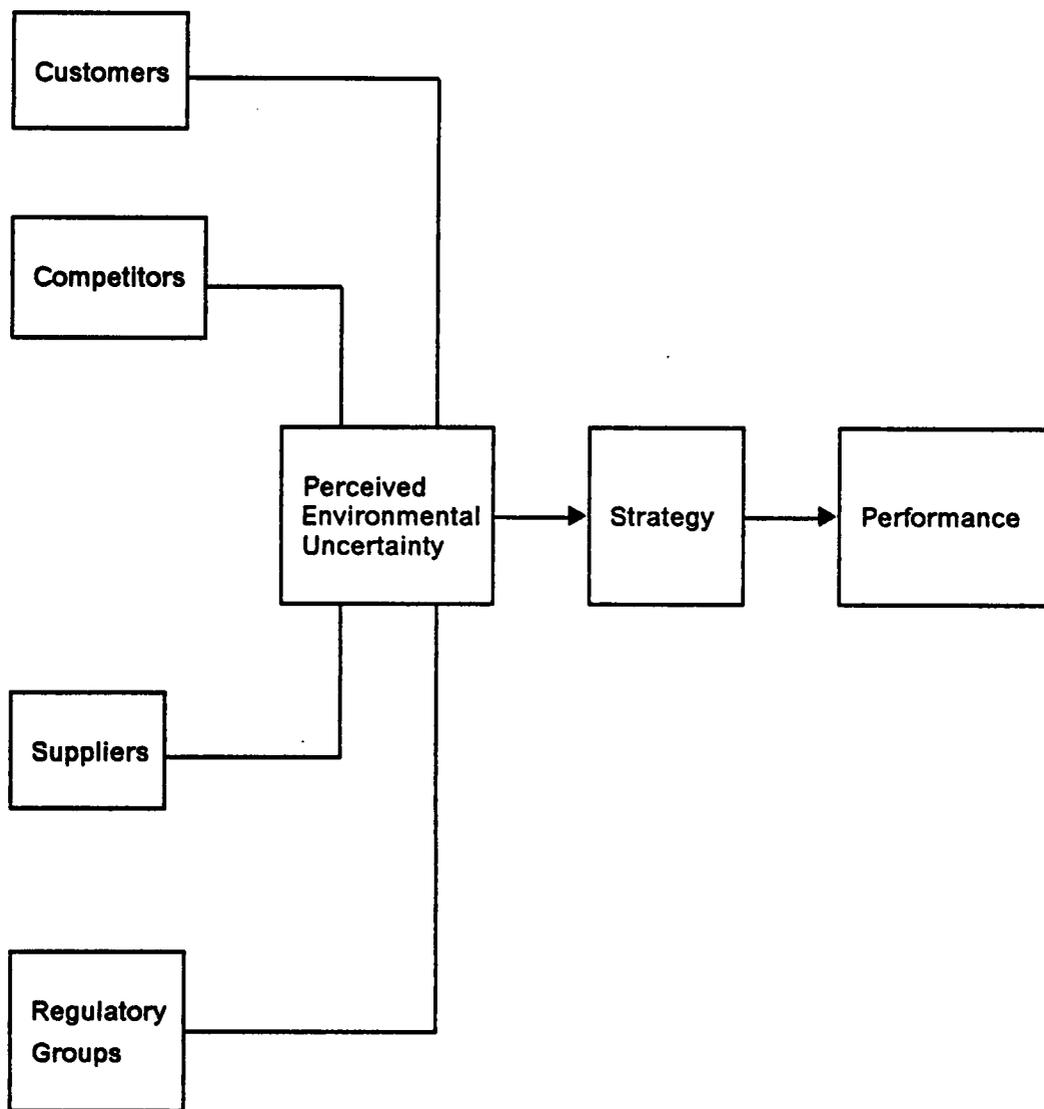
Figure 2.   A basic model for organization-environment research

external factors) (Slattery & Olsen, 1984). In this unstable environment, strategic decisions made by hospitality firms are critical to their survival.

Past researchers that have developed measures of the environment in terms of its components (Dill, 1958; Duncan, 1972) and those that have operationalized these measures (Lawrence & Lorsch, 1967; Duncan, 1972; Kopp, 1977; Bourgeois, 1978) have essentially looked at two dimensions of the environment: dynamism (the rate of change or variability) and complexity (the number of environmental factors impacting the organization and their diversity). Past research (Duncan, 1972) has shown that dynamism provided greater explanatory power of environmental uncertainty at the decision unit level than complexity. Thus, this study focuses on a critical dimension of environmental uncertainty, **environmental dynamism**, as one variable.

Dynamism is defined as the amount of nonsystematic change (i.e., the rate of change is not systematic or predictable) encountered in the firm's task environment (Bourgeois, 1978). The task environment is defined by Duncan (1972) as: "the totality of physical and social factors that are taken directly into account in the decision making behavior of individuals in the organization (4)." The task environment according to Dill (1958) and Duncan (1972) comprises customers, competitors, suppliers, and regulatory groups.

The components identified above define the task "domain" (Thompson, 1967) of the firm from an organization theory perspective. These are akin to the five "forces" as defined by Porter (1980) from a strategy perspective. A parallel can be drawn between the environmental components and the concept of "industry" from an economist's viewpoint in terms of the inputs, outputs, buyers, suppliers, complementary, and

substitute goods. The marketing concept of "product-market scope" also overlaps the definition of environmental factors being subscribed to here. These approximations support the general framework of the task environment defined above.

Researchers have operationalized the environment in terms of internal and external elements. Because strategy content questions emphasize the posturing of the firm with respect to its external environment, strategy content studies typically examine external conditions. Thus, this study is concerned exclusively with the external environment.

Perceived environmental uncertainty was measured using the dimensions utilized by Miles and Snow (1978). In comparing the various operational components of environmental uncertainty, no one instrument seems complete. Bourgeois (1978), who refined the instrument developed by Duncan (1972), acknowledged an omission in his instrument in that it did not include supply of capital as a component. Miles and Snow (1978), while they did consider supply of capital, omitted supply of labor as a component. In view of the importance of the labor issue to the lodging industry manager, this component was added to the basic instrument for the purpose of this study. Thus, the specific operational measures of environmental uncertainty that were used relate to the degree of volatility in the various sectors of the task environment. These are: (1) suppliers of raw materials and components, (2) competitors' actions, (3) customers, (4) the financial/capital market, (5) the labor market, and (6) government regulatory agencies.

The questions relating to these components were administered as part of the overall questionnaire. Details relating to each sector are provided in the section on instrumentation and scaling.

Business Strategy

As was stated in the earlier chapter, the strategy content of a lodging operation would be assessed at the level of the strategic business unit (SBU). For purposes of this study, strategy will be viewed as the means by which an organization matches its resources and competency (strengths and weaknesses) with the imperatives (threats and opportunities) in the task environment.

There exists no universally accepted operational measure for the term strategy. Although strategic management researchers have shown a growing concern with operationalizing strategy in a manner that reflects its holistic and dynamic nature, researchers share no overall consensus regarding the measurement of strategy. This is attributed to the differences in research vocabulary underlying disciplines in the field of strategic management (Ginsberg, 1984). In this process, a multitude of measures have been employed to capture strategy in different research settings (Venkatraman & Grant, 1986).

For purposes of this study, the construct of business strategy was tapped using the Miles and Snow (1978) typology. Operational measures of this typology have been developed and empirically tested by Snow and Hrebiniak (1980), and Schaffer (1986). Snow and Hrebiniak used four descriptive statements corresponding to prospectors, defenders, analyzers, and reactors to explicate the different strategy types that respondents had to choose from in identifying their firm's strategy. Schaffer (1986) operationalized the typology in terms of 26 characteristics that, when grouped, corresponded approximately to the Miles and Snow strategy typology.

Business strategy was measured using the self typing approach (Snow & Hambrick, 1980). This was done in two ways. First, respondents were asked to pick a strategy type corresponding most closely to their organization from a choice of four descriptions. Each one of these corresponds to one of the four Miles and Snow (1978) types: Prospector, Defender, Analyzer, and Reactor (Snow, Hrebiniak, 1980). Two members of each organization's top management team (TMT), the General Manager and one member of the executive committee, were asked to type the organization's present strategy. In addition, both respondents were asked, through the use of a structured questionnaire, to indicate the degree to which a number of strategy characteristics were related to the firm's overall strategy.[2] Schaffer found the strategy characteristics questionnaire was internally consistent based on Cronbach's alpha test (range from 0.5 to 0.9).

Financial Performance

Organization performance is a multi-faceted phenomenon that is difficult to comprehend and measure. Performance may vary according to whose viewpoint is taken (e.g., customers or stockholders), the time period observed, criteria used, and so on. Yet it is clear that much of an organization's behavior is directed at achieving satisfactory performance, however it is defined (Snow & Hrebiniak, 1980). Organizational effectiveness depends on the ability of the organization to adapt to its environment, which is, in turn, influenced primarily by the strategic management of the organization (Herbert & Deresky, 1987).

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[2] For a detailed analysis of how these strategy characteristics relate to the Miles and Snow (1978) typology, refer to the discussion of the Dess and Davis (1984) questionnaire items, on which this is based, in Schaffer (1986).

Venkatraman and Ramanujam (1986) stated that performance improvement is at the heart of strategic management. They supported this argument from three perspectives:

1. Theoretically, performance is the time test of any strategy (Schendel & Hofer, 1979). Most theories either implicitly or explicitly underscore performance implications;

2. Empirically, most strategy research studies employ the construct of business performance to examine a variety of strategy content and process issues; and

3. Managerially, the importance of performance is all too evident in the many prescriptions offered for performance improvement.

A two dimensional classification scheme was used by Venkatraman and Ramanujam (1986) to highlight ten different approaches to measurement of business performance. The first dimension is the use of financial versus operational criteria; the second concerns the use of primary versus secondary data sources. They support the thesis that, in measuring organization effectiveness, it seems reasonable to concentrate on measuring limited domains of the construct. The view presented in their paper was that business performance, which reflects the perspective of strategic management, is a subset of the overall concept of organizational effectiveness. For purposes of this research, financial performance was used as the dependent variable impacted on by the environmental conditions and choice of strategy.

In using financial information for the comparative analysis of different hotels, there are two basic differences among operations that prevent utilizing absolute figures such as sales and profits on their own. One is the differences caused by varying numbers of rooms. A 1500-room hotel, in spite of poor performance, may generate higher dollar revenues than a 500-room hotel simply because of its size. A second difference is in the rack rate (published room tariff) of different lodging operations. Two hotels of the same size may have very different financial results based on the rack rate. A 500-room hotel

with a rate structure of $100.00 (for a single room) and $150.00 (for a double room), in spite of low performance levels (in terms of percentage of occupancy for example), may compare very favorably with a 500 room motel with a rate structure of $30.00 (single) and $50.00 (double) in terms of total revenue generated.

A measure that enables comparison of the financial performance of different lodging units, in spite of differences on account of number of rooms and rack rate, is the "Income Before Fixed Charges" (IBFC) ratio to Total Sales. Laventhol and Horwath (1987) define this measure as follows:

> Income before fixed charges is defined as total departmental revenue from all sources (rooms, food & beverage, minor departments, rentals, telephone and other income) LESS all departmental and undistributed operating expenses. This is income from all operations before deducting rent, property taxes, property insurance, interest, depreciation, income tax and reserve for replacement.

The relevance of this measure, apart from its intuitive appeal, is derived from its relationship with other variables being studied. To assess operating performance as the criterion variable that substantiates the extent of "fit" or coalignment of environment and strategy, the IBFC ratio takes into account all discretionary resource allocation expense items under the control of a typical hotel manager. In the typical income statement, all items before fixed charges are, as the definition suggests, operating expenses; those that follow are fixed charges beyond the management's strategic planning control. Thus the measure is not contaminated by variations caused by unique financial structures (e.g., interest expense) or the nature of the property ownership (owned, leased, etc.). Thus, the appropriateness of the business strategy of the unit can be measured against the business decisions that are reflected in the performance measure. Further, by using IBFC as a ratio to total sales, comparison is possible among diverse properties. A second

measure, sales per available room per day (SPAR), was used to cross-validate the findings derived from the performance measure.

Another advantage of using the IBFC ratio is specific to published industry statistics available for making comparisons. The Laventhol and Horwath research studies have used this measure for a number of years now. This information is available in aggregate form as well as broken down by a number of different categories (size, location etc.). These published reports will be useful sources of comparisons for follow-up analyses.

The use of profitability measures to assess organizational efficiency has considerable support in the literature. In a study of seventy-four hotel executives in twenty-seven hotel companies, Geller (1985) investigated the relative importance of ten commonly used hotel performance goals. He found profitability and growth were the most frequently cited goals. In addition, hotel executives rated profitability as the third most useful performance indicator after occupancy and average room rate.

This measure has been used in research studies relating to the lodging industry (Ashley & Olsen, 1986), as well as by public accounting and securities firms that publish periodic reports relating to the lodging industry (Laventhol & Horwath, 1987; Hoare, Spicer & Slattery, 1987). Moreover, this measure forms a part of all major lodging operation's income statements as specified by the **American Hotel and Motel Association** (Uniform System of Accounts for Hotels, 1984).

The performance ratio (PROF) is calculated as follows:

$$PROF = \frac{\text{Income Before Fixed Charges}}{\text{Total sales}}$$

Based on an earlier discussion, researchers in the strategic management area have called for an approach to the measurement of strategy that emphasizes multiple-operationalization of concepts to enhance the validity and reliability of the measures obtained. (Ginsberg, 1984). In addition, as stated earlier, choosing a specific performance measure may help distinguish some relationships better than others. For example, using a profitability measure may bias the results toward defenders and against prospectors. In order to detect this effect, a second measure of performance was used. This revenue measure may be defined as Sales Per Available Room (SPAR) per day. This is calculated as follows:

$$SPAR = \frac{Total\ sales}{(Rooms\ available\ *\ Days\ the\ hotel\ was\ open)}$$

This ratio, derived from the data collected for the study, is a second efficiency measure and was used to cross-check the results from the tests described above.

OPERATIONAL DEFINITIONS: Control variables

Size

Size is the scale of operations in an organization (Price, 1972). There is considerable controversy as to which is the best measure of size. Among the various measures used in organizational research, some of the more common indicators for size are number of employees, number of beds (for hospitals), number of students (for

schools), sales volume (for businesses), and assets (Ford & Slocum, 1977; Lenz, 1980; Price & Mueller, 1986).

In research reports published on the lodging industry, the number of rooms has been featured as a popular measure (Laventhol & Horwath, 1987; Hoare, Spicer & Slattery, 1987). Using number of employees, a measure often used in the management literature, is fraught with a number of problems. Price and Mueller (1986), in commenting upon a study done by Blau & Schoenherr (1971), stated:

> Two points about using the number of employees as the indicator of size are pertinent. First no rationale is offered for excluding part-time employees from the calculations. This exclusion seems unwise, if practised generally, since some organizations such as hospitals [and hotels] often employ sizeable numbers of part-time employees. Two part-time employees could, for example, have been equated with one full-time employee (Van de Ven & Ferry, 1980). This equation is naturally crude, since part-time employees work varying amounts of time (235).

In an industry such as lodging, there is considerable difference in employment practices depending on the nature of the operation. Center city hotels often carry a larger proportion of full-time employees for a year-round operation. Resort hotels, on the other hand, typically carry only a skeleton full-time work force in low season times, with a larger number of hourly wage and seasonal employees during the peak season. In addition, the amount of full-time, part-time, and half-time employment rampant in this industry makes it an extremely difficult task to compute any objective measure of "full-time equivalent" employee strength.

An alternative is to use the number of rooms. For the lodging industry in general, the number of rooms is often used as the measure of analysis. Drawing from this, and

in the interest of parsimony, the number of rooms will be used as a measure of size and consequently a partial control for structure in this study.

Location

The principal setting for the research in organization-environment relations has been the manufacturing sector of the economy (Bourgeois, 1985; Dill, 1958; Duncan, 1972). There has been a general negligence of service industries in the management literature up to this point despite its uniqueness and growing importance (Grover, 1987). The research in this area that has been conducted in a service industry setting has raised more questions than it has proposed answers (Lenz, 1980; Miles & Snow, 1978). The basic premise used in the context of manufacturing firms, that the environment faced by an organization is industry specific, may not be the case in the context of service businesses. It seems obvious that this issue warrants reexamination before unilaterally applying what has been learned from manufacturing, to services.

There is considerable evidence to show that services differ in some very fundamental ways from manufacturing. Some of these are: heterogeneity, intangibility, perishability, and simultaneity of production/consumption (Sasser, Olsen & Wycoff, 1978). As it exists, only a limited application of the organization-environment conceptual framework can be attempted in the context of service industries. For instance, the environment as defined in research studies often refers to the industry environment. In addition, controlling for environment is accomplished by controlling for industry (Bourgeois, 1985; Duncan, 1972). It is suggested here that in the case of service industries, general and task environment need to be treated differently. While the

general environment is common across the service industry, the task environment may perhaps be a function of its location and/or market served.

Based on a study of sixteen college text book publishing firms, Miles and Snow (1978) highlighted an aspect of organization-environment relations. They suggest that "ostensibly similar organizations in the same general environment may enact quite different task environments and pursue markedly different strategies within them (214)." For instance, in retailing, an organization's task environment is often a function of its geographical setting (location).

Coleman (in Miles & Snow, 1978) measured environmental uncertainty in two industries (Electronics and Food Processing) based on an *a priori* assessment of the difference in their environmental states. He found that the overall environmental uncertainty scores for the two industries were not significantly different. *A posteriori*, he hypothesized that the variance in intra-industry volatility levels probably cancelled each other out (Coleman, 1988).

It is proposed here that strategies employed by firms in the service industry may be different depending on the state of the environment with which they are faced. For instance, the environment in the case of the lodging industry may be more specific to the location (market) than the industry to which the property belongs.

To isolate the differences in environments, an attempt was made to control for the location of the lodging unit in terms of the following five segments: center city, suburban, airport, highway, and resort. This standard classification has been used in many research reports relating to the lodging industry (Laventhol & Horwath, 1987).

Comparison of the results obtained in terms of this subdivision should reveal differences, if any, in environmental volatility, strategy, and performance in these segments.

HYPOTHESES

Research Questions Revisited

Two fundamental propositions underlying this research effort are that (1) perceived environmental uncertainty can be logically decomposed and measured and (2) strategic content is contingent upon the degree of volatility encountered in the firm's task environment. From these two propositions, the hypotheses to be tested are based in these fundamental research questions:

- Is there an observable relationship between choice of a strategy and financial performance in lodging operations?

- Given the continuing building boom, an almost static demand, inflationary, regulatory, and competitive market pressures, what business strategies are appropriate, i.e. what strategic choices offer the best prospect of favorable financial performance under different environmental conditions?

- What other variables impact upon this relationship?

Working Hypotheses

Based on the questions posed above, the following research hypotheses, stated in the null form, were developed for empirical testing:

HYPOTHESIS ONE: **No difference will be found in the performance of hotels classified according to their strategy type.**

This hypothesis has support in a number of research studies conducted in both manufacturing and service settings (Snow & Hrebiniak, 1980; Schaffer, 1986).

Strategy researchers have theorized that organizations must achieve a "match" between their environment and their strategy to achieve high levels of performance (Hofer, 1975; Ford & Slocum, 1977; Bourgeois, 1978; Lenz, 1980; Jauch, Osborn & Glueck, 1980; Hambrick, 1981; Lenz, 1981; Blackburn, 1982; Miller & Friesen, 1983; Hambrick, 1983). According to this, significantly higher performance should distinguish lodging units that achieve this match from their low performing counterparts that do not.

Hypotheses two and three address the environment, strategy, and performance relationship theorized by the researchers identified above (Miles & Snow, 1978; Bourgeois, 1978; Schaffer, 1986). Hambrick (1981) used the extreme strategy types (prospector & defender) to test Miles and Snow's typology. Hambrick (1983) used a similar approach.

Ginn and McDaniel (1987), in a longitudinal study of 82 hospitals in Texas, compared strategies in a placid period to strategies in a turbulent period. They found that, as a group, hospitals responded to increased turbulence by moving from a defender strategy to a prospector strategy. This result, supporting the direction hypothesized by Miles and Snow (1978), forms the basis for the hypothesized direction of the relationship posited in the two hypotheses below.

HYPOTHESIS TWO: **In stable environments, there will be no difference in performance between hotels employing different strategies.**

It is expected here that, in hotels facing a relatively stable environment, higher performance will be associated with hotels employing a defender type strategy.

HYPOTHESIS THREE: In volatile environments, there will be no difference in performance between hotels employing different strategies.

It is expected here that, in hotels facing a relatively volatile environment, higher performance will be associated with hotels employing a prospector type strategy. The alternate form of hypotheses two and three listed above, are graphically illustrated in the matrix presented in Figure 3.

RESEARCH DESIGN

This study investigates the premise that there exists, for firms in the lodging industry, a pattern or "fit" between perceived environmental uncertainty and business strategy that separates the successful operations from the unsuccessful ones.

In attempting to measure a relatively unexplored phenomenon, the environment and strategy relationship in the lodging industry, the research is exploratory in nature and conducted in the field. The relevant unit of analysis was the strategic business unit (hotel). The perspective employed was that of the General Manager and one other member of the top management team.

ENVIRONMENTAL STATE

	Stable	Mid-range	Volatile
Defender	Match	?	No match
Analyzer	?	?	?
Prospector	No match	?	Match

STRATEGY CONTENT

Figure 3. An environment-strategy congruence model

Measures of perceived environmental uncertainty were drawn from the organization theory literature (Bourgeois, 1978; Miles & Snow, 1978). Strategy content was determined using multiple measures developed and tested empirically using different settings (Snow & Hrebiniak, 1980; Schaffer, 1986). Performance indicators were derived from standard financial measures used in the lodging industry. The study taps a strategy content that links an environmental state and a performance level.

Research Strategy

The advantages and disadvantages of choosing between fine grained longitudinal case studies and coarse grained studies using large sample sizes have been discussed at length in the literature (Harrigan, 1983). For purposes of this study, given the time and resource constraints, a cross-sectional field study was employed to gather data.

Sample Size Estimation

In selecting the target population, several a *priori* conditions were set up to focus the research. These conditions determined the nature of the sample and, thus, preclude being representative of the entire population of lodging units in the country. A purposive sample (Fink & Kosecoff, 1985) method to identify the sampling frame was used as follows:

1. The units were of sufficient size to have a functional subdivision below the unit manager level to give the concept of "top management team" empirical meaning (Bourgeois, 1978; Miller & Friesen, 1983).

2. The units were geographically distributed to ensure adequate heterogeneity of the setting, thus accentuating differences in environmental volatility levels.

In addition to the above research-related criteria, the following methodological criteria was used to determine the size of the sample:

3. In exploratory multivariate analyses (such as cluster analysis) a sample size of six to eight times the number of items is often advocated as a minimal ratio of subjects to measures in exploratory research (Snow & Hrebiniak, 1980). The number of items (for strategy characteristics) that were cluster analyzed in this study is 23. This entailed using 138-184 respondents.

Researchers that have surveyed executives in the lodging industry (Schaffer, 1986; Ashley & Olsen, 1986; Evans & Dev, 1987; Laventhol & Horwath, 1987) have had response rates in the 10% range. In the light of the above considerations, the sample frame included ten times (2000 hotels) the number of required respondents (200).

Data Source

The hotels invited to participate in this study were selected from a national database of 25,711 lodging establishments in the United States maintained by the public accounting firm of Laventhol and Horwath. The profile of this database is presented in Table 1 and Table 2.

The Sample Frame

Of the total database, 5,328 units were selected to be included in the study. These included all properties with 150 rooms and more. As mentioned earlier, the units were of sufficient size to have a functional subdivision below the unit manager level to give the

Table 1.   Distribution of all properties in the database by size

SIZE	PROPERTIES	%
Under 75 rooms	12,447	48.4
75 - 149 rooms	7,902	30.7
150 - 299 rooms	3,873	15.1
300 - 600 rooms	1,209	4.7
Over 600 rooms	265	1.0
TOTAL	25,711	100.0

Table 2. Distribution of all properties in the database by location

LOCATION	PROPERTIES	%
Center city	3,757	14.6
Suburban	7,341	28.6
Airport	1,086	4.2
Highway	9,245	35.9
Resort	4,282	16.7
TOTAL	25,711	100.0

concept of "top management team" empirical meaning (Bourgeois, 1978; Miller & Friesen, 1983). The use of 150 rooms as a minimum cutoff is based on the categories on which the database is maintained (See Table 1 above). The profile of the population for purposes of this study, or sample frame, is presented in Table 3 and Table 4.

With the large and diverse nature of the sample, a sufficient variance in task environment uncertainty, strategy, and performance was obtained. This allowed the distinguishing of patterns of environment-strategy-performance relationship. Additionally, the broad representation of different types of hotels prevented the dominance of any one type of lodging establishment in the sample and, consequently, resulted in a higher level of representativeness (Miller, Kets de Vries & Toulouse, 1982).

Instrumentation and Scaling

Two sets of color coded questionnaires were used for the study. The first instrument (Appendix B.2) was to tap the perceptions of the General Manager. A second instrument (Appendix B.3) was used to tap the environmental uncertainty and strategy perceptions of a member of the top management team.

The Questionnaire

The design of the mail questionnaire was a fairly involved exercise. A number of issues were considered in the format and layout of the survey. First, validity and reliability issues related to the multiple responses, clarity, and comprehension of all variables were considered. A second major issue considered related to format, layout,

Table 3. Distribution of all properties in the sample frame (population) by location

LOCATION	PROPERTIES	%
Center city	1,310	24.6
Suburban	1,338	25.1
Airport	530	10.0
Highway	1,088	20.4
Resort	1,062	19.9
TOTAL	5,328	100.0

Table 4.   Distribution of properties (target population)

SIZE	PROPERTIES	%
150 - 299 rooms	3,863	72.5
300 - 600 rooms	1,204	22.6
Over 600 rooms	261	4.9
TOTAL	5,328	100.0

and length. A third issue dealt with the cost of printing and mailing the survey. In addition, a fourth consideration was the coding, entry, and analysis of data. While it was intended that a survey be designed to adequately tap the intended constructs, parsimony was given due consideration.

Perceived Environmental Uncertainty (PEU)

The questionnaire used for this study was adapted from the one used by Miles and Snow (1978:200) in their study of two industries (food processing and electronics). The internal consistency reliability of this instrument was reported in Coleman and Gaetan (1985). A Pearson product-moment test of correlation found all the six components of the instrument to be significantly correlated at the $p < .05$ level.

In adapting the questionnaire for use in this study, the questions were framed suitably to reflect the task environment factors faced by lodging operations. Additional questions included were tailored to the nature of the task environment facing service industries that differ from manufacturing in various ways (Sasser, Olsen & Wycoff, 1978). As indicated earlier, an additional category, the supply of labor, was added to the original instrument.

Coleman (1988) has reported that the labor union section under the regulatory group component failed to provide adequate discriminant validity. The lodging industry, by and large, is characterized by unorganized labor. The exception to this are major metropolitan areas such as New York and San Francisco. Smaller towns and cities have little to no union activity. In view of this, the labor union component was eliminated to avoid missing data. In addition, the wording of some of the items was changed to adapt them to the context of the lodging industry.

For purposes of this study, discussion with Coleman (1988) provided agreement that the modifications described above were going to significantly enhance the validity and reliability of the instrument. Coleman also suggested that a six point Likert type scale be adopted rather than the seven point scale used in his research. An even numbered scale is supported in the literature by authors that advise researchers to avoid a scale midpoint, since it tends to hide actual responses which could otherwise be used to distinguish subjects (Nunnally, 1978). Specifically, the twenty item six point semantic differential scale based questionnaire was used to measure perceived environmental uncertainty based on the degree of stability of the components of an organization's task environment (i.e., suppliers, competitors, customers, and regulatory groups). The specific questions asked regarding each component {on a 1 (stable) to 6 (volatile) scale} related to the following items:

1. **Suppliers of food, beverage and operating supplies:**

   a. prices charged
   b. product quality standards
   c. product/service specifications
   d. introduction of new products

2. **Competitors' actions:**

   a. supply of rooms
   b. rates charged
   c. renovation and refurbishment
   d. new services / facilities offered

3. **Customers' demand:**

   a. for your services
   b. for new facilities / services

4. **The financial / capital market:**

   a. interest rates
   b. availability of credit

5. **The labor market:**

   a. wage and salary rates
   b. availability of employees

6. **Government regulatory agencies:** (changes in laws or policies)

   a. regarding rates you can charge
   b. regarding room, food or beverage quality
   c. regarding provision of your services
   d. affecting personnel/labor decisions
   e. affecting sales and marketing
   f. affecting accounting/bookkeeping

Each of the above items were scored on the 6 point scale. Based on a summation of the scores for each component, the range of the component scores varied depending on the number of items in each component. For example, the competitor component, which has four items, could have scores ranging from a minimum of 4 (if each of the

items was scored as a 1) to 24 (if each of the items was scored as a 6). The ranges are presented in the following summary:

PEU was scored as follows:

Component   I   (Suppliers of food/beverage/operating supplies) :   4 to 24
Component   II   (Competitors)   :   4 to 24
Component   III   (Customers)   :   2 to 12
Component   IV   (The financial/capital market)   :   2 to 12
Component   V   (The labor market)   :   2 to 12
Component   VI   (Government regulatory agencies)   :   6 to 36

                                                       Total   20 to 120

The scores on the PEU instrument, as well as on the four subscales reported by the General Manager, were tested for internal consistency using Cronbach's alpha measure. In addition, PEU mean scores for the GM were compared to the mean score for the other individual top management team (TMT) member to check for the ability to predict this score from that of the GM based on the degree of agreement.

Business Strategy

The business strategy employed by the unit was tapped using the self-typing method (Snow & Hambrick, 1980). This approach has been used in strategy research (Dess & Davis, 1984) to derive strategy types based on an assessment of relative importance of a list of strategy methods/characteristics.

In this study, multiple measures of strategy to tap the Miles and Snow (1978) strategy types were used. The purpose was to attempt to cross-validate the strategy type constructs. The instrument used by Snow and Hrebiniak (1980) was used to determine

the type of strategy a lodging operation is using. In addition, a modified version of the instrument developed by Schaffer (1986) was used to try to determine the profile of the strategy based on the respondents identifying strategy characteristics relevant to their hotels.

Schaffer (1986) was able to approximate the Miles and Snow (1978) typology he was attempting to "map" in his study of the corporate strategies of lodging firms. There were a number of enhancements effected in adapting his questionnaire to his study. One deals with the wording of the questions. In pretesting his original instrument, a number of suggestions were made by pretest respondents about the question related to the strategy characteristics/methods listed on the survey. Schaffer, in listing these alongside questions originally listed on the survey showed that most/all of these suggestions were already on the survey, and, in effect, the suggestions were redundant. In suggesting questions that were similar to the ones already on the survey, the pretest respondents obviously did not understand the original questions in the same sense as the researcher intended them to be understood. This was evident by the apparent redundancy of their suggestion, due to the way they were framed.

The version of the questions as suggested by the respondents was ignored and the original questionnaire circulated as it was. In examining the suggestions of the respondents, it was noticed that the questions were similar to the ones already existing but simpler in their framing. For purposes of this study, all the pretest respondents' suggestions were included, and the original factors that they overlapped with were eliminated. Also, some other questions were reworded for ease of comprehension while maintaining their basic meaning. Table 5 lists the items that were rated on a six point semantic differential scale.

Table 5. List of strategy characteristics

- Serving special markets/segments
- Controlling sources of business
- Financial/Cost control
- Training and development
- Building reputation of property in the community
- Monitoring guest satisfaction
- Providing high service level
- Quality control
- Maintaining market leadership
- New product/service development
- Maintaining high inventory of food, beverage, and operating supplies
- Providing many facilities and services
- Selling at your lowest rate
- Testing new marketing ideas and methods
- Serving a variety of customer groups
- Controlling material/supply sources
- Using debts (loans) to finance projects
- Providing special services
- Trying innovative service/methods
- Maintaining operational efficiency
- Searching for new markets/opportunities
- Keeping track of competition
- Regular renovation/refurbishment

An additional modification of the questionnaire content is related to the disaggregation of properties by location for further analysis. In Schaffer's study, the lodging industry was subdivided into four groupings (transient hotels, resort hotels, motels with restaurants, and motels without restaurants). The justification provided for this classification scheme was based in the different "technologies" represented by the different groups in the scheme of Thompson's (1967) long linked - intensive continuum. A different classification scheme, disaggregated on the basis of location or market served, was used for this study.

From a review of the environment literature, an appropriate basis for subdividing hotel categories on the basis of the task environment that it faces could be its location. In this way this contingency variable (environmental uncertainty) could be operationalized in terms of its components (i.e., customers, competitors etc.). In the case of the lodging industry, categorization on the basis of location would solve for differences in all components on the task environment. Such a categorization would suggest subdivisions such as downtown, suburban, highway, airport, and resort providing more distinct categories. This disaggregation, apart from having been used in prior research relating to the lodging industry, enables comparisons with published industry statistics to determine performance (Laventhol & Horwath, 1987; Panell, Kerr & Foster, 1987; Lodging Hospitality, 1987).

Financial Performance

As operational measures of performance, the following data was requested for the most recent one-year period (1987): (1) Total sales, and (2) Income before fixed charges (IBFC). The determination of performance for each property entailed computing PROF and SPAR and using them as the alternate performance measures in the analysis.

THE PILOT TEST

A pilot test was conducted in several steps. First, a prototype questionnaire was circulated to colleagues: faculty and graduate students of the hospitality management and strategic management programs at Virginia Polytechnic Institute and State University for feedback regarding comprehension, wording, and layout. Simultaneously, a copy was circulated to graduate students at the University of Massachusetts for review and feedback from their research methods class. Based on the extensive feedback received from all of the above sources, the questionnaires were substantially revised in wording and layout.

Next, four major lodging operations in the Blacksburg, Virginia area were contacted for participation in the field pilot test (Appendix A). Seven executives from three hotels agreed to participate in the test. These included three General Managers, one Rooms Divisions Executive, two Food and Beverage Executives and one Financial Controller. Each executive was given a copy of the questionnaire to fill out. Following this, a series of in depth interviews was held with each to provide details on the purpose of the study and seek feedback on the layout, design, and ease of comprehension of the survey.

In general, all the pilot test respondents were able to complete the questionnaires without any assistance in a period ranging from 20 to 40 minutes. A number of very interesting insights were obtained on the basis of this pilot test. The first dealt with the semantic anchors on the environmental uncertainty and the strategy characteristics sections of the questionnaires. The respondents preferred the use of "stable" and "volatile" to reflect dynamism rather than "no change" "change." In addition, the use

of "not important" and "very important" as the semantic anchors for the strategy characteristics section resulted in the respondents providing intended rather than realized strategy. A change to "not part of strategy" and "key part of strategy" was deemed more appropriate in capturing the sense of what actually was the case in the past year. Both of these modifications were implemented in the final version.

Respondents were not willing to provide any information on total sales or income before fixed charges. On being told that this bit of data was critical to the study, the respondents suggested several ways to obtain these figures. One suggestion was to leave out the identification numbers and keep the questionnaires anonymous. This idea was rejected because of the need to match two questionnaires from the same organization. Another idea was to use scales to provide an opportunity for the hotels to disguise their information in a "range." Based on the statistical technique envisaged for hypothesis testing (analysis of variance), it was necessary to have a continuous criterion variable. Using a range would require making some tradeoffs. On the one hand, this would result in a loss of power in the test when compared to getting the actual dollar figures. If, however, using the range resulted in significantly increasing the response rate, as the pilot test seemed to indicate, power would be enhanced by an increase in sample size.

On the basis of the above, the questionnaire was, once again, substantially revised. This entailed revising the semantic anchors on the environmental uncertainty and strategy sections of the instrument. In addition, ten equal ranges were developed for the two performance variables being measured: total sales and income before fixed charges. These were developed based on latest available industry statistics on the ranges one might expect for these figures. The revised questionnaire was then approved, with

additional minor format amendment suggestions, by the statistical consulting team for ease of data entry and analysis.

Finally, the questionnaire, with all the revisions implemented, was reviewed by the questionnaire consultant at the Learning Resources Center at Virginia Polytechnic Institute and State University for clarity, format, and layout. Apart from one additional grammatical change, the questionnaire was ready for implementation.

DATA COLLECTION

From the 5,328 properties identified for inclusion in this study, a random selection of 2,000 properties was made using an in-house random number generator. General Managers (GM) of a national sample of 2000 hotels (estimating a required response rate of 10% or 200) were sent a questionnaire packet. This packet included:

1. A cover letter briefly describing the research and requesting the managers' cooperation (Appendix B.1), and

2. Two questionnaires (one for the GM/M–Appendix B.2) and one to be distributed to a member of the top management team (Appendix B.3) –member of the executive committee–such as front office, food and beverage, marketing, etc.

Each questionnaire was self-addressed and had a reply paid stamp for ease of return. A modified version of the "total design method" (Dillman, 1978) was utilized for the survey. A fairly set time table was followed in this process. The cover letter and accompanying questionnaires was mailed out on May 16, 1988. A reminder postcard was mailed one week after the first mailing (Appendix C). This was followed by telephone

follow up calls to those respondents that had provided all but the information on performance, which resulted in additional usable questionnaires.

STATISTICAL ANALYSIS

Validity and Reliability Tests

The following tests for validity were performed:

1. The first group of tests was conducted on the environmental uncertainty instrument. The item-to-scale-total score from the General Manager's environmental uncertainty questions were correlated to test for internal consistency using the Cronbach's alpha measure. First, an alpha measure for the entire instrument (20 items) was calculated. Second, a measure for each subscale (competitor, customer, supplier, and regulatory group) was calculated to check for internal consistency reliability.

2. A second test was conducted to determine the inter-rater reliability of responses on the environmental uncertainty instrument between the two respondents in each organization. This was done by correlating the mean response of the GM with the TMT response across all organizations.

3. A third test was conducted to determine the inter-rater reliability of responses to the strategy type question between the two respondents in each organization. This was

done by cross tabulating the response of the GM with the TMT response and conducting a Cohen's Kappa test to check for agreement.

4. A fourth test was conducted to group lodging units based on common strategy characteristics. Factor analysis was conducted using the 23 strategy characteristics/methods listed to identify business strategy archetypes. Cluster analysis was performed on the 180 respondent organizations to identify groupings of organizations with similar characteristics. It was expected that hotels would group together based on commonalties in their strategic characteristics. These groupings would then be analyzed to "label" the organizations based on their competitive posture.

Data Analysis

The number of responses received were not consistent across all organizations. Due to this inconsistency, combining responses across organizations becomes problematic. Had all the organizations complied with the request for two responses, it might have been possible to average the scores. Averaging the responses selectively would have resulted in some of the respondents' variance being larger than others simply because of their being included in the computation. The validity tests will reveal that scores across the two responses from the same organizations are consistent. Based on this, General Managers responses were used as the basis for the analyses.

The following data analyses and hypothesis tests were performed:

1. All the respondents were tabulated by their "profile" variables. These included size, location, operating arrangement, affiliation, environment volatility, and strategy type.

2. These variables were cross tabulated and chi-square tests run to identify relationships and derive general patterns in the sample.

3. A frequency distribution was performed on the environmental volatility scores to determine the cutoffs for the stable and volatile groups.

4. A one-way analysis of variance was conducted to test the strategy and performance relationship. The basic model, used to test Hypothesis One, is based on the following formula:

$$Performance = Strategy + Error$$

5. A two-way analysis of variance was conducted to test the environment-strategy-performance relationship. The basic model, used to test Hypotheses Two and Three, is based on the following formula:

$$Performance = Environment + Strategy + Environment^*Strategy + Error$$

6. In addition, analysis of covariance was performed to further test this relationship controlling for size.

7. Finally, a three-way analysis of variance was conducted to test the explanatory power of location.

All analyses were conducted by means of the SAS software package (SAS Institute Inc. 1985).

SUMMARY AND CONCLUSION

In the course of this chapter, a research methodology was developed for the study of the relationship between environmental uncertainty, strategy content, and financial performance. The specific sections elaborated upon included operational definitions of variables, statement of hypotheses, research design, data collection, and analyses.

Table 6.   Summary of the research methodology

RESEARCH QUESTION	HYPOTHESIS	QUESTIONNAIRE ITEM(S) [Section number]	STATISTICAL TEST(S)
Is there a relationship between strategy and performance?	Test for difference in performance level across strategy types	(1) Strategy typology based on choice of self type description (2) Income before fixed charges ratio; Revenue per available room [Section 5]	One-way analysis of variance
Is there a relationship between strategy, environment, and performance?	Test for a match between a strategy, environmental state, and financial performance	(1) Strategy typology from above (2) Categorization of stable/volatile environment based on 20 item means [Section 2(Q1-6)] (3) Performance based on profitability and revenue measure described above	Two-way analysis of variance
Are there other variables of interest?	Check for covariates: Size Location	(1) Laventhol and Horwath (1987) disaggregation [Section 1]	Analysis of Covariance Three-way analysis of variance

In summary, with rigorous attention to detail and thorough analysis, this study attempts to further the body of knowledge in this area. It provides the strategy planner in the lodging industry with empirical information relating to the following:

1. An assessment of the state of the business environment faced by individual unit managers and general managers, and

2. Strategies that are related to successful financial performance reflected in revenues and earnings.

The results obtained provide an invaluable planning and analysis tool for all levels of management involved in charting their firm's future. The next chapter reports on the organizations that responded to the questionnaire, the analyses, and the results.

Chapter 4

RESULTS

INTRODUCTION

The previous chapter detailed the methodology that was used to investigate the relationship between the three variables of interest: perceived environmental uncertainty, business strategy, and financial performance. In this process, the research questions and hypotheses formulated to guide this research were introduced. This chapter presents a description of the participating firms, the data collected, statistical analyses performed, and results obtained.

DATA COLLECTED

The Sample

As discussed in Chapter 3, hotels chosen to be included in the study were chosen at random from a national database. A set of questionnaires was mailed to 4000 executives at 2000 hotels nationwide (Appendix B). Additionally, a reminder postcard (Appendix C) was mailed to all hotels to encourage response.

Table 7 details the response pattern from the hotels included in the study. Because this research is centered around the relationship between strategy, environment, and performance, those questionnaires that had these three areas filled out were used. All others were classified as non usable.

Profile of Participating Organizations

The hotels that responded to the study exhibited a wide diversity of location, size, and operating arrangement, and represented major lodging organizations in the industry. Table 8 presents the distribution of respondents by state. Hotels from 40 states in the Union and the District of Columbia participated in the study with Florida, California, and Texas leading in responses.

Table 7. Response pattern of hotels included in the sample

	Number	%
Hotels targeted	2,000	100.0
less non-delivered	48	2.4
Target population	1,952	97.4
Responding hotels (at least one response)	204	10.5
Respondent pattern		
General Manager responses (usable)	180	
Top management team responses (usable)	83	
Totally participating hotels (two usable responses)	70	
Responded but unable to participate	10	

Table 8. Distribution of respondents by state

STATE	FREQUENCY	PERCENT	CUMULATIVE FREQUENCY	CUMULATIVE PERCENT
MASSACHUSETTS	1	0.6	1	0.6
CONNECTICUT	3	1.7	4	2.2
NEW JERSEY	6	3.4	10	5.6
NEW YORK	4	2.2	14	7.8
PENNSYLVANIA	6	3.4	20	11.2
DELAWARE	1	0.6	21	11.7
DISTRICT OF COLUMBIA	4	2.2	25	14.0
MARYLAND	2	1.1	27	15.1
VIRGINIA	9	5.0	36	20.1
WEST VIRGINIA	1	0.6	37	20.7
NORTH CAROLINA	8	4.5	45	25.1
SOUTH CAROLINA	6	3.4	51	28.5
GEORGIA	8	4.5	59	33.0
FLORIDA	24	13.4	83	46.4
ALABAMA	1	0.6	84	46.9
TENNESSEE	3	1.7	87	48.6
MISSISSIPPI	1	0.6	88	49.2
KENTUCKY	2	1.1	90	50.3
OHIO	1	0.6	91	50.8
INDIANA	5	2.8	96	53.6
MICHIGAN	5	2.8	101	56.4
IOWA	3	1.7	104	58.1
WISCONSIN	2	1.1	106	59.2
MINNESOTA	3	1.7	109	60.9
SOUTH DAKOTA	3	1.7	112	62.6
NORTH DAKOTA	1	0.6	113	63.1
MONTANA	1	0.6	114	63.7
ILLINOIS	5	2.8	119	66.5
MISSOURI	5	2.8	124	69.3
KANSAS	1	0.6	125	69.8
NEBRASKA	3	1.7	128	71.5
LOUISIANA	4	2.2	132	73.7
TEXAS	11	6.1	143	79.9
COLORADO	7	3.9	150	83.8
IDAHO	1	0.6	151	84.4
ARIZONA	2	1.1	153	85.5
NEW MEXICO	1	0.6	154	86.0
CALIFORNIA	20	11.2	174	97.2
HAWAII	2	1.1	176	98.3
WASHINGTON	2	1.1	178	99.4
ALASKA	1	0.6	179	100.0

Table 9 lists the respondents by affiliation. 35 groups including 34 hotel companies are represented. Major chains such as Holiday Inn, Sheraton, and Ramada were companies that had ten or more respondents.

Table 10 lists the respondents by size in terms of the classification scheme of the Laventhol and Horwath U.S. lodging industry database. Smaller properties (150-299 rooms) form the bulk of the respondents. This is fairly representative of the general industry pattern discussed in Chapter 3. However, the distribution of the properties across the three categories differs from the frequency distribution of the database skewed in favor of the smaller property.

The skewness in the distribution of the hotels across the three size categories poses a problem for statistical analysis. Using size as a categorical variable will result in manifestly uneven cell sizes rendering the results questionable. To address this problem, the size categories were redefined to facilitate further analysis. This was done using a frequency distribution. Table 11 presents the frequency distribution and plot of the respondents by the number of rooms. This provides the basis for developing equally distributed categories of the size variable for further analysis.

Table 12 presents the frequency distribution of the respondents based on the quartiles identified through the distribution above. This provides a more even distribution of the respondents across the four levels of the categorical variable size. All subsequent analyses will be conducted using this distribution.

Table 9. Distribution of respondents by affiliation

AFFILIATION	FREQUENCY	PERCENT	CUMULATIVE FREQUENCY	CUMULATIVE PERCENT
Independent	34	18.9	34	18.9
Radisson	5	2.8	39	21.7
Quality International	6	3.3	45	25.0
Holiday Inns	48	26.7	93	51.7
Day's Inns	5	2.8	98	54.4
Hampton Inns	2	1.1	100	55.6
Sheraton Hotels	14	7.8	114	63.3
Howard Johnson	2	1.1	116	64.4
Best Western	9	5.0	125	69.4
Marriott Hotels	7	3.9	132	73.3
Ramada Hotels	10	5.6	142	78.9
Self-Serv Inns	2	1.1	144	80.0
Hilton Hotels	8	4.4	152	84.4
Red Carpet Inns	1	0.6	153	85.0
Comfort Inns	3	1.7	156	86.7
Travelodge	2	1.1	158	87.8
Doubletree Hotels	3	1.7	161	89.4
Rodeway Inns	1	0.6	162	90.0
Red Lion Inns	1	0.6	163	90.6
Guest Quarters	2	1.1	165	91.7
B. F. Saul Co.	1	0.6	166	92.2
AIRCOA Hospitality Services	1	0.6	167	92.8
Adam's Mark Hotels	1	0.6	168	93.3
Hyatt Hotels	1	0.6	169	93.9
Four Seasons Hotels	1	0.6	170	94.4
Omni International Hotels	1	0.6	171	95.0
Park Suites	1	0.6	172	95.6
Potomac Hotel Group	1	0.6	173	96.1
Meridien Hotels	1	0.6	174	96.7
Colony Hotels & Resorts	1	0.6	175	97.2
Novotel	1	0.6	176	97.8
Super 8 Motels	1	0.6	177	98.3
ARA Services	1	0.6	178	98.9
Royce Hotels	1	0.6	179	99.4
Bartell Hotels	1	0.6	180	100.0

Table 10.   Distribution of respondents by size

SIZE	PROPERTIES	%
150 - 299 rooms	148	82.2
300 - 600 rooms	30	16.7
Over 600 rooms	2	1.1
TOTAL	180	100.0

Table 11. Frequency distribution and plot of respondents by size (number of rooms)

```
                        MOMENTS
              N                    180
              MEAN                 233.644
              STD DEV              106.867

                       QUARTILES

100%  MAX         788            50%  MED              200
75%   Q3          258.5          25%  Q1               161.75
                                 0%   MIN              90

              HISTOGRAM            #        BOXPLOT
   775 | *                        1           *

         *                        1           *
                                              *
         *                        1
         *                        1           0
         ****                     7           0
   425 | **                       3           0
         ****                     7
         ******                   11          |
         ********                 15       +-----+
         ******************       42       |     |
         ***********************  66       +--+--+
         *************            23          |
    75 | *                        2           |
       +---+---+---+---+---+---+
       * MAY REPRESENT UP TO 2 COUNTS
```
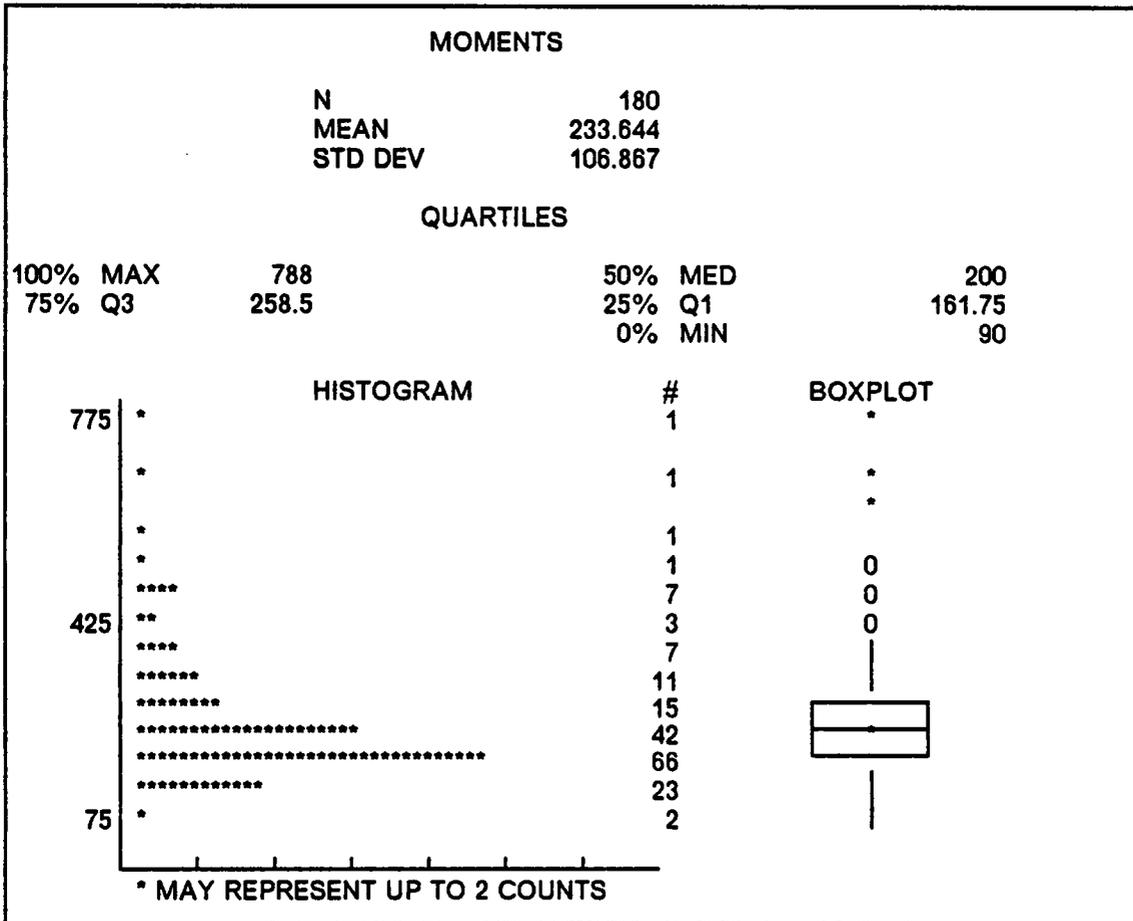
Table 12. Distribution of respondents by rearranged size categories

SIZE	FREQUENCY	PERCENT	CUMULATIVE FREQUENCY	CUMULATIVE PERCENT
Less than 160 rooms	37	20.6	37	20.6
160 to 200 rooms	51	28.3	88	48.9
200 to 260 rooms	47	26.1	135	75.0
More than 260 rooms	45	25.0	180	100.0

Table 13 presents the frequency distribution of the respondents based on location. There is a fairly even distribution of properties in each of the categories. The lower number in the airport segment is offset by a higher representation of suburban hotels.

Table 14 presents the frequency distribution of the respondents based on operating arrangement. A preponderance of franchisees were included in the respondents. The chain leased/managed category had very few responses. For further analyses, to avoid missing data cells, this category will be eliminated.

Table 15 represents the frequency distribution of the respondents based environmental volatility mean scores. From this table, and the stem and leaf plot, it seems apparent that there are two main groups in the sample around a midpoint score of 2.6 on a 6 point scale. In order to clearly distinguish between the stable and volatile groups, the quartiles were used as the cutoff points. This means, in all further analysis, respondents with mean scores of 2.25 and below (Quartile 1) will be categorized as perceiving themselves in a stable environment, those with scores between 2.25 and 3.2 (Quartile 2) will be categorized as mid-range and those with scores at 3.2 (Quartile 3) or above as perceiving a volatile environment. Table 16 presents the frequency distribution of the respondents based on their perceived environmental uncertainty.

Table 17 presents a distribution of the respondents based on their business strategy. Prospectors comprise almost half the total respondents in the sample. In keeping with the basic thesis so far that the environment is getting volatile, this pattern retrospectively reflects the expectations based in the literature reviewed.

Table 13. Distribution of respondents by location

LOCATION	FREQUENCY	PERCENT	CUMULATIVE FREQUENCY	CUMULATIVE PERCENT
Center City	37	20.6	37	20.6
Highway	34	18.9	71	39.4
Suburban	54	30.0	125	69.4
Airport	20	11.1	145	80.6
Resort	35	19.4	180	100.0

Table 14. Distribution of respondents by operating arrangement

OPERATING ARRANGEMENT	FREQUENCY	PERCENT	CUMULATIVE FREQUENCY	CUMULATIVE PERCENT
Chain owned/managed	24	13.3	24	13.3
Chain leased/managed	3	1.7	27	15.0
Chain managed	19	10.6	46	25.6
Franchised	101	56.1	147	81.7
Independently owned/ managed	33	18.3	180	100.0

Table 15. Frequency distribution and plot of PEU mean scores

```
                              MOMENTS

                  N                    179
                  MEAN                 2.73495
                  STD DEV              0.668723

                            QUARTILES

100%   MAX        4.45                50%  MED              2.8
 75%   Q3         3.2                 25%  Q1               2.25
                                      0% MIN  1.4

         %                         COUNT/NOBS

   STEM  LEAF                          #      BOXPLOT

     44 | **                          2         |
     42 | *                           1         |
     40 | ****                        4         |
     38 | *****                       5         |
     36 | ********                    8         |
     34 | **********                 10      +-----+
     32 | ***************            15      |     |
     30 | ***********************    23      |     |
     28 | ***********************    23      *--+--*
     26 | ********                    8      |     |
     24 | *******************        19      |     |
     22 | ***********************    23      +-----+
     20 | **************             14         |
     18 | **********                 10         |
     16 | **********                 10         |
     14 | ****                        4         |
     12 |
          MULTIPLY STEM.LEAF BY 10**-01
```
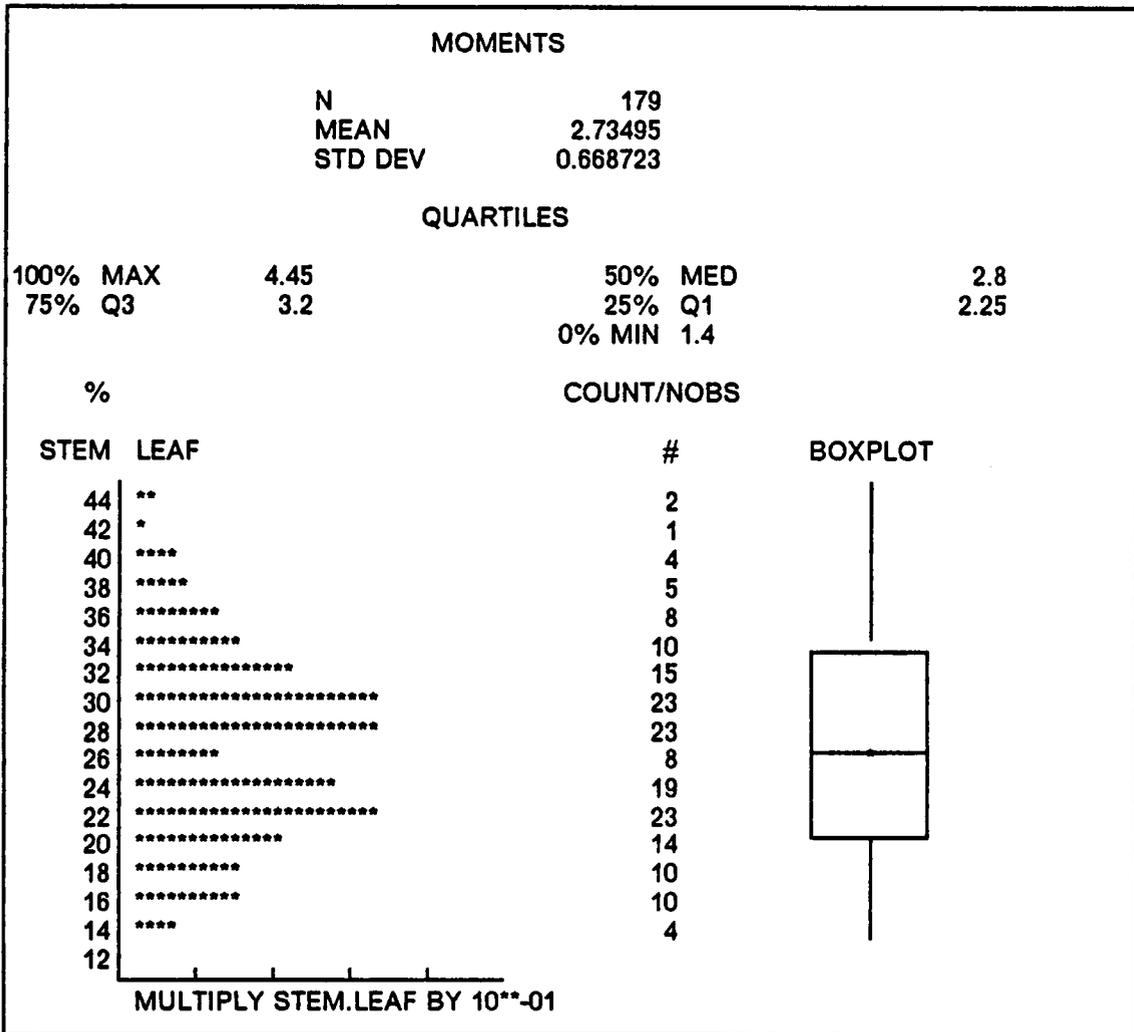
Table 16. Distribution of respondents by PEU categories

STRATEGY	FREQUENCY	PERCENT	CUMULATIVE FREQUENCY	CUMULATIVE PERCENT
STABLE	52	30.2	52	30.2
MID-RANGE	75	43.6	127	73.8
VOLATILE	45	26.2	172	100.0

Table 17. Distribution of respondents by strategy type

STRATEGY	FREQUENCY	PERCENT	CUMULATIVE FREQUENCY	CUMULATIVE PERCENT
REACTOR	6	3.3	6	3.3
ANALYZER	45	25.0	51	28.3
PROSPECTOR	87	48.3	138	76.7
DEFENDER	42	23.3	180	100.0

It is clear from Table 17 that Prospectors far outnumber the other three types. Reactors, on the other hand, represent the smallest segment in keeping with the expectation relating to this "non-viable" strategy type.

Table 18 presents the frequency distribution of the respondent organizations' top management team. The distribution reflects the traditional emphasis in favor of the major profit center: rooms. In addition, the relative importance given to the marketing area is consonant with the increase in competitive activity facing the industry.

Table 18.   Distribution of respondent organizations' top management team

DEPARTMENT	FREQUENCY	PERCENT	CUMULATIVE FREQUENCY	CUMULATIVE PERCENT
Administration (EAM/RM/AGM)	13	15.7	13	15.7
Rooms/Front Office	22	26.5	35	42.2
Finance/Accounting	6	7.2	41	49.4
Marketing/Sales	19	22.9	60	72.3
Housekeeping	4	4.8	64	77.1
Food & Beverage/Catering	13	15.7	77	92.8
Human Resources/Personnel	1	1.2	78	94.0
Owner/Managing Director/VP	4	4.8	82	98.8
Other	1	1.2	83	100.0

STATISTICAL ANALYSES

Validity and Reliability Tests

Validity refers to the relationship between a construct and its measures. In other words, it is the degree to which we observe what we purport to observe. Reliability, on the other hand, refers to the degree to which our observations are consistent or stable (Rosenthal & Rosnow, 1984).

The instruments used in this study have been drawn from some of the seminal published sources in the field. In the following sections, the validity and reliability issues that pertain to the use of these instruments were reexamined. To evaluate all of the results that follow, a uniform criterion of $p = .05$ will be used to determine the statistical significance of each test.

Perceived Environmental Uncertainty Instrument

A primary test of validity deals with the notion of construct validity. There are a number of ways to demonstrate the construct validity of an instrument. One such measure is internal consistency reliability.

To examine the internal consistency reliability of the four components of perceived environmental uncertainty, coefficient alpha was computed for the twenty items within each of the four groups. Coefficient alpha measures the internal consistency of items relating to a single trait within a questionnaire (Nunnally, 1978).

The first group of tests was conducted on the environment uncertainty instrument. The item-to-scale-total scores for the General Managers on perceived environmental uncertainty questions were correlated to test for internal consistency using Cronbach's alpha measure. First, an alpha measure for the entire instrument (20 items) was calculated. Second, a measure for each subscale (competitor, customer, supplier, and regulatory groups) was calculated to check for internal consistency reliability. Table 19 presents the results of these tests.

Nunnally (1978) suggested the following guideline to evaluate the adequacy of the internal consistency value:

In the early stages of research on...hypothesized measures of a construct, one saves time and energy by working with instruments that have only modest reliability, for which purpose reliabilities of .70 or higher will suffice (245).

As can be seen from Table 19, the overall coefficient alpha is more than the suggested guideline.

Another measure of construct validity is inter-rater reliability. Inter-rater reliability is indicated when measures of the same concept rated by different judges are highly correlated. This measure corresponds to the reliability of the instrument.

To measure the inter-rater reliability of the perceived environmental uncertainty (PEU) instrument, the mean response of the GM and TMT for each organization were correlated. Table 20 presents the results of these tests.

Table 19. Reliability coefficients for the PEU instrument

SCALE	ALPHA VALUE
Competitor subscale	0.57
Customer subscale	0.66
Regulatory subscale	0.82
Supplier subscale	0.73
OVERALL SCALE	0.84

Table 20. Inter-rater reliability of the PEU Instrument

RESPONSE	N	MEAN	STD DEV	SUM	MINIMUM	MAXIMUM
GM	70	2.8317126	0.68192763	198.21988	1.5000000	4.2500000
TMT	70	2.8523287	0.72345964	199.66301	1.4500000	4.6000000

PEARSON CORRELATION COEFFICIENTS / PROB > |R| UNDER H0:RHO=0 / N = 70

		GM	TMT
GM		1.00000	0.38059
		0.0000	0.0012*
TMT		0.38059	1.00000
		0.0012*	0.0000

* Significant

As can be seen from Table 20, the degree of environmental uncertainty perceived by the GM is correlated positively with the perceptions of the top management team and the correlation is significant at the $p < .01$ level. The fact that a single overall measure correlates positively between the two "judges" at a statistically significant level can be interpreted as a limited but encouraging indication of reliability.

It is apparent that the environmental uncertainty instrument is adequate for use here. The validity of the scale has been demonstrated through the internal consistency and inter-rater reliability substantiated by a high alpha value for the former, and a statistically significant correlation coefficient for the latter.

Strategy Type Instrument

Evidence of construct validity of the self-type strategy questionnaire is provided by Snow and Hrebiniak in their seminal article in the *Administrative Science Quarterly*:

> ...top managers assessed the strategies of their organizations using descriptions of the four strategies in the Miles and Snow (1978) typology...the typology's construct validity can be offered by noting that it builds upon and extends the typologies of Chandler (1962) and Ansoff (1965), both of which were empirically based (1980: 321).

Another aspect of construct validity is content validity. This deals with the degree to which the instruments used covered all the relevant material (Rosenthal & Rosnow, 1984). Since the typology was originally presented (Miles & Snow, 1978), a number of research studies have used this approach (Odom & Boxx, 1985; Ginn & McDaniel, 1987). Ginn and McDaniel (1987) empirically validated the self-type method by using multiple methods to measure strategy. They used both perceptual and archival measure to tap

the strategy in a service industry setting of hospitals. In supporting the use of these measures they had the following results to report:

> In the cases where both measures were available, the perceptions of the external raters were supported by the responses to the Miles and Snow dimension questions...the modal strategy classifications of the external raters could be correctly predicted from the answers to the Miles and Snow dimension questions 88 percent of the time for the placid period and 76 percent of the time for the turbulent period (88).

In the absence of valid archival information as was used above, multiple informants were used to assess inter-rater reliability using the strategy type question answered by the two respondents in each organization. It was expected that the perceptions of the organizations' strategy by the members of the top management team would be fairly consistent. If the responses were consistent, it would support the contention that the instrument is a reliable one for measuring a firm's strategy. Table 21 presents a cross-tabulation of the GM and TMT responses using Cohen's Kappa test for significance of agreement.

The Cohen's Kappa test measures the degree of agreement between two nominal variables. The two nominal variables represent "judges" who assign each observation to one of the four categories: prospector, defender, analyzer, and reactor. All the observations being studied are sorted into a k*k table. Good agreement is reflected in large frequencies on the diagonal (Cohen, 1960).

The results of the analysis presented here indicates that there is a statistically significant degree of agreement between top management members regarding business strategy. It is clear that the agreement between the GM and TMT is far more often than chance alone.

Table 21. Cross-tabulation of strategy perceived by the GM and TMT

GM   TMT

FREQUENCY PERCENT ROW PCT COL PCT	Reactor	Analyzer	Prospector	Defender	TOTAL
Reactor	2 2.99 100.00 33.33	0 0.00 0.00 0.00	0 0.00 0.00 0.00	0 0.00 0.00 0.00	2 2.99
Analyzer	0 0.00 0.00 0.00	13 19.40 61.90 68.42	6 8.96 28.57 19.35	2 2.99 9.52 18.18	21 31.34
Prospector	1 1.49 3.33 16.67	5 7.46 16.67 26.32	21 31.34 70.00 67.74	3 4.48 10.00 27.27	30 44.78
Defender	3 4.48 21.43 50.00	1 1.49 7.14 5.26	4 5.97 28.57 12.90	6 8.96 42.86 54.55	14 20.90
TOTAL	6 8.96	19 28.36	31 46.27	11 16.42	67 100.00

STATISTICS FOR TABLE OF GM BY TMT

STATISTIC	Z VALUE
COHEN'S KAPPA	4.41*

* Significant at $p < 0.05$

The significance of these findings for this study is that the perception of the GM as to the organization's business strategy is likely to be a good indication of the business strategy of the firm. This finding has prior validation (Schaffer, 1986). Given this indication, and to avoid the unequal variance problem discussed earlier, GM responses were used for all subsequent statistical analyses in this study.

Strategy Characteristics Instrument

A factor analysis was conducted to investigate the construct validity of the strategy characteristics questionnaire. This was done to determine if there were in fact four main factors on which the 23 items would load, i.e., the four strategy types. If respondents grouped together based on commonalties in their strategies, the groupings could then be labelled according to their competitive posture. The result of the factor analysis is presented in Table 22.

The factor analysis resulted in one factor with an eigenvalue of 7.7, and another factor with an eigenvalue of 1.5. All other factors had eigen values lower than 1.0. The items used failed to result in distinct grouping of organizations based in their strategy characteristics. We were thus unable to identify distinct factors with any meaningful profiles.

Another form of multivariate analysis was performed to examine the relationship between strategy characteristics that form part of a firm's strategy and its overall strategic profile. This test involved performing cluster analysis of the 180 respondent organizations on the 23 strategy characteristics or items. It was expected that four clear and disparate clusters would emerge from the analysis that would correspond to the

Table 22. Factor Analysis with PROMAX Rotation

Factor Method: Principal Factors

FACTOR PATTERN				
	FACTOR1	FACTOR2	FACTOR3	FACTOR4
SVCLEVEL	0.76943	-0.08852	-0.19706	-0.25337
CTLQUAL	0.75876	-0.19752	-0.12421	-0.27632
INNOVSVC	0.71591	0.26910	-0.06181	-0.18025
MONSAT	0.71494	-0.17697	-0.07031	-0.00807
OPEREFF	0.70207	-0.28009	0.19587	-0.20013
NEWMKTS	0.69535	-0.18803	-0.07321	0.27053
TRDEV	0.67926	-0.04756	0.04605	-0.05763
TRAKCOMP	0.66371	-0.07165	-0.02892	0.25091
MKTDEVT	0.66287	-0.03415	-0.11437	0.20115
SPECSVC	0.63310	0.46040	0.03032	-0.09934
REPPROP	0.62963	0.11252	-0.02642	-0.10652
SPECSEG	0.60278	-0.25825	-0.10259	0.17667
MKTIDEAS	0.59901	0.20365	-0.14417	0.03618
NEWDEVT	0.55188	0.48418	-0.05320	0.08378
CTLBUS	0.54423	-0.10480	-0.03961	0.39549
PRFACSVC	0.49732	0.48357	0.11188	0.04232
VARCUST	0.49504	-0.21660	0.25459	0.19771
RENOVATE	0.47153	0.09161	-0.12613	-0.14265
CTLFIN	0.43200	-0.39201	0.39901	-0.15318
HIINV	0.07895	0.42969	0.29734	0.10152
CTLSUP	0.37482	-0.02941	0.52396	-0.06679
USEDEBT	0.06789	0.19053	0.36542	0.07159
LOWRATE	-0.08712	0.00014	0.28909	0.02190

Eigen Value of Each Factor

FACTOR1	FACTOR2	FACTOR3	FACTOR4
7.689556	1.515769	0.992615	0.715316

Final Commonality Estimates: TOTAL = 10.913255

business strategy types developed by Miles and Snow (1978): Prospectors, Defenders, Analyzers and Reactors.

As a first step, two cluster routines were run using all 180 respondents and the 23 strategy items on the questionnaire. Both the FASTCLUS and WARD methods failed to reveal distinct clusters with any meaningful profiles. As a second step, a step wise discriminant analysis was conducted to determine if there were some items that were more powerful than others in distinguishing between groups. In this process six items were identified. Table 23 presents the items identified.

Of the six items presented in Table 23, four are defender like (efficiency oriented) and two prospector like (innovation oriented). Using the 6 items identified through the step wise discriminant analysis six different cluster routines were run to check for cluster patterns. These routines; FASTCLUS, WARD, CENTROID, COMBINED, AVERAGE and MEDIAN; failed to provide distinct clusters with any kind of meaningful profiles.

Finally, 13 of the 23 items were isolated as being distinctly prospector or defender like. These comprised those items that clearly fell in either the innovation or efficiency category. It was felt that these variables, if any, would help distinguish between strategy groups. Once again, both FASTCLUS and the WARD routines were run using these variables. Unfortunately, this method failed to provide us with any distinct clusterings.

Based on the above exploration, the construct validity of the strategy characteristics questionnaire was not supported and, thus, was considered inappropriate for further analysis. The items used in the analysis failed to result in distinct groupings of organizations based on their strategy characteristics. As a result, it was necessary to

Table 23. Results of step wise discriminant analysis for item importance

ITEM	DESCRIPTION
SPECSEG	Serving specific markets/segments
MONSAT	Monitoring guest satisfaction
NEWDEVT	New product/service development
LOWRATE	Selling at your lowest rate
INNOVSVC	Trying innovative service ideas/methods
OPEREFF	Maintaining operating efficiency

use only the self typed strategy indicated by the GM, validated above, for all subsequent statistical analyses.

Financial Performance Measures

The validity and reliability of the performance measures are based primarily on their universal acceptability, uniformity of use, and relevance in relation to the other variables. The content validity of the profit and revenue measures are contained in their use in studies relating to the lodging industry (Ashley & Olsen, 1986) as well as by public accounting and securities firms that publish periodic reports relating to the lodging industry (Laventhol & Horwath, 1987; Hoare, Spicer & Slattery, 1987). The same measures form a part of all major lodging operations' income statements as specified by the **American Hotel and Motel Association** (Uniform System of Accounts for Hotels, 1984).

The importance of these measures is based in both their widespread use and acceptability. In a study of seventy-four hotel executives in twenty-seven hotel companies, Geller (1985) investigated the relative importance of ten commonly used hotel performance goals. He found profitability and growth were the most frequently cited goals. In addition, hotel executives rated profitability as the third most useful performance indicator after occupancy and average room rate (revenue).

An additional relevance of the profitability measure is based on its relationship to other variables being studied. In order to assess operating profitability as the criterion variable that will determine the extent of "fit" or coalignment of environment and strategy, this measure takes into account the discretionary resource allocation expense

items under the control of a typical hotel manager. In the typical income statement, all items above the IBFC are, as the definition suggests, "operating" expenses. In this way, the performance measure is not contaminated by the variations on account of the unique financial structure of the hotel (interest expense) or the nature of the property ownership (owned, leased etc.). Thus, the appropriateness of the business strategy of the unit is measured against the business decisions that are reflected in the performance measure.

Descriptive Statistics

A number of descriptive statistics were analyzed via cross-tabulations of the profile variables identified earlier. Chi-square goodness-of-fit tests were conducted on the cross-tabulated variables where appropriate. The purpose of this analysis was to investigate relationships among these variables and to identify patterns that might emerge. Further, it provided additional information for interpreting the hypotheses tests more meaningfully.

Location

Table 24 presents a cross-tabulation of the respondents by location and size with a chi-square test conducted for the table to check for a relationship between the two variables. The results of the analysis presented here indicate that there is a statistically significant relationship between the hotels' size and location. The pattern evident in the table above is consistent with the general profile of the lodging industry. While highway locations tend to feature smaller properties, center cities and resorts have the larger properties.

Table 24. Cross-tabulation of LOCATION by SIZE

LOCATION   SIZE

FREQUENCY PERCENT ROW PCT COL PCT	< 160 rms	> 160 < 200	> 200 < 260	> 260 rms	TOTAL
Center City	5 2.78 13.51 13.51	9 5.00 24.32 17.65	9 5.00 24.32 19.15	14 7.78 37.84 31.11	37 20.56
Highway	12 6.67 35.29 32.43	16 8.89 47.06 31.37	4 2.22 11.76 8.51	2 1.11 5.88 4.44		34 18.89
Suburban	10 5.56 18.52 27.03	13 7.22 24.07 25.49	21 11.67 38.89 44.68	10 5.56 18.52 22.22	54 30.00
Airport	4 2.22 20.00 10.81	2 1.11 10.00 3.92	7 3.89 35.00 14.89	7 3.89 35.00 15.56	20 11.11
Resort	6 3.33 17.14 16.22	11 6.11 31.43 21.57	6 3.33 17.14 12.77	12 6.67 34.29 26.67	35 19.44
TOTAL	37 20.56	51 28.33	47 26.11	45 25.00	180 100.00

STATISTICS FOR TABLE OF LOCATION BY SIZE

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	12	30.160	0.003*

* Significant

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Table 25. Cross-tabulation of LOCATION by OPERATING ARRANGEMENT

LOCATION   OPERATING ARRANGEMENT

FREQUENCY PERCENT ROW PCT COL PCT	Chain OM	Chain LM	Chain M	Franchised	Independent	TOTAL
Center City	6 3.33 16.22 25.00	1 0.56 2.70 33.33	6 3.33 16.22 31.58	14 7.78 37.84 13.86	10 5.56 27.03 30.30	37 20.56
Highway	2 1.11 5.88 8.33	1 0.56 2.94 33.33	0 0.00 0.00 0.00	27 15.00 79.41 26.73	4 2.22 11.76 12.12	34 18.89
Suburban	6 3.33 11.11 25.00	0 0.00 0.00 0.00	3 1.67 5.56 15.79	37 20.56 68.52 36.63	8 4.44 14.81 24.24	54 30.00
Airport	6 3.33 30.00 25.00	1 0.56 5.00 33.33	2 1.11 10.00 10.53	10 5.56 50.00 9.90	1 0.56 5.00 3.03	20 11.11
Resort	4 2.22 11.43 16.67	0 0.00 0.00 0.00	8 4.44 22.86 42.11	13 7.22 37.14 12.87	10 5.56 28.57 30.30	35 19.44
TOTAL	24 13.33	3 1.67	19 10.56	101 56.11	33 18.33	180 100.00

STATISTICS FOR TABLE OF LOCATION BY OPERATING ARRANGEMENT

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	16	36.490	0.002*

* Significant

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Table 25 presents a cross-tabulation of the respondents by location and operating arrangement with a chi-square test conducted for the table to check for a relationship between the two variables. The results of the analysis presented here indicate that there is a statistically significant relationship between the hotels' location and operating arrangement. This result is to be interpreted with caution as a few of the cells in the table are blank. This is because one of the operating arrangement categories--chain leased and managed--has too few observations (3). The pattern evident in the table, however, is consistent with the profile of the lodging industry and the trends within it. Highway properties tend to be primarily franchised operations while city and resort locations are relatively polarized as chain managed or independent operations. The pattern is not very clear as there are 101 franchised properties out of a total of 180. In all further analysis, only four of the five operating arrangement categories will be used to preserve the validity of the chi-square test.

Table 26 presents a cross-tabulation of the respondents by location and strategy with a chi-square test conducted for the table to check for a relationship between the two variables. Due to the small number of Reactors in the sample, as well as this being a "non" strategy, this category has been eliminated from these descriptive statistics. The result of the analysis presented here indicates that there is no relationship between the hotels' location and strategy. Thus, it would seem that the strategy employed is independent of location.

Table 27 presents a cross-tabulation of the respondents by location and environmental state with a chi-square test conducted for the table to check for a relationship between the two variables. The result of the analysis presented here indicates that there is a statistically significant relationship between the hotels' location

Table 26. Cross-tabulation of LOCATION by STRATEGY

STRATEGY   LOCATION

FREQUENCY PERCENT ROW PCT COL PCT	Center City	Highway	Suburban	Airport	Resort	TOTAL
Analyzer	6 3.49 13.33 16.67	7 4.07 15.56 22.58	13 7.56 28.89 25.00	8 4.65 17.78 42.11	11 6.40 24.44 2.35	45 26.16
Prospector	19 11.05 22.35 52.78	18 10.47 21.18 58.06	22 12.79 25.88 42.31	9 5.23 10.59 47.37	17 9.88 20.00 50.00	85 49.42
Defender	11 6.40 26.19 30.56	6 3.49 14.29 19.35	17 9.88 40.48 32.69	2 1.16 4.76 10.53	6 3.49 14.29 17.65	42 24.42
TOTAL	36 20.93	31 18.02	52 30.23	19 11.05	34 19.77	172 100.00

STATISTICS FOR TABLE OF STRATEGY BY LOCATION

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	8	9.344	0.314*

* N.S.

and environmental state. This then supports a premise presented in Chapter 2 that organizations within an industry face differing levels of environmental uncertainty depending on their location or market served. There is a definite pattern observable in this table. While center city, airport, and resort hotels perceive themselves in relatively stable environments; highway and suburban hotels perceive themselves facing relatively volatile environments.

Size

Table 28 presents a cross-tabulation of the respondents by size and affiliation. This table presents a fairly even distribution of properties across the different sizes. Most of the properties are in the 160 to 260 room range. The general pattern is fairly representative of the industry with the budget chains such as Days Inns, Quality, and Ramada being affiliated with the smaller properties in the sample, while the more up scale chains such as Holiday, Sheraton, and Marriott are affiliated with the large properties.

Table 29 presents a cross-tabulation of the respondents by size and strategy with a chi-square test conducted for the table to check for a relationship between the two variables. The result of the analysis presented here indicates that there is no relationship between the hotels' size and strategy. Thus, it appears that the strategy employed is independent of the size of the property.

Table 30 presents a cross-tabulation of the respondents by size and environmental state with a chi-square test conducted for the table to check for a relationship between the two variables. The result of the analysis presented here indicates that there is no

Table 27. Cross-tabulation of LOCATION by ENVIRONMENT

LOCATION ENVIRONMENT

FREQUENCY PERCENT ROW PCT COL PCT	Stable	Mid-range	Volatile	TOTAL
Center City	18 10.47 50.00 34.62	15 8.72 41.67 20.00	3 1.74 8.33 6.67	36 20.93
Highway	6 3.49 19.35 11.54	17 9.88 54.84 22.67	8 4.65 25.81 17.78	31 18.02
Suburban	8 4.65 15.38 15.38	24 13.95 46.15 32.00	20 11.63 38.46 44.44	52 30.23
Airport	8 4.65 42.11 15.38	7 4.07 36.84 9.33	4 2.33 21.05 8.89	19 11.05
Resort	12 6.98 35.29 23.08	12 6.98 35.29 16.00	10 5.81 29.41 22.22	34 19.77
TOTAL	52 30.23	75 43.60	45 26.16	172 100.00

STATISTICS FOR TABLE OF LOCATION BY ENVIRONMENT

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	8	20.285	0.009*

* Significant

Table 28. Cross-tabulation of SIZE by AFFILIATION

AFFILIATION	SIZE				
	< 160 rms	> 160 < 200	> 200 < 260	> 260 rms	TOTAL
Independent	6	14	6	7	33
Radisson Hotels	0	0	3	2	5
Quality Intl	3	2	1	0	6
Holiday Inns	9	12	13	12	46
Days Inns	1	1	3	0	5
Sheraton Hotels	1	2	4	5	12
Best Western	1	3	4	1	9
Marriott Hotels	0	0	3	4	7
Ramada Hotels	4	5	0	0	9
Hilton Hotels	1	2	3	1	7
TOTAL	26	41	40	32	139

Table 29. Cross-tabulation of SIZE by STRATEGY

STRATEGY   SIZE

FREQUENCY PERCENT ROW PCT COL PCT	< 160 rms	> 160 < 200	> 200 < 260	> 260 rms	TOTAL
Analyzer	12 6.98 26.67 34.29	10 5.81 22.22 20.41	12 6.98 26.67 27.27	11 6.40 24.44 25.00	45 26.16
Prospector	10 5.81 11.76 28.57	26 15.12 30.59 53.06	22 12.79 25.88 50.00	27 15.70 31.76 61.36	85 49.42
Defender	13 7.56 30.95 37.14	13 7.56 30.95 26.53	10 5.81 23.81 22.73	6 3.49 14.29 13.64	42 24.42
TOTAL	35 20.35	49 28.49	44 25.58	44 25.58	172 100.00

STATISTICS FOR TABLE OF STRATEGY BY SIZE

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	6	10.586	0.102*

* N.S.

relationship between the hotels' size and environment. Thus, it appears that the level of environmental uncertainty facing an organization is independent of the size of the property.

Table 30. Cross-tabulation of SIZE by ENVIRONMENT

SIZE   ENVIRONMENT

FREQUENCY PERCENT ROW PCT COL PCT	Stable	Mid-range	Volatile	TOTAL
< 160 rms	15 6.72 42.86 28.85	12 6.98 34.29 16.00	8 4.65 22.86 17.78	35 20.35
> 160 < 200	12 6.98 24.49 23.08	25 14.53 51.02 33.33	12 6.98 24.49 26.67	49 28.49
> 200 < 260	11 6.40 25.00 21.15	19 11.05 43.18 25.33	14 8.14 31.82 31.11	44 25.58
> 260 rms	14 8.14 31.82 26.92	19 11.05 43.18 25.33	11 6.40 25.00 24.44	44 25.58
TOTAL	52 30.23	75 43.60	45 26.16	172 100.00

STATISTICS FOR TABLE OF SIZE BY ENVIRONMENT

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	6	4.893	0.558*

* N.S.

Affiliation

Table 31 presents a cross-tabulation of the respondents by affiliation and strategy. An interesting distribution of properties across the different strategies is seen here. Over half of the properties typed themselves as prospectors. An equal number are in each of the analyzer and defender categories. There are two main findings that deserve attention in this table. One is that hotels with the same affiliation need not necessarily follow the same strategy. A possible explanation for this is the need to adapt the strategy to varying local market conditions. It remains to be seen if the basic thesis of this study, an environment-strategy match, is borne out by the results.

A second finding is that organizations with a well defined market segment such as Quality seem to be in the minority. As such, most organizations such as Holiday, Ramada, and Marriott seem to be catering to a fairly broad and perhaps not so well defined market group. This is consistent with a major trend in the lodging industry that emerged in the early 1980's in the face of increasing competition and declining occupancy rates, i.e., hotels being all things to all people (Adu-Kwansa et. al., 1986).

Operating Arrangement

Table 32 presents a cross-tabulation of the respondents by operating arrangement and strategy with a chi-square test conducted for the table to check for a relationship between the two variables. One of the operating arrangement categories, chain leased and managed, has been dropped for this test due to too few observations. As mentioned earlier, including this would have resulted in a lot of blank cells compromising the validity of the chi-square test.

Table 31. Cross-tabulation of AFFILIATION by STRATEGY

| | STRATEGY | | | |
AFFILIATION	Analyzer	Prospector	Defender	TOTAL
Independent	8	10	15	33
Radisson Hotels	1	3	1	5
Quality Intl	1	2	3	6
Holiday Inns	10	28	8	46
Days Inns	2	2	1	5
Sheraton Hotels	3	8	1	12
Best Western	1	6	2	9
Marriott Hotels	2	5	0	7
Ramada Hotels	3	5	1	9
Hilton Hotels	2	4	1	7
TOTAL	33	73	33	139

Table 32. Cross-tabulation of OPERATING ARRANGEMENT by STRATEGY

STRATEGY   OPERATING ARRANGEMENT

FREQUENCY PERCENT ROW PCT COL PCT	Chain OM	Chain M	Franchised	Independent	TOTAL
Analyzer	8 4.65 17.78 33.33	8 4.65 17.78 42.11	23 13.37 51.11 23.71	6 3.49 13.33 18.75	45 26.16
Prospector	11 6.40 12.94 45.83	11 6.40 12.94 57.89	52 30.23 61.18 53.61	11 6.40 12.94 34.38	85 49.42
Defender	5 2.91 11.90 20.83	0 0.00 0.00 0.00	22 12.79 52.38 22.68	15 8.72 35.71 46.88	42 24.42
TOTAL	24 13.95	19 11.05	97 56.40	32 18.60	172 100.00

STATISTICS FOR TABLE OF STRATEGY BY OPERATING ARRANGEMENT

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	6	16.855	0.010*

* Significant

The result of the analysis presented here indicates that there is a statistically significant relationship between the hotels' operating arrangement and strategy. Interpreting this result is hindered by the fact that more than half of the properties are franchise operations. In addition, almost half of the properties have typed themselves as prospectors. This has resulted in a strong prospector-franchise match that far outnumbers any of the other cells. A pattern is emerging here. As seen in the next table, franchise operations perceive themselves to be in a relatively volatile environmental state.

Table 33 presents a cross-tabulation of the respondents by operating arrangement and environmental state with a chi-square test conducted for the table to check for a relationship between the two variables.

The result of the analysis presented here indicates that there is a statistically significant relationship between the hotels' operating arrangement and environment. Interpreting this result is hindered by the fact that more than half of the properties are franchise operations. In addition, almost half of the properties fall in the mid-range category. A pattern is emerging here. As seen in the previous table, there was a relationship between operating arrangement and the environment. It follows from this that a possible relationship between environment and strategy is underlying the findings presented thus far.

Table 33. Cross-tabulation of OPERATING ARRANGEMENT by ENVIRONMENT

OPERATING ARRANGEMENT   ENVIRONMENT

FREQUENCY PERCENT ROW PCT COL PCT	Stable	Mid-range	Volatile	TOTAL
Chain owned and managed	7 4.07 29.17 13.46	15 8.72 62.50 20.00	2 1.16 8.33 4.44	24 13.95
Chain Managed	9 5.23 47.37 17.31	8 4.65 42.11 10.67	2 1.16 10.53 4.44	19 11.05
Franchised	24 13.95 24.74 46.15	40 23.26 41.24 53.33	33 19.19 34.02 73.33	97 56.40
Independent	12 6.98 37.50 23.08	12 6.98 37.50 16.00	8 4.65 25.00 17.78	32 18.60
TOTAL	52 30.23	75 43.60	45 26.16	172 100.00

STATISTICS FOR TABLE OF OPERATING ARRANGEMENT BY ENVIRONMENT

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	6	12.751	0.047*

* Significant

Strategy and Environment

Table 34 presents a cross-tabulation of the respondents by strategy and environmental state with a chi-square test conducted for the table to check for a relationship between the two variables.

The results of the analysis presented here indicate that there is no relationship between the hotels' strategy and environment. Thus, it would seem that the level of environmental uncertainty facing an organization is independent of strategy of the property. The low probability value indicates that the relationship between strategy and environment is supported by more than chance alone. An underlying explanation for this non-significance, in spite of getting significant results in the earlier two tests, is perhaps that it is the environment x strategy interaction that deserves scrutiny to adequately explain these previous results. This is examined in the next section on hypothesis tests.

Hypothesis Tests

The principal purpose of this study was to investigate the association between strategy content, environmental uncertainty, and its relationship to the financial performance of lodging operations. Chapter 3 presented the basic model guiding this study, the research questions and three principal hypotheses to be tested.

This section of the chapter reports the results of the statistical tests performed on these three hypotheses. Each hypothesis will be restated and discussed briefly. The

Table 34. Cross-tabulation of STRATEGY by ENVIRONMENT

STRATEGY　　　　　　　　ENVIRONMENT

FREQUENCY PERCENT ROW PCT COL PCT	Stable	Mid-range	Volatile	TOTAL
Analyzer	9 5.23 20.00 17.31	20 11.63 44.44 26.67	16 9.30 35.56 35.56	45 26.16
Prospector	25 14.53 29.41 48.08	37 21.51 43.53 49.33	23 13.37 27.06 51.11	85 49.42
Defender	18 10.47 42.86 34.62	18 10.47 42.86 24.00	6 3.49 14.29 13.33	42 24.42
TOTAL	52 30.23	75 43.60	45 26.16	172 100.00

STATISTICS FOR TABLE OF STRATEGY BY ENVIRONMENT

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	4	7.612	0.107*

* N.S.

results of a number of follow up analyses will also be reported. The discussion arising from these results are presented in Chapter 5.

HYPOTHESIS ONE: No difference will be found in the performance of hotels classified according to their strategy type.

This null hypothesis examines the contention that all strategies are equally effective and do not account for any difference in the performance of organizations. Strategy was measured by the GM's response to the question in Section 4 which listed the four Miles and Snow (1978) strategy types, each in the form of a descriptive paragraph. Since the strategy variable was categorical, a one-way analysis of variance test was conducted using the profit ratio (PROF) described earlier as the dependent variable. Table 35 presents the results of the analysis. In this test all four strategy types were included.

Table 35 was presented with all four strategy types in the model. As seen earlier, there are only 6 reactor organizations. Based on the performance mean scores presented in here, the reactor strategy had the lowest ratio of profit (IBFC) to total sales compared to the other strategy types. This is consistent with earlier findings (Miles & Snow, 1978). Based on the fact that a degree of freedom is being lost for only 6 additional observations, the analysis was rerun with only the three strategy types to try and sharpen the result.

Table 36 presents the result of the analysis using the three strategy types against the profit ratio (PROF). The result shows no significant relationship between strategy and performance. The result of the analysis presented here indicates that there is no

Table 35. One-way analysis of variance: Four Strategy types and Profit

```
                    GENERAL LINEAR MODELS PROCEDURE

DEPENDENT VARIABLE: PROF

SOURCE      DF    SUM OF SQUARES       MEAN SQUARE        F VALUE

STRATEGY     3       0.48771420          0.16257140         2.23
ERROR      176      12.84499025          0.07298290        PR > F

TOTAL      179      13.33270445                            0.0867*

          DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: PROFIT
               ALPHA=0.05  DF=176  MSE=0.0729829

    MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT.

          DUNCAN GROUPING          MEAN        N    STRATEGY

                    A            0.40159       42   DEFENDER
                    A            0.38060       45   ANALYZER
                    A            0.29565       87   PROSPECTOR
                    A            0.22222        6   REACTOR
```

* N.S.

statistically significant relationship between the hotels' strategy and performance measured in terms of profit.

As discussed in an earlier section, the choice of a performance measure is often based on tradeoffs that may be biased in favor of one type of test. It can be argued, from the performance mean scores presented in Table 36, that profit perhaps favors the defenders when compared with prospectors. Using a different measure, e.g., revenue, may result in prospectors having higher performance scores. To test this contention, we ran the analysis using an alternate performance measure, revenue (SPAR). Table 37 presents the result of the analysis using the revenue measure.

The results of the analysis presented here indicate that there is no statistically significant relationship between the hotels' strategy and performance measured in terms of revenue. In view of this, the null hypothesis that employing different strategies can result in equal performance is accepted. This result seems to support the previous finding on this subject (Schaffer, 1986). From the multiple range test presented in Table 37above, the defender, analyzer and prospector strategies perform equally well.

Although the above tests were statistically insignificant, the pattern emerging from the analysis deserves examination. On examining the scores on income before fixed charges as a ratio to total sales (mean = 34%), defenders (40%) outperformed analyzers (38%) who, in turn, outperformed prospectors (30%). On examining the scores on sales per available room (mean = $79.91), prospectors ($79.57) outperformed analyzers ($73.41) who, in turn, outperformed defenders ($54.46). As discussed earlier, it is indicated here that the choice of the performance measure perhaps makes a difference in how strategies are assessed.

Table 36. One-way analysis of variance: Three Strategy types and Profit

```
                  GENERAL LINEAR MODELS PROCEDURE

DEPENDENT VARIABLE: PROF

SOURCE      DF      SUM OF SQUARES      MEAN SQUARE      F VALUE

STRATEGY     2         0.40284059        0.20142029        2.69
ERROR      171        12.82184210        0.07498153       PR > F
TOTAL      173        13.22468269                         0.0710*


          DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: PROF
              ALPHA=0.05  DF=171  MSE=0.0749815

     MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT.

          DUNCAN  GROUPING        MEAN       N   STRATEGY

                     A          0.40159     42   DEFENDER
                     A          0.38060     45   ANALYZER
                     A          0.29565     87   PROSPECTOR


* N.S.
```

Table 37. One-way analysis of variance: Strategy and Revenue

```
                    GENERAL LINEAR MODELS PROCEDURE

DEPENDENT VARIABLE: SPAR

SOURCE      DF     SUM OF SQUARES      MEAN SQUARE        F VALUE

STRATEGY    2         17997.191        8998.59527          2.25
ERROR       171       682825.997       3993.13448         PR > F
TOTAL       173       700823.188                          0.1081*

          DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: SPAR
               ALPHA=0.05  DF=171  MSE=3993.13

    MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT.
```

DUNCAN GROUPING	MEAN	N	STRATEGY
A	79.57	87	PROSPECTOR
A	73.41	45	ANALYZER
A	54.46	42	DEFENDER

* N.S.

HYPOTHESIS TWO: In stable environments, there will be no difference in performance between hotels employing different strategies.

HYPOTHESIS THREE: In volatile environments, there will be no difference in performance between hotels employing different strategies.

Stated in the null form, hypotheses two and three examine the contention that employing different strategies in organizations that face different environmental states is not related to performance. In other words, a "match" or interaction between environment and strategy does not have to occur for organizations to perform better.

In the alternate form, hypotheses two and three address the environment, strategy, and performance relationship theorized by the researchers identified above (Miles & Snow, 1978; Bourgeois, 1978; Schaffer, 1986). In order to reject these null hypotheses, it will have to be shown that organizations do in fact have to "match" their strategy to their environment to perform better. Keeping with the original contention, it is expected here that, for hotels facing a relatively stable environment, higher performance will be associated with hotels employing a defender type strategy. Similarly, for hotels facing a relatively volatile environment, higher performance is expected to be associated with hotels employing a prospector type strategy.

In order to test hypotheses 2 and 3, a two-way analysis of variance was using environment as a two level categorical variable (stable and volatile), strategy as a three-level categorical variable (analyzer, prospector, and defender), and both performance measures (PROF and SPAR), separately as continuous dependent variables. Table 38 presents the results of the analysis using the profit ratio (PROF).

Table 38. Two-way analysis of variance: Environment, Strategy and Profit

GENERAL LINEAR MODELS PROCEDURE

DEPENDENT VARIABLE: PROF

SOURCE	DF	TYPE III SS	F VALUE	PR > F
STRATEGY	2	0.20180505	1.41	0.2460*
ENVIRONMENT	2	0.06599956	0.46	0.6305*
STRATEGY x ENVIRONMENT	4	0.93396748	3.27	0.0130**

CELL MEANS COMPARED

STRATEGY	ENVIRONMENT	N	PROF	RANK
Analyzer	Stable	9	0.19771242	9
Analyzer	Mid-range	20	0.31738095	4
Analyzer	Volatile	16	0.56250000	1
Prospector	Stable	26	0.30496964	5
Prospector	Mid-range	38	0.29643427	6
Prospector	Volatile	23	0.28381643	7
Defender	Stable	18	0.45370370	2
Defender	Mid-range	18	0.38888889	3
Defender	Volatile	6	0.28333333	8

* N.S.
** Significant

The result of the analysis presented here indicates that there is a statistically significant interaction effect of the hotels' strategy x environment combination on performance measured in terms of profit. This is evident from the significance of the interaction term. In view of this, the null hypothesis that there is no performance implication when environment and strategy are matched was rejected. This result is clearly the most significant contribution of this study and its most important finding. It validates the contingency approach on which this study is based: organizations need to "match" their environments and strategies for high performance.

The cell means presented in Table 38 provide information on exactly how environment and strategy are matched in relation to performance. In order to test hypotheses 2 and 3, Duncan's multiple range tests was conducted separately for the mean scores in both stable and volatile environments.

With regard to hypothesis 2, of all the strategies matched with a stable environment, defenders outperformed analyzers. Prospectors and defenders performed equally well. Prospectors performed as well as analyzers. In view of this, the hypothesis that all strategies are equally effective in a stable environment was rejected. This finding did support the general contention in the literature that organizations following a defender strategy thrive in a stable environment (Ginn & McDaniel, 1987). What was surprising, however, is that the analyzers, not the prospectors, fared poorly in a stable environment.

With regard to hypothesis 3, the result differs somewhat from the findings reported in the literature. The analyzer strategy outperformed both prospectors and defenders in a volatile environment. Prospectors and defenders performed equally well. In view of this, the hypothesis that all strategies perform equally in a volatile environment was

rejected. As expected, high performance when prospectors matched with a volatile environment was not found.

Caution must be exercised when interpreting these results, due to the nature of the tradeoff resulting from the use of a profit related performance variable. In the following table, the same analysis is presented using an alternate (revenue) performance measure. Table 39 presents the results of the analysis using the revenue (SPAR) measure.

The result of the analysis presented here indicates that there is no statistically significant relationship between the hotels' strategy x environment combination and performance measured in terms of revenue. This is evident from the high p value denoting insignificance of the interaction term. Duncan's multiple range tests performed on the stable and volatile subgroups result in the insignificant differences in the strategy types. In this case, the null hypothesis that there is no performance implication when environment and strategy interact cannot be rejected.

Follow-up Analyses

This section of the chapter reports the results of some additional follow-up statistical tests performed on additional variables in the data set. First, an analysis of covariance using size as a covariate was conducted. Table 40 and Table 41 present the results of the analysis using the profit (PROF) measure.

The results of the analysis presented here indicates that there is a statistically significant relationship between the hotels' size and performance measured in terms of

Table 39. Two-way analysis of variance: Environment, Strategy and Revenue

---

GENERAL LINEAR MODELS PROCEDURE

DEPENDENT VARIABLE: SPAR

SOURCE	DF	TYPE III SS	F VALUE	PR > F
STRATEGY	2	9867.58722	2.19	0.1147*
ENVIRONMENT	2	703.50264	0.09	0.9179*
STRATEGY x ENVIRONMENT	4	5372.87986	0.33	0.8592*

CELL MEANS COMPARED

STRATEGY	ENVIRONMENT	N	SPAR	RANK
Analyzer	Stable	9	82.0936404	2
Analyzer	Mid-range	20	76.7255343	5
Analyzer	Volatile	16	64.3938734	7
Prospector	Stable	26	82.6334220	1
Prospector	Mid-range	38	78.4285960	3
Prospector	Volatile	23	77.9765372	4
Defender	Stable	18	54.4903953	8
Defender	Mid-range	18	47.4313346	9
Defender	Volatile	6	75.4205649	6

* N.S.

Table 40. Analysis of covariance: Strategy and Environment with Size

GENERAL LINEAR MODELS PROCEDURE				
DEPENDENT VARIABLE: PROF				
SOURCE	DF	TYPE III SS	F VALUE	PR > F
STRATEGY	3	0.35061323	1.64	0.1812*
ENVIRONMENT	2	0.11948491	0.84	0.4335*
SIZE	1	0.42196042	5.93	0.0159**

* N.S.
** Significant

Table 41. Analysis of covariance: Strategy and Environment with Size

GENERAL LINEAR MODELS PROCEDURE

DEPENDENT VARIABLE: SPAR

SOURCE	DF	TYPE III SS	F VALUE	PR > F
STRATEGY	3	12948.6170	1.12	0.3420*
ENVIRONMENT	2	949.630957	0.12	0.8840*
SIZE	1	18458.3857	4.80	0.0299**

* N.S.
** Significant

profit and revenue. Table 42 presents the profit and revenue mean scores for the different size groups.

It can be seen that the relative performance of the different size groups depend on the measure being used. In terms of profit, smaller hotels do better than larger ones. In terms of revenue, larger properties tend to fare better.

Second, a three way analysis of variance was conducted using strategy, environment, and location in the model. The analysis revealed that location did not demonstrate any explanatory power in terms of performance measured in terms of profit or revenue.

A third analysis dealt with the question posed to general managers on the planning process followed in their property. The answer to the question: "Is there a formal planning process followed in your property?" (Yes/No) was used in a two group t test against performance. The basic contention here is that hotels that have a formal planning process in place will tend to perform better than those that do not. Table 43 presents the result of the analysis using both the profit (IBFC) and the revenue (SPAR) measure.

This table can be interpreted in terms of the sequence of steps leading up to the basic issue of performance difference between the two groups. For the profit variable, the test showed that the variances between the two groups were, in fact, equal. The critical value for the one-sided t test therefore, reported against EQUAL indicates no significant difference among the mean scores for the two groups. For the revenue variable, the test rejects use of the equal variance assumption. The critical value,

Table 42. Performance mean scores for the different size groups

SIZE GROUP	PROF MEAN	GROUPING	SPAR MEAN	GROUPING
	DUNCAN'S MULTIPLE RANGE TEST			
	MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT.			
< 160 rms	0.3987	A	88.09	A
> 160 < 200	0.3873	A	81.26	BA
> 200 < 260	0.3204	BA	59.43	BC
> 260 rms	0.2554	B	53.27	C

Table 43. T TEST: Formal Planning Process and Performance

```
                          T TEST PROCEDURE

VARIABLE: PROF

FORMAL
PLANNING        N                 MEAN                STD DEV

Yes             150           1.12153439            0.57553301
No              18            1.34876543            0.66906040

VARIANCES       T                  DF              PROB > |T|

UNEQUAL       -1.3809              20.1               0.1824
EQUAL         -1.5551             166.0               0.1218

FOR H0: VARIANCES ARE EQUAL, F' = 1.35 WITH 17 AND 149 DF
        PROB > F' = 0.3376


VARIABLE: SPAR

FORMAL
PLANNING        N                 MEAN                STD DEV

Yes             150          0.00002544            0.00001549
No              18           0.00002614            0.00002546

VARIANCES       T                  DF              PROB > |T|

UNEQUAL       -0.1145              18.5               0.9101
EQUAL         -0.1677             166.0               0.8670

FOR H0: VARIANCES ARE EQUAL, F' = 2.70 WITH 17 AND 149 DF
        PROB > F' = 0.0014
```

reported against UNEQUAL, also indicates no significant difference among the two groups.

The results did not support the contention that a formal planning process is associated positively with performance. The performance mean scores suggest, in fact, that the opposite relationship may be true. Although no statistically significant difference was found between the two groups, the nonformal planners have higher mean scores than the formal planners on both the performance measures.

There are two possible explanations for this. One may be due to the fact that prospectors comprise over half the respondents. By definition, prospectors need to be flexible and responsive, and hence not very formalized. A second explanation may relate to the basic contention about the generally volatile state of the environment. Following the work of Quinn (1980), an incremental strategy may be more appropriate in a volatile environment rather than an overtly formal one.

SUMMARY AND CONCLUSION

This chapter has presented a profile of firms that participated in the study and descriptive statistics pertaining to these firms. Statistical tests to examine the relationships among the variables being studied were presented and briefly discussed. Control variables (size and location) were evaluated for explanatory power.

The results of the hypothesis tests were as follows:

Hypothesis 1 was accepted because organizations following different strategies did not differ in their performance levels.

Hypothesis 2 and 3 were rejected in that organizations that effected a match between their environmental state and strategy performed better than those that did not.

The next chapter will discuss the findings presented here.

Chapter 5

DISCUSSION

INTRODUCTION

In the previous chapter the results of the analyses conducted on the data collected for this study were presented. Here, these findings will be discussed, related to the theoretical underpinnings on which this study is based, and implications for theory and practice presented.

Based on the detailed statistical analyses presented in the previous chapter, the question now being asked is: "What has been gained from the exploration of the hypotheses guiding this study?" Before proceeding with a discussion of the results, presented below are the "facts" derived from the analysis:

1. The modified Coleman and Gaetan (1985) perceived task environmental uncertainty instrument was shown to possess both internal consistency and inter-rater reliability.

2. Agreement was found between top management team members regarding the degree of perceived environmental uncertainty facing their organizations.

3. Agreement was found between top management team members regarding the business strategy employed by their organization.

4. The twenty-three strategy characteristics measured failed to result in distinct groupings of organizations.

5. A statistically significant relationship was found between size and location. Smaller properties were relatively concentrated in highway locations, while the larger properties were divided between city centers and resorts.

6. A statistically significant relationship was found between location and operating arrangement. Highway properties tended to be primarily franchised operations, whereas city and resort locations were relatively polarized as chain-managed or independent operations.

7. A statistically significant relationship was found between location and perceived environmental uncertainty. While executives from center city, airport, and resort hotels perceived relatively stable environments; highway and suburban hotels' management perceived relatively volatile environments.

8. A statistically significant relationship was found between operating arrangement and strategy. A majority of franchise operations typed themselves as prospectors.

9. A statistically significant relationship was found between operating arrangement and perceived environmental uncertainty. Franchise operations perceived themselves in

relatively volatile environments, whereas chain and independent operations perceived themselves as being in relatively stable environments.

10. No statistically significant relationship was found between strategy and performance measured in terms of profit. Based on profit mean scores, however, it is suggested that hotels implementing a defender strategy outperformed hotels implementing an analyzer strategy. Hotels implementing an analyzer strategy outperformed hotels implementing a prospector strategy.

11. No statistically significant relationship was found between strategy and performance measured in terms of revenue. Based on revenue mean scores, however, it is suggested that hotels implementing a prospector strategy outperformed hotels implementing an analyzer strategy. Hotels implementing an analyzer strategy outperformed hotels following a defender strategy.

12. A statistically significant interaction effect of the hotels' strategy x environment combination on performance measured in terms of profit was found. Of all the strategies matched with a stable environment, defenders outperformed analyzers. Prospectors and defenders performed equally well. Prospectors performed as well as analyzers. Of all the strategies matched with a volatile environment, analyzers outperformed both prospectors and defenders. Prospectors and defenders performed equally well.

13. No statistically significant relationship was found between the hotels' strategy x environment combination and performance measured in terms of revenue.

14. A statistically significant relationship was found between the hotels' size and performance measured in terms of profit and revenue. In terms of profit, smaller hotels do better that larger ones. In terms of revenue, larger properties tend to fare better.

15. No statistically significant difference was found between formal and nonformal planners in terms of performance. The performance mean score for the two groups suggests that nonformal planners outperform formal planners.

The results summarized above are the "facts" emerging from this study. While it would be desirable to speak in terms of causal relationships, the nature of correlational techniques and cross-sectional studies do not lend themselves well to such an assumption. Notwithstanding this limitation, reciprocal or mutual causality may be plausibly considered in such a situation (Bourgeois, 1978).

DISCUSSION

The following sections will examine what the results mean. More importantly, these "facts" will be considered together and their implications explored. As a first step, inferences will be drawn from the results without considering interaction effects. As a second step, depending on the relationships being investigated, more complex inferences will be drawn taking interaction effects into account. At each stage, normative implications will, when possible, be suggested. Where inferences stretch beyond the explanatory capacity of the data, propositions for further investigation will be proposed. These will be stated as hypotheses for future research in Chapter 6.

Analysis of Strategy Archetypes

Strategy Classification: The Cluster Method

The preliminary tests attempted to distinguish, in a single service industry setting, strategy types corresponding to the typology developed by Miles and Snow (1978). Miles and Snow (1978), in their study of firms in four industries, developed a four item classification scheme into which they placed individual organizations. These four included three generic strategy types: prospectors, defenders, and analyzers that represented the stable or viable strategy types. A fourth, reactors, was identified as an unstable or nonviable strategy type.

In a pioneering empirical study of the lodging industry, Schaffer (1986) investigated the relationship between corporate strategy, structure, and performance in 101 lodging organizations. The Miles and Snow (1978) perspective on organizations was used as the basis of his study. Schaffer (1986) was able to approximate the Miles and Snow (1978) typology he was attempting to "map" in his study of the corporate strategies of lodging firms. A modified version of his strategy characteristics instrument was used here to validate this method through replication.

In attempting to classify organizations according to their strategy types, an attempt was made to analyze, using an exploratory multivariate data analysis technique (Cluster Analysis), the responses to 23 strategy characteristics. In this way, an attempt was made to tap a complex multidimensional construct (strategy), by means of a technique used to

group organizations in a 23 dimensional space using euclidean and other mathematical distances.

The findings indicate that the characteristics that were identified for use in this study were not useful in approximating this typology. The items used failed to result in distinct groupings of organizations based on their strategy characteristics. A similar result was reported by researchers using a comparative instrument and method in a different setting (West, 1988; Tse, 1988).

The inability of this method to generate the required result offers some important developmental objectives for future researchers. An obvious question is the appropriateness of this technique in measuring strategy. Is it realistic to hope that the essence of a multidimensional and complex construct can be tapped through the analysis of responses on a few characteristics? To adequately tap the construct, how many characteristics are appropriate? Were the characteristics used, drawn from the literature, appropriate for the analysis? Perhaps organizations need to be classified on the basis of *a priori* criteria and then studied for distinguishing characteristics. It is apparent that additional work needs to be done in this area before the potential offered by this method can be exploited fully.

Strategy Classification: The Self-type Method

The alternate self-type measure of strategy used in the statistical analyses was the self type method (Snow & Hrebiniak, 1980). The three generic strategy types were distributed as half prospectors, and the other half divided equally between defenders and analyzers. From the feedback obtained during the pilot study, the four descriptive

paragraphs describing the four strategies were refined for ease of distinction and comprehension. Only two of the 180 respondents were unable to choose one specific type describing their organization. Evidence of validity and reliability was provided in the Chapter on methodology. As we will see from the discussion in the following sections, the responses to the self-type strategy question related to the other variables in a manner generally consistent with the theoretical foundations underlying this study.

Descritive Statistics Discussed

This section will discuss the results of the analysis drawn from the descriptive statistics. Discussion will be ordered in terms of those variables that were statistically significant in the tests conducted.

Size and Location

It must be remembered here that this study included hotels with more than 150 rooms. Generally, this finding is consistent with our understanding of the lodging industry. Typically, highway locations tend to feature smaller properties supporting a relatively transient customer base with a relatively shorter length of stay. Alternatively, city center and resort properties have larger properties. City center hotels operate on economies of scale afforded by their large size. This feature becomes important when bidding for conference and convention business, often a staple of this type of property. Resort hotels, on the other hand, often are "destination" properties offering a full range of facilities and services. These hotels, like the city center hotels, cater to a relatively large customer base with an extended length of stay.

The significance of this finding has to be viewed in the context of the fact that only hotels with more than 150 rooms were studied. In fact, most of the properties in the sample were in the 150-300 room range. This relationship may be altered somewhat if very small or very large properties were included.

Location and Operating Arrangement

The pattern evident in this finding is consistent with the profile of the lodging industry and the trends facing it. Highway properties tend to be primarily franchised operations, while city and resort locations are relatively polarized as chain managed or independent operations. This result, however, is to be interpreted with caution as a few of the cells in the table were blank. This is because one of the operating arrangement categories, chain leased and managed, had too few observations (3). The pattern is not very clear as there are 101 franchised properties out of a total of 180 total respondents.

Location and Perceived Environmental Uncertainty

The principal setting for the research in organization-environment relations has been the manufacturing sector of the economy (Bourgeois, 1985; Dill, 1958; Duncan, 1972). The basic premise used in the context of manufacturing firms, that the environment faced by an organization is industry specific, may not be the case in the context of service businesses. There is considerable evidence to show that services differ in some very fundamental ways from manufacturing. Some of these include: heterogeneity, intangibility, perishability, and simultaneity of production/consumption (Sasser, Olsen & Wycoff, 1978). As was stated in Chapter 3, only a limited application of the organization-environment conceptual framework developed thus far can be applied to

service industries. It is suggested here that in the case of service industries, general and task environment need to be treated differently. While the general environment is common across the service industry, the task environment may perhaps be a function of its location and/or the market served.

Based on a study of sixteen college text book publishing firms, Miles and Snow (1978) highlighted an aspect of organization-environment relations. They suggest that "ostensibly similar organizations in the same general environment may enact quite different task environments and pursue markedly different strategies within them (214)." For instance, in retailing, an organization's task environment is often a function of its geographical setting (location). Coleman (in Miles & Snow, 1978) measured environmental uncertainty in two industries (Electronics and Food Processing) based on an *a priori* assessment of the difference in their environmental states. He found that the overall environmental uncertainty scores for the two industries were not significantly different. *A posteriori*, he hypothesized that the variance in intra-industry volatility levels probably cancelled each other out (Coleman, 1988).

This finding supports the basic thesis elaborated upon above. It is shown that different organizations (hotels) within an industry (lodging) face differing levels of task environmental uncertainty depending on their location or market served. This relationship represents a major contribution of this study to what have thus far been hypothetical postulations (Miles & Snow, 1978; Coleman, 1988).

While center city, airport, and resort hotels perceive themselves in relatively stable environments; highway and suburban hotels perceive themselves facing relatively volatile environments. In an earlier section, it was seen that highway and suburban

properties typed themselves primarily as prospectors. There is a definite pattern emerging here. Properties that perceive themselves as facing a volatile environment typed themselves as prospectors. This is one relationship this study is seeking to validate. Whether this environment x strategy combination will be reflected in higher performance remains to be seen.

In drawing a theoretical inference from the above, it is suggested that in the case of service industries, general and task environments need to be treated differently. Following from the explanation proposed by Miles and Snow (1978), while the general environment is perhaps common across the service industry, the task environment is a function of the location or market served.

Operating Arrangement and Strategy

Interpreting this relationship is hindered by the fact that more than half of the properties are franchise operations. In addition, almost half of the properties have typed themselves as prospectors. An earlier pattern is beginning to come into focus. As seen in the previous section, franchise operations perceive themselves as facing a relatively volatile environmental state. With franchise operators typing themselves as prospectors, the volatile-prospector match seems to be an emerging combination. The basic thesis of this study supports a volatile-prospector match reflected in high performance.

Operating Arrangement and Environment

Interpreting this relationship is, once again, hindered by the fact that more than half of the properties are franchise operations. In addition, almost half of the properties fall

in the mid-range category. The pattern seen emerging in the earlier two sections is further substantiated here. It follows from this, that a possible relationship between environment and strategy is underlying the findings thus far.

Strategy and Environment

In the analysis, no relationship was found between the hotel's strategy and environment. Thus, it would seem that the level of environmental uncertainty perceived by an organization is independent of the property's strategy. There is a possible explanation for this non-significance. In spite of getting significant results in the earlier two sections, it seems that it is the environment x strategy interaction and not the environment and/or strategy main effects, that deserves scrutiny if the previous results are to be adequately explained. The next section examines this when the hypothesis tests are discussed.

Hypothesis Tests Discussed

This section will discuss the results of the analysis drawn from the hypothesis tests. Discussion will be presented in the order of the hypotheses as listed in Chapter 3.

Strategy and Performance

Everything else remaining the same, firms espousing certain strategy types do no better than others. This result came as no surprise. Prior research on this subject supports this result (Schaffer, 1986). It is generally assumed that strategy, only when

combined with another variable such as environment or structure, will result in high performance.

Notwithstanding the above, there are some interesting theoretical and normative contributions offered by the above findings. Based on the performance mean scores, it was found that reactors underscored all other strategy types. This is consistent with the theoretical underpinnings on which this study is based (Miles & Snow, 1978).

Another tentative finding suggested by the analysis deals with the strategy-performance relationship in relation to the choice of the criterion or dependant variable. In describing the attributes of the three generic strategy types, Miles and Snow (1978) described the defenders as being concerned primarily with efficiency, while the prospectors emphasized innovation. Based on this, we assumed that measuring the effectiveness of a strategy would depend on the yardstick used to evaluate it. With this as a guide, the performance of the three strategy types are assessed on two different performance measures: profit and revenue. The findings suggest that, in terms of profit, defenders outperformed analyzers, who, in turn, outperformed prospectors. In terms of revenue, prospectors outperformed analyzers, who, in turn, outperformed defenders.

Obviously, it is not possible to unequivocally credit a strategy with high or low performance. As discussed in the previous chapter, the choice of a performance measure is often based on tradeoffs that may be biased in favor of one type of test. Profit is the defender's strong suit. This is suggested above. Apparently, while using profit favors defenders, using revenue favors prospectors. While the result was statistically insignificant, prospectors tend to outperform the other two strategy types on the basis of revenue. This is consistent with the theoretical underpinnings on which this study is

based (Miles & Snow, 1978). An additional insight discovered here was that, irrespective of the performance measure used, analyzers were the median performers in terms of profit and revenue. This again is consistent with the hybrid nature of analyzers in terms of their competitive posture. A graphical representation the tentative findings suggested above is presented in Figure 4.

There are some tentative normative implications that can be drawn from these findings. One is that those organizations that ignore their environment, reactors, pay a price in terms of inefficiency and face possible extinction. Another has to do with the tradeoff business organizations often make between growth and return, market share and return on investment, or, in this case, revenue and profit. It is suggested that there is a reciprocal causal linkage between the strategic choice facing a hotel and its performance correlates. Following a circular argument, if a hotel follows a prospector strategy, it will need to invest a lot of resources in research and development which is a necessary prerequisite to innovation. While this may result in new products and markets being tapped, profitability is not going to be a short term result. Conversely, a hotel that seeks to better its bottom line will need to take the kinds of management actions that help ensure this i.e., cost control, efficiency, and cutting "fat." These actions then put the hotel in a defender mode of operation. This is not to say that prospector firms cannot be profitable or that defender firms cannot grow. In the short term, the organization needs to decide on a plan of action that is based firmly in the outcome (performance) it is aiming toward. If the hotel can be efficient and innovate at the same time, this is obviously the ideal solution.

These results offer a useful starting point for additional work for future researchers. An obvious developmental objective is the design of a financial performance measure

PROFIT

	High	Low
High		Prospectors
Low	Defenders	Reactors

REVENUE

Figure 4. A suggested strategy and performance link

that impartially discriminates between strategies. In addition, other measures of performance relating to the three strategy types need to be developed. This will help researchers examine the impact of these strategies on other organizational variables.

Environment, Strategy and Performance

The results showed a statistically significant effect of the hotels' strategy x environment interaction on performance measured in terms of profit. This result is clearly the most significant contribution of this study and its most important finding. It validates the contingency approach on which this study is based: organizations need to "match" their environments and strategies for high performance.

The actual matches reflected in high performance varied, once again, depending on the performance measure used. Of all the strategies matched with a stable environment, defenders and prospectors outperformed analyzers. In terms of performance mean scores, the defenders outperformed all other strategies. This finding supports the general contention in the literature that organizations following a defender strategy thrive in a stable environment (Ginn & McDaniel, 1987). A second finding, not quite expected, relates to strategies in volatile environments. The analyzer strategy outperformed the other strategy types matched with a volatile environment. This is perhaps related to the issue of service technology. It is not unlikely that service firms are able to be efficient in terms of their core technology, while being innovative in the input and output stages of the service delivery system. In the case of hotels, while the back of the house operations are often amenable to systems and controls, the guest contact areas are more suitable for innovative and consequently personalized service.

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The findings did not support the thesis that prospectors matched with volatility will result in high performance. A possible explanation for this result deals with the nature of the tradeoff resulting from the use of a profit related performance variable. As mentioned in an earlier section, profit favors defenders. This analysis was repeated using revenue as the criterion variable. While the result was not statistically significant, it was found that, of all the strategies employed in a volatile environment, the prospectors outperformed both analyzers and defenders based on revenue mean scores. This finding provides tentative support for the contention in the literature that organizations following a prospector strategy thrive in a volatile environment (Ginn & McDaniel, 1987). A graphical representation of the results discussed above is presented Figure 5.

There are some direct normative implications that can be drawn from these findings. An obvious one is that organizations need to effect a match between their environment, strategy, and performance goals. The tradeoff between the two financial performance measures being investigated here is perhaps a little clearer from Figure 5. In a volatile environment, an analyzer strategy is the appropriate choice for those organizations stressing profitability. For organizations seeking profitability in a stable environment, the defender strategy is the appropriate one.

These results offer interesting opportunities for further investigation. As a first objective, additional methods to measure environmental uncertainty could be developed. This includes objective measures, additional perceived measures, and perhaps a comparison and cross validation of the two. A second objective deals with tracking the environment x strategy relationship across time to investigate time lag and resulting causal relationships.

DISCUSSION

STRATEGIES

	Prospector	Analyzer	Defender
Stable	MAX REVENUE	MIN PROFIT	MIN REVENUE MAX PROFIT
Volatile	MAX REVENUE	MAX PROFIT MIN REVENUE	MIN PROFIT

ENVIRONMENT

Figure 5.   The environment, strategy and performance link

Follow-up Analyses Discussed

Control Variable: Size

Of the two control variables analyzed in the study, only one, hotel size, was related significantly to performance. The results indicate that the relative performance of the different size groups depends on the measure being used. While smaller hotels are more profitable, larger properties tend to generate more revenue.

An alternative explanation for this result is the possible confounding effect of another variable not considered here. This relates to the segment in which the hotel is operating. To be truly meaningful, performance measures comparing hotels of different size should do so between hotels operating in the same segment such as: economy, mid-range, luxury, all suite, etc. Because larger properties tend to be more up scale, and the smaller ones predominantly economy, there is a bias in the results. To this point, no methodologically adequate classification scheme, to tap the segment a hotel is in, exists. A developmental objective for researchers investigating this industry is to develop a classification scheme that is both mutually exclusive and collectively exhaustive to be used in future research.

SUMMARY

In this chapter the research results presented in Chapter 4 were discussed. The variables, individually and in pairs, were discussed whenever the statistical results

suggested or supported a significant relationship. The discussion focussed on both the descriptive and hypotheses tests. Normative guidelines, wherever appropriate, were presented. Additionally, developmental objectives for future researchers were briefly enumerated. In the following chapter, conclusions which can be draw from the data, limitations of this research, and directions for future research will be presented.

Chapter 6

CONCLUSION

If the most significant conclusions from the empirical analyses were to be identified, they would be:

1. No difference was found in the performance of firms classified according to their strategy type.

2. Choice of strategies in different situations does affect firm performance. Organizations whose strategies "match" with their perceived environmental state do better than those that do not. In addition, the choice of an "appropriate" strategy depends on the performance goal being targeted. While it is the defender hotel that is more profitable in a stable environment; in a volatile environment, the analyzer hotel generates more profit.

3. Performance is dependent on size. In terms of profit, smaller hotels do better than larger ones. In terms of revenue, larger properties tend to fare better.

In addition to these universal findings, a number of associations among the "demographic" variables analyzed were found. These findings were consistent from an experiential understanding of the industry. Positive conclusions can be drawn about the methodology employed: the measures used were reliable and valid, and the use of theoretically deduced working hypotheses to guide the study and analyses were fruitful. The findings provide yet another piece of the strategic management puzzle and offers a logical take-off point for future research efforts.

The findings discussed in the previous chapter constitute substantive and normative contributions to an understanding of the lodging industry. This chapter concludes the dissertation by presenting the conclusions drawn from the findings, listing some of the limitations of the research, and offering propositions for future research.

Substantive Conclusions

A primary conclusion of this study is the equal performance of different strategies. This finding clearly supports the theoretical development in the strategic management area, and the contention of research scholars that all strategies can be equally effective (Miles & Snow, 1978; Porter, 1980). In apparent support of the contingency school of thought, there are other variables that interact with strategy and render it appropriate. It was the strategy x environment interaction term that, in the two-way analysis of variance model, had the greatest explanatory power. This is elaborated upon in the next section.

This conclusion is in apparent contradiction to the natural selection school of thought (Aldrich, 1979). The premise that an organization is at the mercy of its environment is not supported here. In fact, in the analysis, environment uncertainty explained an insignificant amount of variance in performance. It was the strategy x environment interaction term that, in the two-way analysis of variance model, had the greatest explanatory power. This is elaborated upon in the next section.

Another significant finding of this study is that environmental factors are crucial in determining the effectiveness of an organization's competitive strategy. It has been shown that there is significant variation in intra-industry volatility. Given this variance, the performance correlates of strategies employed by hotels vary by the type of environment. Further, depending on the performance objective, different strategies can be used to chart a course for the organization.

This finding clearly supports the contingency school of thought (Burns & Stalker, 1961; Thompson, 1967; Lawrence & Lorsch, 1967; Miles & Snow, 1978; Ginn & McDaniel, 1987). As Child (1972) elaborated, the organization, through the discretionary power of its dominant coalition, can exercise strategic choice and influence performance. It is implied here that there is, in fact, scope for intervention in an organization's destiny through the active involvement of the top management team. It is clear that the two basic tenets of the contingency school -- there is no best way, and that one way will not work equally well in all situations -- have been substantiated.

It was mentioned when introducing this study that certain strategies will produce better results than others under varying environmental conditions. Thus, strategy was viewed as an adaptive mechanism to be utilized for achieving optimal performance.

Perhaps, more important, it was argued that the strategy that will produce the best results is dependent on existing environmental circumstances. This premise has been generally substantiated.

In introducing the setting for this study, it was explained how the lodging operator is facing an increasingly dynamic, complex, and illiberal environment (Slattery & Olsen, 1984). It was also stated that the decision maker in organizations today has to contend with the rapid changes in the way of doing business in addition to an increasing array of interrelationships between the factors to be considered in the decision process. Given the findings of this study, the task of the decision maker in lodging organizations can now be directed to effecting a coalignment based on the most effective matches found between strategy and the environmental state. This presents a powerful normative guideline for lodging organizations vying for competitive advantage.

As mentioned at the outset, strategic choice can be viewed as being dependent on, and a determinant of, the organization's environment. On the one hand, the choice of strategy places the organization in an environmental space. The choice is determined by the control or power the organization can exercise over the elements of the environment (e.g., suppliers, customers, etc.). On the other hand, the nature of environmental influences determine the most appropriate niche for the organization, given its capabilities. Finally, once the strategic choice has been made, internal adjustments to conform to strategic imperatives are required to enable the firm to improve performance.

Limitations of the Research

One limitation concerns the lack of use of causal analysis techniques. The strongest claims that can be made for any of the results is that although the particular variables are associated statistically, causality cannot be implied. The nature of this study was not intended to determine causal relationships.

The ability to generalize the results obtained from this study to the population of all hotels across the United States is limited due to the nature of the sample. These limitations include: (a) the sample frame was selected from a proprietary database that was by no means all inclusive in terms of all hotels in the country, (b) the sample frame was limited to hotels above 150 rooms, and (c) the low response rate (10%) did result in a nonresponse bias where the respondents' profile did vary somewhat from that of the target population.

In this study, variables suggested by the literature to demonstrate the greatest explanatory power were included. In this process the deliberate exclusion of other variables that could possibly confound relationships between the two or three selected for the study prevent the making of completely reliable inferences from the data. This confound could be caused not only by the possible explanation of additional variance, but could also be due to interactions that may exist. This is reflected in the inability to deal with too many variables at the same time. A case in point is the selection of factors and covariates. Of the two selected, only one, size, contributed significantly to the variance explained by the model. Variables such as age, market segment, technology, etc. were not considered. It is safe to say, *a posteriori*, that including these may have resulted in

additional variance being explained. The problem that this poses, however, is trying to explain three and four-way interaction terms meaningfully.

In measuring environmental volatility and strategy, the study utilizes the self-typing approach. Perception based responses from humans is subject to error. The inherent interaction in a person's cognitive processes in decoding perceptions into a specific response will affect the outcome. This could, in this case for example, result in a respondent's reporting an intended strategy instead of an actual one (Mintzberg, 1978). Perceptions of the dominant coalition (as in the case of strategy research) were utilized to partially alleviate this problem.

A further limitation of this study is its lack of a longitudinal design, which does not take into account the time-lag between adoption of a strategy and its consequent impact on performance. Nevertheless, the relationship reveals general strategic tendencies based on past actions and, consequently, reflects the dynamics of the situation (Thietart & Vivas, 1984).

Recommendations for Future Research

The first suggestion for future research efforts involves overcoming the limitations to this study presented above. A primary objective is to further refine the instruments and measures used. This will enhance the reliability of the measures and provide models with greater explanatory power. In addition, the sample should be increased to include a larger number of firms in the industry. A larger sample size will provide, in addition to increased power, the use of more rigorous and fine grained analysis. In

addition to the above mentioned methodological objectives, below are some research propositions that could guide future research efforts in this area.

Propositions for future research include the following:

6.1 The degree of uncertainty in the general environment perceived by members of the top management team is generally uniform across all industries.

Research in the area of organization environment relations has focussed primarily on the task environment. Apart from a broad definition (Pearce & Robinson, 1982) there is very little known about the dynamics of the general environment.

In order to advance the field of strategic management, measures of strategy that are both reliable and cross-validated are needed. One such method is to measure strategy using both primary and secondary sources. This can be framed in the form of the following proposition:

6.2 Higher performing firms will have a greater degree of agreement between strategy measured through top managements perception's and through secondary sources.

In order to resolve the intended/realized strategy problem, a cross validation of strategies as suggested above will ensure convergent validity. In addition, this approach will help answer some fundamental questions about top management team perceptions and its relation to "reality" as measured by external judges.

A third proposition seeks to address an additional variable whose explanatory power was not examined in this study. The role of the strategy making process in the model explored here can be framed in the form of the following proposition:

6.3 Organizations that effect a match between environment, strategy content, and process will perform better than those that do not.

In further developing the model empirically validated here, an organization in a stable environment that follows a defender strategy and has a rational and comprehensive decision making process will perhaps outperform organizations that do not effect this match. Likewise, an organization in a volatile environment that follows a prospector strategy and has an incremental decision process will perhaps outperform organizations that do not effect this match.

A fourth proposition should address the time lag inherent in measuring strategy performance relationships. This is most meaningfully addressed by means of a longitudinal study. In order to empirically investigate this research question, it could be framed it in terms of the following proposition:

6.4 The match between the environment, strategy, and performance will be sustained over a period of time. The change points in the three variables will, however, not coincide exactly. An initial impetus will be provided by an environmental change (time t). This will be followed, a finite time later, by a strategy change (time t + 1). Performance will be the last to change and realign the match (time t + 2).

The above proposition assumes a reciprocal causation relationship between the three variables. Lenz (1980) laid out the conceptual framework for such an analysis. Following incremental logic (Quinn, 1980), once any of the three variables break the equilibrium, a shift takes place that then brings all three in a synchronous relationship over a period of time.

SUMMARY

This research study offers yet another piece in the puzzle of strategic management. By means of a research program that proceeded through all the prescribed steps of speculation, search, questions, hypotheses, observation, analysis, discussion, conclusion, and extension, this researcher was able to make a theoretical and normative contribution to what is essentially a developing discipline.

While the objective of the study was confirmatory, a deliberate attempt was made to preserve the exploratory and descriptive components of the research. Being a relatively unexplored industry setting for such a study, an exploratory approach was used in developing means and methods. Collecting a number of demographic "profile" variables permitted the adoption of a descriptive approach in presenting some of the results. The hypotheses being grounded in existing theory permitted the presenting of confirmatory results in relation to the basic propositions underlying this research.

This study was deliberately designed to be industry specific. A valid generalization of the results would normally hold for this setting only. Given the impartiality of the

design, the rigor of the methodology, and the detail of the results, the findings may be considered indicative of organizations in general.

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Appendix A
Pilot Test

A.1 Cover Letter

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Blacksburg, Virginia 24061-8398

DEPARTMENT OF HOTEL, RESTAURANT & INSTITUTIONAL MANAGEMENT [(703) 961-5515 - (703) 961-6783]

April 4, 1988

Dear General Manager:

The Center for Hospitality Research and Service is studying business strategy in the lodging industry and how it relates to performance. This research is the basis for a doctoral dissertation here at Virginia Tech and would be of great benefit to hotels participating in the study.

Your operation is one of a number of properties randomly selected to participate in this study. We would very much like to have you involved in this project. The enclosed questionnaires relate to the business environment of your operation, aspects of strategy that are important to your organization and two financial measures. Will you please help us by completing and returning the questionnaires by April 11, 1988.

We assure you that when the results of the research are compiled, we will not identify individual units or departments. All data collected will be held in strictest confidence. Results will be reported in the form of combined summaries so that no information about individual properties will be identifiable. In return for your time and effort, we will be happy to share the results of this pioneering study with you.

Enclosed are two questionnaires. Please complete the blue one yourself (General Manager) and have any one member of your top management team (a member of your executive committee/department head) complete the white one. The questionnaires are self addressed and stamped. Please mail the questionnaires directly to us. The identification number is to help us keep track of properties that have responded.

If you need more information, please call either of us collect at (703)-961-4567.

We look forward to receiving your responses by April 11, 1988. Thank you in advance for your time and cooperation.

Sincerely,

Michael D. Olsen, Ph.D.   Chekitan Dev
Executive Director   Doctoral Candidate

Pilot Test

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A.2 List of Participating Organizations

- Holiday Inn, Blacksburg, VA

- Sheraton Red Lion Inn, Blacksburg, VA

- Donaldson Brown Continuing Education Center, Virginia Tech, Blacksburg, VA

Appendix B
Mail Questionnaire Packet

B.1 Cover Letter

Center for Hospitality Research and Service 703 961 4567 Hillcrest Hall Virginia Tech Blacksburg VA 24061

May 12, 1988

Dear General Manager:

The Center for Hospitality Research and Service is studying business strategy in the lodging industry and how it relates to performance. This research is the basis for a doctoral degree here at Virginia Tech and would be of great benefit to hotels participating in the study.

Your operation is one of a number of properties randomly selected to participate in this study. We would like very much to have you involved in this project. The enclosed questionnaires relate to the business environment of your operation, aspects of strategy that are important to your organization and two financial measures. Please help us by completing and returning the questionnaires by May 23, 1988.

We assure you that when the results of the research are compiled, individual units or departments will not be identified. All data collected will be held in strictest confidence. Results will be reported in the form of combined summaries so that no information about individual properties will be identifiable. In return for your time and effort, we will be happy to share the results of this pioneering study with you.

Enclosed are two questionnaires. Please complete the blue one yourself (General Manager) and have any one member of your top management team (a member of your executive committee/department head) complete the white one. The questionnaires are self addressed and stamped. Please mail the questionnaires directly to us. The identification number is to help us keep track of properties that have responded.

If you need more information, please call either of us at (703)-961-4567.

We look forward to receiving your responses by May 23, 1988. Thank you in advance for your time and cooperation.

Sincerely,

Michael D. Olsen, Ph.D.
Executive Director

Chekitan Dev
Doctoral Candidate

B.2 General Manager Questionnaire
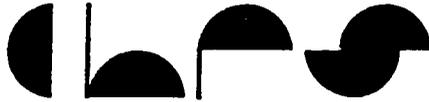
Center for Hospitality Research and Service 703 961 4567 Hillcrest Hall Virginia Tech Blacksburg VA 24061

ENVIRONMENT, STRATEGY AND PERFORMANCE: A NATIONAL STUDY OF
THE U.S. LODGING INDUSTRY

The Center for Hospitality Research and Service is studying business strategy
in the lodging industry and how it relates to performance. Please help us
by completing this questionnaire promptly and mailing it to the address
below.

Thank you very much.

BUSINESS REPLY MAIL
First Class   Permit No. 10   Blacksburg, Va. 24060

POSTAGE WILL BE PAID BY ADDRESSEE

Virginia Tech
Department of HRIM
Center for Hospitality Research & Service
Chekitan Dev
P.O. Box 850
Blacksburg, VA 24060-9985

NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

TO BE COMPLETED BY THE GENERAL MANAGER OF THE PROPERTY

We would first like to ask you one question about your tenure in the organization:

1. How long have you been in your present position?

    _____YEAR(S) _____MONTH(S)

The purpose of the following questions is to obtain some general information about your property:

2. Please indicate the ONE category that most closely describes the location of your property: (Circle a number)

    1   CENTER CITY

    2   HIGHWAY

    3   SUBURBAN

    4   AIRPORT

    5   RESORT

3. Please indicate, in the box below, the average number of rooms per day your property had available for sale (rooms that were out-of-order or under repair should not be included here) and the total number of days your property was open for business during 1987:

YEAR	ROOMS FOR SALE DAILY	DAYS OPEN FOR BUSINESS
1987		

4. Please indicate the ONE category that best describes the operating arrangement and affiliation (chain or franchisor) of your property: (Circle a number)

Operating Arrangement:	Affiliation: (Chain or Franchisor)
1 CHAIN OWNED AND MANAGED	_____
2 CHAIN LEASED AND MANAGED	_____
3 CHAIN MANAGED	_____
4 FRANCHISED	_____
5 INDEPENDENTLY OWNED AND MANAGED	

-2-

Next, we would like to know about the degree of change that took place in your property's business environment last year. For each of the following segments which make up this environment, please indicate the degree of change you experienced in all of 1987. Use the following scale: 1 = STABLE (e.g., unchanging or steady) TO 6 = VOLATILE (e.g., changing or unsteady): (Please circle one choice for each item across)

	STABLE					VOLATILE
1. Suppliers of food, beverage or operating supplies:						
a. prices charged..............................1	2	3	4	5	6	
b. product quality standards.............1	2	3	4	5	6	
c. product/service specifications.......1	2	3	4	5	6	
d. introduction of new products.........1	2	3	4	5	6	
2. Competitors' actions:						
a. supply of rooms.............................1	2	3	4	5	6	
b. rates charged 1	2	3	4	5	6	
c. renovation and refurbishment........1	2	3	4	5	6	
d. new services / facilities offered..................1	2	3	4	5	6	
3. Customers' demand:						
a. for your services...........................1	2	3	4	5	6	
b. for new facilities / services........................1	2	3	4	5	6	
4. The financial / capital market:						
a. interest rates...............................1	2	3	4	5	6	
b. availability of credit....................1	2	3	4	5	6	
5. The labor market:						
a. wage and salary rates..................1	2	3	4	5	6	
b. availability of employees.............1	2	3	4	5	6	
6. Government regulatory agencies: (CHANGES IN LAWS OR POLICIES)						
a. regarding rates you can charge.....................1	2	3	4	5	6	
b. regarding room, food or beverage quality 1	2	3	4	5	6	
c. regarding provision of your services 1	2	3	4	5	6	
d. affecting personnel/labor decisions..............1	2	3	4	5	6	
e. affecting sales and marketing.....................1	2	3	4	5	6	
f. affecting accounting/bookkeeping.................1	2	3	4	5	6	

ATTENTION: Please check to make sure you have circled a number for each question...

-3-

We would now like to know about the planning process at your property.

1. At present, is there a formal planning process (e.g., setting goals, budgeting, forecasting etc.) followed in your property:
   (Please check one)   ____YES ____NO

2. If YES, how long has this process been followed: _____ YEAR(S).

The following questions relate to the specific actions taken by your property to compete for business.

3. Considering your property as a whole and using your competitors as a frame of reference, please indicate the extent to which the following items were part of the overall competitive posture (strategy) of your unit for the year 1987:
   (Circle one choice for each item across)

	NOT PART OF STRATEGY				KEY PART OF STRATEGY	
Serving specific markets/segments	1	2	3	4	5	6
Controlling sources of business	1	2	3	4	5	6
Financial/Cost control	1	2	3	4	5	6
Training and development	1	2	3	4	5	6
Building reputation of property in the community	1	2	3	4	5	6
Monitoring guest satisfaction	1	2	3	4	5	6
Providing high service level	1	2	3	4	5	6
Quality control	1	2	3	4	5	6
Maintaining market leadership	1	2	3	4	5	6
New product/service development	1	2	3	4	5	6
Maintaining a high inventory of food, beverage and operating supplies	1	2	3	4	5	6
Providing many facilities/services	1	2	3	4	5	6
Selling at your lowest rate	1	2	3	4	5	6
Testing new marketing ideas and methods	1	2	3	4	5	6
Serving a variety of customer groups	1	2	3	4	5	6
Controlling material/supply sources	1	2	3	4	5	6
Using debt (loans) to finance projects	1	2	3	4	5	6
Providing special services	1	2	3	4	5	6
Trying innovative service ideas/methods	1	2	3	4	5	6
Maintaining operational efficiency	1	2	3	4	5	6
Searching for new markets/opportunities	1	2	3	4	5	6
Keeping track of competition	1	2	3	4	5	6
Regular renovation/refurbishment	1	2	3	4	5	6

ATTENTION: Please check to make sure you have circled a number for each question...

-4-

Hotels (or properties) are often described in general terms reflecting the way they do business. Which one of the following descriptions most closely fits your property compared to other lodging units in your area? (Consider your property as a whole and note that none of the types listed below is inherently "good" or "bad."): (Please check one)

_____Type 1.   This type of hotel does not appear to have a consistent customer/market orientation. The hotel is usually not as aggressive in maintaining established markets and services as some of its competitors, nor is it willing to take as many risks as the competition. Rather, the hotel responds in those areas where it is forced by pressure from customers, suppliers, competitors or government regulation.

_____Type 2.   This type of hotel attempts to maintain a stable and limited line of services, while at the same time moving out quickly to follow a carefully selected set of the more promising new developments in the market. The hotel is seldom "first-in" with new facilities or services. However, by carefully monitoring the actions of competitors in areas compatible with its stable customer/service base, the hotel can frequently be "second-in" with a more cost-efficient facility or service.

_____Type 3.   This type of hotel typically serves a broad customer/market base that undergoes periodic redefinitions. The hotel values being "first-in" in offering new facilities/services, even if not all of these efforts prove to be highly profitable. The hotel responds rapidly to early signals concerning areas of opportunity, and these responses often lead to a new round of competitive actions. However, this type of hotel may not maintain strength in all of the market segments it serves.

_____Type 4.   This type of hotel attempts to maintain a secure niche in a relatively stable customer market segment. The hotel tends to offer a more limited range of services than its competitors, and it tries to protect its position by offering quality at lower prices. Often this type of hotel is not at the forefront of developments in the market - it tends to ignore market changes that have no direct influence on current areas of operation and concentrates instead on doing the best job possible in a limited market segment.

PLEASE TURN OVER-----▶

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Finally, we would like to ask you to provide some information on the operating results of your property. This information will be held in the strictest confidence. Please indicate the total sales and income before fixed charges for your property for the calendar year (January – December 1987): (Please check one range for each category)

1.   Which of the following ranges best indicates the TOTAL ANNUAL SALES for your property for the year 1987: (Please circle a number)

     1....Less than $4 million   6....More than $20 million up to $24 million

     2....More than $4 million up to $8 million   7....More than $24 million up to $28 million

     3....More than $8 million up to $12 million   8....More than $28 million up to $32 million

     4....More than $12 million up to $16 million   9....More than $32 million up to $36 million

     5....More than $16 million up to $20 million   10...More than $36 million

2.   Which of the following ranges best indicates the INCOME BEFORE FIXED CHARGES* for your property for the year 1987: (Please circle a number)

     1....Less than $1 million   6....More than $5 million up to $6 million

     2....More than $1 million up to $2 million   7....More than $6 million up to $7 million

     3....More than $2 million up to $3 million   8....More than $7 million up to $8 million

     4....More than $3 million up to $4 million   9....More than $8 million up to $9 million

     5....More than $4 million up to $5 million   10...More than $9 million

*PLEASE NOTE: INCOME BEFORE FIXED CHARGES (IBFC) should be calculated as TOTAL SALES (departmental revenue from all sources: rooms, food & beverage, minor departments, rentals, telephone and other income) LESS all departmental and undistributed OPERATING EXPENSES. Thus, IBFC is income from all operations before deducting rent, property taxes, property insurance, interest, depreciation, income tax and reserve for replacement.

In the space below please write any comments you wish to make relating to any aspect of the questionnaire you have just completed.

If you would like to receive a copy of the results, please enclose your business card with the questionnaire.

TO RETURN: Please fold the questionnaire so that the reply paid return address
                      label is on the outside, staple and mail.

Thank you very much.

B.3 Top Management Team Questionnaire

Center for Hospitality Research and Service 703 961 4567 Hillcrest Hall Virginia Tech Blacksburg VA 24061

ENVIRONMENT, STRATEGY AND PERFORMANCE: A NATIONAL STUDY OF
THE U.S. LODGING INDUSTRY

The Center for Hospitality Research and Service is studying business strategy
in the lodging industry and how it relates to performance. Please help us
by completing this questionnaire promptly and mailing it to the address
below.

Thank you very much.

BUSINESS REPLY MAIL
First Class   Permit No. 10   Blacksburg, Va. 24060

POSTAGE WILL BE PAID BY ADDRESSEE

Virginia Tech
Department of HRIM
Center for Hospitality Research & Service
Chekitan Dev
P.O. Box 850
Blacksburg, VA 24060-9985

TO BE COMPLETED BY A MEMBER OF THE TOP MANAGEMENT TEAM

First, we would like to know about the degree of change that took place in your property's business environment last year. For each of the following segments which make up this environment, please indicate the degree of change you experienced in all of 1987. Use the following scale: 1 = STABLE (e.g., unchanging or steady) TO 6 = VOLATILE (e.g., changing or unsteady): (Please circle one choice for each item across)

	STABLE					VOLATILE
1. Suppliers of food, beverage or operating supplies:						
a. prices charged.....................1	2	3	4	5	6
b. product quality standards...............1	2	3	4	5	6
c. product/service specifications.............1	2	3	4	5	6
d. introduction of new products.............1	2	3	4	5	6
2. Competitors' actions:						
a. supply of rooms.....................1	2	3	4	5	6
b. rates charged 1	2	3	4	5	6
c. renovation and refurbishment.............1	2	3	4	5	6
d. new services / facilities offered.............1	2	3	4	5	6
3. Customers' demand:						
a. for your services.....................1	2	3	4	5	6
b. for new facilities / services.............1	2	3	4	5	6
4. The financial / capital market:						
a. interest rates.....................1	2	3	4	5	6
b. availability of credit.....................1	2	3	4	5	6
5. The labor market:						
a. wage and salary rates.............1	2	3	4	5	6
b. availability of employees.............1	2	3	4	5	6
6. Government regulatory agencies: (CHANGES IN LAWS OR POLICIES)						
a. regarding rates you can charge.............1	2	3	4	5	6
b. regarding room, food or beverage quality 1	2	3	4	5	6
c. regarding provision of your services 1	2	3	4	5	6
d. affecting personnel/labor decisions.............1	2	3	4	5	6
e. affecting sales and marketing.............1	2	3	4	5	6
f. affecting accounting/bookkeeping.............1	2	3	4	5	6

ATTENTION: Please check to make sure you have circled a number for each question...

-2-

We would now like to know about the specific actions taken by your property to compete for business.

Considering your property as a whole and using your competitors as a frame of reference, please indicate the extent to which each of the following items were part of, to the overall competitive posture (strategy) of your unit for the year 1987: (Circle one choice for each item across)

	NOT PART OF STRATEGY				KEY PART OF STRATEGY	
Serving specific markets/segments	1	2	3	4	5	6
Controlling sources of business	1	2	3	4	5	6
Financial/Cost control	1	2	3	4	5	6
Training and development	1	2	3	4	5	6
Building reputation of property in the community	1	2	3	4	5	6
Monitoring guest satisfaction	1	2	3	4	5	6
Providing high service level	1	2	3	4	5	6
Quality control	1	2	3	4	5	6
Maintaining market leadership	1	2	3	4	5	6
New product/service development	1	2	3	4	5	6
Maintaining a high inventory of food, beverage and operating supplies	1	2	3	4	5	6
Providing many facilities/services	1	2	3	4	5	6
Selling at your lowest rate	1	2	3	4	5	6
Testing new marketing ideas and methods	1	2	3	4	5	6
Serving a variety of customer groups	1	2	3	4	5	6
Controlling material/supply sources	1	2	3	4	5	6
Using debt (loans) to finance projects	1	2	3	4	5	6
Providing special services	1	2	3	4	5	6
Trying innovative service ideas/methods	1	2	3	4	5	6
Maintaining operational efficiency	1	2	3	4	5	6
Searching for new markets/opportunities	1	2	3	4	5	6
Keeping track of competition	1	2	3	4	5	6
Regular renovation/refurbishment	1	2	3	4	5	6

ATTENTION: Please check to make sure you have circled a number for each question ...

-3-

Hotels (or properties) are often described in general terms reflecting the way they do business. Which one of the following descriptions most closely fits your property compared to other lodging units in your area? (Consider your property as a whole and note that none of the types listed below is inherently "good" or "bad."): (**Please check one**)

_____Type 1.   This type of hotel does not appear to have a consistent customer/market orientation. The hotel is usually not as aggressive in maintaining established markets and services as some of its competitors, nor is it willing to take as many risks as the competition. Rather, the hotel responds in those areas where it is forced by pressure from customers, suppliers, competitors or government regulation.

_____Type 2.   This type of hotel attempts to maintain a stable and limited line of services, while at the same time moving out quickly to follow a carefully selected set of the more promising new developments in the market. The hotel is seldom "first-in" with new facilities or services. However, by carefully monitoring the actions of competitors in areas compatible with its stable customer/service base, the hotel can frequently be "second-in" with a more cost-efficient facility or service.

_____Type 3.   This type of hotel typically serves a broad customer/market base that undergoes periodic redefinitions. The hotel values being "first-in" in offering new facilities/services, even if not all of these efforts prove to be highly profitable. The hotel responds rapidly to early signals concerning areas of opportunity, and these responses often lead to a new round of competitive actions. However, this type of hotel may not maintain strength in all of the market segments it serves.

_____Type 4.   This type of hotel attempts to maintain a secure niche in a relatively stable customer market segment. The hotel tends to offer a more limited range of services than its competitors, and it tries to protect its position by offering quality at lower prices. Often this type of hotel is not at the forefront of developments in the market – it tends to ignore market changes that have no direct influence on current areas of operation and concentrates instead on doing the best job possible in a limited market segment.

Finally, we would like to ask you a few questions about your position and tenure in the organization:

Your department is: _____

and your title: _____

How long have you been in your present position?

_____YEAR(S) _____MONTH(S)

TO RETURN: Please fold the questionnaire so that the reply paid return address label is on the outside, staple and mail.

Thank you very much.

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Appendix C

Reminder Postcard

Center for Hospitality Research and Service 703 961 4567 Hillcrest Hall Virginia Tech Blacksburg VA 24061

May 23, 1988

About a week ago, a set of questionnaires relating to a nationwide study of environment, strategy and performance was mailed to you. Your name was drawn in a random sample of hotels in the United States.

If you and a member of your top management team have already completed and returned our questionnaires, please accept our sincere thanks. If not, please arrange to do so today. It is important that your property, a part of a select sample, participate in this study for it to be truly representative of the U.S. lodging industry.

In case you did not receive the questionnaire, or it got misplaced, please call me right now   and I will get another one in the mail to you right away.

Thank you for your cooperation.   Sincerely,

Chekitan Dev
Doctoral Candidate

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