

**An Exploratory Study of the Impact of Strategy and Structure
on the Organizational Performance
of Restaurant Firms**

by

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(ABSTRACT)

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There is an increased emphasis in management literature on the use of strategic management as the primary means of adapting organizations to their changing environments. For firms in the maturing hospitality industry to survive and succeed, they will have to depend upon their ability to strategically align themselves with the turbulent environment, and select appropriate strategies to create defensible competitive positions. Success in strategy implementation depends partly on whether a firm's strategy is congruent and complementary with its structure, and this match is expected to have a positive impact on financial performance.

With that in mind, a study was carried out in 1987. The objectives of the study were: 1) to examine restaurant firms based on the context of Porter's strategic typologies at the business unit level to see if they espouse one of his three generic strategies: overall cost leadership, differentiation, and focus; 2) to examine the relationship between structural attributes and generic strategy in restaurant firms, these attributes were specialization, formalization, and centralization; 3) to examine the relationship between strategy, structure, and financial performance of restaurant firms. Three performance measures were used: return on assets, return on sales, and growth in unit sales.

Following a pilot-test phase, the top management team in 296 American multi-unit restaurant firms were surveyed, using a structured questionnaire. Ninety-one firms participated in the survey, giving a 30.7% response rate. The sample was well represented by all major segments in the restaurant industry. Based on the purposes and research questions, three sets of hypotheses were derived to determine the relationship of strategy and structure in restaurant firms, the relationship of strategy and performance, and the differences in structure among the high performers and low per-

formers in each of the strategy groups. T-tests and analysis of variance (ANOVA) statistical analyses were conducted to examine these relationships. The level of significance, alpha value, was set at 0.05. Results indicated that strategy was not related to structure in restaurant firms, and that it only affected one of the performance measures, return on sales. It was found that certain performance measures were related to structure for companies espoused in low cost and focus strategy, but not to differentiation strategy.

These findings were inconclusive in validating Porter's model. Some of the probable reasons are: 1) Porter's generic strategies may not be applicable for the service industry due to the existence of the fundamental differences in manufacturing and service, 2) the unique characteristics of the restaurant business and the relatively short life cycle of an innovative product or service.

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Introduction

This chapter provides an introduction and justification for the research effort undertaken. It begins with a problem statement, followed by a brief discussion of the growing importance of the service sector and the fundamental differences between manufacturing and service businesses. The discussion then turns to strategy making and the hospitality industry. As the industry approaches the maturity stage of its life cycle, operators in this field need sound strategies to adapt to a complex environment. Strategy is expected to have an impact on organizational performance. Theoretical underpinnings regarding strategy and structure and their impact on performance are examined. Finally, the motivation that directs this study, and the purpose that this study wishes to achieve, is outlined.

Problem Statement

Is there a relationship between strategy and structure in the overall service industry, and the restaurant industry in particular? If there is, what impact does the match between strategy and structure have on organization performance in restaurant firms?

In the service industry, few theories and empirical studies using the sector have been developed. There is a lack of a theoretical framework about service management in general. For the past decade, the service sector has been applying different strategies proved to be effective in the manufacturing industry. There is a need to test this pragmatic approach and to carry out research to establish the relevancy of the strategic management concept and models to the service sector.

As different strategies pose different administrative requirements, success in strategy implementation depends on proper organizational structure. This relationship of strategy and structure and its impact on organizational performance has been proposed and tested in the manufacturing industry; however, it has not been fully examined in service businesses. Also, there have been research efforts in examining this relationship at the corporate level, but studies at the business level have been lacking. It is the goal of this study to test whether strategy and structure are related in the service industry environment, that is, restaurant industry.

The Growing Importance of The Service Sector

Within the past two decades, the service sector of the U.S. economy has taken on a new level of significance. During the period from 1947 to 1975, services have grown from 54.7% of the economy to 65.5% (Sasser, Olsen & Wyckoff, 1978). New kinds of services are being introduced continually, and as a result, generating more jobs. This growth has resulted in a shift in the emphasis of the economy from primarily the manufacture of goods to the creation of services: from an industrial to a postindustrial service economy (Fuchs, 1968).

Currently available data shows that the service sector of the U.S. economy accounts for 70% of available jobs and 66% of the gross national product (Collier, 1983). This growing importance of the service sector has aroused great interest in the development of management concepts over the past two decades. However, the growth of knowledge specifically pertinent to the operations of organizations engaged in the production of services has not kept pace with the developments of the industry. This is partly due to a lack of understanding of what constitutes a service organization or a service industry. In addition, there is no agreed classification scheme nor accepted definition of the service sector among researchers (Snyder, Cox, & Jesse, 1982).

In the service industry, there are many executives who do not fully understand the management concepts as they apply to this industry. These managers generally have been educated through experience and/or formal education that has been related to manufacturing. They have attempted to apply product-oriented strategies from the manufacturing industry and force-fit them into service-oriented businesses. They think about strategic management in product-oriented terms, and find out that a large part of this experience is irrelevant to the management of many service businesses.

Thus, as a result, many generic strategic-planning concepts that once were proven successful in the manufacturing industries do not produce the same promising results when they are applied to the service sector (Hart, Spizizen, & Wyckoff, 1984). This is mainly because of the fundamental differences that exist between the two industries (Mills & Moberg, 1982). Caution should be exercised in applying models derived from and for manufacturing to service operations (Drucker, 1973). In other words, those successful strategic theories from the manufacturing industry should not have been simply duplicated without taking the differences between the two industries into consideration. The relevancy, the applicability, and the validity of these strategies must be tested in the service sector.

Manufacturing versus Service Operations

There are fundamental differences between the manufacturing industry and the service industry. Two major differences are the nature of outputs and the underlying production processes (Mills & Moberg, 1982).

Nature of Outputs

In the service industry, the output of service operations is intangible and inseparable into units, while the output of manufacturing is tangible and separable. The concept of intangibility has two meanings: 1) that which cannot be touched, 2) that which cannot be easily defined, simulated, or grasped mentally (Berry, 1980). Security, consistency, attitude, completeness, condition, and availability are some of the attributes of service. These intangible elements are dynamic, subjective, and ephemeral, and also are difficult

to quantify. Services are consumed but not possessed. Service outputs are abstract things that cannot be stored in inventories, nor tasted or tried on for size (Shostack, 1978). This intangibility of service output makes it difficult to operationalize the construct to quantifiable measure the effectiveness of strategic management.

Production Process

The process used to convert raw materials into outputs also differs greatly between manufacturing and service operations. Service industries are labor-intensive, time-bound, and the customers are involved in production (Schmenner, 1986). In other words, to produce a service, the customer and the service worker must interact in order to complete the delivery of service. Also the production and consumption of the product are occurring simultaneously. Thompson (1967) describes this process as a transaction in which the client and service worker exchange information and commitment. The client's direct involvement in the production process is primarily to provide the information input, as raw material, into the transformation system. This creates uncertainty in the service delivery process as the service is being customized for the individual consumers. On the other hand, in the manufacturing industry, there is no interaction between the workers and the customers during the production process. Any uncertainty that may occur is eliminated.

These two characteristics of the service industry, namely, the intangibility of the offering and simultaneity of production and consumption, have important implications for strategic planning. With these fundamental differences between the two sectors, more and more of the managers of service businesses are now aware that the strategic management of the service business is different from that of the manufacturing business. Service operations require a different strategic orientation and may require different competitive strategies from those of product-oriented companies (Thomas, 1978).

In addition, the service sector is also characterized by a relatively short life cycle. Service businesses seem to rise and fall financially too soon too often. Owners and operators in this industry often are so entrepreneurial in spirit that they claim to have unique operations. Frequently, the management in these service companies do not promote service operations management techniques with the same vigor as the manufacturing sector does (Schmenner, 1986). There are times that service industry operators were found borrowing management models and theories from the realm of the manufacturing industry. Moreover, very limited research studies have been carried out in examining these concepts and theories for organizations in the service sector.

Since most of the existing empirical studies on strategic planning and management have utilized primarily manufacturing firms in their samples, the question arises as to whether or not these findings are appropriate in a service setting. Norman (1984) indicates that the design and management of effective service organizations are unique processes. The principles that must be applied in this area are not well understood or covered in the established management literature.

As the service industry is gaining momentum in the U.S. economy, there is an imperative need for the following:

1. to conduct research pertaining to this industry in order to gain a better understanding of management needs;
2. to develop a cohesive framework in which to consider the relevant strategic managerial issues facing service organizations; and
3. to propose a new set of constructs and measures that reflect the uniqueness of service attributes, as well as methodological issues that are most appropriate for the industry.

Varying in the degree of consumer interaction and service customization, there are many industries that are categorized as part of the service industry, from airlines, hospitals, schools, to professional services. The hospitality industry, a significant and enduring sector of the economy, is also among the major industries within the service sector. The following discussion will focus on this industry and one of its segments, restaurants.

The Maturity of the Hospitality Industry

Today's business environment is more complex and competitive than years ago, especially for those industries that are facing the maturity stage of their life cycle. As an industry reaches maturity, many firms experience either flat or declining sales volumes from their peak performance in the growth stage. This is a result of limited expansion opportunities and intense competition among businesses (Sirkis & Race, 1982). Their survival and prosperity will be dependent upon their abilities to align with the environment and select correct strategies. The hospitality industry, especially the restaurant segment, is one of the industries that is entering the maturity stage of its life cycle (Sasser et al., 1978).

In the past fifty years, the foodservice industry has changed greatly. It has evolved from a simple, traditional operation into a complex system. Its role in the American economy has expanded to the point where it is now one of the most important service industries in the country. Advances in technology and unique innovations have pro-

vided opportunities for the foodservice industry to grow. Today, the American foodservice industry is comprised of nearly 600,000 commercial and institutional establishments, and has a labor force of more than 5 million people (NRA News, 1986). In 1985, the estimated sales for the total foodservice market were \$162,417 billion (R&I, 1986).

Since this industry is entering its maturity stage, for any foodservice organization to become or remain profitable in the years to come, three essential qualities must be maintained:

1. the ability to offer customers the products they want;
2. the ability to prosper in prevailing economic and social conditions; and
3. the ability to adapt either when customers' needs change or when conditions change, or both.

To achieve these qualities, the organization must be able to construct an appropriate strategy. The history of the hospitality industry has witnessed countless failures of once successful companies that could not formulate the appropriate strategy and adapt to new conditions (Axler, 1979). As the industry will be subject to severe competitive pressures in the years to come, it will need to adapt to the environmental changes, acquire greater understanding of the service economy, and ensure that it is capable of meeting consumer needs in a satisfactory way (Hughes, 1982). Restaurateurs are realizing that it takes more than it used to for an operation to survive in this competitive environment.

Strategy & Organizational Performance

In the hospitality industry, the restaurant market is turbulent and continually changing. To succeed in this dynamic and increasingly competitive environment, restaurant managers must now systematically monitor trends, anticipate threats and opportunities, perform sound internal analysis of strengths and weaknesses of the firms' capabilities and resources, and formulate effective strategies to gain a competitive advantage. They also are in need of adopting increasingly sophisticated management techniques in order to remain economically viable.

In the past, as restaurateurs realized the need for strategic planning, some of them began to adopt and apply those strategic techniques that had achieved success in manufacturing industries. They did not fully take into consideration the unique features of the service sector. Nor did they thoroughly analyze internal structure to determine organizational capability in order to implement the selected strategy successfully. The result was that not every company was successful in its strategy application.

Looking back at the past history of the restaurant industry, there were quite a few firms that adopted certain strategies that they later regretted, or that had to pay a high price for the consequences. In the 1970's, restaurant firms all seemed to adopt the then popular trend in the manufacturing industry: a diversification strategy. Years later, some of these firms, such as General Mills, Holiday Inn, Saga, and General Foods, had to change company strategies and restructure by selling or spinning off their unrelated businesses in order to maintain the desired profit level. In the late 1960s, General Foods attempted to diversify through acquiring Burger Chef. Later it had to write off \$39 million in its 1972 annual report (Paul, Donavan & Taylor, 1978).

In 1985, General Mills Inc., realizing its strength was in consumer foods, underwent a massive restructuring and a shift of strategy as the company returned to the food business. The parent company decided to divest two of its three nonfood businesses: to spin off the toy group (Parker Bros. and Kenner Products) and sell its fashion units (mainly Izod). It also sold three (Casa Gallardo, Darryl's, and Good Earth) of its six restaurant concepts. The move to sell these three chains followed a decision to abandon an in-house building and design operation, as the strategy called for a shift in its development tactics from constructing new units from scratch to acquiring existing restaurants for conversion (Nation's Restaurant News, 1985).

For Holiday Inn's, the restructuring of the company's operations was initiated in 1979. The emphasis of strategy was to steer the company into related hospitality businesses by reshaping Holiday Inn into a "hospitality company". This concept limited its scope to food, lodging, and entertainment. The executives decided that Holiday Inn would get into as few businesses as possible in the future and only into those that had good growth, high return, and were synergistic with the hotel business. Holiday Inn sold Trailways bus operations, as well as part of the products group and the Delta ship line.

Other companies, like ARA and Victoria Station, expanded by diversifying very rapidly into many different businesses, but soon found out that either the management lost control or the new ventures did not perform as promised. Their unsuccessful moves could be attributed to the possible mismatch of the opportunities and threats of the environment and the firms' structure, internal competencies, as well as a lack of systematic analysis of corporate strengths and weaknesses.

Theoretical Background Review

Much of the literature written about the strategic management process is concerned with organizations in the manufacturing industry. Manufacturing management has benefited from the research studies performed by various professional societies that sought management principles that apply across different kinds of manufacturing enterprises (Schmenner, 1986). This is to say that many of the existing theoretical frameworks and empirical studies on organizational theory, including the concept of strategic management, have been primarily tested and applied in the industrial setting. Few empirical studies can be found on the application of such activities in the service industries. Thus, in discussing strategy and structure and their impact on organizational performance in the service industry, theories and models derived from the manufacturing firms must necessarily be the starting point.

Organizational Strategy

For well over a decade, strategy has been a business buzzword. It is one of the broadest and most complex concepts used in studying organizations. The concept of strategy becomes one of top management's major tools for coping with both external and internal changes in the environment. Companies search for the right strategy to ensure long term survival and success. Hofer and Schendel (1978) viewed strategy as a course of action which matches an organization's resources and skills, the environmental opportunities and risks it faces, and the mission it wishes to accomplish.

Some business organizations are very successful financially. Some only achieve moderate or marginal return on investment. While still others fail altogether in achieving company objectives. Some of the reasons for an organization to be successful are superior resources, good products and/or services, innovative management, and even luck. But an essential factor is the ability to adapt appropriately to the changes that occur in their environments.

There has been discussion in the literature about the central role that strategy has assumed in organization theory (Bourgeois & Astley, 1978). It was indicated that the development of organizational strategies is essential to successful management. Strategy is generally viewed as a pattern of important decisions which 1) guides the organization in its relationship with its environment, 2) affects the internal structure and processes of the organization, and 3) centrally affects the organization's performance (Hambrick, 1980). From a conceptual standpoint, strategy is not only influenced or affected by environmental positions or attributes, but also by organizational variables such as the structural context (Bower, 1970, Burgelman, 1983), managerial style (Miller et al., 1982) or past performance (Hambrick & Schecter, 1983).

Organizational Structure

All organizations have structure. The structure of an organization importantly influences the flow of information and the nature of human interactions. Organizational structure or design defines the lines of authority and communication, serves to allocate tasks and to provide coordination. It channels collaboration, allocates power and responsibility, and prescribes levels of formality and complexity (Bower, 1970). Weber (1947) provided one of the earlier multidimensional descriptions of structure, proposing

an "ideal" bureaucratic organization designed around such principles as a clearly defined hierarchy, specified rules and norms, and written and recorded administrative procedures.

Hall (1977) suggested that structure has two basic functions, each of which is likely to affect individual behavior and organizational performance. "First, structures are designed to minimize or at least regulate the influence of individual variations on the organization," and secondly, "structure is the setting in which power is exercised..., decisions are made..., and ... the organization's activities are carried out." Van de Ven (1976) highlighted the importance of structure both at the organization and subunit levels for the performance, in terms of efficiency, morale, and effectiveness, of organizations.

There has been much empirical research on structure. In his review of this literature, Champion (1975) pointed out specialization, formalization, size of administrative and staff components, centralization of authority, vertical span, and number of operating sites were among the common variables used to measure the structure of an organization. Duncan (1972) proposed five dimensions of structure: division of labor, impersonality, participation in decision making, hierarchy of authority, and formalization. Other studies have also suggested many of these dimensions (e.g. Child, 1972; Pugh et al., 1968; Pugh, Hickson, & Hinings, 1969; Reimann, 1973). Hage and Aiken (1967) and Khandwalla (1976) studied two additional aspects of formalization, extent of formal controls and proportion of professionals. Finally, Lawrence and Lorsch (1967), Galbraith (1973), and Mintzberg (1973) discussed structural integration, referring to liaison devices such as coordinative committees and task forces.

Strategy-Structure Link

It is essential to examine the fit between the internal organization of a firm and its strategy in strategic management. Two different views have been gathering attention in the literature:

1. A growing body of literature has explored the relationships between strategy and structure (Chandler, 1962; Stopford, 1968; Fouraker & Stopford, 1968; Wrigley, 1970; Dyas, 1972; Pavan, 1972; Thanheiser, 1972; Channon, 1973, 1975; Rumelt, 1974; Grinyer & Yasai-Ardekani, 1980). As White & Hamermesh (1981) argued, "it is through strategy that the firm interprets its environment and that strategy (should) guide the choice of organization structure";
2. the choice of structure makes a difference in the achievement of strategy (Lawrence & Lorsch, 1967; Lorsch & Allen, 1973; Lorsch, 1976; Rumelt, 1974).

The interest in the interaction between strategy and structure was stimulated by Alfred Chandler's classic study in 1962. On the basis of a historical study of 70 firms, he concluded that structure is dictated by strategy. Firms typically start with a very simple structure. As they expand geographically and vertically, functional organizational firms are created. Ultimately, divisional structures are needed to manage product diversification. According to Chandler's thesis, in each case, the new strategy dictated a change in the organizational structure. Chandler's hypothesis of a positive relationship between strategy and structure was tested statistically by Rumelt (1974) in the United States and by Channon (1975) among United Kingdom service companies. Both results supported Chandler's hypothesis.

In the strategy-structure paradigm, Chandler's emphasis was more on the corporate level strategy, as was the work of others (Pavan, 1972; Rumelt, 1974; Wrigley, 1970). The strategy-structure relationship at the business level has received attention only recently (Miles & Snow, 1978; Gupta & Govindarajan, 1984). This is primarily due to the difficulties encountered in operationalizing the concept of business strategy and a lack of appropriate measures for strategy, structure and performance (White, 1986). Findings from Bourgeois and Astley (1978), and Lenz and Engledon (1986) indicated that single-business firms within an industry are structured differently, depending on their strategies. In addition, they concluded that structure affects strategy. This view broadened the scope of potential strategy-structure research opportunities.

Organizational Performance

Corporate performance is a function of influences and organizational characteristics in addition to the choices of organizational leaders (Child, 1975). Corporations face constraints and contingencies presented by environmental uncertainty, complexity, and change. Management makes strategic choices that direct the organization's activities within these external and internal influences and that may make the difference between organizational success and failure. Measures of performance for firms comprising each strategic group are assessed to detect whether significant differences exist between strategic groups within an industry.

Performance may vary according to whether it is the customers' or stockholders' viewpoints, the time period observed, criteria used, etc. Galbraith and Schendel (1983) suggested that organizational performance is not a unitary concept, but rather consists of multiple objectives. It is a complex and multidimensional phenomenon. Important

trade-offs between performance measures may occur depending on the strategy used and the relative competitive strength from which the firm implements its strategy.

Researchers frequently encountered difficulty in obtaining accurate measures when operationalizing such a complex concept. There are many different theoretical propositions on the determinants of performance in companies. Ford and Schellenberg (1982) examined three major frameworks frequently used to conceptualize organizational performance: the goal approach (Etzioni, 1975), the systems resource approach (Seashore & Yuchtman, 1967), and the constituency approach (Thompson, 1967). There are no accepted measures for long-term profitability. However, research studies indicate that both corporate-level strategy and business-level strategy are important in explaining firm profitability (Beard & Dess, 1981).

Strategy-Structure-Performance Link

Research on the linkage between corporate strategy, organization structure (broadly defined), and performance has a long history (Chandler, 1962; Rumelt, 1974; Channon, 1975). The studies of these authors were primarily restricted to corporate growth and diversification strategy. Such is the case with the study conducted by Grinyer et al. (1980). By adopting Wrigley's (1970) strategic categories (single product, dominant product, related product and unrelated product), Grinyer examined the linkage between strategy and the degree of divisionalization of organizational structure.

There are several interrelated components: structure, people, culture, and systems in an organization. It is suggested that one of the keys to an effective organization is having the various components fit together well (Peters & Waterman, 1982). When management decides the future course for the company, they should scan the general

and specific environment to identify opportunities they can bank on, and threats they should avoid. Moreover, they should also analyze and evaluate their internal organization. The internal organization can be a source of strength that provides competitive advantage as well as weaknesses for the overall firm. If the internal organization is unadaptable or inappropriate for the development and implementation of certain strategies, this may cause the firm to perform at less than full potential.

More specifically, one of the requirements for a strategy to be successful is the use of the proper structure to implement it. Various authors have indicated that the effectiveness of realizing strategies depends significantly on the existence of a match between strategy and structure. This includes Chandler's (1962) thesis which relates strategy and structure, Thompson's organization theory (1967), the contingency approach of Lawrence and Lorsch (1967), Rumelt (1974), and Scott (1973). All of these studies examined the relationship between strategy and structure at the corporate level. Based on these studies, one would assume the existence of a similar relationship at the strategic business unit level, too.

However, this relationship has not been fully tested in the restaurant industry. It is felt that strategy in restaurant firms may not necessarily dictate structure as is indicated in the literature. There may be no relationship between strategy and structure in restaurant firms, and there is no impact of these two variables on the financial performance. This observation was supported by the fact that some researchers indicated that a lack of structural differentiation with strategy at both the strategic business level (SBU) (Bettis, 1979; Haspeslagh, 1982) and the divisional level (Lorsch & Allen, 1973). Oftentimes, firms find it both costly and difficult to administer the differentiation of structure. This is probably the case in restaurant industry. Product life in certain service industries such as the restaurant industry, is extremely short in comparison to the manufacturing industries. For instance, a unique product line in an auto industry can enjoy

a product life of five years or longer before rivals rush to the market with a similar product. However, due to the unique characteristics of the service industry, an innovative product or service in the restaurant industry may last for less than a year before the other competitors catch on and the new product loses its competitive edge. In this way, restaurant firms in the service industry will have to adopt different practices in terms of strategy and structure than those in the manufacturing industry. This poses a problem to companies in terms of allowing enough time to make necessary structural changes in order to accommodate new strategic choices. This is to say that structural arrangements in restaurant firms, under this unique circumstance, cannot possibly be reorganized quickly enough to implement the new strategy.

Motivation For This Study

In the hospitality industry, there is a lack of any commonly agreed theoretical frameworks relative to hospitality management (Nailon, 1982). The theoretical frameworks used to compare and contrast the actual practices within the hospitality sector are generally borrowed from other industries, especially manufacturing. The hospitality industry also lacks systematic study and research to test the validity, reliability, and replicability of these theories and models developed for other industries to see whether they are as effective in the service industry as they are in others.

Moreover, there is the theory that strategy in service businesses is different from that of manufacturing businesses (Thomas, 1978) as the processes and outcomes in manufacturing goods are different from those involved in producing services (Mills & Moberg, 1982). Thus, there is a research need to test the strategic management concept

and models that are relevant to the service sector. There is also a need to strengthen the literature base for the sake of better understanding the content and concept of strategic management, as well as the designing of an acceptable methodology for measuring strategy, structure, and organizational performance.

As Schaffer (1986) indicated in his research findings on the lodging industry, the structural configuration of an organization is being recognized as an increasingly important factor relative to its effectiveness. The degree to which an organization is able to adapt not only its strategy, but also its structure to its situation, will profoundly affect its ultimate success. Based on this, he proposed that much research remains to be done regarding the nature of the relationships among an organization's situation, its strategy, its structure, and its performance. As the hospitality industry exemplifies the service sector, this study will be restricted to include firms in the restaurant segment of the hospitality industry as the research sample.

Purpose & Scope

Because of the complexity of the problem, this study will reflect an exploratory research effort in examining the precise nature of the relationship between business unit strategy and organization structure in the restaurant industry. Porter's (1980) framework of business strategy will be used in this study because it provides a research tool for classifying the strategies of firms within an industry (Hambrick, 1983; Dess & Davis, 1984).

According to Porter (1980) there is no specific time span for maturity to occur in the development of industry, and maturity can be delayed or slowed down by inno-

variations and other factors that contribute to long term growth. He found that in the growth stage, most companies survive and expand even if there are strategic errors; however, maturity generally exposes a company's strategic weaknesses and may force companies to consider the need to choose between the three generic strategies for the first time.

For a business to survive and be successful in a competitive environment, the ability to create a defensible competitive position is a must. Porter (1980) identified "three internally consistent generic strategies (which can be used singly, or in combination) for creating a defensible position in the long run and outperforming competitors in an industry". Since his work has not been fully tested for validity outside of manufacturing firms, it is the goal to test his model through this study to extend the applicability to the service setting using restaurant firms.

Specifically, the following objectives will be sought:

1. To examine restaurant firms based on the context of Porter's strategic typology at the business unit level to see if they espouse one of his three generic strategies: overall cost leadership, differentiation, and focus.
2. To examine the relationship between structural attributes and generic strategy in restaurant firms.
3. To examine the relationship between strategy, structure, and financial performance of restaurant firms.

Summary

Studies based on the manufacturing industries indicated that strategy had impact on financial performance. In addition, an appropriate structure is necessary to implement strategy successfully, which leads to higher performance in a firm. This relationship has not been tested in the restaurant industry. There may not be a relationship between strategy, structure, and performance due to the unique characteristics of service and short life cycle. This study is set to examine whether the same relationship holds in the restaurant industry.

Literature Review

This study attempts to examine the relationship of strategy, structure and its impact on performance in restaurant industry. The empirical investigation of the strategy-structure-performance relationship, whether at the business or corporate level, requires appropriate measures and underlying concepts for strategy, structure, and performance. Little research had been conducted in the field, thus the studies reviewed here are mainly based in manufacturing industries. First, the concept of strategy is outlined, then followed by the types of strategy. After a discussion of available research types on strategy, the issue of strategic choice will be presented. Relevant studies on the variables, strategy, structure, and performance that this study investigated will be reported.

The Concept of Strategy

The word strategy is derived from the Greek "strategos" - the art of the General (Hart, 1967). Strategy is defined as a course of action that matches an organization's

resources and skills with the opportunities and risks it faces in the environment as well as the mission it wishes to accomplish (Hofer & Schendel, 1978). More specifically, organizational strategy includes product-market investment decisions and approaches to develop sustainable competitive advantages. These advantages encompass obtaining distinctive skills and assets, appropriate objectives, functional area policies, and the creation and exploitation of synergy.

Firms have done planning in one form or another for years. However, more formalized, structured planning, focusing on long-range strategy selection has only evolved in recent years. The concept of strategy was first introduced by the faculty members of the Harvard Business School during the fifties (Hambrick, 1980). Their view of strategy was normative, whereas Chandler's (1962) research was the first to employ strategy as a descriptive concept.

Types of Strategy

The literature on strategy can be separated into two major types: the process of strategy formulation and implementation, and the content of strategy. Hofer and Schendel (1978) viewed strategy formulation as the process of deciding the basic mission, the objectives that the company seeks to achieve and the major policies that determine the use of the firm's resources to achieve its objectives. The process of strategy implementation focused on such issues as the design of administrative structures and control systems, as well as resource allocation (Bourgeois, 1980). The distinction between strategy formulation (cognitive aspects) and strategy implementation (action components) implies that strategy is developed consciously and purposefully. However,

Mintzberg (1978) has described how organizational strategies can also surface unintentionally.

The Strategy Formulation Process

How do strategies form in organizations? Little research has been undertaken on how strategies actually are formed in the organization. This kind of study requires intensive and longitudinal research, that is, small sample sizes and large investments of time (Mintzberg & Waters, 1982). Strategy is primarily the product of what the management has "planned" to do in the future. Thus strategy formation should be treated as an analytical process for establishing long-range goals and action plans for an organization. Mintzberg (1978) and other authors used the definition of strategy as "a pattern in a stream of decisions" as the basis for investigating the process of strategy formation. This definition was developed to "operationalize" the concept of strategy. This provides a tangible basis on which to conduct research into how it forms in the organization.

The formulation of an effective strategy is dependent on a clear definition of company mission, an accurate appraisal of the external environment, and a thorough internal analysis of the firm (Pearce & Robinson, 1982). In order for a strategy to succeed, it requires three essential ingredients. First, the strategy must be consistent with conditions in the competitive environment. Specifically, it must seek to pursue existing and/or future opportunities while minimizing the impact of major threats. Second, the strategy must be a realistic reflection of what the firm's internal resources and capabilities are. In other words, the firm's formulation of corporate strategy must be based on

key internal strengths as well as its weaknesses, not solely on the existence of market opportunity. Finally, the strategy must be carefully executed.

In deciding what businesses a firm should be in or how to compete in a particular business, the firm defines its corporate and business level strategies through a strategy formulation process. A review of the major prescriptive of strategy formulation models indicated that they all include either explicitly or implicitly the following steps. Based on the Hofer and Schendel (1978) model:

1. strategy identification - to assess organization's current strategy and strategic components
2. environmental analysis - to assess the major opportunities and threats in the organizational general and specific (competitive) environments and the resources available
3. resource analysis - to assess the principal skills, capability and resources available to close the strategic gaps identified in next step
4. gap analysis - to compare the organization's objectives, strategy, and resources against the opportunities and threats in its environments to determine how much changes are required in the current strategy
5. strategic alternatives - to identify the strategic options that a new strategy may be built
6. strategy evaluation - to evaluate the strategic options in terms of the mission and organizational objectives, its available resources , and the environmental opportunities and threats that exist in order to identify those that best satisfy all these demands
7. strategic choice - to select one or more of the strategic options for implementation.

For the hospitality industry, Reid and Olsen (1981) proposed a seven-step planning model that designed to facilitate the formation, implementation, and evaluation of strategies necessary for survival from the increased competition as well as adapt to unstable economic, political, and financial conditions. In order to provide the consumer with the product-service mix he desires, and do so at a reasonable price while achieving a satisfactory financial performance, the authors stressed the need for the operators to

thoroughly analyze and evaluate the internal operation as to its strengths and weaknesses when deciding the appropriate strategy for the company.

Content of Strategy

The content approach to the study of strategy focuses on the make-up of strategies actually implemented, as contrasted with focusing on the decision-making processes involved in formulating some of those strategies.

Research on strategy can be classified hierarchically into corporate, business, and functional levels (Hofer & Schendel, 1978). Conceptually, corporate-level strategy and business-level strategy are viewed as interindustry and intraindustry variations in business firms' strategies, respectively. The distinction between corporate-level strategy and business-level strategy is of key importance in doing empirical strategy research (Vancil, 1976).

A corporate strategy includes a determination of the product-markets in which the business should compete. It has four components: the growth vector, the product market scope, the competitive advantage, and synergy (Ansoff, 1965). In studying corporate-level strategy, Rumelt (1974) pooled data from 249 firms which represented a large cross-section of industries. The author delineated nine generic strategies that represented different types of diversification outcomes.

Strategy is not just a choice of where to compete, in which industries or in what geographic areas. Strategy, at the business level, also involves choices about how to compete within a given industry (Hambrick, 1980). A business strategy is concerned with what sustainable competitive advantage should be developed or maintained to compete successfully. Beard and Dess (1981) defined business level strategy as admin-

istrative decisions that attempt to maximize an organization's performance potential through the structuring of resources.

In general, discussions of business-level strategy can fall into one of three groups. Authors like Andrews (1971) and others (Glueck, 1976; Katz, 1970) set forth normative propositions about which strategic actions make sense under different conditions. The second group of studies deal with universal "laws" of strategy, such as the effects of market share (Schoeffler, Buzzell & Heany, 1974) and the experience curve (Boston Consulting Group, 1968). The last group empirically concluded that so many contingent factors exist that strategy must be highly situational (Hatten, Schendel & Cooper, 1978).

Typologies of Business Strategies

There are an increasing number of typologies in the business strategy that an organization can select. Again, most of these strategies are developed based on industrial settings. The number of possible strategy types, and the characteristics of each type, vary widely from author to author, and is to a large degree dependent on the objectives of the firms as seen by each author (Galbraith & Schendel, 1983).

For example, Porter's three generic strategies were constructed in relationship to profitability performance, while Buzzell, Gale & Sultan' (1975) three generic strategies of share-increasing (building), maintenance (holding), and harvesting are directly related to market share performance. The Hofer and Schendel (1978) typology, share increasing, growth, profit, market concentration and asset reduction, turnaround, and liquidation or divestiture; takes into account both profitability and market share objectives.

First popularized by the Boston Consulting Group, the business strategy typologies proposed by Buzzell et al., and Hofer & Schendel, have been based upon assessing the attractiveness of the industry or competitive environment, and the business's capabilities relative to other competitors. Other typologies have been developed that deal exclu-

sively with a business's competitive strategy within an industry (Utterback & Abernathy, 1975; Porter, 1980). Miles (1982) regarded the domain defense and domain offense as the two business strategies.

Miles and Snow (1978) proposed a typology of four strategy types: defender, prospector, analyzer, and reactor. The key dimension underlying the typology is the rate at which an organization changes its products or markets. Defenders are organizations that engage in little or no new product or market development, while prospectors attempt to pioneer in product or market development. Analyzers are organizations that adopt the competitor's proven successful strategy, and reactors change only when forced by environmental pressure. These represent strategies, organizational structures and processes that occur together.

In an empirical analysis of strategy types, Galbraith and Schendel (1983) identified two sets of strategy typologies. Six strategy types were identified for consumer products: 1) harvest, 2) builder, 3) cashout, 4) niche or specialization, 5) climber, and 6) continuity. For industrial products, four strategy types were identified: 1) low commitment, 2) growth, 3) maintenance, and 4) niche or specialization. The two authors argued that strategy is a complex system or network of intertwined relationships between various management decision variables such as marketing, pricing, production, research, etc. In addition, strategy is not static. Rather strategies are formulated and implemented over time. The two sets of strategy typologies that the authors developed in the empirical study reaffirmed the arguments of previous researchers. Distinct, consistent, and recurring patterns of strategic behavior do exist (Mintzberg, 1978).

Jausch et al. (1977) suggested eight categories of strategy alternatives. Glueck (1976) used four generic strategy categories: retrenchment, stability, growth, and combination strategies. Cook (1975) characterized strategies as intensive, reactive, proactive, or mediating.

Moreover, strategy differs as a company goes through the various life cycle stages. Leontiades (1980) examined various growth strategies as corporations progress from simple, one-product companies to very complex corporations serving many market constituencies.

Regardless of the different approaches to the study of strategy, the need for strategic management is apparent. Today's business environment requires organizations to be flexible, adaptable as well as continually planning for the future. This leads to an increased emphasis on the use of strategic decision making and planning as the primary means of adapting organizations to their changing environments. Organizations need formalized, analytical processes for formulating explicit strategies. Research studies have indicated that formalized approaches to strategy formulation (or strategic planning) indeed result in superior performance measured in terms of sales, profits, and return on assets (Hofer & Schendel, 1978). However, one should be cautioned not to expect that formal strategic planning will always produce superior results, because it is the quality and content of the organization's strategy that determines its performance and not the processes by which that strategy is formulated.

Available Research Questions Involving Strategy

Since strategy has been viewed as a potentially powerful predictor of other organizational phenomena, Hambrick (1980) highlighted the number and diversity of research topics in which the strategy construct would play a role.

Strategy and Performance

The first set of research questions, perhaps quite useful to practitioners, deals with the strategy-performance linkage. That is, how do different strategies relate to organizational performance? A number of variables, for example, nature of the industry, product life cycle, and other environmental attributes, can be included to expand the array of possible strategy-performance theories to be tested. Hambrick, MacMillan, and Day (1982) in an attempt to test and extend the Boston Consulting Group (BCG) product portfolio matrix, examine which strategic attributes that are associated with the various performance focused on two key contingent variables, the product life cycle and market share, and identified their relationships with different strategic attributes and performance in each of the four cells.

Hofer (1975) shared the same view by stating that "the most fundamental variable in determining an appropriate business strategy is the stage of the product life cycle". The findings from these authors indicated that businesses differ in their performance and strategic attributes, according to their life cycle stages and market shares. Research works in this research area included Abernathy and Wayne (1983); Schoeffler, Buzzell, and Heany (1974); Hatten, Schendel, and Cooper (1978); Lenz (1978); and Datta (1979).

When determining the impact of strategy on the organization, there are several research studies that dealt with this issue under the terms of organizational performance (Child, 1973; Lenz, 1981; Thorelli, 1977) and organizational effectiveness (Cameron & Whetten, 1983; Evan, 1976; Steers, 1977). However, there is little agreement on how strategic performance should be measured (Cameron & Whetten, 1983).

Empirical research on relationships between corporate-level strategy and firm performance can be divided into two groups. The first group examined effects of the

quantity and type of diversity in a firm's business portfolio on its profit performance. Findings from these studies indicated that little relationship existed between diversity and profitability (Gort, 1962; Rumelt, 1977).

The second group focused upon the effects of variation in industry on firm profit performance. The main research interest was to determine how much of an individual firm's profitability can be explained by its industry compared to other industries and how much can be explained by the firm's strategy compared to other firms' strategies within its particular industry. Findings showed that there were positive effects of industry profitability on firm profitability. Both industry returns on assets and on equity proved to be significant predictors of the corresponding measures of firm profitability (Rumelt, 1977). The three performance measures he used were profitability, cash flow, and market share change.

The research in the business level and performance is not as common. Limited to single-industry manufacturing firms, the study of Beard and Dess (1981) provided evidence about the relative importance of corporate-level strategy and business-level strategy in determining firm profit performance. The three business-level strategy variables they used in their study are relative size, debt leverage, and capital intensiveness; where profit performance was measured by return on equity and return on investment. Research generally has shown a positive association between either absolute or relative firm size and firm profitability (Scherer, 1970; Boston Consulting Group, 1968). Also, studies using market share (Shepherd, 1972; Gale, 1972; Schoeffler et al., 1974; Buzzell, Gale & Sultan, 1975) found a significant positive correlation between firm market share and firm profitability. Whereas both the second and third business-level strategy variables, capital intensiveness and debt leverage, have a negative relationship with firm profitability (Schoeffler et al., 1974; Gale, 1972; Rumelt, 1974).

Strategy and Structure

The second general category of research questions are dealing with the strategy-structure linkage. Chandler (1962) originated such a paradigm. As he indicates, given the corporate strategy, structure must have the capability of providing the necessary information to make sound administrative decisions. If the current structural arrangement is not able to implement the strategy, then it will change to meet the strategic demands.

The results of other research studies also indicate that a relationship between strategy and structure exists in the corporate-level (Bower, 1970; Scott, 1973; Wrigley, 1970; Pavan, 1972; Rumelt, 1974). Also studies indicate that the choice of structure makes a difference in the achievement of strategy (Lawrence & Lorsch, 1967; Lorsch & Allen, 1973; Lorsch, 1976; Rumelt, 1974). Because of these studies, many authors feel that an appropriately designed structure is required to facilitate the implementation and achievement of a firm's strategy (Christensen, Andrews & Bower, 1978; Galbraith & Nathanson, 1978; Steiner & Miner, 1977). In other words, the complexity of the structure of strategic groups populating an industry exerts a significant influence on its performance (Newman, 1978).

More recently, there has been more research interest in the area of formal structure required to manage specific business strategies within a given industry segment (Bower, 1970; Bettis, 1979; Hall, 1977; Haspeslagh, 1982). For example, Miles and Snow (1978) systematically examined the linkage between business-level strategy and structure. Authors like Burns and Stalker (1961), Woodward (1965), and Perrow (1970) have made indirect, but important, contributions to knowledge about linkages between business-level strategy and structure. Their findings, along with Bourgeois and Astley (1978), and Lenz and Engledow (1986) indicated that single-business firms within an industry are

structured differently, depending on their strategies. In addition, they concluded that structure affects strategy. This view broadened the scope of potential strategy-structure research opportunities. Bobbitt and Ford (1980) indicated that organizational designs (structure) reflect decision-maker choice.

There is considerable overlap between the structural and strategic typologies and taxonomies. For instance, there are notable similarities among Porter's (1980) differentiators, Miller and Friesen's (1978) adaptive firms, and Miles and Snow's (1978) prospectors. Porter's cost leaders were similar to Miles and Snow's defenders and Miller and Friesen's giants under fire. Thus, Miller (1986) proposed that 'it would be useful to relate the rather sophisticated conceptions of recent strategic theorists - particularly those of Porter (1980), Hambrick (1983), and Miles and Snow (1978) - to those of the major structural theorists - notably Lawrence and Lorsch (1967), Burns and Stalker (1961), Woodward (1965), Thompson (1967), Galbraith (1973) and Mintzberg (1979).

In addition to strategy and structure relationship, Leotiades (1980) expanded the idea by including variables of organizational levels and management styles of the executives. Along with the stages of growth, he indicated that these key elements are inter-related and mutually influence the choice of strategy. These studies raised one important issue: would consumer products or service businesses yield findings different from the industrial businesses setting?

In large, diversified companies, the effectiveness of strategy implementation at the strategic business unit (SBU) level can be influenced by the choice of key business unit personnel (Lorsch & Morse, 1974), by the characteristics of the SBU's general manager (Galbraith & Nathanson, 1978; Kerr, 1982), by the internal organization of the unit (Lawrence & Lorsch, 1967; Miles & Snow, 1978), the nature of corporate control over the SBU (Bower, 1970; Vancil, 1980), and from outside the business unit (Bower, 1970; Lorsch & Allen, 1973). Managers use the organizational design process as a funda-

mental tool for implementing and communicating the strategic direction selected for the firm. Randolph and Dess (1984) assumed that organization design is largely the outcome of a process of strategic choices made by key organization members. Specifically, top managers assessed the environments associated with an organization's chosen product/market domains of activity, and then chose the proper mix of technologies, structure, and processes. The choices of these variables determine whether the organization will achieve its goals and accomplish its task effectively.

Strategy and Process

A third array of research questions examine the strategy-process linkage. Research in this area built on the strategy-structure perspective, but encompassed a broader range of organizational and managerial processes. For example, the studies by Miles and Snow established a linkage between business-level strategy and planning, control, and communication processes. Hambrick (1980) tested the linkage among strategy, executives' environmental scanning activities, and executives' influence within their top management teams.

Interlevel Strategic Linkages

A fourth category of research aims at exploring interlevel strategic linkages. Hofer and Schendel (1978) made a clear distinction among corporate-level, business-level, and functional strategies. Later, they proposed research that explores the relationships among strategic levels (Schendel & Hofer, 1979). Although normative studies were

found addressing this linkage, essentially there was no empirical research on interlevel strategic linkages.

Intended versus Realized Strategy

The last group of research studies, proposed by Mintzberg (1978), focused on systematically identifying and analyzing the gap between intended strategy and realized strategy. The author indicated that there is a potential for a gap between a strategy that is planned by a chief executive (an intended strategy) and what actually unfolds (a realized strategy).

Mintzberg et al. explored the relationship between leadership plans and intentions and what the organization actually did: deliberate (realized as intended) versus emergent (realized but not intended) strategies. Various types of strategies were uncovered in their research. These include strategies that were labelled planned (originate in formal plans), entrepreneurial (strategies originate in central vision), ideological (strategies originate in shared beliefs), umbrella (strategies originate in constraints), process (strategies originate in process), unconnected (strategies originate in enclaves), consensus (strategies originate in consensus), and imposed (strategies originate in environment). They proposed further research to investigate the strategy formation process and of the types of strategies realized as function of the structure and context of organization. They also suggested studies to determine how different types of strategies perform in various contexts, and how these strategies relate to those defined in terms of specific content.

Strategy and Environment

There are also other research possibilities, such as those of examining linkages between environment and strategy, values and strategy, and goals and strategy. As for the strategy-environment linkage, Lenz and Engledow (1986) indicated that firms that can successfully introduce pertinent information about their changing environments into strategic decision processes have the brightest prospects for long-term survival (Hedberg, Nystrom & Starbuck, 1976; Bourgeois, 1978). As White and Hamermesh (1981) indicated, "it is through strategy that the firm interprets its environment and that strategy should guide the choice of organization structure".

Jauch and Osborn (1981) viewed strategy as the combination (profile) of overall environmental, contextual, and structural elements affecting an organization, at any one time. This means that the fit between conditions is more important than the sequencing of actions. The proposition is that the probability of organizational survival increases as the congruity of these three elements increases. The authors identified four strategic profiles based on environmental, contextual, and structural conditions and related them to administrative philosophy or goal orientation. It is hypothesized that a company with high financial performance must be able to match its strengths with the opportunities in its environment; and to align its various administrative systems to its chosen strategy (Pascale & Athos, 1981). Using Peters and Waterman's (1982) term, "excellent" firms are the ones that are internally well fitted and externally well adapted. Academicians and consultants urge the development of formalized and sophisticated environmental analysis as a vehicle for improving strategic management practices.

Regardless which research questions to pursue, researchers in general have faced many difficult theoretical and methodological problems in attempting to arrive at valid and reliable measures of organizational strategy (Snow & Hambrick, 1980). Strategic groups provide a useful intermediate frame of reference between viewing the industry as a whole and considering each firm separately (Porter, 1980). This concept also makes it possible to empirically test the idea and provide "evidence that strategies differ among firms and that better strategies make a difference in performance results" (Schendel & Hofer, 1979).

Strategic Choices

The notion of strategic choice recognizes that similar organizations operating within the same industry may respond and adapt to the same environment differently based on the strategic orientation of their management (Ackoff, 1970). That is, firms follow different strategies within an industry (Caves, 1980). The strategic choices made by a firm can affect its production technology, degree of product differentiation, vertical integration and diversification, and formal organization and control systems. Firms basically share a common goal of long-term profit maximization. However, they do not necessarily choose identical corporate strategies to compete in the same market (Newman, 1978). This is supported by empirical studies in manufacturing industries that identified the presence of groups of firms within an industry following similar strategies along the strategic dimensions (Hunt, 1972; Porter, 1980). The purpose of these studies was to generate strategic typologies, or clusters of businesses with profiles based upon certain strategic attributes.

For example, firms that exhibit a similar strategic orientation were clustered into a distinct group. This approach has shown relationships between the empirically derived strategic clusters and organizational performance. However, the fit between any of these strategy types and organizational attributes has not been explored (White, 1986). This is in particular when environmental characteristics are considered (Hambrick, 1983) or when the business's competitive position is taken into account (Galbraith & Schendel, 1983).

Miles and Snow (1978) proposed a typology of strategies which represent strategies, organizational structures and processes that occur together. They contended that each of their strategies could be observed in any industry and that, if properly implemented, the strategies would yield similar results. However, according to White (1986), "this typology does not clearly distinguish between strategic choices and organizational choices. This merging makes it impossible to test the effect upon performance of the fit between strategic choices and different organizational choices" (p.219).

In a later study, Snow and Hrebiniak (1980) attempted to test Miles and Snow in four industries. Their results generally were supportive but were limited by small sample sizes, subjective measurement of strategy, and unclear measures of performance. Hambrick (1983) based on a sample of businesses in the PIMS data base, conducted a study to explore the effectiveness of Miles and Snow's strategic types in different environments and how these types differ in their functional attributes.

Business strategy is not unidimensional; there are different aspects of this complex phenomenon. To empirically test the fit between complex, multidimensional strategic types and equally complex organizational types becomes somewhat impossible due to the limited theories and resources available at the present time. Thus, to simplify the complex situation into a manageable manner, in studying business strategy-structure fit relationships, it makes sense to proceed by selecting a simple business strategy concept

which incorporates a few critical dimensions, yet has strong theoretical underpinnings. Porter's (1980) generic business strategies meet these tests.

In his books, *Competitive Strategy* (1980) and *Competitive Advantage* (1985), Michael Porter has identified and defined three generic strategies. His strategy proposals have been particularly well received in the field of strategic management where they have been analyzed empirically and theoretically (Dess and Davis, 1984; Galbraith and Schendel, 1983; Hambrick, 1983; Wright, 1987; Govindarajan, 1986). As Miller (1986) indicated, 'Porter have derived extremely suggestive conceptual typologies and empirical taxonomies of strategy'. and also as Hambrick (1983) observed, "Porter's (1980) strategic types, or close variations of them, were well represented among the high profit clusters." Porter identified three generic strategies by which firms in an industry may attempt to gain a competitive advantage over their rivals, and thereby achieve higher returns. His framework of generic strategies and competitive dimensions provides a research tool for classifying the strategies of all competitors within an industry (Dess & Davis, 1984). The authors' study provides empirical support for the presence of strategic groups based upon Porter's generic strategies.

In a competitive environment, the success and survival of a business depends primarily upon creating a defendable competitive position. Porter (1980) theorizes that when a firm is being evaluated according to how well it adapts to its environment, one of the dimensions would be to examine whether the firm's strategy is congruent with its structure. Hambrick (1983) isolated the three dimensions using Porter's typology as efficiency, differentiation and scale/scope. It is obvious that these dimensions could not possibly define all business strategies, but if Porter is correct and they represent effective means to deal with competitive forces, then a set of generic business strategies based on this conception should be crucial in the organization of the business unit (White, 1986).

Porter's Generic Strategies

The three generic strategies proposed by Porter (1980) are overall cost leadership, differentiation, and focus. According to him, these strategies are ways businesses deal with the five competitive forces that make up his general model, to create sustainable competitive advantage and thereby higher returns. These five dimensions of competition are: 1) threat of entry - entry barriers and reaction of existing, 2) existing competitors - the intensity of rivalry among competitors already in the industry, 3) substitutes - the presence from substitute products, 4) buyers - the bargaining power of buyers relative to the firm, and 5) suppliers - the bargaining power of suppliers relative to the firm.

Fundamentally, those companies that practice a pure cost leadership strategy strive to maintain a low cost position. They attempt to sell an essentially undifferentiated product and they will normally accept the "competitive price" set by the market place. A company that selects a cost strategy typically sell a standard, or no-frills, product and places emphasis on the efficiency of its internal operations, especially the productive utilization of capital and human resources, and keeps the overhead costs to a minimum. This requires attention to operational details, tight control systems, a willingness to replace obsolete equipment, and investment in cost-saving equipment to reduce labor costs. While there might be a variety of ways to reduce costs, all of them will follow a prescribed set of functional policies aimed at this single basic objective. Thus, there is in general less risk or uncertainty involved when one selects this strategy because cost reduction programs normally place emphasis on internal processes that are quite familiar to the organization and its members. However, this is not to say that a cost strategy is easier to implement than, say, a differentiation strategy.

A firm with a pure differentiation strategy attempts to offer unique product/service features that would enhance a customer's perception of a high price-value relationship and thus make him willing to pay higher prices. This strategy requires an external orientation and a creative flair in order to deliver a unique product to the customer. Thus, the firm invests its resources in areas that dealt principally with the business's environment, such as distribution and delivery systems, new product and service development, and market research.

Hambrick's study (1983) suggested that cost strategies are more effective in benign environments with stable prices, while firms in relatively turbulent environments are more successful when they adopt differentiation strategies. Since the differentiating firm does not make standard products, it needs to know both what types of products customers want and what customers think about the products it produces. There are multiple approaches to differentiation. It can be based on the product itself in terms of technology, design, or quality; marketing approach; delivery system, or customer service. When a firm decides to choose a differentiation strategy, it has to be aware that this strategy is more uncertain as compared to the cost leadership strategy. The logic of the differentiation strategy requires that a firm choose attributes on which to differentiate itself that are different from its competitors. The options available to a differentiator with respect to what unique product features to offer normally would be greater than those available in the case of low cost strategy. Thus, information-processing requirements will be greater in the case of companies espousing a differentiation strategy as opposed to those following a low cost strategy. Differentiation generally involves less predictable factors like innovation, customer preferences, etc. Unpredictability also contributes to uncertainty. It is a complex task for a company to differentiate its products and service and enhance its image in offering high value for the price to the customers. And complexity has also been recognized as a dimension of uncertainty

(Duncan, 1972). As Thompson (1967) indicated, the central problem for complex organizations is one of coping with uncertainty. Decentralization is likely to contribute to effectiveness in the case of organizations facing high uncertainty conditions. Organizations cope with uncertainty through decentralization, as it facilitates the decision-making process during execution when increased uncertainty requires increased information.

A strategy of differentiation may require unique product design, distinctive services, and sophisticated promotional appeal, as well as extensive product research and development, thus Govindarajan (1986) suggested that this strategy is likely to make the technology more akin to a job shop, small volume, batch type of operation. This type of operation is likely to be more effective with a high degree of decentralized decision making. On the other hand, a low cost strategy is more likely to require a greater reliance on standardization, routinization, and mass production. Organizations espousing this strategy are likely to be more effective with a high degree of centralized decision making. Previous researchers indicated that centralization is likely to contribute to effectiveness in the case of companies facing low uncertainty conditions (Burns and Stalker, 1961; Child, 1975; Govindarajan, 1986; Lawrence and Lorsch, 1967; and Lorsch and Morse 1974).

Porter has well defined generic strategies, and he also proposed common organizational attributes that best fit cost leadership and differentiation strategies. In order to empirically test and theoretically justify this, White (1986) presents evidence linking the fit between generic business strategy, as defined by Porter, and the organizational context of multi-business companies with business unit performance. His research showed that the strategy-structure-performance paradigm has relevance for the business level in multi-business firms. It is believed that certain kinds of combinations of structure and strategy permit companies to cope better with both external pressures and complexity

generated internal pressures. Specifically, his study shows how differences in performance, in terms of sales growth and return on investment, for business units with Porter's generic strategies of overall cost leadership and differentiation are associated with organizational differences.

The organizational characteristics in White (1986)'s study deal with the broader organizational context of the multi-business company, not with the internal organization of the business unit. Included are tightness of control/autonomy, frequency of reporting and functional coordination. White argued that business units practicing cost leadership strategy are more suitable to and benefit from more corporate involvement in business decision-making. This means less business unit autonomy. However, a business unit stressing differentiation and facing more uncertainty would be better off with a more autonomous organizational structure. Moreover, a business unit with strategies emphasizing cost leadership has a shorter feedback loop in terms of the time between decisions, actions and results, than is the case for differentiation strategies. In this case, cost strategies might benefit from more frequent reviews from the headquarters.

Different strategies may require differences in functional coordination. The functional arrangement of business units within multi-business companies can vary from firm to firm. Some business units operate all their own key functions, while others either share some key functions with sister business units or rely on centralized corporate support, such as R&D, accounting, etc. The resultant different hierarchical arrangements require different degrees of functional coordination or integration. Porter (1980) indicated that differentiation strategies need strong coordination amongst functions when a company differentiates itself from its competitors functional activities. When a cost strategy is employed, the relationships among different functions are straightforward and all gear towards cost reduction. Companies using this strategy also tend to

adopt either shared or centralized functional responsibilities which provide cost saving as well as easier coordination (White, 1986).

Strategy-Structure-Performance

In general, it is logical to relate the concepts of strategy, internal structure and performance. Different strategies set forth different administrative requirements, which should be solved by different forms of internal organization (White, 1986). However, it is difficult to operationalize the concepts into testable measures, nor it is easy to obtain relevant data. There have been only a few large sample, empirical studies which actually demonstrate the effects of strategy-structure fit or misfit upon performance at the corporate level (Stopford & Wells, 1972; Chandrasckaran, 1981; Rumelt, 1974). Studies of the fit between business strategy and internal structure are even less common.

Miller (1987) had conducted a study that examined this relationship, although his focus on strategy is the process aspect. In the study of formal structures and strategy-making processes, he suggests that organizational structures and strategy-making processes are highly interdependent and must be complementary in many ways to ensure good performance under challenging conditions. He used formalization, centralization, complexity, and integration to measure structure, and three multifaceted dimensions of the strategic decision making process: rationality, assertiveness, and interaction.

In an attempt to extend the contingency theory linking decentralization to strategy from the corporate to strategic business unit context, Govindarajan (1986) examined the relationship between decentralization and the effectiveness of strategic business units within multibusiness organizations. Three strategic continua are considered: Gupta and

Govindarajan's (1984) build-harvest, Porter's (1980) differentiation- low cost, and Miles and Snow's (1978) prospector-defender. In each case it is proposed that the degree of decentralization of decision-making authority delegated to the general manager of the SBU should be closely aligned with the SBU's strategy to optimize the effectiveness of the SBU.

In the service industry, very few research studies had been devoted to explore this relationship. Schaffer (1986) extended Miles and Snow (1978)'s typology to measure the relationship of competitive strategies, structure, and performance in the lodging industry. He attempted to distinguish within a single service industry strategic patterns corresponding to Miles and Snow's typology. The findings indicate that similarities were evident, however there are distinct differences as well. Five distinct configurations of competitive strategies were suggested to exist within the lodging industry which he named: efficiency/ quality controller, prospector like, internalized resource controller, marketing focused analyzer, and geographic focused price leadership. His study did not support 'the perspective that organizational variables are in a direct relationship with contextual variables', and 'the structure that is appropriate to a particular competitive strategy profile is not constant'.

There have been no published strategy-structure-performance research articles utilizing Porter's (1980) modeling of the structure. In his framework, Porter does not specifically identify the structural requirements that would supposedly yield high performance given the generic strategy types. Thus, the structuring characteristics of an organization will be used to examine the strategy, structure, and performance relationship in the restaurant industry.

Campbell et al. (1974) suggested a useful distinction between "structural" and "structuring" characteristics of organizations. The "structural" qualities of an organization are its physical characteristics, such as size, span of control, flat or tall hierarchy,

and administrative intensity. On the other hand, "structuring" refers to policies and activities in a firm that either prescribe or restrict the behaviors of its members. This includes complexity, formalization, and centralization (Dalton, et al., 1980). Complexity is the amount of specialization and the degree of personnel expertise. Formalization deals with standardization of procedures, and centralization concerns with hierarchical decision making. In any organization, management makes decisions regarding the major dimensions of structure, such as the nature of hierarchies, degrees of differentiation and integration, degrees of formalization and centralization, and the characteristics of organizational communication. These aspects of structure must be complementary with the strategy selected in order to achieve a high financial performance.

Peters and Waterman (1982) viewed the quality of a firm's adaptation as a measure of strategic performance. The measures they used were financial performance and innovativeness. However, it is difficult to single out any one measure for this dependent variable, performance. Chakravarthy (1986) proposed measures that attempt to assess the satisfaction of all of the firm's stakeholders and to ascertain the quality of a firm's transformations. The traditional measures for evaluating a company's financial performance are normally based on its growth and profitability. Profitability is the most conventional measure of current business performance (Hambrick, 1983). Return on total assets is commonly viewed as one operational measure of the efficiency of a firm with regard to the profitable use of its total asset base (Ansoff, 1965; Bourgeois, 1980; Gale, 1974). A second measure of economic performance is "growth in sales" (Hofer and Schendel, 1978; Ansoff, 1965).

Corporate objectives are generally multiple. Different strategy types were designed to accomplish different objectives and therefore associated with different business performance outcomes, often at the expense of other objectives (Schendel and Patton,

1978). There exist important trade-offs between profitability goals, cashflow, return on investment, and changes in market share position depending on the strategy type.

Summary

The concept of strategy has received great attention in the recent past because it is generally believed that a well-thought-out strategy leads to high financial performance for a firm. This chapter starts out by reviewing the origin and defining the concept of strategy. Available research questions involving strategy are then examined. The strategy formulation process is briefly discussed. Primarily there are two major levels of strategy: corporate and business. This study is concerned with the business level strategy only. This is the type of strategy that provides direction for competing within the industry. It is found that firms in any given industry tend to select and implement different types of strategies even though they are facing similar environments. This allows firms to be clustered into strategic groups.

There are many factors which contribute to this phenomenon. Differences in management styles, perceptions of upper management of the general and task environments, their perceptions of competition, organizational structures, etc. Researchers set out to seek organizational attributes that have an impact on the successful implementation of strategy which ultimately have an impact on the financial performance of the firm.

As aforementioned, the growth of the service sector in the U.S. economy is well documented. However, the growth of knowledge on service operations management has not kept pace with the developments. This is primarily due to the newness and uniqueness of the industry. In the hospitality industry, there is an absence of any commonly

agreed theoretical framework about hospitality management. Specifically, there is a lack of research in the area of organizational strategy, structure, and performance. This is the reason for undertaking this study.

Methodology

This chapter starts with a discussion on how variables were selected and operationalized for the investigation of relationships among firm strategy, structure, and performance; how research questions were developed and hypotheses were established; and how data collection methods were examined and the survey instrument was presented.

In the preceding chapters, it has been proposed that the strategy of a firm, its structure, and its performance are related in the manufacturing industry (Channon, 1975; Beard & Dess, 1981). Executives of high performance firms formulated strategy, then selected a structure that was complementary to the successful implementation of strategy. However, this relationship had not been examined fully in the service industry. The purpose of this study was to explore whether in a service setting, there exists 1) a relationship between strategy and structure for companies, 2) significant differences in the level of financial performance of firms that are categorized according to strategic groups, and finally, 3) the relationship of strategy and structure, and their impact on performance in restaurant firms.

Variables Operationalized

Whether at the business or the corporate level, appropriate measures are required for the empirical study of the strategy-structure-performance relationship. In this study, strategy is selected to be the independent variable. Structure is the moderating variable, and the dependent variable is economic performance. The perceptions of chief executive officers and their top management team in restaurant firms with regard to these variables were tapped through a survey research method.

Generic Business Strategy

Organizational strategy in general is a coherent set of actions aimed at gaining a sustainable advantage over competition, improving competitive position vis-a-vis customers, or allocating resources. This study examined business level strategy to gain some insight as to how each restaurant firm reacts to the question of "how do we compete in this business?"

Business strategy was measured by utilizing Porter's typology of generic strategy as defined in his text, "Competitive Strategy" (1980). Porter identified three generic business strategies by which firms in an industry might attempt to gain a competitive advantage over their rivals and achieved above average performance in the long term. This study extended Porter's framework of generic strategy to the service setting. The three strategies are: cost leadership, differentiation, and focus.

Cost leadership is a strategy that strives to produce products or services more cheaply than competitors can. An example in the restaurant industry would be those

that select to compete in the fast food segment. This strategy stresses efficiency in facility layout and design, pursues reductions in cost of goods/service sold, and minimizes expenses of R & D, services, promotion and advertising. Cost leaders try to supply a standard, no-frills, high-volume product at the most competitive possible price.

A differentiation strategy aims to create a product line that is perceived as uniquely attractive to the consumers, thus permitting the firm to command higher than average prices. In the restaurant industry, dinner house/theme restaurants or gourmet burger chains normally charge a higher price than fast food restaurants for the same basic product, such as hamburgers served with extra trimmings and garnishes, and possibly repackaging of the product. Differentiators can be innovative and/or have strong marketing abilities. They either differentiate by coming out with creative, well-designed new products and new technologies, or they offer an attractive package, good service, and convenient locations. This study did not attempt to differentiate between these two varieties. In general, firms implementing a differentiation strategy also stress quality and a good corporate image.

A focus strategy, as used by Porter, means to designate a niche strategy that concentrates the firm's attention on a specific type of customer, product line, or geographic market. The firm can use either a differentiation or a cost leadership strategy (or some combination of the two) within a specialized part of the industry. This strategy can be found in independently owned "Mom and Pop's" restaurants, or local specialty restaurants, such as ethnic restaurants in highly concentrated ethnic-populated markets.

Porter also proposed a number of "strategic dimensions" that capture the differences among the strategic choices of companies competing in a given industry. These dimensions are comprised of competitive methods which provide a means for characterizing the strategies of competitors. They served as key attributes of Porter's three generic strategies.

Firm Structures

Firm structure is viewed as a moderating variable in this study. According to Perrow (1967), structure is the arrangement among people for getting work done. Structure also refers to an organization's internal pattern of relationships, authority, and communication (Thompson, 1967). This study utilized three structure dimensions to measure the degree of internal structure in restaurant firms. The measures selected, formalization, specialization, and centralization, represent some primary dimensions of organization structure as defined and operationalized in studies such as Pugh et al. (1968), and Inkson et al. (1970). Recently, in their studies of organization structure, Fredrickson (1986), Miller & Droge (1986), and in the service industry, Schaffer (1986) also selected the same variables. These measures were extended to the restaurant industry to measure the degree of structure among the firms.

Formalization

Formalization is the extent to which written rules, procedures, and instructions exist and are used within an organization. Standardization is closely aligned to formalization. Standardization prescribes or limits behavior and procedures of members of the organization. In essence, formalization refers to what one is asked to do, while standardization refers to how one is to do it. In this research effort, the variable was measured by attributes like employee handbooks, organization chart, written mission statement, policy manuals, operating instructions and job descriptions, and the extent that these written manuals of procedures and rules were used throughout all company levels. One other attribute, the frequency of reviews of individual restaurant performance by the corporate office, was also considered as an indicator of formalization within an organ-

ization. Literature indicates that the more frequent the reviews, the more emphasis given to rules, the higher the formalized structure (Lawrence and Lorsch, 1967; Porter, 1980; White, 1986).

Specialization

Specialization is concerned with the division of labor, the distribution of official duties among a number of positions, and the degree of personal expertise within an organization (Pugh, et al., 1968). Specialization is also defined as the number of different occupational specialties or titles (Hage & Dewar, 1973), or different functional activities pursued within an organization (Payne & Mansfield, 1976). Specialization is closely aligned to complexity. This variable is measured by assessing the existence of different functional activities. These activities include advertising or promotion, personnel hiring and training, purchasing and inventory control, financial resource management, operations and quality control, research and development, and administrative procedures.

Centralization

Centralization involves the locus of authority to make decisions in organizations (Fry & Slocum, 1984; Hall, 1977). Degree of centralization is the extent to which decision making authority is delegated to those performing the tasks throughout the organization, or what is called hierarchical decision making. A structure is considered centralized if the power to make decisions is exercised by one or relatively few individuals. On the other extreme, if every member of the organization plays a part in decision-making processes, a minimum degree of centralization exists in the organization.

This variable is measured by assessing how centralized is the decision-making process with regard to: 1) operational level decisions, such as number of unit production

workers required, overtime to be worked at units, hiring and firing of employees and managers, and 2) corporate level decisions in terms of marketing expenditures, expansion into new markets, new advertising and promotion programs, and resource allocation.

So far, the independent variable strategy and the moderating variable structure have been identified. The dependent variable performance is discussed next and its relationship with strategy and structure will also be established.

Economic Performance

Organizational performance is generally measured with respect to objectives such as sales, profits, costs, quality, and product performance. Measures of profitability and sales growth are found to be significantly correlated with measures of customer, employee, and community satisfaction (Robinson & Pearce, 1968). Thus, financial goals, such as profitability and growth, are of primary importance in the assessment of organizational performance with regard to efficient usage of assets as well as operational competence.

In this study, economic performance of a firm is assessed by three measures: average percentage of return on sales, on assets, and the average growth in unit sales. Return on sales and assets are two measures of profitability. Growth in unit sales is an indication as to the quality of growth the firm is experiencing. These performance data, which were also close to what Schaffer (1986) used in his study of the lodging industry, were collected for the five year period 1982 through 1986 inclusive. The performance measures were not detrended since all the firms were in the same industry and therefore all have experienced the same conditions, i.e. inflation, bull stock market, etc.

Control Variables

In addition to the strategy, structure, and performance variables several variables were examined to see if they contributed to the relationship between the independent and dependent variables. The variables examined were company size, restaurant segment, age of dominant restaurant concept, and scope of competition.

The size of a restaurant firm may bias the findings in the performance measures or strategy making. Generally a company grows in size as it passes through its life cycle stage and each different stage is likely to call for a different strategy and administrative structure. Usually the larger the company size the larger the market share which sometimes provides the company a better position to achieve higher performance. Thus the impact of size on performance was to be examined.

In this research size was determined by number of operating units. While several researchers have utilized number of employees as a measure for size (Pugh et al, 1969; Child, 1972), for the restaurant industry the number of units is a more appropriate indicator of size. While the number of employees may add specialization to the human resource management task, the number of units operating in diverse markets requires additional administrative support and affects the structure of the organization. Therefore, it is the number of operating units and not the number of production employees that determines the structure.

Since sampled firms were drawn from the same industry, an assumption was made that they were operating under the same task environment and had a similar technological core. But the restaurant industry is segmented in terms of menu variety and service level. On one end of the spectrum, there is the limited menu, no table service fast food segment, and on the other end there is the full menu, white-table service elegant

dining facilities. These segments are different in their target markets and so are their competitive strategies. As will be detailed in a later section, statistical analysis was conducted to determine whether companies that were in different restaurant segments have different strategic orientations. Tests were also carried out to examine whether a certain segment was more profitable than the others.

The number of years (age) a dominant restaurant concept has been in existence, and the scope of competition may contribute to the variation in profitability among firms, and structure may be different for companies that compete either locally, regionally, or nation-wide. Tests were done to determine whether differences in the ages of the restaurant concept and the scope of competition had any impact on company financial performance as well as the selection of strategy.

Research Questions

Given the above variables, this study attempts to address the following research questions:

1. Is Porter's model of generic strategy applicable in the service industry?
2. What is the relationship between strategy and structure in the restaurant industry?
Do companies which espouse different strategies have different degrees of structure?
3. What is the relationship between strategy and performance in the restaurant industry? Do restaurant firms which espouse a generic strategy perform at levels higher than firms which are "stuck in the middle"?

4. Is there a difference in the strategy and structure relationship between high performing firms and low performing firms?

Working Hypotheses

This research is guided by a number of underlying propositions. First, strategy and organization structure is related in which strategy guides the choice of organization structure. A second proposition indicates that firms which commit to generic strategies perform at higher levels than firms which do not have a clear strategy inclination. Finally, there are differences in structure among the high performers and low performers in each of Porter's generic strategy groups.

From these propositions, the following three sets of hypotheses were derived. Since this study is cross-sectional in nature, no attempt would be made to determine causality since the direction of the relationship will be difficult to determine.

Hypothesis One

"There is no relationship between a firm's strategy and its structure in the restaurant industry".

This hypothesis addresses the issue of the relationship between strategy and structure in the restaurant industry by examining whether there are differences in the degrees of specialization, formalization, and centralization among Porter's three strategy groups: low cost, differentiation, and focus. Studies indicate that a relationship exists between

strategy and structure in manufacturing firms (Bower, 1970; Chandler, 1962). If Porter is correct in his proposition, then it can be expected that significant differences in structural dimensions are associated with each of the strategy types. However, in the lodging industry, Schaffer's findings (1986) did not find support that the structural dimensions of organizations can be determined from their strategic orientations. With the differences existing between the manufacturing and service industries, it is anticipated that there may not be any difference between a firm's strategy and its structure in the restaurant industry in particular.

Using survey research methods, the perceptions of the CEOs and the top management of their companies were used to categorize firms into distinct strategic groups based on Porter's model. The reason is based on the assumption that organizational design (that is, the configuration of key variables) is largely the outcome of a process of strategic choices made by key organizational members (Chandler, 1962; Child, 1972; Pfeffer & Salancik, 1978; Thompson, 1967). In essence, these authors argued that the environments only partially dictate the behavior of organizations and that choices made by top managers were also critical determinants of structures and processes.

This hypothesis was tested using analysis of variance. Analysis of variance is a statistical technique used to determine if samples came from populations with equal means. It is based on the assumption that the mean scores for structure in each of the strategy groups will have approximately the same variance. This test aided in deciding whether there were significant differences among the strategic groups on the basis of their mean values for the three structure measures.

Hypothesis Two

"There is no relationship between a firm's strategy and its performance in the restaurant industry".

Three subhypotheses were developed:

Hypothesis 2.1: "There are no differences in strategy choice among performance groups as measured by return on sales"

Hypothesis 2.2: "There are no differences in strategy choice among performance groups as measured by return on assets"

Hypothesis 2.3: "There are no differences in strategy choice among performance groups as measured by growth in unit sales"

For the purpose of analysis, the responding firms were divided according to high, medium, and low performers in three measures: return in sales, return in assets, and growth. The high performers represented the 75th percentile and above of the sample financial measures, while the low performers were in the 25th percentile. This similar grouping has been utilized by VanDyke (1985) in his study of key variables affecting profitability in the lodging industry, and also in Schaffer's study (1986). The testing of this relationship called for chi square tests since the variables, strategy and performance, are both categorical.

Chi square test is a nonparametric test of hypothesis for normally measured variables that have been organized into a bivariate table. In chi square, the null hypothesis is that the variables are independent. The two variables, strategy and performance will be independent of each other if the classification of a company into one specific strategy choice (low cost, differentiation, focus) has no effect on the probability that this company will be classified into any particular performance category (high, medium, low).

The hypothesis that strategy leads to different financial performance in an organization has been tested in numerous research studies in the manufacturing industry (Dess and Davis, 1984; Beard and Dess, 1981; Child, 1974; Lenz, 1981). In the service industry, Schaffer found no significant differences in the mean performance of lodging organizations grouped according to their competitive strategies. It is an attempt of this study to examine whether a relationship existed between the two variables in restaurant firms.

Hypothesis Three

“For each strategy group, there is no difference in the degree of structure between firms based on financial performance”.

In this hypothesis, the companies were divided according to their strategy: low cost, differentiation, and focus. Within each strategy group, the companies were subdivided into high and low performers in three measures: return on sales, assets, and growth. For the purpose of analysis, the responding firms were categorized into two groups of low and high performers, or the 25th and the 75th percentile of the sample financial measures, respectively. Analysis of variance was used to test this hypothesis.

Three subhypotheses were derived:

Hypothesis 3.1: “For low cost companies, there are no differences in the degree of structure (formalization, centralization, and specialization) between high and low performers in return on sales, assets, and growth”.

Hypothesis 3.2: "For differentiation companies, there are no differences in the degree of structure (formalization, centralization, and specialization) between high and low performers in return on sales, return on assets, and growth".

Hypothesis 3.3: "For focus companies, there are no differences in the degree of structure (formalization, centralization, and specialization) between high and low performers in return on sales, return on assets, and growth".

It has been proposed that there was a relationship between strategy, structure, and performance in the manufacturing industry (Christensen, et al., 1980; Galbraith and Nathanson, 1978). In the service setting, findings of Schaffer's study indicated that different competitive strategies required different degrees of structure to achieve high performance results in lodging firms. Thus, it is hypothesized that the same relationship would exist in the restaurant industry.

Based on Porter's study, there are different structural requirements for each strategy type. Depending upon their strategy focus, companies with high performance should have different degrees of structure than those with low performance. However, Porter is not being very specific in identifying the structuring characteristics of an organization given each strategy type. Since there are notable similarities between Porter's differentiators and Miles and Snow's prospectors, and Porter's cost leaders were similar to Miles and Snow's defenders; Miles and Snow's proposition in the relationship between strategy, structure, and performance can be extended to this study. Moreover, Govindarajan (1986) suggested that low cost leaders are likely to be more effective with a high degree of centralized decision making, while differentiators would benefit more from decentralized structure. Thus, it is hypothesized that organizations espousing a low cost strategy are likely to have high performance with a high degree of structure in terms

of specialization, formalization, and centralization; and organizations espousing a differentiation strategy are likely to have high performance with a low degree of specialization, formalization, and centralization. Porter did not postulate any structural requirements for the focus strategy.

Level of significance

The level of significance, alpha value, for all the tests in this study was set at 0.05. Alpha is the probability of rejecting null hypothesis when it is true.

There is an alternative approach to testing hypotheses. Sometimes rather than setting a level for alpha and thus "accepting" or rejecting null hypotheses, one can merely compute and report the conditional probability of observing a sample result as extreme as the sample. This leaves the decision of whether the conditional probability is small enough to reject the null hypothesis or not up to the reader. In this manner, alpha can be viewed as the critical value for the conditional probability. If the conditional probability is less than or equal to alpha, the result is the rejection of null. It is common to refer to this conditional probability as an p value. In this study, p value was also reported for all tests.

Data Collection Methods

Research Choices

With the objectives of the study established and the development of three main hypotheses, the next logical step is to determine which research design is appropriate to collect the data. Various research choices were examined. The research process can be viewed as a series of choices where the goal is to simultaneously maximize several conflicting desiderata. As McGrath et al. (1982) indicated, there is no one true method, or correct set of methodological choices that will guarantee success; there is not even a "best" strategy or set of choices for a given problem, setting and available set of resources.

All research evidence involves some population (actors) doing something (behavior) in some time/place/thing/setting (context). It becomes desirable to maximize: a) generalizability with respect to populations, b) precision in control and measurement of variables related to the behavior(s) of interest, and c) existential realism, for the participants, of the context within which those behaviors are observed. From the various distinguishable research strategies (McGrath et al, 1982), such as field experiments, laboratory experiments, judgement tasks, and computer simulations, this study chose to use sample surveys. The intent here is that the context should not play a part in the behavior of concern. The context is neutralized by asking for behaviors (responses to questions) that are unrelated to the context within which they are elicited. In regard to population sampling, the sample survey strategy maximizes concern with effective sampling of the population units to be studied, that is, it maximizes population generalizability, but does so by buying relatively low levels of precision and realism of context.

The limitations on questionnaire based research are well known (Yu and Cooper, 1983; Hambrick, 1979). These limitations include nonresponse, answers to the questions not reflective of actual behavior, and inability to probe beyond the respondents' answers in order to understand rationales, processes, and other dimensions of managerial activity that are difficult to tap through the use of a questionnaire. In an attempt to overcome these limitations several strategies were employed. Dillman's (1978) technique for increasing the response rate of mailed questionnaires was utilized. Additionally, follow-up interviews with selected respondents were used to enhance the interpretation of the findings obtained from the questionnaires. More on this issue will be discussed in a later section.

Sample Selection

The relationship that this study is addressing, strategy, organizational structure, and performance is a relatively unexplored empirical phenomenon in the restaurant industry. Thus this investigation is exploratory in nature, and hopes to provide ground work for further investigation. As indicated in the literature, strategy formulation and implementation take place not just at the corporate level, but also at the level of the divisions/strategic business units comprising the firm (Hambrick, 1980; Hofer & Schendel, 1978). Hence, firms that are in the restaurant business and strategic business units (SBUs) of conglomerates that engage in business in the restaurant industry form the relevant unit of analysis. And the relevant perspective is that of the chief executive officer (CEO) and the top management team.

After the unit of analysis was determined, the process of sample selection was in place. Sample selection was by necessity not random. The size and the diversity of the restaurant industry, with the ownership from small single proprietorships to strategic

business units of conglomerates, makes it virtually impossible to randomly sample. And there is no single published comprehensive listing of all operators in the industry.

For this study, a number of sources were utilized. Restaurant firms were identified from the following:

1. Restaurants and Institutions, "Top 400";
2. "Who's Who in the Foodservice Industry, 1986-1987", the membership directory of the National Restaurant Association;
3. Restaurant Hospitality, "Top 100 Chains"; and
4. Nation's Restaurant News, the entire 1986 edition.

The addresses of the firms identified by these sources were then researched by locating them in the headquarters city telephone directory and the post office's zip code directory. Firms contacted were confined to the four main segments of the foodservice industry: fast food, dinner house/theme, family, and cafeteria restaurant chains. Firms with five units or less and single unit companies were not solicited with the thought that strategy and structure may not been clearly defined due to small size.

There are advantages and disadvantages in studying firms in one industry. A major advantage is that it is possible to include almost the entire population of the firms in the study rather than just a sample, and to undertake a rich, fine-grained study of a single industry (Harrigan, 1983). The primary disadvantage would be the limited generalizability of the study across other industries.

Data Collection Process

The primary data collection for this study was mailed questionnaires completed by the chief executive officer and his selected members of the top management team that

were involved in the strategy formulation activity. The survey instrument contains 19 questions which seek information concerning what business strategies these firms employ, their company structures and financial performance, and finally, operational profiles of the companies. In order to test the completeness of this instrument, a pilot test was initiated during August, 1987, to chief executive officers and presidents of six restaurant companies across the nation (Appendix A). The purpose for this initial phase was concerned with the design of the questionnaire, the ease with which the questionnaire could be understood and easily/quickly completed by industry executives. The CEO with two members of the top management team were invited to critique the survey as industry experts. With the response from this phase, the final questionnaire then was designed.

In September and October, a cover letter was sent to chief executive officers or presidents of 350 companies enlisting the company's participation in the study. A self-addressed post card was enclosed which allowed the executive to list his own name as well as up to four other members of the top management team chosen by them to participate. This was used to achieve consistency among the respondents in terms of their perceptions about their firms' strategy and structure. To entice a higher response rate, a copy of the executive summary which highlights the results of the study was promised for the participants (Appendix B). Two mailings were sent in this phase which yielded a total of 55 companies indicating that they would be interested in participation.

In November and December, a personalized letter with the final questionnaire was sent to the nominated individuals of the participating companies at the headquarters of the nation's restaurant firms and SBUs (Appendix C). In an attempt to increase sample size, a packet with a cover letter and four questionnaires was sent to all firms who did not respond to the initial participation request. Eliminating the incorrect addresses and those firms that did not wish to participate in the study, a total of 296 firms were con-

tacted. Three follow-up mailings were also sent in three week intervals after the first letter (Appendix D).

Survey Instrument

A structured questionnaire was used to collect the data. Variables were measured through self-typing by the CEO and the top management team. The use of the self-typing technique was recognized as appropriate in the determination of intended strategy (Hambrick and Snow, 1980), and has recently been utilized in three studies of generic strategy (Dess and Davis, 1984; Robinson and Pearce, 1985; Schaffer, 1986).

The survey instrument employed by Schaffer (1986), which was based on Dess and Davis (1984), provided the basic framework for developing the preliminary questions on competitive methods. The questionnaire contained 19 questions and was divided into four sections: firm information, firm strategy, firm structure, and firm performance. The major research questions, justification, and corresponding questionnaire items (Q-1 through Q-19) used are as follows:

Firm Information

In this section, a demographic profile of the respondents can be drawn from the information gathered in terms of the segment they are in, company size by means of the

number of operating units, scope of competition, the number of foodservice concepts, and the age of the concept.

Questions:

Q-1. Your functional area of responsibility can best be described as _____. (e.g. CEO, president, marketing, operation, etc.)

This question serves to pinpoint the position of the respondents.

Q-2. Indicate below in what segment of the foodservice industry your dominant restaurant concept competes.

1. fast food
2. dinner house/theme
3. family/coffee shop
4. cafeteria
5. other _____ (please specify)

The restaurant industry is segmented in terms of menu variety and service level. Companies in the same segment can be examined to see if there are differences in strategy types and the degrees of structure.

Q-3. How many years has this dominant restaurant concept been in existence?

Q-4. What is the total number of restaurant units in the dominant concept of your company?

Q-5. What is the total number of restaurant units of your firm's other concepts?

_____ units owned or operated by the parent company

_____ units owned by the franchisees

Firms can be grouped and analyzed according to size. These questions also provide information of the responding firms whether they are single or multiple concepts, and whether they have franchise operations or not.

Q-6. Does your firm compete nationally, regionally, or locally?

_____ nationally

_____ regionally, where? _____ (e.g. North East)

_____ locally, where? _____ (e.g. State or City)

Firm Strategy

The nature of an organization's strategy reflects how the firm chooses to compete in an industry. The purpose of this set of questions (Q7 - Q10) is to ascertain the intended strategy of a restaurant firm. Q-9 was a list of definitions for the three strategies based on Porter's typology: overall cost leadership, differentiation, and focus. The respondents were asked to check the strategy type which most approximate the strategy they are espousing. For those companies that did not espouse one of the generic strategies, blank entry labelled "other" was provided for them to indicate their strategy.

Porter recognized that the strategies that companies used to compete in an industry can differ in a wide variety of ways, and he proposed a number of "strategic dimensions" that should capture the possible differences among the strategic choices of companies in

a given industry (Dess and Davis, 1984). These dimensions are comprised of competitive methods which provide a means for characterizing the strategies of competitors within an industry. They include brand identification, channel selection, technological leadership, cost position, service, and leverage, among others. These competitive methods provide a means for characterizing the strategies of competitors within an industry. A group of firms within an industry that follows the same or a similar strategy (Porter, 1980).

Based on Porter's, Dess and Davis derived an instrument to evaluate the various competitive methods to characterize a particular generic strategy. Schaffer (1986) used a similar list in his study of the relationship between business strategy and structure in the lodging industry. Both Dess and Davis and Schaffer studies used competitive methods as the unit of measuring strategy, and then clustered firms into strategic groups accordingly. Often times, the derived clusters did not have the same clear cut grouping as the models they were based on.

Respondents were asked to circle the degree of importance of these methods to overall strategy. Several traits were utilized for each strategy type and a composite score was determined. Consistent responses were expected from the executives for the strategy choice and the set of competitive methods they indicated to be important to their overall strategies. Thus, Q-7 assessed the 21 strategic characteristics or competitive methods commonly found in the restaurant industry. Q-8 provided blank space for the respondents to write in competitive methods that were missing and important to them. Q-10 asked the respondents whether they had changed their strategy during the time period studied.

Questions:

Q-7. Indicate how important your firm considers each of the following competitive methods to its overall strategy.

A checklist of 25 company characteristics or strategic variables were compiled from research on competitive strategy (Porter, 1980, Dess and Davis, 1984, Schaffer, 1986). This initial list of variables was then viewed from the context of the restaurant industry, and some of them were modified or deleted. A final list with 21 competitive methods was derived. Specifically the top management team of the sampled firms was asked to indicate the importance of these competitive methods to their firm's overall strategy. A 5-point scale is used with values ranging from "1 = unimportant to overall strategy" to "5 = important to overall strategy". Among the twenty-one competitive methods to be selected by each member in a company, the average will be taken for multiple responses from the members of the top management team. From this question the competitive methods that restaurants use and the importance to overall strategy will be determined.

The following are the 21 competitive methods that serve as key attributes of Porter's generic strategies of low cost leadership, differentiation, and focus.

1. operational efficiency
2. product/service quality control
3. innovation in facility/equipment
4. bargain with suppliers for lowest prices
5. competitive pricing/price leadership
6. broad menu offering
7. improving existing products/services
8. minimize overhead through standardization
9. brand identification
10. innovation in marketing (promotions, sponsorships, etc.)
11. ownership of outlets - own rather than franchise
12. specification of raw food and supplies purchasing
13. advertising
14. reputation within the foodservice industry
15. forecasting market growth
16. innovation in menu development
17. customer service
18. serving limited market (regional rather than national)
19. speciality products/services
20. products or services offered to a specialized market
21. new product/service development

Q-8. Please indicate any competitive methods that have not been included in question 7 and indicate their importance to your organization's overall strategy.

Q-9. Of the following strategies, which best characterizes your dominant concept for the period of 1982-1986?

1. cost leadership - a strategy that will allow the concept to achieve and maintain a low cost position industrywide. The company normally places emphasis on the efficiency of its internal operations, especially the productive utilization of capital and human resources, and keeps the overhead costs to minimum. This means that the management pays attention to operational details, willing to replace obsolete equipment, and invest in cost-saving equipment to reduce labor costs.
2. differentiation - a strategy that aims to create a product and service that are perceived as uniquely attractive by the customers industrywide, thus permitting the firm to command higher than average prices. This strategy emphasizes marketing abilities and research, new product and service development, and stresses quality in product and service.
3. focus - a strategy that attempts to create a unique position. It concentrates its attention on a specific type of customer, product or geographic locale, i.e. focuses on a particular segment only.
4. other - _____ .

The purpose of this question is to categorize the sampling firms in terms of their generic strategy. This question also attempts to examine whether distinct patterns of strategic behavior (generic strategies) do exist in restaurant firms across the industry. The intended strategy of the organization was determined by the pooled responses of the top management team and the CEO. If there were multiple responses for this question for a company, answer entered by the CEO will be chosen to be the intended strategy. If there was no CEO's response, the majority answer will be selected.

Q-10. Has your company followed the strategy you checked in Q-9 for the entire period of 1982 - 1986?

This question provides information about whether or not the company adopts one strategy throughout the entire period.

Firm Structure

Structure is defined as the arrangement among people for getting work done, it also refers to a firm's internal pattern of relationships, authority, and communication. There are three dimensions of organizational structure: formalization (Q-14 and Q-17), centralization (Q-15), and specialization (Q-16). These measures indicate the degree to which formal written policies, procedures and communication are used, the degree of centralized decision making, and the degree to which functional activities were staffed within organization.

Questions for Formalization:

This set of questions serves to provide information on the degree of formalization within organization.

Q-14. Do you presently make use of the following documents in your firm ?

- a. employee handbooks
- b. organization chart
- c. written job descriptions
- d. in your company, is there:
 - i) written mission statements/corporate philosophy
 - ii) written manual of procedures and fixed rules for unit daily operations
 - iii) written operating instructions for unit production workers
- e. if your company has written manuals, are they:
 - i) utilized at the corporate level only
 - ii) utilized by all levels in the organization

Responses to each of the five items in Q-14 (a through e) regarding the existence of documents in the firm are assigned numerical values. In order to be able to derive a total score from the five items and an average formalization score, the total possible score for each item was given a "6". The way the formalization score for Q-14 was calculated is as follows:

1. Employee handbooks (Q14 a) has four possible answers: "0" for answers to "No one", "2" for "Only a few persons", "4" for "Many", and "6" for "All".
2. Organization chart (Q14 b) has five answers: "0" for "No one", "1.5" for "Chief executive only", "3" for "Other top executive", "4.5" for Division or department heads", and "6" for "All supervisors". Respondents can check only one answer.

3. Written job descriptions (Q14 c) has six answers, the values assigned ranged from "0" for "No one", to "6" for "Chief executive", with one increment for each level in the organization. Each firm can have a score from "0" to "6".
4. Written mission statement (Q14 d) has three items, each assigned a score of "2". Respondents can check all three, which would give a total score of "6".
5. For Q14 e, there are only two levels. For those firms that utilized written manuals of procedures and rules at the corporate level only a score of "0" is assigned. "6" is for those firms utilizing the manuals by all levels in the organization. Respondents checked only one answer to this item.

Q-17. How frequently are reviews of individual restaurant performance conducted ?

1. annually
2. semi-quarterly
3. quarterly
4. monthly

The frequency of reviews (Q17) has four answers. "0" for "annually" "2" for "semi-annually", "4" for "quarterly", and "6" for "monthly". Firms would indicate only one time period.

Finally, average formalization score is calculated as follows:

- 1) mean formalization score for each firm = $\text{Sum of ((scores in Q14 a + Q14 b + Q14 c + Q14 d + Q14 e + Q17)) / 6}$
- 2) The higher the score, the more formalized the company structure.

Questions for Centralization:

Q-15. What is lowest level in your firm with the authority to make the following decisions?

1. the number of unit production workers required
2. overtime to be worked at units

3. hiring and firing of employees
4. hiring and firing of managers
5. marketing expenditures
6. expansion into new markets
7. new advertising and promotion programs
8. allocation of resources (financial, human, etc.)

This question is intended to gain information concerning the degree of centralization within an organization. Six organizational levels were set up. The respondents were asked to indicate from the six levels given in Q-15 the lowest level in their firms with the authority to make the eight aforementioned decisions. These decisions were measured with a 6 point scale ranging from "1 - board of directors or owner", "2 - CEO or president", "3 - functional manager", "4 - multiunit manager", "5 - unit manager", "6 - subunit manager".

Average centralization score for each firm is derived by:

- 1) The number that was circled by the respondents to each decision was subtracted from a "6" to get an adjusted score.
- 2) Total centralization score = Sum of adjusted scores from eight decisions
- 3) Average centralization score = total score / 8
- 4) The lower the score, the more centralized the company is.

The average score will be used for each question that has multiple responses.

Questions for Specialization:

Q-16. Which of the following activities are dealt with exclusively by at least one full time individual:

1. public relations, advertising or promotion
2. personnel hiring and training
3. purchasing control
4. inventory control
5. financial resource management
6. operations

7. quality control
8. research and development
9. administrative procedures
10. legal and insurance requirements

The specialization score was calculated by assigning numerical scores to responses to Q-16. There were 10 items of activities, and respondents could check as many activities as appropriate. Each activity checked was given a score of "1". The number of checks reported by the respondents indicated how specialized the company was. The total scores ranged from "0" to "10", a reflection of the number of activities that the companies had by adding the number of checks for this question.

The specialization score is calculated as follows:

- 1) Total specialization score = Sum of (number of checks to each activity x 1)
- 2) The higher the score, the more specialized the structure.

Firm Performance

Three performance measures are used in this study: 1) return on sales, and 2) return on assets, and 3) average growth in unit sales. Each of these measures is taken over the five year period, 1982-1986. They are measured by the percentages reported by the chief executive and the top management team through the self-typing approach.

Questions:

Q-19. Indicate below your firm's average percentage of return on sales for the period 1982 through 1986.

Q-20. Please circle your firm's average return on assets percentage for the period 1982 through 1986.

These questions were to determine the financial status with regard to profitability of participating firms in terms of return on assets and sales for the segment they are competing.

Q-21. Please list the average growth in unit sales experienced by your firm during the period 1982 through 1986

It is hoped to determine the average growth in unit sales indicated by the respondents. Ultimately, these performance measures will be used to determine whether there is a significant difference in strategy and structure between firms that achieve higher performance than those do not.

The performance measures are expressed by the following formulae:

1. Return on sales - net operating income (before tax and interest) / annual sales
2. Return on assets - net operating income (before tax and interest) / total assets
3. Growth in unit sales - change in total annual sales / number of units

In order to be useful for comparing firms in different tax situations and different degrees of financial leverage both measures, return on assets and sales, will utilize net operating income before taxes and interest. In the case of multiple responses in these three questions, CEO's or CFO's answer will be used in the analysis.

Data Presentation

After the raw data were collected, coded and analyzed by the SAS program, the results were assembled and are presented in a sequential manner in the "Results" chapter. Tables are used extensively to present company profiles in terms of frequency distributions and cross-tabulation.

The data will be presented and discussed by total sample and followed by strategy group. Frequency tables are used to report the tallied responses of the questionnaires as the participants answered on firm information, such as restaurant segment, scope of competition, size, number of concept. This provided a general overview of the profile of the samples.

Following a discussion of the survey data with regard to the validity and reliability issue, findings and interpretation on the three hypotheses testing are presented in next chapter.

Summary

The growth of the service sector in the U.S. economy is well documented. However, the growth of knowledge on service operations management has not kept pace with the developments. This is primarily due to the newness and uniqueness of the industry. In the hospitality industry, there is an absence of any commonly agreed theoretical framework about hospitality management. Specifically, there is a lack of research in the

area of organizational strategy, structure, and performance. This is the reason for undertaking this study.

In this study, Porter's generic strategy has been selected as a model for examining business strategy in restaurant firms. His proposed structural requirements for implement the strategy were more appropriate for the manufacturing industry. The measures used to measure firm structure for this study were specialization, formalization, and centralization. Generally, the measures for evaluating a company's financial performance are based on its growth and profitability. Three measures were used. Return on assets is commonly viewed as one operational measure of the efficiency of a firm with regard to the profitable use of its total asset base. The other two measures were growth in unit sales and return on sales.

In this chapter, three major variables were provided to test out the following relationships:

1. To examine the relationship between structural attributes and generic strategy in restaurant firms.
2. To examine restaurant firms based on the context of Porter's strategic typologies at the business unit level to see if whether one of his three generic strategies produce a higher performance than the rest.
3. To examine the relationship between strategy, structure, and financial performance in restaurant firms.

Three primary hypotheses, two with subhypotheses, were carefully constructed to reflect the purpose of the study. Other supporting variables were also suggested, such as size, segment, and number of restaurant concepts. To ascertain the data collected for the testing of the hypotheses, the issues of reliability and validity, which will be discussed

in the next chapter, of the selected variables and instrument were supported by existing researchers in the literature and tailored with respect to the restaurant industry. The selected research instrument was a mailed questionnaire. Questions in the survey were thought out to cover all information needed to be collected and ambiguity was eliminated by pilot testing of the instrument.

With the methodology well-defined, analysis of data were performed, and results are presented in the next chapter.

Results

In the previous chapter, the methodology along with its variables was discussed. Based on the research questions and hypotheses developed, an exploratory study was conducted to examine the relationship of strategy, structure, and economic performance in the restaurant industry. A research survey method was used to collect the primary data between November of 1987 to February 1988.

In this chapter, the results of data collection are presented, analyzed through proposed statistical testing, and interpreted. Following a section on response rate, a discussion on the validity and reliability of the instrument and data is offered. This is followed by the survey results which are presented in table form and explanations provided. Statistical analysis performed to determine the possible relationships among key variables are also discussed. Finally a summary of the results is given.

Response Rate

A total of 296 restaurant organizations across the nation were mailed survey questionnaire materials. From this population, 93 firms participated and returned the survey, with 91 being usable, a 30.7% percent response rate. Of the participating firms, sixty-two companies (42%) mailed in a single response, while the remaining companies had two to five responses from their top management team. This makes a total of 149 individual responses. Table 1 summarizes the number of responses.

These surveys were sent to chief executive officers and their top management teams. Table 2 shows the functional responsibilities of the respondents. The responsibilities varied from chief executive officers to those involved in real estate. The largest group of responses were from presidents of companies (26.6%), or presidents of strategic business units of conglomerates. This was followed by chief executive officers (23.1%), and those engaged in operations (17.5%). Ten percent of the respondents were in charge of the financial function in the company.

Discussion on Survey Data

Before presenting the results, a brief discussion on the validity and reliability of the survey instrument, the data collected, and the issue of non-respondents is presented. Realizing a single study cannot achieve validity (Cronbach, 1971), and this study is ex-

Table 1. Sample Size by Number and Percentage of Responses

Survey Responses	Total Number of Companies	Total Number of Individual Responses
Participating Companies with:		
Single responses	62 (68.1%)	62 (41.6%)
Two responses	12 (13.2%)	24 (16.1%)
Three responses	7 (7.7%)	21 (14.1%)
Four responses	8 (8.8%)	32 (21.5%)
Five responses	2 (2.2%)	10 (6.7%)
Total	91(100.0%)	149(100.0%)

Table 2. Number and Percentage of Individual Responses by Functional Responsibility

Functional Responsibilities	Total Number of Respondents	Percentage
Chief Executive Officer/ Chairman	33	23.1
President/Chief Operating Officer	38	26.6
Chief Financial Officer/ Treasurer/Comptroller	17	11.9
Operations	25	17.5
Marketing	10	7.0
Human Resources/Training	6	4.2
Franchising	4	2.8
Real Estate	1	0.7
Others	10	6.2
Total	143	100.0

ploratory in nature, a host of steps were taken to enhance the validity and reliability of the instrument and the data collected.

Validity of the Instrument

Validity and reliability are two important properties of a research instrument. Validity of an instrument means that it measures what it is designed to measure. To insure the instrument measures what was intended, a number of methods were used.

1. Multi-trait Multi-method

Results were obtained by a multi-trait multi-method approach to enhance construct validity. This approach was found to be a useful tool by numerous authors (Campbell & Fiske, 1959; Churchill, 1979; Farh et al., 1984).

- a. Each of the three variables that were under study, strategy, structure, performance, was measured by several attributes. Business strategy was measured based on Porter's generic strategy, and the twenty-one competitive methods. Three attributes of structure, the degree of formalization, centralization, and specialization, were each measured by a series of indicators. Performance was measured by three attributes, return on assets and sales, and growth in unit sales.
- b. Data was acquired through a survey method by means of direct mailings. Secondary data such as published materials, annual reports also were sought to supplement the analysis. Financial data collected from these sources were used as a random check for consistency between the self-typing of the executives on the performance measures versus the actual performances that were reported

publicly. Finally, corporate executives were contacted through telephone interviews to verify and clarify responses from the questionnaires.

2. The content validity of the questionnaire was enhanced through a review of questionnaire items used by previous researchers (Bourgeois, 1980; Child, 1975; Khandwalla, 1976). With reference to Porter's framework, and based on a modification of Dess and Davis (1984), Schaffer (1986), and White (1986), a survey instrument was derived to collect information regarding the variables. These researchers had field tested their instruments and found them generally valid.

In order to pretest the research instrument of this study in a field setting, it was sent to industry experts across the nation. The objective of conducting the pretesting is to refine and validate the survey instrument. Pretests were also conducted to determine if the questionnaire was clear and easy to understand. A total of 6 restaurant firms were selected for conducting the test. Firms represented different segments of the industry and competed either locally, regionally, or nation-wide. Three copies of the questionnaire were sent to the chief executive officer and their top management team. Telephone calls were made to encourage the executives to serve as experts in critiquing the design, and ascertaining the comprehensiveness of the questionnaire. They were asked to determine whether the instrument had taken the unique features of the restaurant industry into consideration and whether it was appropriate for the industry. Blank spaces were provided and respondents were asked to write in any competitive methods that were not included. Responses were obtained from five firms in which a total of eight surveys were received. Other than one respondent who offered a suggestion on competitive methods which was incorporated into the final instrument, from the responses, the participants had no problem with answering any of the survey questions. This indicated that the in-

strument was appropriate for the restaurant industry and the content of the questionnaire was quite valid and finalized.

3. The information sought by this study is provided by chief executives or presidents and their top management team of restaurant firms using survey. It is believed that this group should be most influential and knowledgeable in terms of firm strategy, structure and financial performance to participate in the study. This self-typing approach had been proven to be a valid research method of collecting data (Pearce and Robinson, 1982). Hambick's study showed that responses provided by the self-typing approach were quite consistent with the reality.

Reliability of the Data

Reliability refers to the consistency of a measuring device (Spector, 1981). It is a correlation between a measure and itself (Peter, 1981). In other words, does the instrument always come up with the same score or number when the true value is the same? No matter what instrument is used, there is always some degree of error associated with it. Thus, the reliability that we are most concerned with is the relative magnitude of error to the true or real score as suggested by Carmines and Zeller (1979). Reliability can be increased by the use of multiple measurements or multiple measures to average out random error.

With the validity of the instrument assessed, it is pertinent that data reported by the respondents are reliable to insure a robust study. A number of steps had been taken to enhance the reliability.

1. Prior to sending out the questionnaires, chief executives or presidents of restaurant firms were contacted by post card to solicit their participation in the study and

provide the names of their top management team and telephone numbers. For those that were willing to participate, one would expect that they were sincere and their responses were reliable with a reflection of actual happenings in their companies.

2. Responses from up to four members of the top management team, including the chief executive officer, were sought from each company to see if there were congruence in their perceptions. Of the 91 companies that participated in this study, 29 companies had two or more responses. Responses of this group were used to determine the reliability of the information gathered. Multiple responses of the same company on questions such as competitive methods, strategy definitions, structure, and performance were used to derive the correlation coefficient, the r score. Correlation tests were conducted and the results indicated the responses of individual members of a company were quite consistent with each other.
3. Test for Normality - Tests were performed to establish the normality of the data distribution and internal reliability of the survey questions.
 - a. These tests include stem-leaf (Tukey, 1977) and box plots. Appendices E to L show the diagrams of plots with statistical information on the normality of the variables. Appendices E - F show plots of each measure of performance and the structure variables for the total sample, with and without outliers deleted. A few performance data provided by some companies were considered to be inconsistent with the industry norm or not accurate, thus these "outliers" were deleted from the hypothesis testing.

The total sample was also broken down by strategy group. Appendices G - H report the data distribution for the low cost group regarding structure and performance measures. Appendices I and J indicate how the three measures of

structure and performance distribute for the differentiators. The focus group is shown in Appendices K and L. F-tests indicated that most of the data are distributed normally, and for those that were not normally distributed, namely formalization and growth, appropriate nonparametric tests, such as Kruskal-Wallis (an approximation to analysis of variance), were used for data analysis.

- b. In addition, the degree of formalization was measured by a composite score of all components in Q-14 a through e and Q-17. In order to test whether the responses for a company's total score of formalization were consistent with the individual component score for part, correlation tests were also conducted. The results indicated that all components of the formalization were significantly positively correlated to overall formalization. This indicated that the responses to different parts of formalization were internally reliable (Appendix M).

Nonrespondents

In order to make sure that the data collected were not biased by the non-respondents, and to establish that respondents and the non-respondents groups did not differ statistically, a sample of a dozen firms from the non-respondents was randomly selected. The executives of each firm were contacted by telephone and firm demographic data were collected. Most of the financial data were not collected from the telephone interview due to the sensitivity of the issue. Thus, for those companies that were publicly held, their financial data were obtained through published sources. The sample included six fast food, four dinnerhouse concepts, and two family restaurants. Five of these companies were national firms, five regional, and two local firms, ranging in age from 6 to 41 years. The average company size was 501 units. T-tests of means were conducted and results indicated that there was no evidence that the non-respondents

were significantly different from the respondents in performance and demographics, thus both samples appeared to be from the same population.

Survey Results

As established in the previous section, the data collected were quite reliable. With the validity of the data enhanced, this section presents an overview of the results regarding the demographic profile of the participants, the variables, and the results of the hypotheses testing.

Based upon the 149 responses received, information regarding restaurant segment, years of existence, size of company, and scope of competition is presented and shown in Tables 3 to 6. This is followed by results on the three variables: strategy (Tables 7-8), structure (Tables 9-11), and performance (Tables 12). The firms in the sample were also divided into their strategy orientation (Table 13-16).

Hypotheses were set up to examine the relationship between strategy, structure and their impact on performance. Analysis of variance (ANOVA), t-test, chi square and Kruskal-Wallis tests were employed to test for the significance of the association between these variables (see Tables 17-24).

Demographic Profile of the Sample

The results in this section provided an overview of the profiles of respondents and their firms pertaining to restaurant segment, size, scope of competition, and number of

concepts. The results are discussed for the total sample, followed by the strategy groups. All the results reported in the subsequent sections used a company as a unit of analysis. In some instances where multiple responses were entered, an average score was obtained for the company.

Restaurant Segments

The responding firms were represented in all major segments of the restaurant industry. Of all segments, the dinner house/theme had the highest number of responding firms ($N = 35$, 39.3%), followed by fast food, and family/coffee shops, with 30.4%, and 21.3%, respectively. Cafeteria and contract feeders comprised a small percentage, as shown in Table 3.

Company Size

Table 4 illustrates the size of the responding firms. In this study, company size was indicated by the total number of restaurant units that a company had. These included all units in dominant and other restaurant concepts, either owned or operated by the parent company, or owned by franchisees. The responding firms varied in terms of number of restaurant units.

About thirty-seven percent of the participants had a company size of less than twenty-five. One-fifth of the responding firms had a size of 26 to 100. Thirteen percent of the responses were from firms that had one hundred to two hundred and fifty restaurant units. Companies with a size of two-hundred and fifty-one to one thousand comprised sixteen percent of the sample. Twelve percent of the participating firms had a size of one thousand and over.

Scope of competition

Table 3. Number and Percentage of Responding Firms by Restaurant Segment

Restaurant Segments	Total Number of Responding Firms	Percentage %
Fast Food	27	30.4
Dinner House/Theme	35	39.3
Family/Coffee Shop	19	21.3
Cafeteria	5	5.6
Other	3	3.4
Total	89	100.0

The participants were also asked to indicate their firms' scope of competition by stating their basis of business operations, whether it was local, regional, or national. Forty-two percent of them competed regionally, and over one third competed nationally. Twenty percent of the participating firms operated locally, a state or a city (Table 5).

Years of Existence (Age)

The respondents were asked to indicate the number of years that their dominant restaurant concepts had been in existence. The largest group (37%) of responding firms started their dominant concepts between eleven to twenty years ago, followed by those firms that had concepts of 21 to 35 years old (31%). Results of the sample indicated that the concepts were generally "long lived", with over eighty percent of the sampled firms having their dominant concept ten years or longer (Table 6).

Table 4. Number and Percentage of Responding Firms by Company Size

Company Size	Number of Responding Firms	Percentage %
Less than 25 units	34	37.4
26 - 100 units	19	20.9
101 - 250 units	12	13.2
251 - 1,000 units	15	16.5
1,000 units and over	11	12.0
Total	91	100.0

Table 5. Number and Percentage of Responding Firms by Scope of Competition

Scope of Competition	Number of Responding Firms	Percentage %
National	33	37.1
Regional	38	42.7
Local	18	20.2
Total	89	100.0

Table 6. Number and Percentage of Responding Firms by the Number of Years the Dominant Concept has been in Existence

Age of Dominant Restaurant Concept	Number of Responding Firms	Percentage %
1 - 5 years	7	7.7
6 - 10 years	10	11.0
11 - 20 years	34	37.4
21 - 35 years	28	30.7
36 - 50 years	10	11.0
50 years and over	2	2.2
Total	91	100.0

Variables

Generic Business Strategy

The nature of an organization's strategy reflects how the firm chooses to compete in an industry. From a list of definitions that describe Porter's strategies, respondents were asked to indicate the one strategy that was adopted for the dominant concept for the period of 1982 - 1986. Eighty-eight companies responded to this question (Table 7). The majority (92%) indicated that they espoused one of Porter's generic strategies: 35 companies (40%) used a "low cost leadership" strategy, 30 companies (34%) indicated a "differentiation" strategy, and 16 companies espoused focus strategy. There were seven companies who either altered the definitions given, or whose strategies did not fit into Porter's strategies. Their strategy became the fourth one and labelled as the "other" strategy (Table 7). Over the five-year period from 1982 to 1986, there were only seven companies that indicated they had changed their strategy focus: three companies changed their strategy in 1984, two in 1985, and 2 in 1986.

Each of the strategy groups supposedly had a set of competitive methods that were characteristic of that group, and a company's intended strategy could be inferred on the basis of the emphasis or importance given to those methods available to the firm (Dess and Davis, 1984). From a list of twenty-one strategic characteristics or competitive methods commonly found in the restaurant industry, it is realized that respondents placed different emphasis and allocated resources according to those competitive methods that they considered to be important to the overall strategy (Table 8).

Table 7. Number and Percentage of Responding Firms by Generic Strategy Types

Generic Strategy	Number of Responding Firms	Percentage %
Low Cost Leadership	35	40.0
Differentiation	30	34.1
Focus	16	18.2
Other	7	8.0
Total	88	100.0

Table 8. Number and Percentage of Responding Firms by Competitive Methods

Competitive Methods	Unimportant	Moderate Important to Overall Strategy	Very Important
	No. & % of Responding Firms		
New product/service development...	7 (7.9%)	22 (24.7%)	60 (67.4%)
Customer service...	13 (14.4%)	10 (11.2%)	67 (74.4%)
Operational efficiency...	-	11 (12.2%)	79 (87.8)
Product/service quality control...	1 (1.1)	2 (2.2)	87 (96.7)
Innovation in facility/ equipment...	22 (24.4)	44 (48.9)	24 (26.7)
Bargain with suppliers for lowest prices...	20 (22. 2)	36 (40.0)	34 (37.8)
Competitive pricing/ price leadership...	10 (11.1)	31 (34.4)	49 (54.4)
Broad menu offering	24 (26.7)	35 (38.9)	31 (34.4)
Improving existing products/services...	1 (1.2)	20 (25.0)	59 (73.8)
Minimize overhead through standardization...	14 (14.1)	36 (36.4)	49 (49.5)
Brand identification...	20 (22.5)	18 (20.2)	51 (57.3)
Innovation in marketing...	14 (15.6)	30 (33.3)	46 (51.1)
Ownership of outlets - own rather than franchise...	24 (27.3)	25 (28.4)	39 (44.3)
Specification of raw food and supplies purchasing...	9 (10.0)	27 (30.0)	54 (60.0)
Serving limited market (regional rather than national)...	37 (41.6)	18 (20.2)	34 (38.2)
Speciality products/services...	31 (34.8)	25 (28.1)	33 (37.1)
Products or services offered to a specialized market...	42 (47.2)	31 (34.8)	16 (18.0)
Advertising...	18 (20.0)	30 (33.3)	42 (46.7)
Reputation within the food service industry...	10 (11.1)	18 (20.0)	62 (68.9)
Forecasting market growth...	23 (25.6)	37 (41.1)	30 (33.3)
Innovation in menu development	14 (15.6)	21 (23.3)	55 (61.1)

For the entire sample, "product/service quality control" was noted as being one competitive method that was very important, followed by "operational efficiency", and "customer service". It is not surprising to find such emphasis placed on customer service, as customer service is what sets the service industry apart from manufacturing. As the restaurant industry becomes mature and competition keener, operators find it necessary to stress the basics by providing quality products and services, while improving operational efficiency.

All these competitive methods are pertinent to the survival of a restaurant firm. For instance, quality control is important in the sense that the rejection of the product by a customer is immediate, if the quality of the product is not well controlled. With today's customers being more sophisticated and demanding, there usually is not a second chance for repeat patronage. With the market being saturated, there is always the second restaurant down the street that offers the same product. Oftentimes, quality service is what differentiates and builds customer loyalty.

In contrast, Table 8 also shows that there were some competitive methods considered to be unimportant to overall strategy by most firms, such as "products or services offered to a specialized market" and "serving limited market", and "speciality products/services". These were competitive methods considered by Dess and Davis (1984) as being representative of a "focus" strategy. The probable reason for these particular competitive methods not being considered by firms as important is because most firms have growth objectives that call for market expansion and menu variety, and therefore these methods are not desired.

Firm Structure

The second variable, structure, is defined as the arrangement among people for getting work done. It also refers to a firm's internal pattern of relationships, authority, and communication. In this study, structure is measured by the degree of formalization, centralization, and specialization. Each of these attributes was measured by a series of indicators.

Formalization

The degree of formalization in a company is reflected by the presence of various documents. Table 9 indicates that 71.1% of the restaurant firms gave employee handbooks to all employees. An organization chart was given to not only the executives in the companies, but 60.7% percent of the firms indicated that the chart was given to all supervisors. Written job descriptions were common in the majority of the firms. One fifth of the companies indicated job descriptions were prepared for chief executives, and the same percentage were prepared for multi-unit managers. Sixty percent of the companies indicated they had written operating instructions, as compared to thirty percent that had a written manual of procedures and rules, and 10% for written mission statements. For companies that had written manuals of procedures and rules, three quarters of them indicated that the manuals were utilized at all levels in the organization. Results indicated that in general the responding firms had a fair to high degree of formalization as it was measured by these attributes.

In addition, formalization is also measured by how frequent reviews of individual restaurant performance were conducted by the corporate office. Frequency of reviews from headquarters of restaurant unit performance shows a degree of autonomy towards

Table 9. Number and Percentage of Responding Firms by Firm Structure According to Degree of Formalization

Formalization Measures	Number of Responding Firms	Percentage %
Employee handbooks are given to:		
No one	2	2.2
Only a few persons	1	1.1
Many	23	25.6
All	64	71.1
Total	90	100.0
An organization chart is given to:		
No one	12	13.3
Chief executive only	4	4.5
Other top executives	7	7.9
Division or dept. head	12	13.5
All supervisors	54	60.7
Total	89	100.0
Written job descriptions have been developed for:		
No one	5	5.6
Direct production workers	12	13.3
Clerical staff	8	8.9
Unit managers and supervisors	13	14.4
Multi-unit managers	18	20.0
Corporate functional mgrs.	14	15.5
Chief executive	20	22.2
Total	90	100.0
In the firm, there is:		
Written mission statements	9	10.1
Written manual of procedures and rules	25	28.1
Written operating instructions	55	61.8
Total	89	100.0
If there is written manuals of procedures and rules:		
Utilized at the corporate level	20	22.2
Utilized at all levels in org.	70	77.8
Total	90	100.0
Frequency of reviews of individual restaurant performance:		
Annually	7	8.0
Semi-annually	17	19.3
Quarterly	19	21.6
Monthly	45	51.1
Total	88	100.0

strategic business units. The more frequent the reviews, the less autonomy is provided to individual units. Fifty-one percent of the firms indicated that they held monthly reviews of individual restaurant performance, while less than ten percent had annual reviews (Table 9).

Centralization

Centralization is measured by the lowest level in the organization with the authority to make decisions concerning operational and corporate levels. In general, restaurant firms were quite centralized. Results indicated that in a restaurant firm, the lowest level with the authority to make such decisions varied with the levels of activity. Decisions that were involved with day-to-day operations, such as on the number of unit production workers, overtime to be worked at units, and hiring and firing of employees, half of the firms indicated these types of decisions were delegated to unit management or the general manager. Decisions that concerned multi-units, multi-unit managers (such as regional/district managers), had the authority to make decisions about hiring and firing of unit managers. Decisions that involved the future course of the corporation or major resource allocation, became top management decisions. These included marketing expenditures and new advertising and promotion programs which were commonly made by the functional manager, such as the V.P. Marketing or V.P. Operations. Issues such as expansion into new markets and allocation of resources were generally limited to only chief executive officers (Table 10).

Specialization

Table 10. Number and Percentage of Responding Firms by Firm Structure According to Degree of Centralization

Centralization Measures	Lowest Level with the Authority to Make the Decisions					
	1	2	3	4	5	6 *
	N %	N %	N %	N %	N %	N %
Number of unit production workers N = 88	-	1 (1.1%)	5 (5.6%)	20 (22.5%)	48 (55.2%)	13 (15.6%)
Overtime to be worked at units N = 88	1 (1.1%)	-	4 (4.5%)	17 (19.3%)	51 (57.6%)	15 (17.0%)
Hiring and firing of employees N = 89	-	4 (4.5%)	7 (7.9%)	7 (7.9%)	67 (75.3%)	11 (12.4%)
Hiring and firing of managers N = 88	1 (1.1%)	6 (6.8%)	23 (26.1%)	53 (60.2%)	5 (5.6%)	-
Marketing expenditures	7 (7.9%)	21 (23.9%)	48 (54.5%)	7 (7.9%)	5 (5.6%)	-
Expansion into new markets N = 89	22 (24.7%)	55 (61.8%)	8 (9.0%)	3 (3.4%)	-	1 (1.1%)
New advertising and promotion programs N = 89	6 (6.7%)	10 (11.2%)	52 (58.4%)	3 (3.4%)	3 (3.4%)	1 (1.1%)
Allocation of resources N = 89	12 (13.5%)	46 (51.7%)	21 (23.6%)	7 (7.9%)	2 (2.2%)	1 (1.1%)

*Key:

- 1 = board of directors or owner
- 2 = CEO or president
- 3 = functional manager
- 4 = multi-unit manager
- 5 = unit manager or general manager
- 6 = subunit manager

Organizational specialization was measured by a series of activities (functions) that were dealt exclusively by at least one full-time individual. About fifty percent of the firms were considered to have a high degree of specialization in their structure. The activities that were indicated by most firms to have full-time staff involved were operations, public relations, purchasing control, and personnel hiring and training. The one activity for which most companies did not have a full-time individual for was inventory control. Forty percent of the companies also reported that they did not have any individual fully responsible for quality control (Table 11). The reason for not having a position for inventory and quality control could be due to the fact that oftentimes these activities were incorporated within the function of operations. For small companies, it is not unusual to find one person in charge of all of these operational-related activities. This probably was the reason why only forty percent of the firms indicated that they had at least one staff member assigned to the function, research and development, which was considered to be an essential activity for long term growth.

In addition, the respondents were asked to indicate whether they had experienced a major reorganization during the five-year period. About half of them reported a change in structure within their firms. The two most common reasons for restructure were for the purpose of improving efficiency and reducing overhead costs, and as a result of "a major change in size". A major change in strategy was not a common motivating factor for reorganization among restaurant firms.

Firm Performance

The last variable, financial performance of a company is measured by return on sales, return on assets, and growth of unit sales, for the period 1982 through 1986. In

Table 11. Number and Percentage of Responding Firms by Firm Structure According to Degree of Specialization

Specialization Measures	Number of Responding Firms	Percentage of Total Sample N = 88
Activities dealt with exclusively by at least one full time individual:		
Public relations	60	68.2
Personnel hiring and training	58	65.9
Purchasing control	59	67.0
Inventory control	19	21.6
Financial resource mgt.	58	65.1
Operations	70	79.5
Quality control	35	39.8
Research & development	36	40.9
Administrative procedures	42	47.7
Legal and insurance requirement	43	47.7

terms of these three measures of performance, there were a wide range of responses. Return on sales percentage ranged from a negative five percent to a positive thirty percent, with about half of the total respondents indicating a return of six to ten percent. The range for return on assets was from -5% to over thirty-one percent, with a quarter of the sample reporting six to ten percent. About 5% of the sample indicated a return on assets and sales of below -1%. Over fifty percent of the firms indicated ten percent or less growth in unit sales over the time period studied (Table 12). Six percent of the firms enjoyed a growth rate of thirty-one percent or more. For the entire sample, the mean return on sales was 7.0%, return on assets was 12.2%, and mean growth in unit sales was 10.4%.

Strategy Groups

To further interpret the results of the study, the firms in the sample were divided into their strategy orientation. Restaurant firms varied in their strategy choices by the segment they were in, the geographic scope they covered, the size of the company, franchise operations, and the number of restaurant concepts, as shown in Table 13 - 16.

When the firms in different segments were categorized by strategy, the low cost strategy was the most commonly used by all segments, followed by differentiation. The majority of the fast food firms indicated that they have a low cost strategic orientation, probably due to the fact that fast food operations place strong emphasis on streamlined operations and tight cost control. On the other hand, differentiation was the most common strategy among the dinner house/theme restaurant firms, since restaurants in

Table 12. Number and Percentage of Responding Firms by Firm Financial Performance

Financial Performance Measures	Number of Responding Firms	Percentage %
Return on Sales		
-5 to -1 %	5	6.2
0 to 5 %	25	30.9
6 to 10 %	39	48.1
11 to 15 %	6	7.4
16 to 20 %	4	4.9
21 to 30 %	2	2.5
Total	81	100.0
Return on Assets		
-5 to -1 %	4	5.1
0 to 5 %	15	19.2
6 to 10 %	19	24.4
11 to 15 %	14	17.9
16 to 20 %	13	16.8
21 to 30 %	8	10.2
31 and over	5	6.4
Total	78	100.0
Growth in Unit Sales		
0 to 5 %	32	39.5
6 to 10 %	22	27.2
11 to 15 %	7	8.6
16 to 20 %	6	7.4
21 to 30 %	9	11.1
31 and over	5	6.2
Total	81	100.0

this segment are geared for market differentiation. The family/coffee shop segment has a split strategy orientation when it comes to low cost or differentiation (Table 13).

Of the 32 companies that operated nationwide, eleven companies (34.4%), indicated a low cost strategy and the same number indicated differentiation strategy as their main focus. The regional firms indicated that the low cost strategy category was almost double the percentage of the differentiation strategy category. The majority of the firms operating locally chose differentiation as their strategy. This suggests that as a company broadens its scope of competition from local to regional, its strategy choice shifts from a differentiation to a low cost strategy (Table 13).

When companies were grouped according to their strategy orientation, they also varied in size (Table 14). There existed a high variability in the number of units owned among the three strategy groups. Low cost companies had the largest mean company size of 985 units, as compared to 376 units for the differentiation group, and 172 units for focus. For two groups of companies, 25 units or less, and 101 - 250 units, differentiation was the predominant strategy. This trend switched to low cost strategy when the size reached to 251 or more. One probable reason for this outcome would be that differentiation strategy was commonly adopted by firms in the dinner house segment (which was generally smaller in size with regard to number of operating units), as compared to the fast food firms which commonly espoused a low-cost strategy.

Of the total sample, thirty-seven companies (45%) did not have franchise operations, as compared to forty-five companies that had franchise units. Of all the participating firms, 41 companies had only one concept, while 48 of them engaged in multiple concepts. These two groups of companies did not differ in their choice of strategy. As shown in Table 15, the number of companies with and without franchise options were divided down the middle between low cost and differentiation. A higher number of

Table 13. Number and Percentage of Responding Firms by Strategy Groups in Restaurant Segment and Scope of Competition

	Strategy Groups				
	Low Cost N (%)	Differentiation N (%)	Focus N (%)	Other N (%)	Total N (%)
Restaurant Segment					
Fast Food	13 (48.1%)	8 (29.6%)	5 (18.5%)	1 (3.7%)	27 (100.0%)
Dinner House	9 (27.3%)	14 (42.4%)	7 (21.2%)	3 (9.1%)	33 (100.0%)
Coffee Shop	7 (36.8%)	7 (36.8%)	2 (10.5%)	3 (15.8%)	19 (100.0%)
Cafeteria	3 (50.0%)	1 (16.7%)	2 (33.3%)	0	6 (100.0%)
Total	32 (37.6%)	30 (35.3%)	16 (18.8%)	7 (8.2%)	85 (100.0%)
Scope of Competition					
National	11 (34.4%)	11 (34.4%)	6 (18.8%)	4 (12.5%)	32 (100.0%)
Regional	19 (48.7%)	10 (25.6%)	8 (20.5%)	2 (5.1%)	39 (100.0%)
Local	4 (25.0%)	9 (56.3%)	2 (12.5%)	1 (6.3%)	16 (100.0%)
Total	34 (39.1%)	30 (34.5%)	16 (18.4%)	7 (8.0%)	87 (100.0%)

Table 14. Number and Percentage of Responding Firms by Company Size and Strategy

Company Size	Strategy Groups			
	Low Cost	Differentiation	Focus	Other
	N	N	N	N
Less than 25 units	10 (31.3%)	13 (40.6%)	4 (12.5%)	5 (15.6%)
26 - 100 units	6 (35.3%)	5 (29.4%)	5 (29.4%)	1 (5.9%)
101 - 250 units	2 (16.7%)	6 (50.0%)	4 (40.0%)	0 -
251 - 1000 units	8 (53.3%)	2 (13.3%)	3 (20.0%)	2 (13.3%)
1000 units and more	7 (63.6%)	3 (27.3%)	0 -	1 (9.1%)
Total	33 (37.9%)	29 (33.3%)	16 (18.4%)	9 (10.3%)

companies with franchise operations, as compared with those companies without franchises, chose a focus strategy. In order to compete as effectively as local independent owners, franchise companies had to "localize" their concept and/or facility and focus on the local market. Also shown in Table 15, the number of companies with single and multiple concepts was divided between low cost and differentiation in terms of strategy selection. A higher number of companies with multiple concepts, as opposed to those with a single concept, chose a focus strategy.

Finally, there is the fourth strategy group that was labelled "other". Seven companies indicated strategies other than Porter's generic strategy. These firms could be said to have a joint pursuit of both low cost and differentiation strategies. Table 16 shows a listing of companies and their profiles in the "other" strategy category. Most of these companies were either in coffee shop or dinner house segments. These companies varied in size from less than ten units to over a thousand. This group closely followed companies in the low cost category in terms of structural measures, it had the lowest average return on assets, but the highest growth percentage as compared to the three generic groups.

Hypotheses Testing

The primary objective of this study is to examine the relationship of the strategy of a firm, the structure a firm uses to implement strategy, and the performance of a firm in the restaurant industry. Hypotheses were established to test this relationship.

Table 15. Number and Percentage of Responding Firms by Franchise Option and by Restaurant Concepts

Strategy Group	Franchise Operation		
	Yes	No	Total
	N (%)	N (%)	N (%)
Low Cost	16 (50.0%)	16 (50.0%)	32 (100.0%)
Differentiation	16 (55.2%)	13 (44.8%)	29 (100.0%)
Focus	10 (66.7%)	5 (33.3%)	15 (100.0%)
Other	4 (50.0%)	4 (50.0%)	8 (100.0%)
Total	45 (54.9%)	37 (45.1%)	82 (100.0%)

Strategy Group	Number of Restaurant		
	Single Concept	Multiple Concepts	Total
	N (%)	N (%)	N (%)
Low Cost	16 (48.5%)	17 (51.5%)	33 (100.0%)
Differentiation	14 (48.3%)	15 (51.7%)	29 (100.0%)
Focus	5 (31.3%)	11 (68.8%)	16 (100.0%)
Other	4 (57.1%)	3 (42.9%)	7 (100.0%)
Total	39 (45.9%)	46 (54.1%)	85 (100.0%)

Table 16. Company Profile of 'OTHER' Strategy Group

	Company						
	1	2	3	4	5	6	7
Segment	Coffee	Coffee	Coffee	Dinner	Dinner	Dinner	Dinner
Location	National	Regional	National	National	National	Local	National
Age(year)	15	50	25	12	15	10	3
Size	536	1300	613	49	11	4	-
Formalization	4.77	5.33	4.33	5.58	5.33	5.33	4.17
Centralization	2.31	2.25	3.40	2.13	2.50	2.38	1.50
Specialization	7.75	8.00	9.00	8.00	9.00	2.00	6.00
ROS	7%	-	-	2%	5%	-3%	12%
ROA	12%	-	25%	3%	7%	-1%	9%
Growth	22%	-	7%	3%	35%	10%	6%

To ensure that there was no significant effect of the control variables on performance measures, analysis of variance tests were performed. Results indicated that none of the control variables, segment, size, scope of competition, franchise option, and number of concepts was found to exert statistically significant effects on all three performance measures.

Analysis of variance tests were also conducted to determine whether any of the control variables had any effect on the choice of strategy and the degree of structure. Results indicated that number of concepts and company size did not influence the strategic choice of restaurant firms. However, scope of competition, number of concepts, size, segment, and franchise options significantly influenced the degrees of structure in restaurant firms. It was found that single concept companies were more centralized than firms of multiple concepts, and firms in different restaurant segments had significant differences in the degree of formalization and specialization. For instance, fast food firms were more formalized and specialized than firms in the dinner house segments. National and regional firms had a higher degree of specialization than local firms. When a company broadened its competitive base, there was a greater need for more expertise and a greater division of labor in various functional activities, and hence the degree of specialization increased.

Also, as company size grew, the degree of formalization and specialization increased, while centralization decreased. Normally, one would expect that as size increased, the degree of formalization increased as more activities were governed by rules, regulations, and written policies. However, in this case, supposedly the decrease in centralization was due to the need for flexibility, especially in the operating level. Organizations often found that in order to compete effectively in individual local markets, they had to allow autonomy in strategic business units for a quick turnaround of operational and strategic decisions.

Hypothesis One

"There is no relationship between a firm's strategy and its structure in the restaurant industry" failed to be rejected.

This hypothesis was developed to examine the relationship between strategy and structure. Companies were grouped according to strategy: low cost, differentiation, and focus. Strategy was indicated by the chief executive officers and members of their top management team from a list of strategic definitions that best characterized their firm's strategy. Analysis of variance tests were used to determine whether there were differences in the degrees of formalization, centralization, and specialization among strategy groups. Since formalization was not normally distributed, a Kruskal-Wallis test, a non-parametric approximation, was performed.

As shown in Table 17, there were differences in the average scores for the structure variables for the three strategy groups. However, statistically the results of the tests failed to reject the null hypotheses and concluded that there were no significant differences between Porter's generic strategy types and firm structure in the restaurant industry (Table 18). Companies with a different strategy focus do not display a distinct form of structure from one another.

The results of various research studies in the manufacturing industry indicated that a relationship between strategy and structure existed (Bower, 1970; Chandler, 1962; Wrigley, 1970). Results of this hypothesis testing were different from the general belief that companies with different strategy choices should have a different set of structural arrangements (White & Hamermesh, 1981; Lawrence & Lorsch, 1967; Rumelt, 1974, Channon, 1973 at corporate level; and business level strategy, Miles & Snow, 1978; Gupta & Govindarajan, 1984). As Chandler indicated, given the corporate strategy,

structure must have the capability of providing the necessary information to make sound administrative decisions. Moreover, Astley (1978), and Lenz & Engledow (1986) indicated that single-business firms within an industry were structured differently, depending on their strategies, or as Miller (1987) indicated, "the state aspects of structure must be aligned with the process aspects of strategy making".

However, all these studies were carried out primarily in manufacturing industries, where structures and procedures in manufacturing plants were more clearly defined than they were in a service setting. Service industries are unique in that the outputs are difficult to measure and there are customers involved in the service delivery process, sometimes even in the production stage. There are also task and workflow uncertainty issues that are unique to the service industry. Thomas (1978) indicated that service operations required a different strategic orientation, and may require different competitive strategies from those of product-oriented companies.

In the service industry, this study supports Schaffer's findings in the lodging industry. Two probable explanations as to why there is no difference in the degree of structure among the strategy groups are:

1. The restaurant market is volatile in the sense that it has a short life cycle, and products and services are easy to copy; operators have to constantly change strategy and align with the environment to keep in pace with the competitors. There may not be enough time for immediate strategy change to have instant impact on firm structure, and/or for structural changes to be effective to accommodate any changes in strategy choices. Moreover, this can result in a mismatch between the current organizational structure and the new strategy. This may either prevent or hinder the managers from implementing the new strategy. Thus, there exist different unin-

tended strategies due to market demand within a given structure, provided that there is no expansion involved; or

2. Structure has not been given enough time to affect strategy, because strategy is continuously changing. The situation in restaurant firms could be, as indicated in the studies by Bettis (1979), Haspeslagh (1982), and Lorsch & Allen (1973), that there was a lack of structural differentiation with strategy at both the strategic business level and the divisional level. Oftentimes, firms find it both costly and difficult to administer the differentiation of structure.

As further support of these probable explanations, of the 91 companies in the sample, about fifty percent of them indicated a major reorganization within their firms over the last five-year period. However, only seven companies reported to have a change in their strategy focus. Of the seven companies that changed strategy, all except one, or 12% of the group that restructure, had undergone a major reorganization in their firms. The respondents further indicated that a major change in strategy was not a common motivating factor for reorganization among restaurant firms. This means that a change in structure is not always **accompanied** by a change in strategy, or a change in structure is not a **result** of a change in strategy (Table 19).

Finally, both variables, strategy and structure are multi-dimensional. In this study, strategy did not affect structure, but strategy itself could be affected by managerial style. Also, there were a few other variables that had some bearing on the differences in company structures. Restaurant segment, company size, scope of competition, franchise option were found to affect the degrees of formalization and specialization for restaurant firms. The degree of centralization only differed between companies that compete in various geographic bases and those that had single versus multiple restaurant concepts.

Table 17. Number and Percentage of Responding Firms by Average of Responses to Strategy by Structure

Strategy Variables	Structure Variables		
	Mean Centralization Score	Mean Formalization Score	Mean Specialization Score
Low Cost N = 34	2.44	4.88	6.83
Differentiation N = 30	2.29	4.57	6.60
Focus N = 16	2.42	4.54	6.12
Other N = 7	2.25	4.82	6.87
Formalization score - maximum = 6 Specialization score - maximum = 10 Centralization score - maximum = 6 levels, "1" - owners; "2" - CEO; "6" - subunit manager			

Table 18. Relationship between Strategy and Structure.

Hypothesis I: Multivariate ANOVA to See if There Are Differences Among Strategy Groups in the Degree of Formalization, Centralization, and Specialization			
Variable	DF	F Value	PR > F
1. Formalization	3	0.71	0.5486
2. Centralization	3	0.46	0.7122
3. Specialization	3	0.56	0.6401
Kruskal-Wallis Test (Chi Square Approximation) is used to test for differences in formality among strategy groups.			
Chi Square = 1.69			
DF = 3			
Probability > Chi Square = 0.6384			
Not Significant (Same result as ANOVA test)			

Table 19. Primary Motivating Factors for Reorganization

Reasons	Number of Respondents
Change in strategy	6
Change in size	17
Expansion	15
Efficiency	23
Other	
Transfer of control	6
Acquisition/Merger	4
Leverage buyout	3
Not specified	3

Hypothesis Two

"There is no relationship between a firm's strategy and its performance in the restaurant industry" was partially supported.

Three subhypotheses were developed:

Hypothesis 2.1: "There are no differences in strategy choice among performance groups as measured by return on sales" was rejected.

Hypothesis 2.2: "There are no differences in strategy choice among performance groups as measured by return on assets" failed to be rejected.

Hypothesis 2.3: "There are no differences in strategy choice among performance groups as measured by growth in unit sales" failed to be rejected.

The purpose of hypothesis two was to examine the relationship between strategy and performance. Table 20 shows the average percentages of the three performance measures for the strategy groups. Low cost companies had the highest average percentages in return on assets and sales, while the differentiators had the lowest average percentages in return on sales and growth.

The respondents were grouped according to high, medium, and low performers in return on sales, assets, and growth. These three measures of performance were examined separately in each subhypothesis. Chi square tests were conducted to examine whether the two variables, strategy and performance, were independent of each other. Results indicated that strategy is related to performance as measured by return on sales. Strategy and the remaining performance measures, return on assets and growth are not related (Table 21).

The findings were somewhat consistent with Schaffer's work in the lodging industry. He found "no statistically significant differences in the mean performance of organizations grouped according to their competitive strategies". On the other hand, this result did not quite support Beard and Dess's (1981) and Dess and Davis's (1984) findings. Dess and Davis's study provides empirical support for the presence of strategic groups based upon Porter's generic strategies. Their study was conducted using those manufacturing firms which were autonomous, self-contained, as well as homogeneous in size and scope of operations. In contrast, this study collected information in a single industry, and the responding firms varied in restaurant segment, size, scope of competition, etc. In addition, the sampling companies that Dess and Davis and this study drew were from two different industries according to Porter's classification of generic industry environment. The companies Dess and Davis selected were from "highly fragmented" industry, however, in this study, firms in the restaurant industry is perceived to be in early maturity stage. With these restrictions on the sample selection, generalizability of Dess' study to service industry may be limited. The conditions for the two studies were different and, not surprisingly, the findings were not the same.

Results from this hypothesis testing did not disprove the impact of strategy on performance. With only one performance measure related to strategy, the findings were inconclusive as to support the relationship between strategy and performance. Perhaps Porter's generic strategies cannot be extended to the service industry and may not be appropriate in examining the variation in firm performance in the restaurant industry.

Table 20. Number and Percentage of Responding Firms by Average of Responses to Performance by Strategy

Strategy Groups	Performance Variables		
	Mean Return on Assets Percentage	Mean Return on Sales Percentage	Mean Growth Percentage
Low Cost N = 34	14.81	8.21	13.43
Differentiation N = 28	12.50	7.00	9.12
Focus N = 16	13.93	6.13	13.00
Other N = 6	11.00	7.67	11.86

Table 21. Relationship between Strategy and Performance.

Hypothesis II: Chi-Square Test Between Strategy and Performance.			
	ROA	ROS	Growth
N	67	70	71
DF	4	4	6
Chi-Square Value	1.993	9.518	3.352
Probability	0.737	0.049*	0.764
* Significant			

Hypothesis Three

In this hypothesis, the relationship between strategy, structure, and performance in restaurant firms were examined. Companies were divided according to their strategy: low cost, differentiation, and focus. Within each strategy group, the companies were subdivided into high, medium, and low performers in three measures: return on sales, assets, and growth. These three measures of performance were examined separately in each subhypothesis. The high performers were those companies within the 75th percentile, and low performers were those companies that fell in the 25th percentile. Medium performers, for the purpose of this study, were those companies in between the upper and lower quadrants. This distinction between high and low groups was a method commonly used for comparative analysis, and was recently used by two studies in the lodging industry (VanDyke, 1985, Schaffer, 1986). The structure was measured by the degrees of formalization, centralization, and specialization. The results of ANOVA tests on high, medium, and low performance groups are shown in Tables 22-24.

Hypothesis 3.1: "For low cost companies, there are no differences in the degree of structure between high and low performers in return on sales, assets, and growth" was partially supported.

There were significant differences in certain measures of structure and performance among the low cost strategy group. Specifically, the findings of this hypothesis indicated the following relationships:

Table 22. Relationship between Strategy, Structure and Performance (by One-Way ANOVA).

Hypothesis III: One-way ANOVA to Test for Differences
in Formalization, Centralization, and Specialization

A. Among the ROA Performance Groups (High, Medium, and Low)

1. Low Cost Strategy

Variable	DF	F Value	PR > F
Formalization	2	0.21	0.8125
Centralization	2	4.66	0.0191 *
Specialization	2	2.68	0.0884 **

2. Differentiation Strategy

Variable	DF	F Value	PR > F
Formalization	2	0.02	0.9757
Centralization	2	1.82	0.1866
Specialization	2	1.65	0.2170

3. Focus Strategy

Variable	DF	F Value	PR > F
Formalization	2	1.37	0.2920
Centralization	2	3.34	0.0513 **
Specialization	2	0.92	0.4242

* Significant at 0.05

** Significant at 0.10

Table 23. Relationship between Strategy, Structure and Performance (by One-Way ANOVA) - continued.

Hypothesis III: One-way ANOVA to Test for Differences in Formalization, Centralization, and Specialization			
<i>B. Among the ROS Performance Groups (High, Medium, and Low)</i>			
1. Low Cost Strategy			
Variable	DF	F Value	PR > F
Formalization	2	0.10	0.9014
Centralization	2	0.73	0.4921
Specialization	2	6.58	0.0046 *
2. Differentiation Strategy			
Variable	DF	F Value	PR > F
Formalization	2	0.27	0.7622
Centralization	2	1.13	0.3410
Specialization	2	0.49	0.6204
3. Focus Strategy			
Variable	DF	F Value	PR > F
Formalization	2	0.62	0.5539
Centralization	2	1.50	0.2655
Specialization	2	1.81	0.2091
* Significant			

Table 24. Relationship between Strategy, Structure and Performance (by One-Way ANOVA) - continued.

Hypothesis III: One-way ANOVA to Test for Differences in Formalization, Centralization, and Specialization			
C. Among Growth Performance Groups (High, Medium, and Low)			
1. Low Cost Strategy			
Variable	DF	F Value	PR > F
Formalization	2	0.07	0.9310
Centralization	2	7.55	0.0026 *
Specialization	2	1.71	0.0210 *
2. Differentiation Strategy			
Variable	DF	F Value	PR > F
Formalization	2	0.19	0.8317
Centralization	2	1.88	0.1749
Specialization	2	0.46	0.6375
3. Focus Strategy			
Variable	DF	F Value	PR > F
Formalization	2	11.54	0.0017 *
Centralization	2	5.12	0.0247 *
Specialization	2	0.15	0.8649
* Significant			

1. There were significant differences in the degree of centralization between companies of high and low performers in return on assets, where high performers were less centralized than the low performers.
2. There were significant differences in the degree of specialization between companies of high and low performers in return on sales, where high performers were more specialized than the low performers.
3. There were significant differences in the degree of centralization and specialization between companies of high and low performers in growth, where high performers were more centralized and specialized than the low performers.

Based on previous studies, many authors felt that an appropriately designed structure was required to facilitate the implementation and achievement of a firm's strategy (Christensen, et al., 1980; Galbraith & Nathanson, 1978; Steiner & Miner, 1977). For instance, the specialization of the structure of strategic groups in an industry exerted a significant influence on its performance (Newman, 1978). This situation also occurred in the restaurant industry to certain extent. Among restaurant firms, findings implied that for those espousing a low cost strategy, the degree of formalization did not differ among performance groups. A higher degree of specialization led to higher performance with regard to return on sales, and growth. However, the degrees of centralization vary, depending on growth or return on assets. The probable reason could be tied back to the idea that companies made important trade-offs in their financial objectives, for instance, between profitability and growth. High performers, such as the case of low cost companies, their goal is to achieve high profitability through return on sales and assets, and in doing so, may not be able to achieve the same performance level in growth at the same time. Companies that achieve profitability through return on assets may find it

beneficial to allow more autonomy in operating units in order to accomplish operational efficiency and competence over total assets. On the other hand, companies that stress growth in unit sales may find it feasible to maintain tighter control in the corporate level.

Hypothesis 3.2: "For differentiation companies, there is no difference in the degrees of structure between high and low performers in return on sales, return on assets, and growth" failed to be rejected.

Analysis of variance results showed that there were no differences between high performers and low performers in all performance measures in the degrees of formalization, centralization, and specialization for companies espousing differentiation strategy (Table 28). One probable reason for this inconclusive finding is that companies reported to adopt the differentiation strategy were not clear in their emphasis in competitive methods. The feeling is that either these companies are not a "true" differentiator or if they are espousing a differentiation strategy, they are not placing their resources in those competitive methods that were characteristic of the differentiation strategy.

Differentiators stress the differentiation of products and services either through innovative marketing or new product development. They channel a major portion of their resources to offer an attractive package, good service, and a good corporate image. They achieve profitability or good performance by commanding higher prices. In the process, they may not pay close attention to selecting an appropriate structure to complement their strategy. Also it is probable that the issue of structural details is not high on the corporate agenda.

For instance, restaurant firms that espoused a differentiation strategy tended to be more centralized than low cost and focus group. This is contrary to what might generally be expected. Normally, companies following a differentiation strategy often deal

with a more uncertain and competitive environment. This is because the options available to a differentiator with respect to what unique product features to offer normally will be greater than those available in the case of a low cost strategy. Thus, the "best" structure to implement the strategy would be decentralization.

The differentiation group had the lowest percentage in return on sales and growth. This could be due to the fact that differentiators, in order to differentiate among the competitors, generally involved in less predictable factors like innovation and customer preferences. High performance might be more difficult to achieve. This is different from the low cost strategy. Companies espoused in a low cost strategy offered standard products and services. They achieved profitability through high volume and operational efficiency. In order to achieve low overhead, detail to structure is the primary concern. This may help to explain why structure is not related to performance in the differentiation strategy.

Hypothesis 3.3: "For focus companies, there is no difference in the degree of structure between high and low performers in return on sales, return on assets, and growth" was partially supported.

There were significant differences in certain measures of structure and performance among focus strategy group. Specifically, the findings of this hypothesis indicated the following relationships:

1. There were significant differences in the degree of formalization and centralization between companies of high and low performers in return on assets and growth, where high performers were more formalized and centralized than the low performers.

2. There were significant differences in the degree of specialization between companies of high and low performers in return on sales, where high performers were less specialized than the low performers.

Focus strategy is a niche strategy in which a firm concentrates its attention to a specific clientele base, product, or geographic locale. Wright proposes that focus should only be appropriate for smaller companies to compete in a local basis. Companies in this stage are generally less specialized in terms of division of labor and more centralized in decision making, since the locus of control most oftentimes rests on the owner/manager.

In general, the findings for this hypothesis indicated that there were different structure requirements for different strategies which had a positive impact on financial performance, at least for the low cost and focus groups.

Summary

This chapter reported the results collected through the survey method. Results were reported on the total sample as well as on strategy groups. Information on firm demographic profile, strategy, structure, and performance were reported. The data clearly indicated that the majority of the restaurant firms espoused an intended strategy that was generic to Porter's model. Findings on hypotheses testing were presented. The findings failed to reject the first hypothesis, and concluded that there was no relationship between strategy and structure in the restaurant firms. The second hypothesis was only

partially supported, and the findings reveal that strategy and performance were related to a certain extent. Only one performance measure, return on sales, depended on strategy.

Findings from hypothesis three indicated that certain structure measures were related to some performance measures for the low cost and focus companies. However, structure and performance were not related for the differentiators. A summary of findings for the third hypothesis follows:

Hypothesis 3

Hypothesis 3.1 - Low Cost Strategy			
	Formalization	Centralization	Specialization
ROS	insignificant	insignificant	significant
ROA	insignificant	significant	insignificant
Growth	insignificant	significant	significant

Hypothesis 3.2 - Differentiation Strategy			
	Formalization	Centralization	Specialization
ROS	insignificant	insignificant	insignificant
ROA	insignificant	insignificant	insignificant
Growth	insignificant	insignificant	insignificant

Hypothesis 3.3 - Focus Strategy			
	Formalization	Centralization	Specialization
ROS	insignificant	insignificant	significant
ROA	significant	significant	insignificant
Growth	significant	significant	insignificant

Conclusion

The restaurant industry is maturing. In order to survive and prosper in this dynamic and increasingly competitive environment, it is essential for restaurant managers to formulate effective business strategies to adapt to these ever-changing conditions and to gain a competitive advantage.

The concept of strategy is generally believed to have effects on financial performance for a firm. Research has shown that the strategy-structure-performance paradigm is relevant for the business level in manufacturing firms (White, 1986). With the fundamental differences existing between manufacturing and the service industries, with the unique characteristics of the service sector, it is not certain whether the theory applies. Hambrick (1983) indicated that "a major obstacle to research at the business level is that industries have their own key environmental attributes and strategic options. Thus, generalizability across industries is difficult to achieve".

This study was conducted to extend Porter's model of generic strategies to the service industry by exploring the relationships among strategies of restaurant firms, their organizational structure and financial performance. Pertinent data were collected through survey research and analyzed by the computerized SAS program. Demographic

profiles of the respondents, as well as information on firm strategy, structure, and performance were derived based on frequency distributions. The relationship of strategy and structure and its impact on performance in the industry were appropriately tested. Selected tests included T-tests, analysis of variance, Kruskal-Wallis test, chi square, and correlation. Alpha value of 0.05 was used to determine the level of significance.

Some of the results supported the common belief and trends of the restaurant industry at its mature stage. Other results contradict the findings in the manufacturing industry. A summary of findings of the statistical analysis is as follows:

1. Strategy and structure were not related in the restaurant industry. Companies that espoused different strategies did not have different degrees of structure with regard to formalization, centralization, and specialization.
2. One of the performance measures, return on sales, was related to strategy. There were no significant differences in return on assets and growth among strategy groups.
3. Within strategy groups, structure and performance were related among restaurant firms.

Companies espousing a low cost strategy:

- a. high performers in return on assets were less centralized than the low performers
- b. high performers in return on sales were more specialized than the low performers
- c. high performers in growth were more centralized and specialized than the low performers

Companies adopting a focus strategy:

- d. high performers in return on assets and growth were more formalized and centralized than the low performers
 - e. high performers in return on sales were less specialized than the low performers
4. The concept of strategic choices is relevant in the service industry. Porter's generic business strategy grouping holds in the restaurant industry.
5. Frequency of reviews of restaurant units' performance was not related to variations in performance. Frequent reviewers did not outperform the infrequent ones.
6. Certain competitive methods led to higher performance. This result supported the fact that in the turbulent environment of the restaurant industry, it is quite essential for firms to stay competitive in order to be profitable. The following competitive methods were found to have an effect on performance:
- a. "specification of raw food and supplies purchasing" and "serving limited market" methods affected return on assets positively;
 - b. "serving limited market" and "reputation within the foodservice industry" methods were associated with higher return on sales; and
 - c. "products or services offered to a specialized market" method led to higher growth in unit sales.
7. The control variables, number of concepts and company size did not influence the strategic choice of restaurant firms.

8. The control variables, segment, size, scope of competition, franchise option, and number of concepts had no impact on all three performance measures.
9. The control variables, scope of competition, number of concepts, size, segment, and franchise options significantly influenced the degrees of structure in restaurant firms.
 - a. single concept companies were more centralized than firms of multiple concepts.
 - b. firms in different restaurant segments had significant differences in the degree of formalization and specialization. Fast food firms were more formalized and specialized than firms in the dinner house segments. National and regional firms had a higher degree of specialization than local firms.
 - c. as company size grew, the degree of formalization and specialization increased, while centralization decreased.
 - d. companies with franchise operations were more formalized and specialized than those that did not franchise.

The implications of the findings with respect to the restaurant industry will be discussed briefly in the following section.

Strategy and Structure

Using the service setting, this study showed that strategy and structure were not related in the restaurant industry. Companies that espoused different strategies did not have different degrees of structure with regard to formalization, centralization, and specialization. This finding was different from those studies being tested in the manufac-

turing industry. At the corporate strategy level, Chandler (1962) concluded that strategic choices and the internal structure have a direct bearing on the ultimate success of organizations. His work had been carried out by Rumelt (1974) and Channon (1975), and they found a positive relationship between strategy and structure. At the business level, Miles and Snow (1978), and Gupta and Govindarajan (1984) and others (Bourgeois and Astley, 1978; Lenz and Engledow, 1986) reported the same positive relationship.

On the other hand, this study supports Schaffer's finding in the lodging industry. He extended Miles and Snow's typology and used the same three measures of structure, and concluded that strategy and structure were not related in the lodging industry.

There are some probable reasons for the incongruent findings between the manufacturing and service industry. Primarily, it is due to the fundamental differences that exist between the two industries. The unique features of the service industry, namely intangibility of the product and simultaneity of production and service delivery process, result in a less defined structure as compared to the manufacturing industry. As the restaurant environment becomes saturated and mature, there is a constant need for change in strategy to adapt to the external conditions; however, with a short life cycle and the easy-to-copy nature of foodservice products and services, there may not be enough time for any strategy to have an impact on firm structure, and for structural changes to be effective in accommodating any changes in strategy choices.

It may, in fact, not be possible to predict the structural characteristics of firms from their strategy. Decisions regarding the choice of a firm's competitive strategy are often based on perceptions of the environmental conditions and of internal structure, which must be made by top management (Chandler, 1962; Child, 1972; Porter, 1980). Therefore, the make up of a firm's structure is generally a part of the strategic choices made by management. In essence, structural configurations do not necessarily result from an

organization's choice of competitive strategy, but are rather influenced by the top management decisions and styles.

Methodologically, perhaps this set of measures is not as robust in operationalizing structure in the service industry as it was in the manufacturing firms.

Frequency of Reviews

Porter's generic strategies also had different requirements concerning the frequency of a corporate office requesting reports and reviews from its operating units. White (1986) proposed that business units with a cost leader strategy would exhibit higher performance when the emphasis on structure is on low autonomy (tight control) and frequent reporting. Low cost leaders had a shorter feedback loop in terms of the time between decisions, actions, and results, than differentiators. In this case, low cost strategy might benefit from more frequent reviews from the headquarters. On the other hand, differentiators would be better off with a less frequent reporting process.

Statistically, results of this study showed no relationship between frequency of reviews and performance measures. Percentage wise, the mean return on assets (15.8%) for companies of frequent review was higher than the infrequent review group (10.8%) in the low cost strategy group. The differentiators with infrequent review had a higher mean percentage in return on assets and sales than the frequent group.

Strategy and Performance

Restaurant firms that adopted a generic strategy did not outperform those that had no clear strategic orientation. This did not imply that the "other" group of firms had

higher performance than the generic strategy group. Firms in the "other" group had average return on assets as compared to the remaining firms. This finding was not consistent with Dess and Davis's study and with Porter's contention that commitment to at least one of the three generic strategies will result in higher performance than if the firm fails to develop a generic strategy, that is, becomes "stuck in the middle". However, the "other" group in this study might not be the same as the Porter's "stuck in the middle" group. It could be a fourth strategy group. The reason why this result was different from Dess and Davis's findings could be due to the industry conditions in which the sample was drawn, which conditions were quite different from this study. Generalizability of their study to service industry may be limited.

In general, the findings of this study indicated that strategy only affects return on sales in the restaurant industry, but not return on assets or growth. This observation was somewhat consistent with Schaffer's in that he found no differences in performance of lodging firms grouped according to their competitive strategies. Thus the choice of competitive strategy alone had no impact on performance.

Results from this study did not disprove the impact of strategy on performance. It merely showed that perhaps Porter's generic strategies cannot be extended to the service industry, and may not be adequate in examining the variation in firm performance in the restaurant industry.

Strategy, Structure, and Performance

Based on previous studies, many authors have felt that an appropriately designed structure was required to facilitate the implementation and achievement of a firm's

strategy (Christensen, et al., 1980; Galbraith & Nathanson, 1978; Steiner & Miner, 1977). It is expected that a high degree of structure in terms of specialization, formalization, and centralization would lead to high performance for companies that espouse a low cost strategy; and a low degree of structure would yield a high performance for differentiators.

- This relationship was found to hold in the restaurant industry to a certain extent. In general, the findings indicated that there were different structure requirements for different strategies, at least for the low cost and focus groups. Among strategy groups, only low cost and focus groups showed significantly different degrees of structure and performance levels.

For low cost strategies, a higher degree of specialization led to higher performance with regard to return on sales and growth. However, the degree of centralization among firms varied with regard to growth and return on assets. The probable reason could be tied back to the idea that there are potential trade-offs between profitability and growth. Companies that achieve profitability through return on assets may find it beneficial to allow more autonomy in operating units in order to accomplish operational efficiency and competence over total assets. On the other hand, companies that stress growth in unit sales may find it feasible to maintain tighter control at the corporate level.

For the focus strategy group, high performers in return on assets and growth were more formalized and centralized than the low performers, while high performers in return on sales were less specialized than the low performers. This strategy is a niche strategy in which a firm concentrates its attention on a specific clientele base, product, or geographic locale. Wright (1987) proposed that focus is only appropriate for smaller companies to compete locally. Thus, companies in this condition are usually less specialized in terms of division of labor, and more centralized in decision making, since the locus of control oftentimes rests on the owner/manager.

On the other hand, differentiators, regardless their performance levels, were found to have the same average degree of structure. One probable reason for this inconclusive finding is that a few of the companies that reported to adopt the differentiation strategy were not clear in their emphasis in competitive methods. Perhaps these companies were not "pure" differentiators, or if they were espousing a differentiation strategy, they were not placing their resources in those competitive methods that were characteristics of the differentiation strategy.

Also, differentiators stressed the differentiation of products and service either through innovative marketing or new product development. They channelled a major portion of their resources to offer an attractive package, quality service, and a good corporate image. In the process, they might not pay close attention to selecting an appropriate structure to complement their strategy. It is probable that the issue of structural details is not high in the corporate agenda. This may help to explain why structure was not related to performance in the differentiation strategy.

Strategic choice

This study was carried out to examine Porter's strategic typology in the context of restaurant firms. At the business unit level, it was concluded that the concept of strategic choices is relevant in the service industry, and that all three of Porter's generic business strategies were found to be common among the restaurant firms.

The notion of strategic choice recognizes that similar organizations operating within the same industry may respond to and adapt the same environment differently, based on the strategic orientation of their management (Ackoff, 1970). This is supported by

empirical studies in manufacturing industries that identified the presence of groups of firms within an industry following similar strategies along strategic dimensions (Hunt, 1972; Newman, 1973; Porter, 1980, Patton, 1976). Particularly, Dess and Davis's (1984) research provides empirical support for the presence of strategic groups based upon Porter's generic strategies.

Firm Size

Size was found to have no impact on strategy choice and performance. This finding did not support Beard and Dess's (1981) study and what Wright (1987) proposed. Beard and Dess regarded firm size as a predictor of firm profitability. Wright, in an attempt to refine Porter's strategies, indicated that choices of generic strategies have limitation boundaries in terms of the size of the firm and its access to resources. Larger firms in an industry with greater access to resources may compete primarily with the cost leadership or differentiation strategy. The smaller firms with less access to resources can only viably compete with a focus strategy.

In this study, a firm's size was measured by the number of units it had. The data indicated that there were firms with a size of less than 25 units that espoused low cost or differentiation strategies. There were also a few national companies of up to 1,000 units that adopted a focus strategy.

The inconsistent findings could be related to the differences in the nature of manufacturing and restaurant industries. Restaurant firms are different from manufacturing firms in many respects. An increase of firm size enables a firm in the manufacturing industry to enjoy the benefit of economies of scale in various key functions. However,

the only area that a restaurant firm can enjoy economies of scale is through administrative support systems from the corporate headquarters. A large manufacturing firm has employees and facilities all consolidated in one spot. A large restaurant corporation, such as McDonald's and Burger King, on the other hand, consists of many small operating units. Each restaurant unit functions like a 'mini-factory' where customers are involved in the service delivery process and it becomes difficult to stockpile inventory.

Moreover, the differences in findings perhaps lay in the make up of industry competition of industries. For an industry that has a dominant few, relative size proportion becomes a valid factor contributing to firm profitability. For those industries that have competition from many small operators, whether it is independent or a unit within a conglomerate (which is common for restaurant industry), size did not have any proportional impact on profitability. Since it is possible for competition to spring up in a short-time frame, a portion of the market share may be lost, which leads to a smaller return on sales.

Overall, there is not sufficient evidence in the findings from this study to validate Porter's model. There are a number of probable reasons.

1. Porter's generic strategies were common among the restaurant firms, but the results indicated incongruity with the studies conducted in the manufacturing industry. Porter's generic strategies may not be applicable for the service industry due to the existence of the fundamental differences in manufacturing and service, the unique characteristics of the restaurant business, and the relatively short life cycle of an innovative product or service. Due to these differences, the structural arrangement in

restaurant firms cannot possibly be reorganized quickly enough to implement the new strategy.

2. There may exist in restaurant firms more than the three generic strategies as proposed in Porter's framework. This study identified a fourth group, "other" which required further research. Also, in the business environment, there may be companies that espoused dual strategies: low cost imbedded with differentiation, or vice versa.

This research project has taken an initial step toward developing an understanding of the strategy, structure, and their impact on financial performance in restaurant firms. Although statistically not many tests were found to be significant, some of the findings present practical information to restaurateurs.

Contribution of this Study

Today, the foodservice industry is growing older, and moving from its growth phase to its maturity stage. Despite its importance to the economy, this industry, along with the rest of the hospitality industry, has not benefited from the results of vigorous research studies and theory building. In the past, many failures in the hospitality industry resulted from executives blindly adopting the trendy management concepts from the manufacturing industry. In 1987 several leading chains started to significantly reduce the number of their corporate staffs in an attempt to reorganize; this year top firms halt

their expansion plans in the middle of the process in an effort to retrench. Operators are desperately seeking means to maintain their market position and profitability.

This exploratory study intended to contribute to the betterment of the restaurant industry in the following ways:

1. To provide a framework for examining the possible intrinsic relationships between strategy, structure, and performance in the restaurant industry. There were only a few empirical studies in the study of strategic management in this industry, and the present study has not been conducted before.
2. To provide a unique way to study the relationships of strategy, structure, and performance.
 - strategy into low cost, differentiation, and focus;
 - structure by formalization, centralization, and specialization; and
 - performance by return on assets, return on sales, and growth in unit sales.

Some of the variables had been tested in previous studies (VanDyke, 1985; Schaffer, 1986). Schaffer studied the interrelationships of the three variables for the lodging industry.

3. To propose a framework in grouping companies in terms of their internal structure with regard to the degrees of formalization, centralization, and specialization, and with regard to performance levels. Companies could be divided into various structural configurations, according to high and low formalization, high and low cen-

tralization, and high specialization. They could be also classified as high or low performers according to the performance measures.

4. Frequently used statistical tests such as analysis of variance, t-tests, and chi square were used to test three major hypotheses:
 - relationship between strategy and structure;
 - relationship between strategy and performance; and
 - relationship between strategy, structure, and performance.
5. Some findings indicated that there were certain relationships among those three variables. The understanding of these relationships is important for restaurateurs to use as a guideline in formulating future strategy to attain higher profit margin.
6. Insignificant relationships provided a reference for future research efforts.
7. Porter did not postulate structural requirements for the focus group. Some of the significant findings between structure and performance for focus strategy provide some preliminary results for further research.

Recognizing the uniqueness of the service industry and saturated market conditions, there is a great need for research in this field to enhance the overall understanding, and to provide suggestions and recommendations that enable the industry to survive in the mature stage.

In the preceding chapter, a substantial amount of data was reported. This information is useful in a number of ways. The issues of strategy, structure and performance

were presented and discussed. The availability of the information not only provides the industry members a source of comparative data, but also interested parties outside the industry, and that will enhance a better understanding of the hospitality industry. This information can also be regarded as a data base which can be used to determine trends within the industry.

Although this study was exploratory in nature, it is a first step towards a systematic analysis of the concept of strategy, the role of structure in successful strategy implementation, and its impact on financial performance. It is our intent to provide insight and recommendations for the restaurant industry in terms of optimal strategy and structure which would lead to higher financial performance.

Limitation of the Study

Some of the limitations of this study have been discussed and dealt with in the early chapters, for example, nonresponse, answers to the questions not reflective of actual behavior, etc. A survey instrument was sent to 296 corporations, with 94 firms participating in the study, a response rate of 30.7 percent. This rate, although in line with the other studies reported in the industry, could be higher if it were not for the following reasons. This study on strategy and structure was the first one in the field. The objectives were to ensure most of the common factors were included in the analysis, and collect as much data as the survey could provide. Thus the respondents may have been overwhelmed with questions, and/or intimidated by the complication of the information sought, especially on Q-19 through Q-21 which were indicators of financial performance.

These questions on financial performance required the respondents to look up data for a five-year time period.

Because strategy, structure, and performance were not unitary concepts, terminology became a potential problem. Starting from terms such as business strategy to foodservice concept, there were so many interpretations in the definitions of the terms. Thus, brief definitions were provided throughout the questionnaire wherever appropriate. Even so, it was felt that from the responses, the definition on growth in unit sales was not clear and left room for participants' interpretation.

The timing at which the survey was mailed, during Thanksgiving and Christmas holidays, may be a factor causing lower response. Also, the industry executives, especially the leading chains, should have better appreciation of the value of a research study such as this to the overall betterment of the industry. Companies like McDonald's, have all the human and financial resources to participate or endorse such endeavor, yet have a policy not to reveal or engage in any of the surveys. Several executives went through the time and trouble to write a letter to this researcher to explain, rather than channel their energy to participate in the study. Half of the respondents from this study were from the smaller companies that were interested in learning more about strategy and structure. There should be more communication between the academic and the practitioners. Bigger sample size enables analysis to be more powerful, makes the results more representative, and enhances generalizability.

Finally, due to time and budget constraint, this study is cross-sectional, and is limited by the survey method which prohibits indepth information collection. Perhaps, with the endorsement or cooperation from the industry, a longitudinal study in the form of a personal visit to the corporate offices, a interview with top management team, an observation of interactions of various functions and departments, as well as a first hand study of internal records and data, may produce better and significant findings.

Implication for Future Study

The study presented here is exploratory in nature. Although this area of investigation in the service industry is young, these preliminary findings are of some practical importance. In order to continue the study on interrelationships of strategy, structure, and performances in the service setting, a customized model should be designed. Future researchers can investigate the relationship of the structure and strategy-making process in the restaurant firms. Designers of organizations must ensure complementarity among elements of structure and strategy making.

Results of this study suggest that room remains for both better measurement of the variables, and for specification of additional explanatory variables. More research on other organizational attributes, and how they could be used as substitutes for one another to effectively implement any given strategy, is necessary before a concrete conclusion can be reached. These attributes include different elements of structure, such as administrative intensity, functional coordination, interdependence, and technology. Performance measures such as return on equity and return on investment can also be used to determine the impact of strategy upon performance.

Further research effort is needed to examine whether one or more of the three basic generic strategy groups needs to be redefined to include the "other" group, or whether there is another new group represented by the seven companies. Some evidence has emerged that strategies appear to be enduring and changing over time. On a longitudinal basis, systematic research on strategy and its impact on financial performance (as well as a larger sample), may show some significant differences in hypothesis testing.

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Appendix A. Pre-Testing Phase

Restaurant Companies Included In The Pre-Test

Company Name/CEO/President/Location

1. Naylor Brothers Restaurants, Inc.
W.W. 'Biff' Naylor
Los Angeles, California
 2. Wharf Tavern, Inc.
Paul Lazar
Warren, Rhode Island
 3. Dankos Enterprises, Inc.
John G. Dankos
Richmond, Virginia
 4. Noble Roman's, Inc.
Stephen M. Huse
Bloomington, Indiana
 5. Lewis Restaurant Corporation
Van Lewis
Lynchburg, Virginia
 6. Cregar Enterprises
Richard E. Cregar
Orchard Lake, Michigan
-

VIRGINIA TECH
VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Department of Hotel, Restaurant
and Institutional Management

Blacksburg, Virginia 24061

August 3, 1987

Mr. Guss Dussin
OSF International, Inc.
0715 S.W. Bancroft
Portland, OR 97201

Dear Guss:

As you are well aware, the foodservice industry is tough. New concepts come and go daily. How can a good company with a good concept and motivated employees outperform its competition? Are there strategies that improve performance? Can they be easily implemented? To answer these questions, the Center for Hospitality Research and Service at Virginia Tech has undertaken a long term study of the restaurant industry to assist restaurateurs in their search for higher firm performance. That is what the enclosed questionnaire is all about!

Your organization has been selected as one of six firms nationwide to participate in the initial phase of this study. This initial phase is concerned more with the ease with which this questionnaire can be understood and easily/quickly completed by industry executives. Your suggestions as an industry expert is important to the design of the questionnaire.

Please take some time out of your busy schedule to complete and critique one of the questionnaires and ask two members of your top management team to do the same. Feel free to write all over them! Our goal is to develop a clean, concise survey which captures the data we need. You can be assured that all information will be held in strictest confidence.

We will be contacting you by telephone in order to answer your questions, and you should feel free to contact us any time at the Center (703) 961-5515.

Thanking you for your assistance and cooperation, we are

Sincerely yours,

Michael D. Olsen, Ph.D.
Executive Director

Eliza C. Tse
Joseph J. West
Researchers

Appendix B. Phase II - Enlisting Company's Participation

VIRGINIA TECH

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Department of Hotel, Restaurant
and Institutional Management

Blacksburg, Virginia 24061

August 28, 1987

Mr. Paul W. Mobly
President
Noble Roman's, Inc.
P.O. Box 1089
Bloomington, IN 47402

Dear Mr. Mobly:

As you are well aware, the foodservice industry is tough. New concepts come and go daily. How can a good company with a good concept and motivated employees outperform its competition? Are there strategies that improve performance? Can they be easily implemented? To answer these questions, the Center for Hospitality Research and Service at Virginia Tech has undertaken a long term study of the restaurant industry to assist restaurateurs in their search for higher firm performance.

Your organization has been selected to participate in this national study. Why should a busy foodservice executive take time out of an already too full schedule to complete a questionnaire on strategy and performance? What's the payback? We realize that your time and that of your top management team is both expensive and scarce. There is a tangible reward for participating in this study - information. Each firm that participates will receive an executive summary high-lighting the important findings of the study. What strategy is best in terms of firm performance for your segment? What type of information do executives of highly successful foodservice companies utilize in their strategic planning? What type of organization structure works best with a particular strategy? The answers to these questions and more are worth the time and effort spent by you and your top management team in completing the questionnaire.

Please take a moment and complete the enclosed prepaid postcard, indicating your name and the names of up to four members of your top management team whom you desire to participate in the study with you. The questionnaire requires less than twenty minutes to complete and all information will be held in strictest confidence. It will be reported only in the form of statistical summaries so that information about an individual firm cannot be identified.

Your firm's participation in this study will be greatly appreciated and will constitute a significant contribution to the foodservice industry. If you have any questions feel free to contact us at the Center (703) 961-5515.

Thank you for your time and cooperation.

Sincerely yours,

Michael D. Olsen, Ph.D.
Head & Executive Director

Eliza C. Tse
Researcher

Joseph J. West
Researcher



NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

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
Eliza C. Tse
P.O. Box 850
Blacksburg, Virginia 24060-9985



- ☐ Yes, our firm desires to participate in the Center's Study of Strategy and Performance in the Foodservice Industry. The following executives including me will participate:

Name and Title

Phone Number

- ☐ Please send me an executive summary of the study.
- ☐ No, our firm does not wish to cooperate.

Appendix C. Phase 3 - Actual Mailing of Questionnaire

VIRGINIA TECH
VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Department of Hotel, Restaurant
and Institutional Management

Blacksburg, Virginia 24061

November 21, 1987

Mr. Donald N. Smith
Chief Executive Officer
Perkins Restaurants, Inc.
6401 Poplar Avenue
Memphis, TN 38119

Dear Mr. Smith:

We would like to express our sincere appreciation for your cooperation in this long term research project of the restaurant industry, which is geared to assist restaurateurs in their search for higher organizational performance.

The Center for Hospitality Research is investigating how certain strategic and organizational aspects of restaurant firms contribute to successful performance. Upon completion of this phase of the study you, as an important participant, will receive an executive summary high-lighting the most important findings.

The completion of the enclosed questionnaire is all that will be required. We realize that the days and nights of busy food service executives are filled to overflowing with urgent demands for their precious time and have designed the questionnaires to be completed in approximately twenty minutes. All information received in this study will be held in strictest confidence and will be reported only in the form of statistical summaries so that information about an individual firm cannot be identified.

We think the questions are self-explanatory. Since the questionnaire is designed for use throughout the industry you may think that some questions do not apply to your firm, please answer them to the best of your personal knowledge. As the questionnaire is a self-mailer, when completed, simply staple and mail directly to us. Your participation in this study is greatly appreciated and is a significant contribution to the food service industry. If you have any questions feel free to contact us at the Center (703) 961-5515.

Thank you for your time and participation.

Sincerely yours,

Michael D. Olsen, Ph.D.
Head & Executive Director

Eliza C. Tse
Researcher

Joseph J. West
Researcher

A NATIONWIDE STUDY OF TYPES OF STRATEGIES, ORGANIZATION
STRUCTURE, COMPETITIVE INTELLIGENCE GATHERING ACTIVITIES, AND
THEIR EFFECTS UPON PERFORMANCE IN RESTAURANT FIRMS

I. FIRM INFORMATION

1. Your functional area of responsibility can best be described as _____. (e.g. CEO, president, marketing, operation, etc.)
2. Indicate below in what segment of the food service industry your dominant restaurant concept competes.
 _____ fast food
 _____ dinner house/theme
 _____ family/coffee shop
 _____ cafeteria
 _____ other _____ (please specify)
3. How many years has this dominant restaurant concept been in existence?

4. What is the total number of restaurant units in the dominant concept of your company?
 _____ units owned or operated by the parent company
 _____ units owned by the franchisees
5. What is the total number of restaurant units of your firm's other concepts? _____
6. Does your firm compete nationally, regionally, or locally?
 _____ nationally
 _____ regionally, where? _____ (e.g. North East)
 _____ locally, where? _____ (e.g. State or City)

II. FIRM STRATEGY

7. The nature of an organization's strategy reflects how the firm chooses to compete in an industry. The following is a list of strategic characteristics or competitive methods commonly found in the restaurant industry. Considering your dominant restaurant concept and using your knowledge of your competitors as a frame of reference, think of your organization's pattern of behavior (strategy) over time rather than for one specific period. Please indicate how important your firm considers each of the following are to its overall strategy (Circle one choice for each item.)

Competitive Methods	Importance to Overall Strategy				
	Unimportant				Important
New product/service development	1	2	3	4	5
Custom service	1	2	3	4	5
Operational efficiency	1	2	3	4	5
Product/service quality control	1	2	3	4	5
Innovation in facility/equipment	1	2	3	4	5
Bargain with suppliers for lowest prices	1	2	3	4	5
Competitive pricing/price leadership	1	2	3	4	5
Broad menu offering	1	2	3	4	5
Improving existing products/services	1	2	3	4	5
Minimize overhead through standardization	1	2	3	4	5
Brand identification	1	2	3	4	5

Innovation in Marketing (promotions, sponsorships, etc.	1	2	3	4	5
Ownership of outlets - own rather than franchise	1	2	3	4	5
Specification of raw food and supplies purchasing	1	2	3	4	5
Serving limited market (regional rather than national)	1	2	3	4	5
Speciality products/ services	1	2	3	4	5
Products or services offered to a specialized market	1	2	3	4	5
Advertising	1	2	3	4	5
Reputation within the foodservice industry	1	2	3	4	5
Forecasting market growth	1	2	3	4	5
Innovation in menu development	1	2	3	4	5

8. In case we left out any competitive methods, this question is designed to allow you to assist us. Please indicate any competitive methods that have not been included in question 7 and indicate their importance to your organization's overall strategy. (Write each method in the blank spaces on the left and then indicate its importance)

Competitive Methods	Importance to Overall Strategy				
	Unimportant			Important	
_____	1	2	3	4	5
_____	1	2	3	4	5
_____	1	2	3	4	5

9. Of the following strategies, which best characterizes your dominant concept for the period of 1982 - 1986? (Check one)

a. My company adopts a strategy that will allow the concept to achieve and maintain a low cost position industrywide. The company normally places emphasis on the efficiency of its internal operations, especially the productive utilization of capital and human resources, and keeps the overhead costs to a minimum. This means that the management pays attention to operational details, willing to replace obsolete equipment, and invest in cost-saving equipment to reduce labor costs.

b. My company adopts a strategy that aims to create a product and service that is perceived as uniquely attractive by the customers industrywide, thus permitting the firm to command higher than average prices. This strategy emphasizes marketing abilities and research, new product and service development, and stresses quality in product and service.

c. My company adopts a strategy that attempts to create a unique position. It concentrates its attention on a specific type of customer, product or geographic locale, i.e. focuses on a particular segment only.

_____ d. if none of the above please describe _____

10. Has your company followed the strategy you checked in Q-9 for the entire period of 1982 - 1986?

_____ Yes
_____ No

If not, please indicate the year of the last major change (1982 - 1986). _____

III. FIRM MARKET INTELLIGENCE GATHERING

11. The methods by which executives obtain market intelligence in support of the firm's intended strategies is of extreme importance. Below are listed 20 types of external events or trends potentially affecting firms in the foodservice industry. Considering ALL sources of information please rate the approximate frequency with which each type of information comes to your attention. Use the following scale for rating your answers:

1 - once a year or less 2 - twice a year 3 - four times a year
 4 - once a month
 5 - twice a month 6 - once a week 7 - once a day or more

Current customer needs/trends	1	2	3	4	5	6	7
Demographic changes in terms of product/service demands	1	2	3	4	5	6	7
Current/future cost of capital	1	2	3	4	5	6	7
Current/future cost of real estate	1	2	3	4	5	6	7
Possible entry into the industry of new competitors	1	2	3	4	5	6	7
The growth of the home frozen prepared meal market	1	2	3	4	5	6	7
The growth of the supermarket/deli market	1	2	3	4	5	6	7
The increased usage of home microwave ovens	1	2	3	4	5	6	7
Future changes in customer needs/trends	1	2	3	4	5	6	7
Current cost/availability of raw materials	1	2	3	4	5	6	7
Competitor product/service offerings	1	2	3	4	5	6	7
Expansion plans of competitors	1	2	3	4	5	6	7
Consumer purchasing behavior/price value expectations	1	2	3	4	5	6	7
Current/future conditions of the labor market	1	2	3	4	5	6	7
New product/service development by competitors	1	2	3	4	5	6	7
Competitor pricing strategy	1	2	3	4	5	6	7
Acquisition of existing competitors by firms outside of industry	1	2	3	4	5	6	7
The cooperation of existing competitors with firms outside of the industry e.g. Hardee's/7-Eleven Stores	1	2	3	4	5	6	7
The threat of foreign expansion into the domestic industry	1	2	3	4	5	6	7

IV. FIRM STRUCTURE

Structure is defined as the arrangement among people for getting work done, it also refers to a firm's internal pattern of relationships, authority, and communication.

14. Do you presently make use of the following documents in your firm? (Please check all that apply)

a. employee handbooks treating, for example, security, working conditions, etc., are given to:

- ☐ No one
☐ Only a few persons
☐ Many
☐ All

b. an organization chart is given to:

- ☐ No one
☐ Chief executive only
☐ Other top executives
☐ Division or department heads
☐ All supervisors

c. written job descriptions have been developed for:

- ☐ No one
☐ Direct production workers
☐ Clerical staff
☐ Unit managers and supervisors
☐ Multi-unit managers
☐ Corporate functional managers
☐ Chief executive

d. In your firm is there:

- ☐ written mission statements/corporate philosophy
☐ a written manual of procedures and fixed rules for unit daily operations?
☐ written operating instructions for unit production workers?

e. If your company has written manuals of procedures and rules, are they

- ☐ utilized at the corporate level only
☐ utilized by all levels in the organization including individual restaurant units

15. What is the lowest level in your firm with the authority to make the following decisions? Please utilize the following scale:

mark a score of 1 if the level is above president/CEO, this would be the board of directors or owner; mark a score of 2 for CEO or president;
 mark 3 for a functional manager such as V.P. Marketing, V.P. Operations, etc.;
 mark 4 for a multi-unit manager, such as regional/district manager;
 mark 5 for a unit manager or general manager;
 mark 6 for a subunit manager such as assistant manager, dining room supervisor.

Decision Concerning:

the number of unit production workers required	1	2	3	4	5	6
overtime to be worked at units	1	2	3	4	5	6
hiring and firing of employees	1	2	3	4	5	6
hiring and firing of managers	1	2	3	4	5	6
marketing expenditures	1	2	3	4	5	6
expansion into new markets	1	2	3	4	5	6
new advertising and promotion programs	1	2	3	4	5	6
allocation of resources (financial, human, etc.)	1	2	3	4	5	6

16. Which of the following activities are dealt with exclusively by at least one full time individual (Check all that apply)

☐ public relations, advertising or promotion
☐ personnel hiring and training
☐ purchasing control
☐ inventory control
☐ financial resource management
☐ operations
☐ quality control
☐ research and development
☐ administrative procedures (statistics, information systems, filing, etc.)
☐ legal and insurance requirements

17. How frequently are reviews of individual restaurant performance conducted?

☐ annually
☐ semi-annually
☐ quarterly
☐ monthly
☐ other _____ (specify)

18. For the period of 1982-86, has your company experienced a major reorganization?

☐ Yes
☐ No

If yes, what was the prime motivating factor when your firm reorganized?

☐ A major change in strategy
☐ A major change in size
☐ Expansion into new market
☐ Efficiency improvements/reduction in overhead costs
☐ Other _____ (specify)

V. FIRM PERFORMANCE

19. Indicate below your firm's average percentage of Return on sales for the period 1982 through 1986. (Please circle)

(Return on sales = net operating income before tax and interest / annual sales)

-5% -4 -3 -2 -1 0 1 2 3 4 5 6 7 8 9 10%

If greater than +10% or -5% please list _____ %

20. Please circle your firm's average Return on Assets percentage for the period 1982 through 1986.

(Return on assets = net operating income before tax and interest / total assets)

-5% -4 -3 -2 -1 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20%

If greater than +20% or -5% please list _____ %

21. Please list the average growth in unit sales experienced by your firm during the period 1982 through 1986 _____ %.

(Growth of unit sales = annual total sales / number of units)

_____ Yes, I desire an executive summary of this national restaurant study.

Appendix D. Follow-up Mailings

VIRGINIA TECH
VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Department of Hotel, Restaurant
and Institutional Management

Blacksburg, Virginia 24061

December 14, 1987

Mr. Kenneth F. Reimer
President and CEO
Roma Corporation
9400 N. Central Express #1520
Dallas, TX 75231

Dear Mr. Reimer:

Within the last two weeks, you should have received a survey questionnaire concerning a long term research project of the restaurant industry to assist restaurateurs in their search for higher firm performance. We have not yet heard from you. Perhaps the questionnaire was misplaced, or it may have been lost in the mail, etc. In any event, we are enclosing another copy of the questionnaire.

The Center for Hospitality Research is investigating how certain strategic and organizational aspects of restaurant firms contribute to successful performance. Upon completion of this phase of the study you, as an important participant, will receive an executive summary high-lighting the most important findings.

The completion of the enclosed questionnaire is all that will be required. We are hopeful that you can find twenty minutes in your busy schedule to fill it out and simply drop it in the mail. All information received in this study will be held in strictest confidence and will be reported only in the form of statistical summaries so that information about an individual firm cannot be identified.

Since it is extremely important that we establish a clear understanding of the strategy and organizational performance within our industry we hope you will take the time to supply this important information and return it by December 31, 1987. As previously mentioned, we welcome any questions regarding the study. Please feel free to contact us at (703) 961-5515.

Thank you for your participation. We shall appreciate your time and efforts.

Sincerely yours,

Michael D. Olsen, Ph.D.
Head & Executive Director

Eliza C. Tse
Researcher

Joseph J. West
Researcher

Appendix E. Total Sample-Structure Variables

PERCENTILES FOR PERFORMANCE AND STRUCTURE VARIABLES - OVERALL
WITH OUTLIERS DELETED
APRIL 26, 1988 - 147 RESPONDENTS IN THE DATA FILE

21:14 TUESDAY, APRIL 26, 1988

UNIVARIATE

VARIABLE=FORMAL

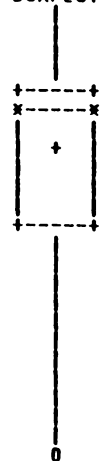
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N	90	SUM NGTS	90	100% MAX	6	99%	6	LOWEST	HIGHEST
MEAN	4.63924	SUM	417.532	75% Q3	5.33333	95%	6	1.5	6
STD DEV	1.07069	VARIANCE	1.14637	50% MED	5	90%	5.83333	2.16667	6
SKEWNESS	-0.822535	KURTOSIS	-0.129671	25% Q1	3.8125	10%	3.00625	2.27778	6
USS	2039.06	CSS	102.027	0% MIN	1.5	5%	2.48333	2.3	6
CV	23.0789	STD MEAN	0.11286	RANGE	4.5	1%	1.5	2.63333	6
T-MEAN=0	41.1061	PROB> T	0.0001	Q3-Q1	1.52083				
SGH RANK	2047.5	PROB> S	0.0001	MODE	5.33333				
NUM -- 0	90								
D-NORMAL	0.154141	PROB>D	<.01						

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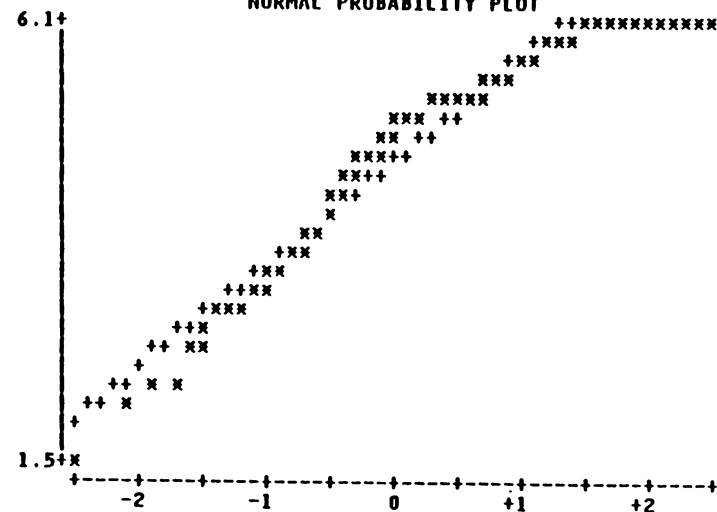
STEM LEAF
60 0000000
58 3333
56 1375
54 000088
52 0933333333333333
50 00008857779
48 033
46 777579
44 256
42 337
40 77
38 3362
36 7705
34 00028
32 83
30 0061
28 3
26 35
24
22 80
20 7
18
16
14 0
-----+-----+-----+-----+
MULTIPLY STEM.LEAF BY 10**01

```

BOXPLOT



NORMAL PROBABILITY PLOT



Total Sample - Formalization scores

PERCENTILES FOR PERFORMANCE AND STRUCTURE VARIABLES - OVERALL
WITH OUTLIERS DELETED
APRIL 26, 1988 - 147 RESPONDENTS IN THE DATA FILE

21:14 TUESDAY, APRIL 26, 1988

UNIVARIATE

VARIABLE=CENTRAL

MOMENTS				QUANTILES(DEF=4)				EXTREMES	
N	89	SUM WOTS	89	100% MAX	4.125	99%	4.125	LOWEST	HIGHEST
MEAN	2.41559	SUM	214.988	75% Q3	2.66667	95%	3.15625	1.25	3.125
STD DEV	0.460959	VARIANCE	0.212483	50% MED	2.375	90%	3.0625	1.375	3.1875
SKEWNESS	0.372527	KURTOSIS	1.56161	25% Q1	2.125	10%	1.875	1.5	3.25
USS	538.022	CSS	18.6985	0% MIN	1.25	5%	1.6875	1.625	3.4
CV	19.0826	STD MEAN	0.0488615			1%	1.25	1.75	4.125
T-MEAN=0	49.4375	PROB> T	0.0001	RANGE	2.875				
SGH RANK	2002.5	PROB> S	0.0001	Q3-Q1	0.541666				
HUMI = 0	89			MODE	2.375				
D-NORMAL	0.101513	PROB>D	0.023						

MISSING VALUE
COUNT
% COUNT/NOBS

1

1.11

STEM LEAF #

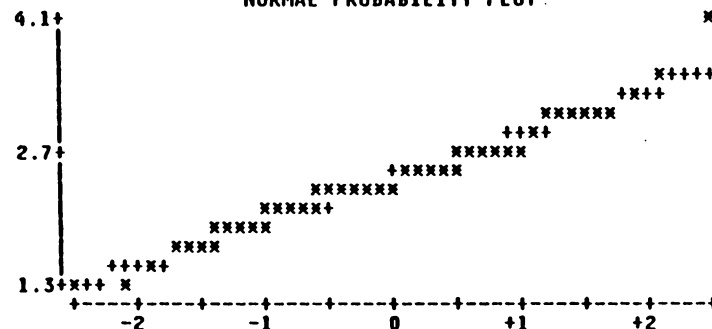
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38		
36		
34	0	1
32	5	1
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22	55555891118888888888	21
20	00063333336	11
18	3888881	7
16	3555	4
14	0	1
12	58	2

MULTIPLY STEM.LEAF BY 10**01

BOXPLOT



NORMAL PROBABILITY PLOT



Total Sample - Centralization score

PERCENTILES FOR PERFORMANCE AND STRUCTURE VARIABLES - OVERALL
WITH OUTLIERS DELETED
APRIL 26, 1988 - 147 RESPONDENTS IN THE DATA FILE

21.14 TUESDAY, APRIL 26, 1988

UNIVARIATE

VARIABLE= specialization

MOMENTS				QUANTILES(DEF=4)				EXTREMES	
N	88	SUM WGTs	88	100% MAX	10	99%	10	LOWEST	HIGHEST
MEAN	6.19545	SUM	545.2	75% Q3	8.625	95%	10	0	10
STD DEV	2.69426	VARIANCE	7.25904	50% MED	6.75	90%	10	1	10
SKEWNESS	-0.305931	KURTOSIS	-0.990798	25% Q1	4	10%	2.45	1	10
USS	4009.3	CSS	631.537	0% MIN	0	5%	1.45	1	10
CV	43.4877	STD MEAN	0.287209	RANGE	10	1%	0	2	10
T:MEAN=0	21.5712	PROB> T	0.0001	Q3-Q1	4.625				
SGN RANK	1914	PROB> S	0.0001	MODE	4				
HUM = 0	87								
D: NORMAL	0.123499	PROB>D	<.01						

MISSING VALUE
COUNT
% COUNT/NOBS

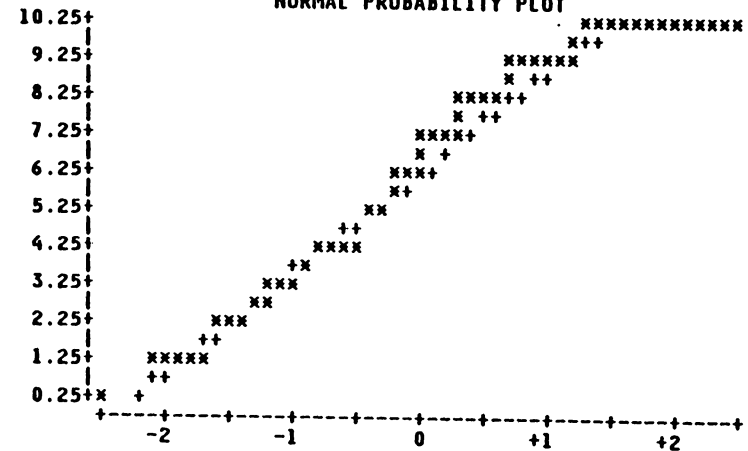
2
2.22

STEM	LEAF	
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8	0000000000	10
7	7	1
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6	5	1
6	0000000	7
5	7	1
5	000003	6
4		
4	000000000000	12
3	55	2
3	00000	5
2	57	2
2	0000	4
1		
1	000	3
0		
0	0	1

BOXPLOT



NORMAL PROBABILITY PLOT



Total Sample - Specialization score

Appendix F. Total Sample-Performance Variables

PERCENTILES FOR PERFORMANCE AND STRUCTURE VARIABLES
INCLUDING OUTLIERS
APRIL 26, 1988 - 147 RESPONDENTS IN THE DATA FILE

21:14 TUESDAY, APRIL 26, 1988

UNIVARIATE

VARIABLE=ROA

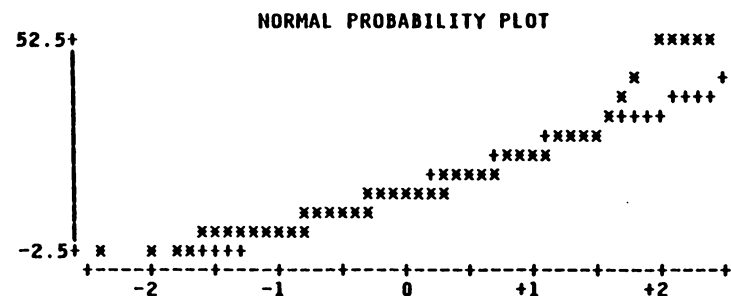
RETURN ON ASSETS

MOMENTS				QUANTILES(DEF=4)				EXTREMES	
N	78	SUM WGTs	78	100% MAX	50	99%	50	LOWEST	HIGHEST
MEAN	13.1667	SUM	1027	75% Q3	18	95%	35.25	-5	34
STD DEV	10.8609	VARIANCE	117.959	50% MED	11.5	90%	28	-3	35
SKENNESS	1.22956	KURTOSIS	2.27152	25% Q1	5.75	10%	0.9	-1	40
USS	22605	CSS	9082.83	0% MIN	-5	5%	-1	-1	50
CV	82.4878	STD MEAN	1.22975			1%	-5	0	50
T:MEAN=0	10.7068	PROB> T	0.0001	RANGE	55				
SGH RANK	1395	PROB> S	0.0001	Q3-Q1	12.25				
HUN -= 0	75			MODE	10				
D:NORMAL	0.115043	PROB>D	0.012						

MISSING VALUE
COUNT 12
% COUNT/NOBS 13.33

STEM LEAF 0
5 00 2
4
4 0 1
3 5 1
3 4 1
2 55888 5
2 00000233 8
1 555566667788 12
1 0000000001222223444 19
0 5556778899999 13
0 111223334 9
-0 5311000 7
-----+-----+-----+
MULTIPLY STEM.LEAF BY 10**+01

BOXPLOT
0
0
+---+
+---+
+---+
+---+



Total Sample = Return on Assets (with outliers)

PERCENTILES FOR PERFORMANCE AND STRUCTURE VARIABLES - OVERALL
WITH OUTLIERS DELETED
APRIL 26, 1988 - 147 RESPONDENTS IN THE DATA FILE

21.14 TUESDAY, APRIL 26, 1988

UNIVARIATE

VARIABLE=ROA

RETURN ON ASSETS

MOMENTS

N	76	SUM NGTS	76
MEAN	12.1974	SUM	927
STD DEV	9.16373	VARIANCE	83.9739
SKEWNESS	0.651722	KURTOSIS	0.499835
USS	17605	CSS	6298.04
CV	75.1287	STD MEAN	1.05115
T:MEAN=0	11.6038	PROB> T	0.0001
SGH RANK	1320.5	PROB> S	0.0001
HUM -= 0	73		
D: NORMAL	0.094753	PROB>D	0.09

QUANTILES(DEF=4)

100% MAX	40	99%	40
75% Q3	17	95%	28.9
50% MED	10.5	90%	25
25% Q1	5.25	10%	0.7
0% MIN	-5	5%	-1
		1%	-5
RANGE	45		
Q3-Q1	11.75		
MODE	10		

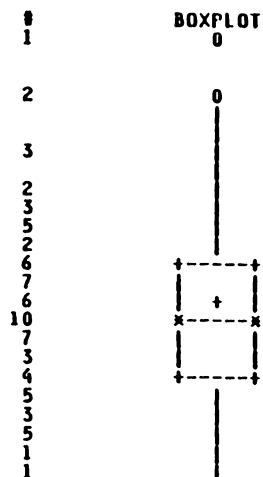
EXTREMES

LOWEST	HIGHEST
-5	28
-3	28
-1	34
-1	35
0	40

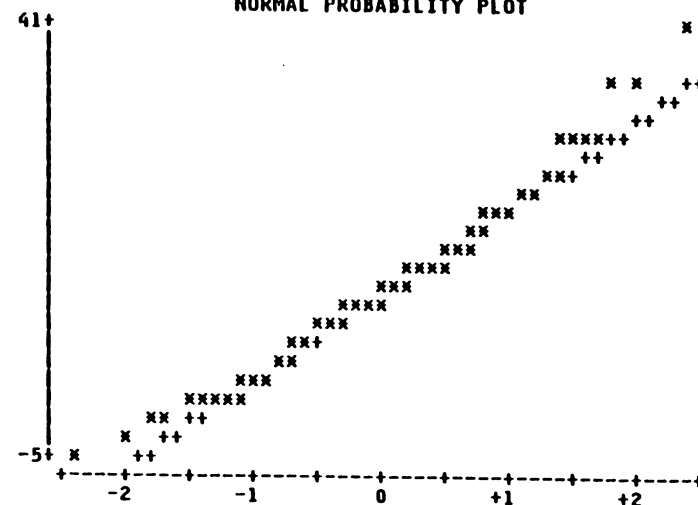
MISSING VALUE
COUNT 14
% COUNT/HOBS 15.56

STEM	LEAF	#
40	0	1
38		
36		
34	00	2
32		
30		
28	000	3
26		
24	00	2
22	000	3
20	00000	5
18	00	2
16	000000	6
14	0000000	7
12	000000	6
10	0000000000	10
8	0000000	7
6	000	3
4	0000	4
2	00000	5
0	000	3
-0	00000	5
-2	0	1
-4	0	1

BOXPLOT



NORMAL PROBABILITY PLOT



Total Sample - Return on Assets (with outliers deleted)

PERCENTILES FOR PERFORMANCE AND STRUCTURE VARIABLES
INCLUDING OUTLIERS
APRIL 26, 1988 - 147 RESPONDENTS IN THE DATA FILE

21:14 TUESDAY, APRIL 26, 1988

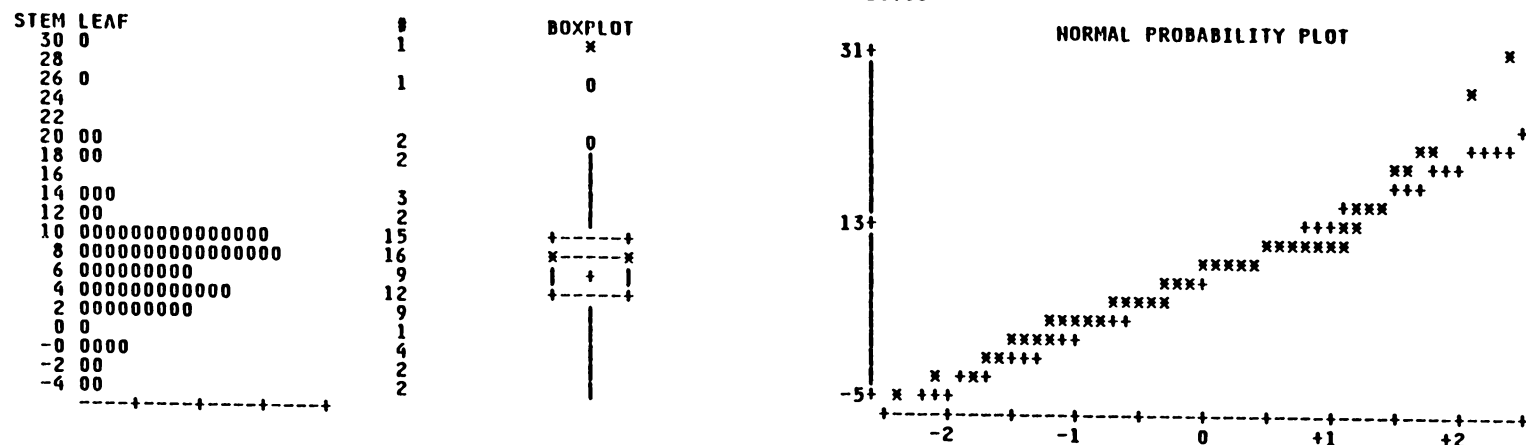
UNIVARIATE

VARIABLE=ROS

RETURN ON SALES

MOMENTS				QUANTILES(DEF=4)				EXTREMES	
H	81	SUM WOTS	81	100% MAX	30	99%	30	LOWEST	HIGHEST
MEAN	7.53086	SUM	610	75% Q3	10	95%	19.8	-5	18
STD DEV	5.94787	VARIANCE	35.3772	50% MED	8	90%	14	-4	20
SKEWNESS	1.04189	KURTOSIS	2.9736	25% Q1	4	10%	0.2	-3	20
USS	7424	CSS	2830.17	0% MIN	-5	5%	-1.9	-2	27
CV	78.9799	STD MEAN	0.660874	RANGE	35	1%	-5	-1	30
T:MEAN=0	11.3953	PROB> T	0.0001	Q3-Q1	6				
SGH RANK	1483.5	PROB> S	0.0001	MODE	10				
HUN -= 0	78								
D:NORMAL	0.190875	PROB>D	<.01						

MISSING VALUE
COUNT 9
% COUNT/HOBS 10.00



Total Sample - Return on Sales (including outliers)

PERCENTILES FOR PERFORMANCE AND STRUCTURE VARIABLES - OVERALL
WITH OUTLIERS DELETED
APRIL 26, 1988 - 147 RESPONDENTS IN THE DATA FILE

21.14 TUESDAY, APRIL 26, 1988

UNIVARIATE

VARIABLE=ROS

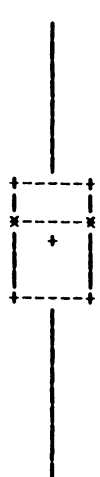
RETURN ON SALES

MOMENTS				QUANTILES(DEF=4)				EXTREMES	
N	79	SUM HGTS	79	100% MAX	20	99%	20	LOWEST	HIGHEST
MEAN	7	SUM	553	75% Q3	10	95%	18	-5	15
STD DEV	4.96655	VARIANCE	24.6667	50% MED	8	90%	12	-4	18
SKEWNESS	0.156543	KURTOSIS	0.679327	25% Q1	4	10%	0	-3	18
USS	5795	CSS	1924	0% MIN	-5	5%	-2	-2	20
CV	70.9508	STD MEAN	0.558781	RANGE	25	1%	-5	-1	20
T:MEAN=0	12.5273	PROB> T	0.0001	Q3-Q1	6				
SGH RANK	1406	PROB> S	0.0001	MODE	10				
HUM -= 0	76								
D: NORMAL	0.146326	PROB>D	<.01						

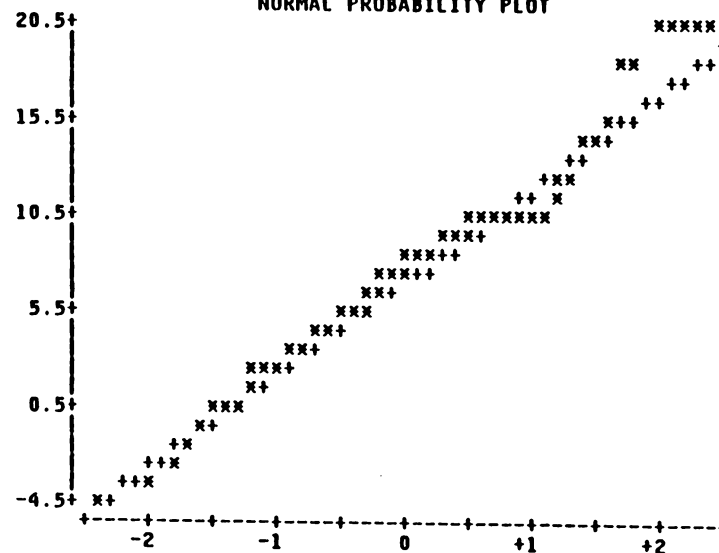
MISSING VALUE
COUNT 11
% COUNT/NOBS 12.22

STEM	LEAF	
20	00	2
19		
18	00	2
17		
16		
15	0	1
14	00	2
13		
12	00	2
11	0	1
10	0000000000000000	14
9	00000000	8
8	00000000	8
7	00000	5
6	0000	4
5	0000000	7
4	00000	5
3	00000	5
2	0000	4
1	0	1
0		
-0	000	3
-1	0	1
-2	0	1
-3	0	1
-4	00	2

BOXPLOT



NORMAL PROBABILITY PLOT



Total Sample - Return on Sales (with outliers deleted)

PERCENTILES FOR PERFORMANCE AND STRUCTURE VARIABLES - OVERALL
WITH OUTLIERS DELETED
APRIL 26, 1988 - 147 RESPONDENTS IN THE DATA FILE

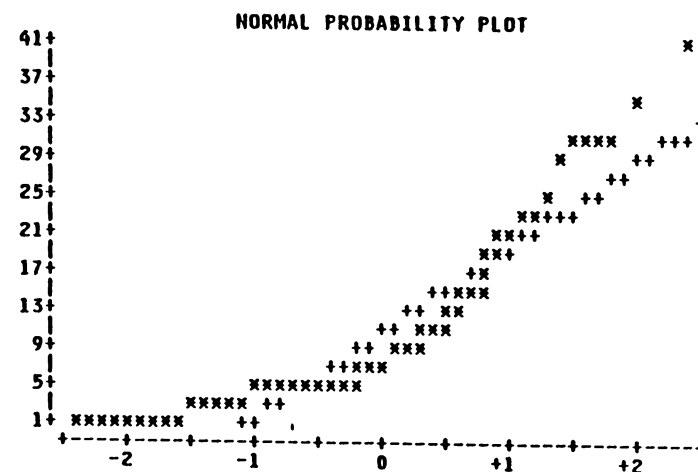
21:14 TUESDAY, APRIL 26, 1988

UNIVARIATE

VARIABLE=GROWTH

MOMENTS				QUANTILES(DEF=4)				EXTREMES	
II	78	SUM HGTS	78	100% MAX	40	99%	40	LOWEST	HIGHEST
MEAN	10.4231	SUM	813	75% Q3	15	95%	30	0	30
STD DEV	8.95808	VARIANCE	80.2473	50% MED	7	90%	25.3	0	30
SKEWNESS	1.40056	KURTOSIS	1.33708	25% Q1	5	10%	3	0	30
USS	14653	CSS	6179.04	0% MIN	0	5%	0.95	1	35
CV	85.9447	STD MEAN	1.0143	RANGE	40	1%	0	1	40
T-MEAN=0	10.2761	PROB> T	0.0001	Q3-Q1	10				
SGH RANK	1425	PROB> S	0.0001	MODE	5				
HUM -= 0	75								
D-NORMAL	0.221993	PROB>D	<.01						

MISSING VALUE			COUNT	
% COUNT/NOBS			12	13.33
STEM LEAF	#	BOXPLOT		
40 0	1	0		
38				
36				
34 0	1	0		
32				
30 0000	4			
28 0	1			
26				
24 0	1			
22 000	3			
20 000	3			
18 00	2			
16 0	1			
14 0000	4			
12 000	3			
10 00000	5			
8 00000000	8			
6 000000000	9			
4 00000000000000000000	21			
2 000000	6			
0 00000	5			



Total Sample - Growth (with outliers deleted)

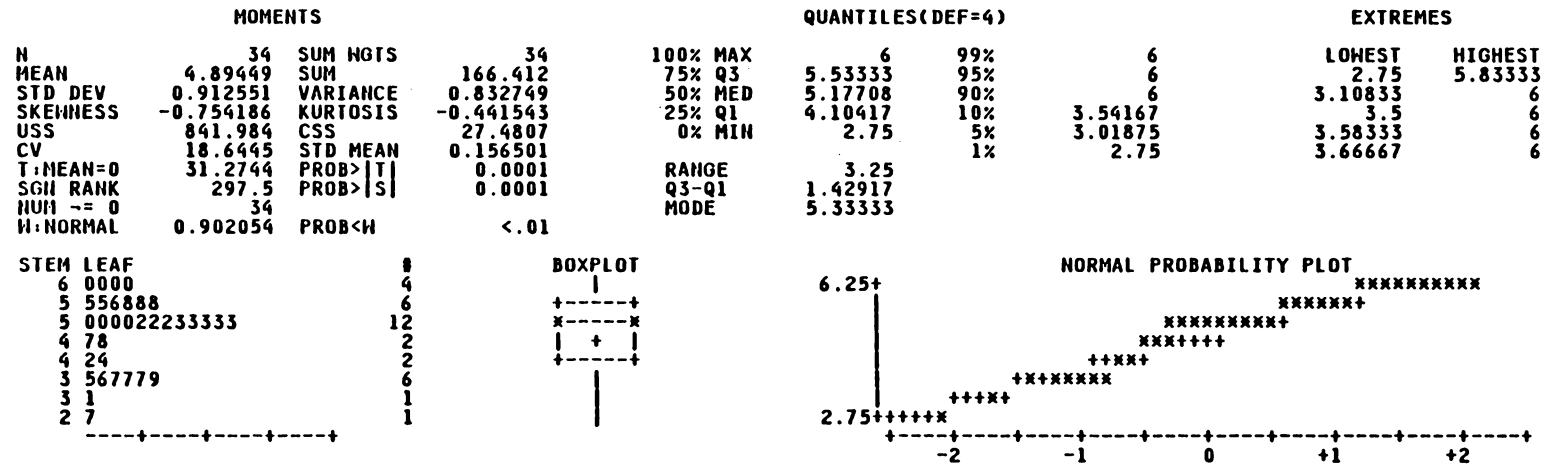
Appendix G. Low Cost Group-Structure Variables

PERCENTILES FOR PERFORMANCE AND STRUCTURE VARIABLES-BY STRATEGY
WITH OUTLIERS DELETED
APRIL 26, 1988 - 147 RESPONDENTS IN THE DATA FILE

STRATEGY=1

UNIVARIATE

VARIABLE=FORMAL



Low Cost Strategy - Formalization measure

PERCENTILES FOR PERFORMANCE AND STRUCTURE VARIABLES-BY STRATEGY
WITH OUTLIERS DELETED
APRIL 26, 1988 - 147 RESPONDENTS IN THE DATA FILE

21:14 TUESDAY, APRIL 26, 1988

STRATEGY=1

UNIVARIATE

VARIABLE=CENTRAL

MOMENTS				QUANTILES(DEF=4)				EXTREMES	
N	33	SUM WGTs	33	100% MAX	3.25	99%	3.25	LOWEST	HIGHEST
MEAN	2.44048	SUM	80.5357	75% Q3	2.71875	95%	3.20625	1.375	3
STD DEV	0.440395	VARIANCE	0.193948	50% MED	2.375	90%	3.08125	1.75	3.0625
SKENNESS	-0.0739101	KURTOSIS	-0.108591	25% Q1	2.14063	10%	1.875	1.875	3.09375
USS	202.752	CSS	6.20634	0% MIN	1.375	5%	1.6375	1.875	3.1875
CV	18.0455	STD MEAN	0.076663	RANGE	1.875	1%	1.375	1.90625	3.25
T-MEAN=0	31.8338	PROB> T	0.0001	Q3-Q1	0.578125				
SGH RANK	280.5	PROB> S	0.0001	MODE	2.375				
HUM -= 0	33								
W-NORMAL	0.973605	PROB<W	0.649						

MISSING VALUE
COUNT
X COUNT/HOBS

1

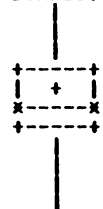
2.94

STEM LEAF

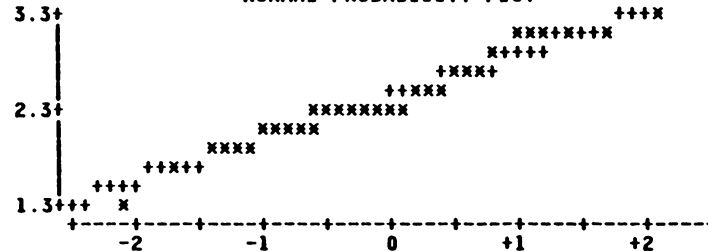
32	5	1
30	00699	5
28	4	1
26	3395	4
24	4009	4
22	559188888	9
20	3336	4
18	881	3
16	5	1
14		
12	8	1

MULTIPLY STEM.LEAF BY 10**01

BOXPLOT



NORMAL PROBABILITY PLOT



Low Cost Strategy group - Centralization measure

PERCENTILES FOR PERFORMANCE AND STRUCTURE VARIABLES-BY STRATEGY
WITH OUTLIERS DELETED
APRIL 26, 1988 - 147 RESPONDENTS IN THE DATA FILE

21.14 TUESDAY, APRIL 26, 1988

STRATEGY=1

UNIVARIATE

VARIABLE= specialization

MOMENTS				QUANTILES(DEF=4)				EXTREMES	
N	33	SUM WGTs	33	100% MAX	10	99%	10	LOWEST	HIGHEST
MEAN	6.59596	SUM	217.667	75% Q3	9	95%	10	2	10
STD DEV	2.68904	VARIANCE	7.23096	50% MED	7	90%	10	2	10
SKEWNESS	-0.349388	KURTOSIS	-1.12215	25% Q1	4	10%	2.2	2	10
USS	1667.11	CSS	231.391	0% MIN	2	5%	2	2.5	10
CV	40.768	STD MEAN	0.468102			1%	2	3	10
T-MEAN=0	14.0908	PROB> T	0.0001	RANGE	8				
SGH RANK	280.5	PROB> S	0.0001	Q3-Q1	5				
HUM -= 0	33			MODE	10				
H-NORMAL	0.90397	PROB<H	<.01						

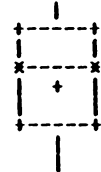
MISSING VALUE
COUNT
% COUNT/NOBS

1
2.94

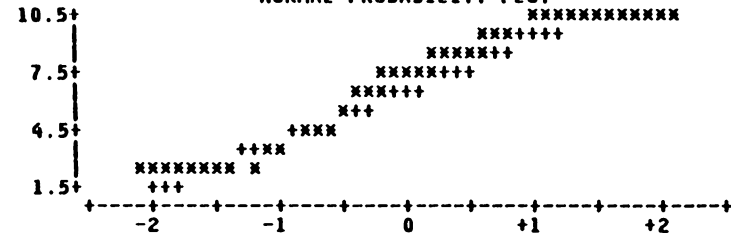
STEM LEAF #

10	000000	6
9	005	3
8	00000	5
7	00000	5
6	005	3
5	7	1
4	0000	4
3	05	2
2	0005	4
1		

BOXPLOT



NORMAL PROBABILITY PLOT



Low Cost Strategy group - Specialization measure

Appendix H. Low Cost Group-Performance Variables

PERCENTILES FOR PERFORMANCE AND STRUCTURE VARIABLES-BY STRATEGY
WITH OUTLIERS DELETED
APRIL 26, 1988 - 147 RESPONDENTS IN THE DATA FILE

21.14 TUESDAY, APRIL 26, 1988

STRATEGY=1

UNIVARIATE

VARIABLE=ROA

RETURN ON ASSETS

MOMENTS				QUANTILES(DEF=4)				EXTREMES	
N	28	SUM HGTS	28	100% MAX	23	99%	23	LOWEST	HIGHEST
MEAN	12.5714	SUM	352	75% Q3	18	95%	23	-3	20
STD DEV	7.07331	VARIANCE	50.0317	50% MED	13.5	90%	22.1	-1	20
SKEWNESS	-0.48092	KURTOSIS	-0.402583	25% Q1	9	10%	2.6	3	22
USS	5776	CSS	1350.86	0% MIN	-3	5%	-2.1	3	23
CV	56.265	STD MEAN	1.33673			1%	-3	4	23
T: MEAN=0	9.40461	PROB> T	0.0001	RANGE	26				
SGH RANK	199	PROB> S	0.0001	Q3-Q1	9				
NUM = 0	28			MODE	10				
H: NORMAL	0.958325	PROB<W	0.398						

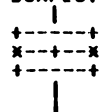
MISSING VALUE
COUNT 6
% COUNT/NOBS 17.65

STEM LEAF

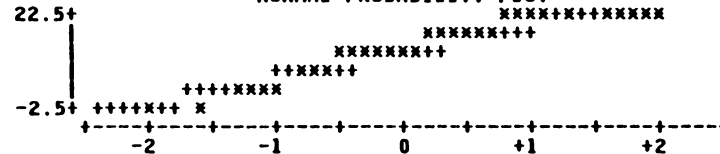
2	000233	8
1	556788	6
1	00022344	8
0	699	3
0	334	3
-0	31	2

MULTIPLY STEM.LEAF BY 10**+01

BOXPLOT



NORMAL PROBABILITY PLOT



Low Cost Strategy - Return on Assets

PERCENTILES FOR PERFORMANCE AND STRUCTURE VARIABLES BY STRATEGY
 WITH OUTLIERS DELETED
 APRIL 26, 1988 - 147 RESPONDENTS IN THE DATA FILE

21:14 TUESDAY, APRIL 26, 1988

STRATEGY=1

UNIVARIATE

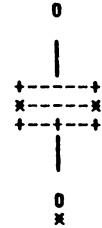
VARIABLE=ROS

RETURN ON SALES

MOMENTS				QUANTILES(DEF=4)				EXTREMES	
N	31	SUM WGTs	31	100% MAX	18	99%	18	LOWEST	HIGHEST
MEAN	7.80645	SUM	242	75% Q3	10	95%	15.6	-3	10
STD DEV	4.01181	VARIANCE	16.0946	50% MED	8	90%	10.8	-2	10
SKENNESS	-0.603403	KURTOSIS	2.46025	25% Q1	7	10%	3	3	11
USS	2372	CSS	482.839	0% MIN	-3	5%	-2.4	3	14
CV	51.391	STD MEAN	0.720542			1%	-3	4	18
T:MEAN=0	10.8341	PROB> T	0.0001	RANGE	21				
SGN RANK	244	PROB> S	0.0001	Q3-Q1	3				
HUN -= 0	31			MODE	10				
W:NORMAL	0.900364	PROB<W	<.01						

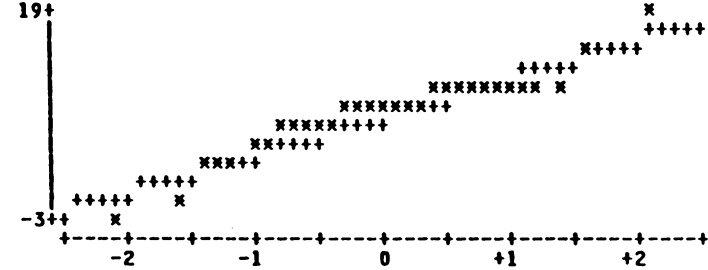
STEM	LEAF	#
18	0	1
16		
14	0	1
12		
10	0000000000	9
8	0000000000	9
6	000000	5
4	00	2
2	00	2
0		
-0		
-2	00	2

BOXPLOT



MISSING VALUE
 COUNT 3
 % COUNT/NOBS 8.82

NORMAL PROBABILITY PLOT



Low Cost Strategy group - return on sales

PERCENTILES FOR PERFORMANCE AND STRUCTURE VARIABLES-BY STRATEGY

WITH OUTLIERS DELETED
APRIL 26, 1988 - 147 RESPONDENTS IN THE DATA FILE

21:14 TUESDAY, APRIL 26, 1988

STRATEGY=1

UNIVARIATE

VARIABLE=GROWTH

MOMENTS				QUANTILES(DEF=4)				EXTREMES	
N	29	SUM HGTS	29	100% MAX	40	99%	40	LOWEST	HIGHEST
MEAN	11.2414	SUM	326	75% Q3	15.5	95%	35	0	20
STD DEV	9.05008	VARIANCE	81.9039	50% MED	10	90%	22	0	20
SKEWNESS	1.41197	KURTOSIS	2.5525	25% Q1	5	10%	1	1	22
USS	5958	CSS	2293.31	0% MIN	0	5%	0	3	30
CV	80.5068	STD MEAN	1.68056			1%	0	4	40
T:MEAN=0	6.68908	PROB> T	0.0001	RANGE	40				
SGH RANK	189	PROB> S	0.0001	Q3-Q1	10.5				
HUM -= 0	27			MODE	5				
H: NORMAL	0.889021	PROB<H	<.01						

MISSING VALUE
COUNT 5
% COUNT/NOBS 14.71

STEM LEAF

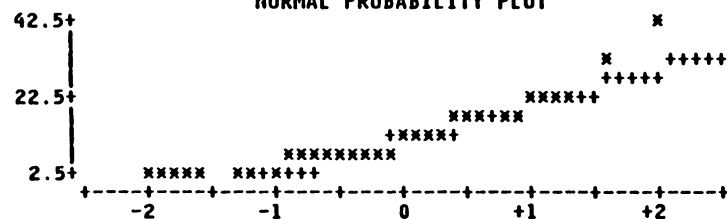
4	0	1
3		
3	0	1
2		
2	002	3
1	55568	5
1	00002	5
0	555566788	9
0	00134	5

MULTIPLY STEM.LEAF BY 10**+01

BOXPLOT



NORMAL PROBABILITY PLOT



Low Cost Strategy - Growth

Appendix I. Differentiation Group-Structure Variables

PERCENTILES FOR PERFORMANCE AND STRUCTURE VARIABLES-BY STRATEGY
WITH OUTLIERS DELETED
APRIL 26, 1988 - 147 RESPONDENTS IN THE DATA FILE

21.14 TUESDAY, APRIL 26, 1988

STRATEGY=2

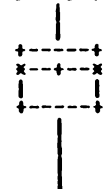
UNIVARIATE

VARIABLE=FORMAL

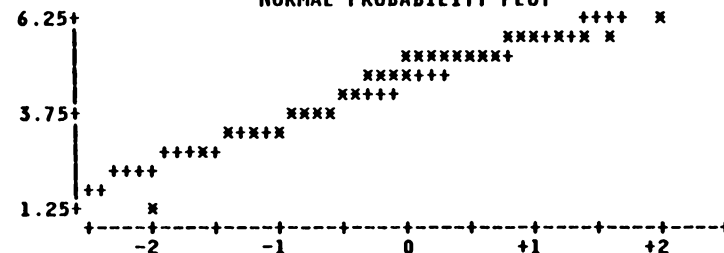
MOMENTS				QUANTILES(DEF=4)				EXTREMES	
N	30	SUM HGTS	30	100% MAX	6	99%	6	LOWEST	HIGHEST
MEAN	4.58519	SUM	137.556	75% Q3	5.375	95%	5.90833	1.5	5.58333
STD DEV	1.08565	VARIANCE	1.17863	50% MED	4.95833	90%	5.66111	2.83333	5.61111
SKEWNESS	-1.00014	KURTOSIS	0.581173	25% Q1	3.63055	10%	3.02778	3	5.66667
USS	664.898	CSS	34.1803	0% MIN	1.5	5%	2.25333	3.27778	5.83333
CV	23.6773	STD MEAN	0.198211			1%	1.5	3.33333	6
T-MEAN=0	23.1328	PROB> T	0.0001	RANGE	4.5				
SGH RANK	232.5	PROB> S	0.0001	Q3-Q1	1.74444				
HUM = 0	30			MODE	5.33333				
H-NORMAL	0.904576	PROB<H	0.014						

STEM	LEAF	
6	0	8
5	556678	1
5	11223333	6
4	6788	4
4	34	2
3	5578	4
3	033	3
2	8	1
2		
1	5	1
1		

BOXPLOT



NORMAL PROBABILITY PLOT



PERCENTILES FOR PERFORMANCE AND STRUCTURE VARIABLES-BY STRATEGY
 WITH OUTLIERS DELETED
 APRIL 26, 1988 - 147 RESPONDENTS IN THE DATA FILE

21:14 TUESDAY, APRIL 26, 1988

STRATEGY=2

UNIVARIATE

VARIABLE=CENTRAL

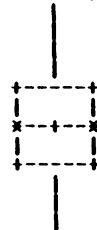
MOMENTS				QUANTILES(DEF=4)				EXTREMES	
N	30	SUM WGTs	30	100% MAX	3.4	99%	3.4	LOWEST	HIGHEST
MEAN	2.34319	SUM	70.2958	75% Q3	2.6875	95%	3.24875	1.25	2.75
STD DEV	0.470765	VARIANCE	0.221619	50% MED	2.375	90%	2.7875	1.625	2.75
SKEWNESS	-0.161991	KURTOSIS	0.0902487	25% Q1	1.875	10%	1.75	1.75	2.79167
USS	171.144	CSS	6.42696	0% MIN	1.25	5%	1.45625	1.75	3.125
CV	20.0907	STD MEAN	0.0859495			1%	1.25	1.83333	3.4
T-MEAN=0	27.2625	PROB> T	0.0001	RANGE	2.15				
SGN RANK	232.5	PROB> S	0.0001	Q3-Q1	0.8125				
NUM != 0	30			MODE	2.375				
H-NORMAL	0.970971	PROB<W	0.599						

STEM LEAF

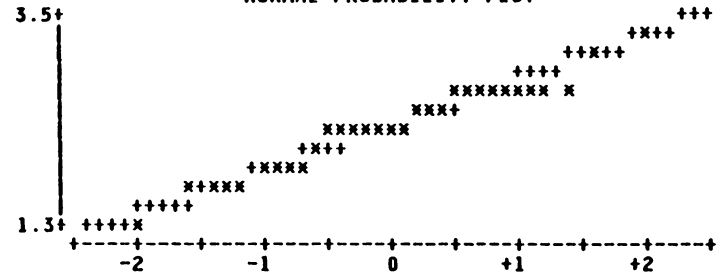
34	0	1
32		
30	3	1
28		
26	37755559	8
24	000	3
22	55188888	8
20	0	1
18	3888	4
16	355	3
14		
12	5	1

MULTIPLY STEM LEAF BY 10xx-01

BOXPLOT



NORMAL PROBABILITY PLOT



PERCENTILES FOR PERFORMANCE AND STRUCTURE VARIABLES-BY STRATEGY
 WITH OUTLIERS DELETED
 APRIL 26, 1988 - 147 RESPONDENTS IN THE DATA FILE

21:14 TUESDAY, APRIL 26, 1988

STRATEGY=2

UNIVARIATE

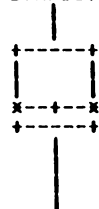
VARIABLE= Specialization

MOMENTS				QUANTILES(DEF=4)				EXTREMES	
N	29	SUM HGTS	29	100% MAX	10	99%	10	LOWEST	HIGHEST
MEAN	5.81034	SUM	168.5	75% Q3	8.83333	95%	10	0	9
STD DEV	3.02166	VARIANCE	9.13041	50% MED	5.33333	90%	10	1	9
SKEWNESS	-0.251274	KURTOSIS	-1.00467	25% Q1	4	10%	1	1	10
USS	1234.69	CSS	255.651	0% MIN	0	5%	0.5	1	10
CV	52.0048	STD MEAN	0.561107			1%	0	2.66667	10
T-MEAN=0	10.3551	PROB> T	0.0001	RANGE	10				
SGH RANK	203	PROB> S	0.0001	Q3-Q1	4.83333				
RUN = 0	28			MODE	4				
T-NORMAL	0.924528	PROB<H	0.047						

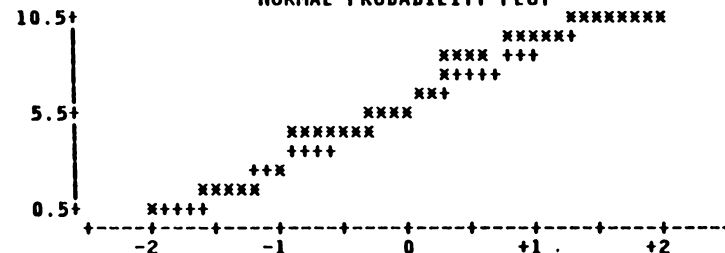
MISSING VALUE
 COUNT 1
 % COUNT/HOBS 3.33

STEM	LEAF	
10	000	3
9	0000	4
8	0057	4
7	3	1
6	00	2
5	0003	4
4	000000	6
3		
2	7	1
1	000	3
0	0	1

BOXPLOT



NORMAL PROBABILITY PLOT



Appendix J. Differentiation Group-Performance Variables

PERCENTILES FOR PERFORMANCE AND STRUCTURE VARIABLES-BY STRATEGY
WITH OUTLIERS DELETED
APRIL 26, 1988 - 147 RESPONDENTS IN THE DATA FILE

21:14 TUESDAY, APRIL 26, 1988

STRATEGY=2

UNIVARIATE

VARIABLE=ROA

RETURN ON ASSETS

MOMENTS

N	24	SUM WOTS	24
MEAN	11.4583	SUM	275
STD DEV	8.6777	VARIANCE	75.3025
SKEWNESS	0.572931	KURTOSIS	-0.485513
USS	4883	CSS	1731.96
CV	75.7327	STD MEAN	1.77133
T-MEAN=0	6.46878	PROB> T	0.0001
SGH RANK	136.5	PROB> S	0.0001
HUM -= 0	23		
H-NORMAL	0.931094	PROB<H	0.113

QUANTILES(DEF=4)

100% MAX	28	99%	28
75% Q3	15.75	95%	28
50% MED	10	90%	26.5
25% Q1	5	10%	0.5
0% MIN	-1	5%	-0.75
		1%	-1
RANGE	29		
Q3-Q1	10.75		
MODE	2		

EXTREMES

LOWEST	HIGHEST
-1	20
0	25
1	25
2	28
2	28

MISSING VALUE
COUNT
% COUNT/NOBS

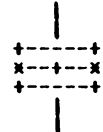
6
20.00

STEM LEAF

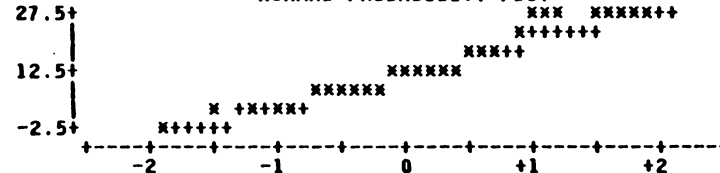
2	5588	8
2	0	4
1	556	1
1	00122	3
0	558899	5
0	122	6
-0	10	3
		2

MULTIPLY STEM.LEAF BY 10**+01

BOXPLOT



NORMAL PROBABILITY PLOT



PERCENTILES FOR PERFORMANCE AND STRUCTURE VARIABLES-BY STRATEGY
WITH OUTLIERS DELETED
APRIL 26, 1988 - 147 RESPONDENTS IN THE DATA FILE

21:14 TUESDAY, APRIL 26, 1988

STRATEGY=2

UNIVARIATE

VARIABLE=ROS

RETURN ON SALES

MOMENTS				QUANTILES(DEF=4)				EXTREMES	
N	25	SUM WOTS	25	100% MAX	20	99%	20	LOWEST	HIGHEST
MEAN	7.08	SUM	177	75% Q3	10	95%	20	-5	10
STD DEV	6.47379	VARIANCE	41.91	50% MED	8	90%	18.8	-4	12
SKEWNESS	0.23947	KURTOSIS	0.129618	25% Q1	3	10%	-2.2	-1	18
USS	2259	CSS	1005.84	0% MIN	-5	5%	-4.7	0	20
CV	91.4378	STD MEAN	1.29476	RANGE	25	1%	-5	1	20
T:MEAN=0	5.4682	PROB> T	0.0001	Q3-Q1	7				
SGH RANK	135.5	PROB> S	.000111704	MODE	10				
HUM -= 0	24								
H: NORMAL	0.954477	PROB<W	0.385						

MISSING VALUE
COUNT
% COUNT/NOBS

5

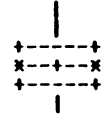
16.67

STEM LEAF

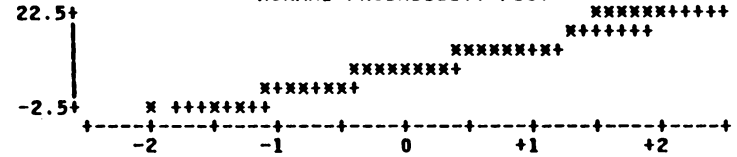
2 00	8
1 8	2
1 000002	1
0 55668899	6
0 1244	8
-0 5410	4

MULTIPLY STEM.LEAF BY 10**+01

BOXPLOT



NORMAL PROBABILITY PLOT



PERCENTILES FOR PERFORMANCE AND STRUCTURE VARIABLES-BY STRATEGY
WITH OUTLIERS DELETED
APRIL 26, 1988 - 147 RESPONDENTS IN THE DATA FILE

21.14 TUESDAY, APRIL 26, 1988

STRATEGY=2

UNIVARIATE

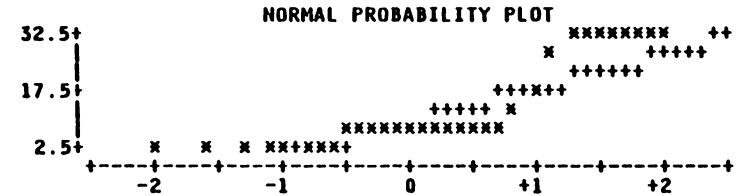
VARIABLE=GROWTH

MOMENTS				QUANTILES(DEF=4)				EXTREMES	
H	27	SUM WOTS	27	100% MAX	30	99%	30	LOWEST	HIGHEST
MEAN	8.85185	SUM	239	75% Q3	8	95%	30	0	15
STD DEV	8.96877	VARIANCE	80.4387	50% MED	5	90%	30	1	25
SKEWNESS	1.73502	KURTOSIS	1.76774	25% Q1	4	10%	1.8	2	30
USS	4207	CSS	2091.41	0% MIN	0	5%	0.4	3	30
CV	101.321	STD MEAN	1.72604	RANGE	30	1%	0	3	30
T MEAN=0	5.12842	PROB> T	0.0001	Q3-Q1	4				
SOIL RANK	175.5	PROB> S	0.0001	MODE	5				
HUM -= 0	26								
H-NORMAL	0.700576	PROB<W	<.01						

MISSING VALUE
COUNT 3
% COUNT/HOBS 10.00

STEM LEAF 0
3 000 3
2 5 1
2
1 5 1
1 0 1
0 555555677788 13
0 01233444 8
-----+-----+
MULTIPLY STEM.LEAF BY 10**+01

BOXPLOT
*
*
0
---+---
+-----+



Appendix K. Focus Group-Structure Variables

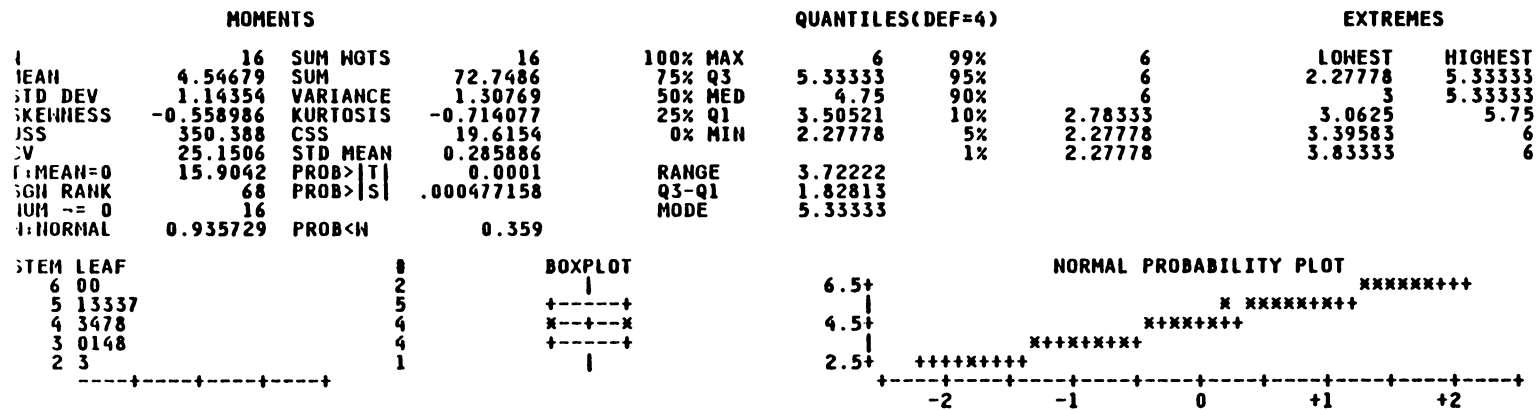
PERCENTILES FOR PERFORMANCE AND STRUCTURE VARIABLES-BY STRATEGY
 WITH OUTLIERS DELETED
 APRIL 26, 1988 - 147 RESPONDENTS IN THE DATA FILE

21:14 TUESDAY, APRIL 26, 1988

STRATEGY=3

UNIVARIATE

VARIABLE=FORMAL



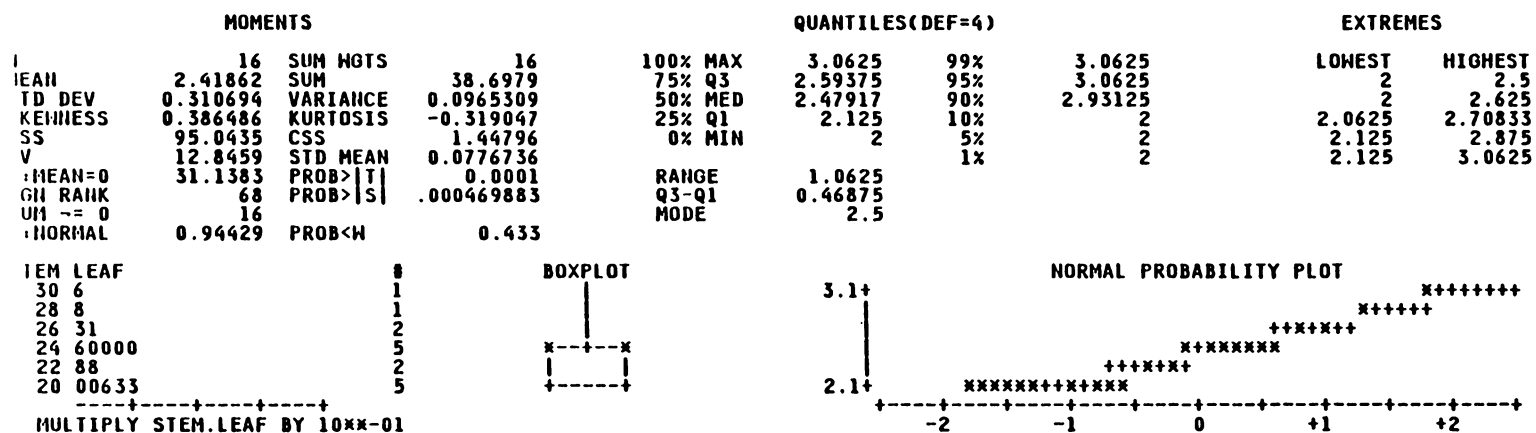
PERCENTILES FOR PERFORMANCE AND STRUCTURE VARIABLES-BY STRATEGY
 WITH OUTLIERS DELETED
 APRIL 26, 1988 - 147 RESPONDENTS IN THE DATA FILE

21:14 TUESDAY, APRIL 26, 1988

STRATEGY=3

UNIVARIATE

/VARIABLE=CENTRAL



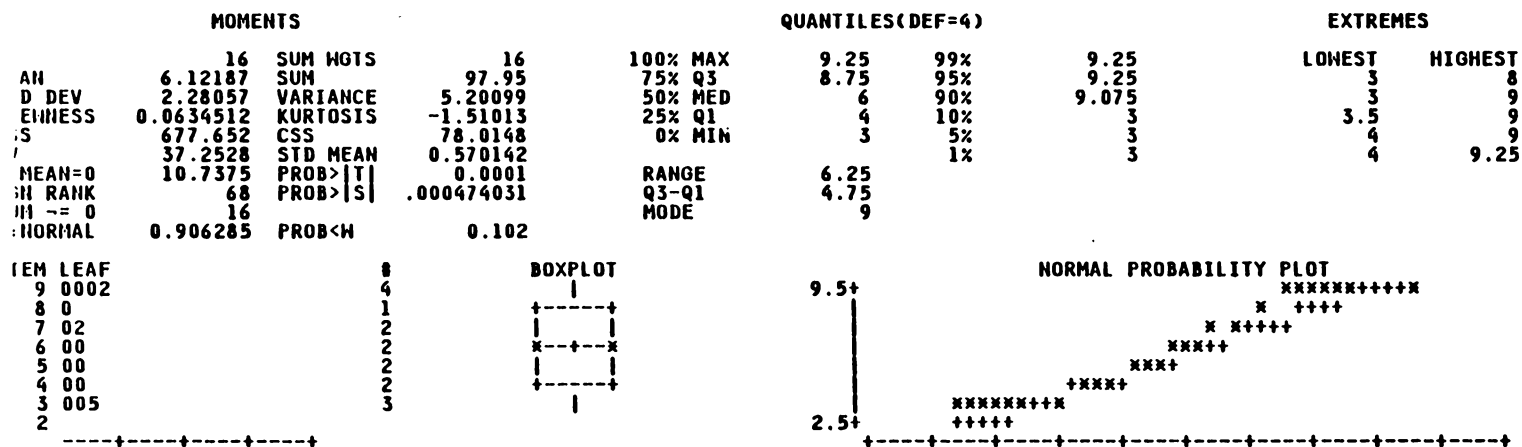
PERCENTILES FOR PERFORMANCE AND STRUCTURE VARIABLES-BY STRATEGY
 WITH OUTLIERS DELETED
 APRIL 26, 1988 - 147 RESPONDENTS IN THE DATA FILE

21:14 TUESDAY, APRIL 26, 1988

STRATEGY=3

UNIVARIATE

RIABLE= specialization



Appendix L. Focus Group-Performance Variables

PERCENTILES FOR PERFORMANCE AND STRUCTURE VARIABLES-BY STRATEGY
WITH OUTLIERS DELETED
APRIL 26, 1988 - 147 RESPONDENTS IN THE DATA FILE

21.14 TUESDAY, APRIL 26, 1988

STRATEGY=3

UNIVARIATE

RIABLE=ROA

RETURN ON ASSETS

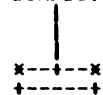
MOMENTS				QUANTILES(DEF=4)				EXTREMES	
	15	SUM WOTS	15	100% MAX	40	99%	40	LOWEST	HIGHEST
AN	13.9333	SUM	209	75% Q3	17	95%	40	0	16
D DEV	13.0738	VARIANCE	170.924	50% MED	10	90%	37	0	17
ENHNESS	0.905663	KURTOSIS	-0.160746	25% Q1	1	10%	0	1	34
S	5305	CSS	2392.93	0% MIN	0	5%	0	1	35
	93.831	STD MEAN	3.37564			1%	0	5	40
MEAN=0	4.12762	PROB> T	0.00102535	RANGE	40				
II RANK	45.5	PROB> S	0.00162919	Q3-Q1	16				
III = 0	13			MODE	10				
IIORMAL	0.868913	PROB<H	0.036						

MISSING VALUE
COUNT
% COUNT/HOBS

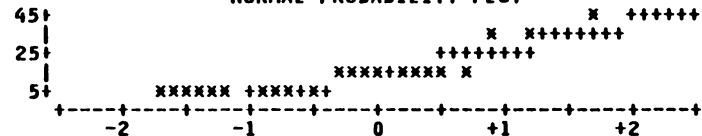
1
6.25

EM LEAF 0
4 0 1
3 45 2
2
1 0004667 7
0 00115 5
-----+-----+-----+
MULTIPLY STEM.LEAF BY 10**+01

BOXPLOT



NORMAL PROBABILITY PLOT



PERCENTILES FOR PERFORMANCE AND STRUCTURE VARIABLES-BY STRATEGY
WITH OUTLIERS DELETED
APRIL 26, 1988 - 147 RESPONDENTS IN THE DATA FILE

21:14 TUESDAY, APRIL 26, 1988

STRATEGY=3

UNIVARIATE

VARIABLE=ROS

RETURN ON SALES

MOMENTS

N	14	SUM WGTs	14
MEAN	4.64286	SUM	65
STD DEV	4.03079	VARIANCE	16.2473
SKEWNESS	1.4059	KURTOSIS	2.31418
SS	513	CSS	211.214
CV	86.817	STD MEAN	1.07727
MEAN=0	4.30982	PROB> T	.000847708
IGN RANK	59	PROB> S	0.00243042
SUM = 0	12		
NORMAL	0.868335	PROB<W	0.044

QUANTILES(DEF=4)

100% MAX	15	99%	15
75% Q3	6	95%	15
50% MED	3.5	90%	12
25% Q1	2	10%	0
0% MIN	0	5%	0
		1%	0
RANGE	15		
Q3-Q1	4		
MODE	3		

EXTREMES

LOWEST	HIGHEST
0	5
0	5
2	9
2	9
3	15

MISSING VALUE
COUNT
% COUNT/NOBS

.2
12.50

STEM LEAF

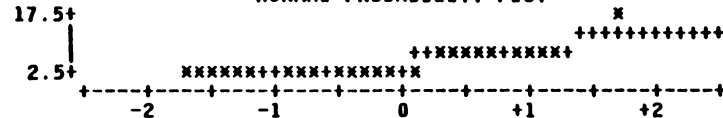
1 5	0
1	1
0 55599	5
0 00223334	8

-----+-----+-----+
MULTIPLY STEM.LEAF BY 10**+01

BOXPLOT

0
+-----+
x-----x

NORMAL PROBABILITY PLOT



PERCENTILES FOR PERFORMANCE AND STRUCTURE VARIABLES-BY STRATEGY
 WITH OUTLIERS DELETED
 APRIL 26, 1988 - 147 RESPONDENTS IN THE DATA FILE

21.14 TUESDAY, APRIL 26, 1988

STRATEGY=3

UNIVARIATE

VARIABLE=GROWTH

MOMENTS				QUANTILES(DEF=4)				EXTREMES	
MEAN	15	SUM	15	100% MAX	28	99%	28	LOWEST	HIGHEST
STD DEV	9.2	SUM	138	75% Q3	12	95%	28	3	9
SKEWNESS	6.76335	VARIANCE	45.7429	50% MED	8	90%	23.2	4	12
CSS	1910	KURTOSIS	3.71732	25% Q1	5	10%	3.6	4	12
CV	73.5146	CSS	640.4	0% MIN	3	5%	3	5	20
MEAN=0	5.26832	STD MEAN	1.74629	RANGE	25	1%	3	5	28
SGH RANK	60	PROB> T	.000118818	Q3-Q1	7				
UHM = 0	15	PROB> S	.000708659	MODE	5				
U NORMAL	0.778182	PROB<W	<.01						

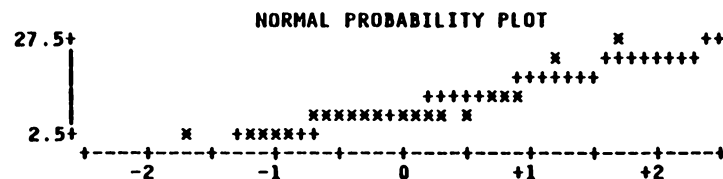
MISSING VALUE
 COUNT 1
 % COUNT/HOBS 6.25

STEM LEAF

2	8	1
2	0	1
1		
1	22	2
0	55578889	8
0	344	3

-----+-----+-----+-----+
 MULTIPLY STEM.LEAF BY 10**+01

BOXPLOT



Appendix M. Correlation Test-Formalization Variable

CORRELATION BETWEEN THE FORMALITY SCORE AND THE INDIVIDUAL
COMPONENTS OF THE FORMALITY SCORE - THIS WAS DONE TO SEE IF
THE SCORING WAS DONE CORRECTLY
MARCH 21, 1988 - 147 RESPONDENTS IN THE DATA FILE

22:11 MONDAY, 1

VARIABLE	N	MEAN	STD DEV	SUM	MINIMUM
DOCUMENT	90	5.23551352	1.23352179	471.46666667	0.00000000
ORGCHART	89	4.48033773	2.13474527	398.75000000	0.00000000
JOB_DSCR	90	3.72870370	1.36077358	335.58333333	0.00000000
MISS_MAN	89	4.91722348	1.36067104	437.63333333	2.00000000
MANUAL	90	5.13111111	1.36177663	461.90000000	0.00000000
REVIEWS	88	4.41730393	1.93356439	388.76666667	0.00000000
FORMAL	90	4.93224333	1.07068735	417.53144444	1.50000000

PEARSON CORRELATION COEFFICIENTS / PROB > |R| UNDER H0:RHO=0 / NUMBER OF OBSERVATIONS

	DOCUMENT	ORGCHART	JOB_DSCR	MISS_MAN	MANUAL	REVIEWS	FORMAL
DOCUMENT	1.00000 0.00000 90	0.15504 0.1463 89	0.27137 0.0027 90	0.29932 0.0044 89	0.24503 0.0199 90	0.17002 0.1133 88	0.52263 0.0001 90
ORGCHART	0.15504 0.1463 89	1.00000 0.0000 89	0.33730 0.0002 89	0.23498 0.0275 88	0.05206 0.6280 89	0.31094 0.0034 87	0.51812 0.0001 89
JOB_DSCR	0.27137 0.0027 90	0.33730 0.0002 89	1.00000 0.0000 90	0.41996 0.0001 89	0.27504 0.0087 90	0.16285 0.1295 88	0.69399 0.0001 90
MISS_MAN	0.29932 0.0044 89	0.23498 0.0275 88	0.41996 0.0001 89	1.00000 0.0000 89	0.55212 0.0001 89	0.24179 0.0241 87	0.70094 0.0001 89
MANUAL	0.24503 0.0199 90	0.05206 0.6280 89	0.27504 0.0087 90	0.55212 0.0001 89	1.00000 0.0000 90	-0.03190 0.7680 88	0.56055 0.0001 90
REVIEWS	0.17002 0.1133 88	0.31094 0.0034 87	0.16285 0.1295 88	0.24179 0.0241 87	-0.03190 0.7680 88	1.00000 0.0000 88	0.53994 0.0001 88
FORMAL	0.52263 0.0001 90	0.51812 0.0001 89	0.69399 0.0001 90	0.70094 0.0001 89	0.56055 0.0001 90	0.53994 0.0001 88	1.00000 0.0000 90

Correlation test - Formalization measure

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document. Page 2 of 2**