STRATEGY, ENVIRONMENTAL SCANNING, AND THEIR EFFECT
UPON FIRM PERFORMANCE: AN EXPLORATORY
STUDY OF THE FOOD SERVICE INDUSTRY

By

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(ABSTRACT)

The major purpose of this study was to examine the relationship
of strategy and environmental scanning to performance. Porter's
(1980) strategic typology was utilized to classify foodservice firms
by strategic orientation; and, an analysis of variance was performed
to determine the differences in their performance. Environmental
scanning engaged in by the firms was measured utilizing a modified
multimethod - multitrait scale developed by Hambrick (1979). A
final analysis conducted in this study was the comparison of
environmental sectors scanned by high and low performing firms of
each strategic group to determine their relationship with the
performance variables. The three performance variables used in this
study were: (a) Return on Sales, (b) Return on Assets, and (c)
Growth in Unit Sales.

All foodservice firms surveyed were either independent
corporations or strategic business units of larger corporations
whose major source of revenue was the foodservice industry. The
study was nationwide with 18 national, 32 regional, and 15 local
foodservice companies participating. The data was collected from

fiscal year 1982 through fiscal year 1986 from both private and public sources.

Strategy and environmental scanning were found to have substantial influence on both Return on Sales and Return on Assets. High performing firms in both differentiation and low cost strategies were found to engage in significantly greater amounts of environmental scanning than low performing firms in those two strategic groups. Focus strategy underperformed all other strategic groups in all performance measures.

ACKNOWLEDGEMENTS

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Introduction

Problem statement

Current normative strategic theory holds that the process of
adaptation to or coalignment with the firm's environment requires
that managers scan the environment in accordance with the
requirements of the formally derived strategy of the organization
(Thompson, 1967; Miles & Snow, 1978; Bourgeois, 1978; Porter, 1980;
Hambrick, 1981; Jain, 1985). Firms that follow this dictum are
thought to perform at higher levels than those which do not.
However, there has been no published research examining whether
firms which scan the environment or those sectors of the environment
appropriate to the firm's intended strategy perform at levels higher
than their less sophisticated (in terms of strategy) competitors.
This study investigates whether firms that espouse a specific
strategy and then scan the sectors of the environment appropriate to
that strategy perform at higher levels than firms that do not.

As noted by Ansoff (1969: 11):

"Since the early 1950's, confronted with the growing
variability and unpredictability of the business
environment, business managers have become increasingly
concerned with finding rational and foresightful ways of
adjusting to and exploiting environmental change."

Prior to this period, management and organization theorists tended
to ignore the environment, or at least hold it constant, as they
sought the one best way to manage (Miles, Snow, & Pfeffer; 1974).

Subsequent theories of organization and management now consider the interaction of the firm and its relevant environment of prime importance to the firm's life and growth. According to open systems theory, the firm must adapt or suffer decline and even perish (Selznick, 1949; Parsons, 1956).

The open systems theory has been concerned with three primary areas of study (Hambrick 1979: 9):

1) the organizational environment (Emery and Trist, 1965; Tereberry, 1968; Duncan, 1972);

2) the exchange interaction between the firm and its environment (Selznick, 1949; Thompson, 1967);

3) the effect of the organization-environment interface on the functioning of organizations (Dill, 1958; Burns and Stalker, 1961; Lawrence and Lorsch, 1967; Thompson, 1967; Pfeffer and Salancik, 1978).

If the firm must adapt to the environment in order to survive, then there must be systems in place which alert managers to the changing trends, needs, and demands of the external environment. This is particularly important in mature industries which are characterized by slow growth and intense competition as well as changing consumer demands. An example of this is the restaurant industry, which has gone from a period where demand outpaced supply to the reverse. There is little evidence to suggest that the

industry, as a whole, will enter another growth phase within the next decade, particularly since the excess capacity created by continued expansion in the face of slowing demand has yet to be eliminated.

Entering 1987, the restaurant industry has experienced a prolonged period of slow growth. Historically, restaurant sales have grown at the same rate as personal disposable income. However, since 1983 restaurant sales growth has significantly lagged behind disposable income growth (Sunderland & Conway, 1986). Accompanying slow real sales growth has been aggressive expansion of capacity as competitors battle for increased market share and growth. A report published in August 1986, Nation's Restaurant News found that:

> Despite robust revenue gains, the food-service industry's highest flying players are caught in a cold downdraft of narrowed margins and diminished returns...

The paper's survey of 90 publicly held companies found that while the typical restaurant firm had boosted sales 14.5% in 1985, its per share earnings had plummeted 17.4%. Growth seems to have come at the expense of profitability. In a recent analysis of the industry, Sunderland and Conway (1987) found that while expansion appeared to be slowing, prior overexpansion had hurt individual unit volumes. Accompanying these reduced store volumes is the probability of increasing costs brought on by higher food prices and a declining labor pool. It is predicted that the smaller and more inexperienced foodservice chains may not survive current industry conditions,

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which some analyst's think will continue through the rest of the decade (Telberg, 1986). The importance of the task environment is beginning to be recognized as executives who espouse "the four-walls perspective" (a restaurant's success is determined solely by what transpires within its interior) are replaced by more outward looking individuals ("TGI Friday's," 1987).

Problem Context

The restaurant industry has entered maturity. This can be demonstrated by several indicators. They are: (a) industry sales have leveled with resulting lower margins; (b) price competition, i.e., couponing, reducing menu prices, special price promotions; (c) competitor shakeout; (d) overcapacity; (e) market segmentation; (f) broadening of product line; (g) increased emphasis on service (Porter, 1980).

Real sales growth for 1987 is expected to continue the trend begun in 1983, when for the first time growth lagged behind the Gross National Product (Conroy, Regan, & Riehle, 1986). This requires a rethinking of competitive strategy. Throughout the growth and inflationary periods of the 1970's, double digit inflation allowed restaurant operators to leave their operating and strategic mistakes uncorrected, since all they had to do to increase sales was to expand with new restaurants or increase menu prices. In today's mature market characterized by overcapacity and

resistance to price increases, executives are unable to continue to operate in the same manner.

Price competition has become a fact of life in the restaurant industry. Wendy's, Hardee's, and McDonald's are examples of major firms who have utilized couponing in an effort to compete against rival firms. This is particularly noteworthy since it is forecast that the fast food segment will account for 40% of the industry sales growth in 1987 (Conroy et al., 1986). There are many instances of couponing in the industry, a relatively recent promotional tool. According to Consumer Reports on Eating Share Trends (CREST), in the summer quarter of 1986 11.1% of all restaurant occasions involved a promotion, up from 7% in 1985, with couponing being the most utilized tool (Conroy et al., 1986). Many firms have had to reduce menu prices or portion sizes in an effort to retain profits. Even McDonald's has been forced to offer special price promotions on its hamburger and chicken offerings, while Burger King reduced the size of its Whopper shortly after introducing the larger version.

The shakeout of marginal and inexperienced firms continues with the demise of such heralded firms as D'lites, G. D. Ritzy's, and Diversifoods corporation. Others such as Wendy's, BoJangles, Denny's, and TGI Friday's continue to experience declining earnings amid speculation of imminent purging of unprofitable units.

Due to overcapacity, expansion strategies are being rethought. Rising construction costs and a lack of prime locations are forcing some firms to acquire smaller chains and renovate existing units, while other companies are expanding overseas, onto military bases, and in hotels/motels (Conroy, et al., 1986).

The broadening of product lines has caused a blurring of segments as firms seek to increase customer counts through menu expansion. Steak and Ale has prominently featured seafood in its advertising, while steakhouses such as Bonanza and Ponderossa emphasize salad and hot food bars. Fast food hamburger chains have added chicken, fish, and BBQ pork as well as traditional breakfast items and salads.

Thus the nature of the competition in the restaurant industry has changed brought on by the industry's transition into maturity. Porter (1980) suggests that this transition into maturity is a critical period for companies in an industry, since fundamental changes in the competitive environment often occur, requiring new and difficult choices. Executives must formulate strategic moves in an increasingly complex and unforgiving environment. For example, of the four major family restaurant companies in existence in 1980, two are no longer in existence (Howard Johnson's and Sambo's), one (Marriott's Big Boy) is in the process of changing segments and it's

concept, while the other one (Denny's) has changed ownership three times within the last three years.

In addition to the travails brought about by industry maturity, restaurant firms are facing other environmental threats and constraints. In 1986 Congress passed and the President signed the Tax Reform Law. The foodservice industry was affected by several components of the law, most notably the 20 percent disallowance of deductibility for business entertainment and business travel meals as well as the elimination of the investment tax credit. The outlook for increasing regulatory action not only by the federal, state, and local governments, but also the insurance industry as well as unions in some locales is forcing foodservice associations to increase their lobbying efforts in an attempt to proactively shape their task environments.

Capital supply is also being adversely affected by the state of the industry. While there were 717 initial public offerings amounting to $22.4 billion in the equity financing market in 1986, restaurant firms accounted for only 11 of them with a value of $187.7 million (Esposito, 1987). The 1986 offerings represent a 62% decline from 1983 when there were 28 new restaurant offerings with a value of $265.7 million. More importantly, in 1983 restaurant offerings accounted for 2.1% of the total equity market; while in 1986 they declined to a mere .8%, a truly precipitous fall. This

disfavor in the equity market constrains the firm's ability to expand its operations with additional equity financing and forces it to seek other more risky forms of capital.

Today executives in the foodservice industry are confronted by an increasingly dynamic and complex environment. They are forced to make strategic decisions in the face of uncertainty characterized by: (1) the lack of information regarding the environmental factors associated with a given decision-making situation; (2) not knowing the outcome of a specific decision in terms of how much the organization would lose if the decision is incorrect; (3) and the inability to assign probabilities with any degree of confidence as to how environmental factors are going to affect the success or failure of the decision unit in performing its function (Duncan, 1972).

Contribution of this research

Strategy

As noted by Pearce and Robinson (1985), the field of strategic management has focused increased attention on the development of typologies as a means to study the concept of strategy. Most notable are those of Miller and Friesen (1977), Miles and Snow (1978), and Porter (1980). Hatten and Schendel (1977) and Porter (1980) have introduced the notion that industries are not homogeneous, that there exists strategic groups within an industry whose firms differ along more dimensions than simply size and market share. Porter (1985: 234) states that the reasons industries are segmented into different groups are that: "...the products, buyers, or both within an industry are dissimilar in ways that affect their intrinsic attractiveness or the way in which a firm gains competitive advantage in supplying them."

Researchers (Hambrick 1983; Dess and Davis 1984; White 1986) have found some support for Porter's (1980) typology in surveys of manufacturing industries; however there has been only one published research in service industries (Alexander, Veliyath, & Thomas, 1987).

Environmental scanning and performance

Hambrick (1982: 159) found:

> "...only limited research has been done on how
> environmental events and trends become known to decision
> makers, that is how executives 'scan' their organizations

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environments (Aguilar 1967; Collings 1968; Kefalas and
Schoderbek 1973; Hambrick 1979)...And, almost nothing is
known about how environmental scanning practices of
executives relate to their organizations' differential
means of competing, that is, their strategies...it is not
clear whether organizations attempt to reinforce their
competitive strategies by aggressively scanning those
environmental sectors of crucial importance to their
strategies."

There have been no published empirical studies which have exam-
ined the relationship of environmental scanning with strategy
formulation and resulting firm performance. Dess and Davis (1984)
in a study of privately held manufacturing firms, examined Porter's
typology of generic strategies as determinants of strategic group
membership and performance. As limitations of the study, they cited
the use of privately held companies as well as the examination of
only one of Porter's five generic environments (fragmented) and
called for the study of both public and private firms in other
environments.

This research will apply Porter's generic strategy typology and
theory of industry structure to firms in a mature, service industry
(foodservice). While Porter (1980) has held that his typology and
theory of generic strategies are applicable for both goods and
service industries there has been only one study published applying
them to a service industry (Alexander et al., 1987). This research
will examine the congruence of intended strategy with the intensity
of environmental sectors scanned and their relationship to firm

performance. Thus both a validation of Porter's theory of how successful firms compete in different industries as well as the examination of the importance of appropriate environmental scanning will be attempted. The results of this research should assist practitioners and future investigators to more fully comprehend the linkage between three of the most important variables in the strategic management literature: environment, strategy, and performance. More importantly to practitioners, it will identify those generic strategies, as well as their most important environmental interfaces, which appear to function most successfully in the foodservice industry.

Relationship to prior knowledge

Normative theory in strategic management holds that the firm is a creature of its environment and its survival and growth depend upon the ability of its manager's to scan and accurately analyze the environment and take appropriate action. Many authors agree that the ability of the manager to recognize threats and opportunities in the task environment is essential for effective strategy formulation (Porter, 1980; Pearce & Robinson, 1985; Jain, 1985; Miller & Friesen, 1983; Glueck & Jauch, 1984). Prescott (1986) found that the environment moderates the strength of the relationship between a firm's strategy and performance. He stated:

> "...managers who develop strategies to either adapt to
> changing environmental conditions or to proactively
> influence their environment should find these results

encouraging. Managers should focus on identifying the
strategy variables significantly related to performance
in their environments and adjust their strategies
accordingly." (Prescott, 1986, p. 342).

If this theory is valid then it holds that high performing firms in

the foodservice industry are engaging in environmental scanning

appropriate to their intended strategies to a greater and more

effective degree than their lower performing rivals.

Since environmental scanning is expensive (Aguliar, 1965),

executives must know if it can in fact make a significant impact on

strategic planning and performance. Reliable information is sparse,

with only five studies specifically addressing executive level envi-

ronmental scanning (Aguliar, 1965; Keegan, 1974; Kefalas &

Schoderbek, 1973; Hambrick, 1982; Farh, Hoffman, & Hegarty, 1984).

However, there have been no studies which have examined the

relationship of environmental scanning and strategy to performance;

and it is hoped that this study and others like it will contribute

to an understanding of this relationship.

Purpose and Objective

The major purpose of this research is to examine the congruence

between intended environmental scanning, strategy, and its effect

upon the performance of firms in the foodservice industry. The

research will be limited to restaurant firms which are autonomous,

self contained entities, either independent corporations or

strategic business units (SBU's) of larger corporations, whose major
source of revenue is the foodservice industry. As noted by Dess and
Davis (1984), this allows the researcher to consider corporate level
and business level strategies as synonymous as well as removing
confounding noise caused by competition in other industries. As
Bourgeois (1980) notes, strategy serves two primary purposes:
defining the segment of the environment in which the organization
will operate (corporate level) and providing guidance for subsequent
goal directed activity within that niche (business level). Hofer
(1975) also discriminates between **domain definition strategy** which
answers the question 'what business are we in?', and **domain**
navigation strategy which answers the question 'how do we
compete?'. This research is interested in examining the latter
question - 'how do we compete?' - and assumes that the corporate
strategic questions of niche definition have already been
successfully defined and answered. The results therefore have
limited generalizability since industries characterized by the domi-
nance of large corporations with many SBU's in other industries may
not compete within the same environmental context. However, this
research should be generalizable to service industries characterized
by numerous strategic groups (fragmented) with no clear industry
wide leader, experiencing low growth and intense competition.

Porter's (1980) typology of industry structure and generic
strategy will be utilized to determine the competitive sectors

scanned as well as to classify intended strategies. Numerous

researchers have called for the use of strategic typologies in the

study of intended strategy formulation (Miller & Friesen, 1977;

Miles & Snow, 1978; Hambrick 1980, 1982; Porter 1980, 1986; Dess &

Davis, 1984); and Porter's (1980) framework provides a valuable

means for classifying the intended strategies and the scanning

activities of the various competitors within an industry. White

(1986, p. 220) found that as a first step in studying the business

strategy - organization fit relationships, it:

> "...makes sense to proceed by selecting a simple business
> strategy concept which incorporates a few critical dimen-
> sions, yet has strong theoretical underpinnings. Porter's
> generic business strategies meet these tests. For a
> business in a competitive environment, success and survival
> depend primarily upon creating a defendable competitive
> position. Porter identified three internally consistent
> generic strategies (which can be used singly or in combina-
> tion) for creating a defendable position in the long run
> and outperforming competitors in an industry (1980:34)".

Overview of Study Design

To accomplish the research objectives the following independent and dependent variables will be utilized:

1) independent variables

a) <u>intended strategy</u> will be operationalized by utilizing the definition of each of Porter's generic strategies. Respondents will be asked to indicate which definition most clearly defines their firm's strategy.

b) <u>scanning activity</u> will be operationalized utilizing Hambrick's (1979) method which is a multimethod scale for assessing environmental scanning levels. While Hambrick developed it to assess individual scanning activity, Farh, Hoffman, and Hegarty (1984) modified the scale for use at the subunit level of analysis. Both studies reported high statistical convergent validity, content validity, and reliability;

2) moderating variables

a) <u>task environment</u> will be operationalized utilizing Porter's (1980) industry structure. As he states (Porter, 1980, p. 3 & 5):

"The essence of formulating competitive strategy
is relating a company to its environment. ..., the key
aspect of the firm's environment is the industry or
industries in which it competes. Industry structure
has a strong influence in determining the competitive
rules of the game as well as the strategies potentially
available to the firm. Forces outside the industry are

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significant primarily in a relative sense; since outside forces usually affect all firms in the industry ...Structural analysis is the fundamental underpinning for formulating competitive strategy...";

b) size will be operationalized by measuring the number of units the firm operates or franchises. Size may bias the findings in that larger organizations possess more slack and then can therefore afford more members scanning the environment as part of their duties (Aguliar, 1967; Hambrick, 1979).

c) market breadth will be operationalized by having the respondents indicate whether their firm operates on a national, regional, or local basis. In a mature industry, the marketing power of national firms may give them a competitive advantage over less widely dispersed firms (Porter 1980).

d) age will be operationalized by having respondents indicate the length of time the foodservice concept has been in existence.

e) industry segment will be measured by having respondents indicate in which segment - fast food; dinnerhouse/theme; family/coffee shop; cafeteria; or, other - their firm competes.

f) franchising will be measured by having the firm indicate the number of units operated by franchisees as well as the number of units operated by the company.

Dependent variables utilized to operationalize performance are economic measures. There exists in the literature two basic theories of the firm: economic and behavioral. The former emphasizes the role of economic factors while the latter emphasizes the role of behavioral factors, especially the coalitional nature of organizations in explaining the activities of the firm. Randolph and Dess (1984) argue that using Parson's (1956) classification of organizations by type of goal or function, it is entirely appropriate to measure the performance of economic firms with financial standards, since these are objective and are of primary importance to the firm. Snow and Hrebiniak (1980) state that while profitability might not fully account for all aspects of an organization's performance, it is reasonable to expect well managed firms to exhibit higher financial returns than their more poorly managed competitors.

However, profitability measures are subject to the accounting techniques of the individual firm and hence may not be best for interfirm comparison if used alone. Therefore two types of performance measures, profitability and growth, will be utilized. This represents an attempt to capture the construct of performance not only in terms of efficient usage of assets, but, also in terms of operational competence.

The three measures will be averaged over the five year period 1982-1986 which encompasses the last two years of high growth as well as the first three years of slow growth. While for research purposes the sampling of only three years of slow growth may not be an ideal span of performance it will include the last full year of information available to most firms since this survey was completed before the end of 1987 with partial year performance not included. However, this length of time should also account for the rise and fall of many of the new entrants since a significant number of small firms do not survive the first four years of business. The three measures of performance utilized in this study are:

    a) profitability - is the net result of a large number of various decisions on the part of management which affect the operations of the firm and is operationalized in this research by two measures: return on sales and return on assets. In order to be useful for comparing firms in different tax situations and different degrees of financial leverage both measures will utilize net operating income before taxes and interest. Generally these type ratios, when debt is not considered, favor more conservative operators over debt heavy companies. It should be remembered that financial leverage is a double edged sword which cuts both ways: when the economy is growing, firms with large amounts of debt and little equity appear as stars since the increased profits are starkly positioned

next to smaller equity levels; when the economy slows,
these same debt heavy firms find themselves burdened with
high fixed costs which can endanger their continued
existence. The two measures will be defined by:

Return on sales = net operating income before tax and interest

annual sales

Return on assets = net operating income before tax and interest

total assets

b) Growth in unit sales - this variable is an indication as
to the quality of growth the firm is experiencing. In
recent years many firms have increased total sales by
expanding the number of units the firm operates. While *
this total growth figure is useful, it is not
discriminating since it does not examine the productivity
of each unit added. There have been many firms (BoJangle's
for example) which have opened units in ill considered
areas and have experienced declining unit sales in the face
of expanding system sales. The use of growth in unit sales
enables the researcher to take into consideration both a
firm's growth and the quality of its expansion decisions.
The measure will be defined by:

Growth of unit sales = total annual sales

number of units

Research hypotheses

H1: Firms in the foodservice industry that espouse an intended generic strategy will experience higher performance levels than those firms which do not.

H2: Higher performing firms will engage in greater amounts of environmental scanning than will lower performing ones.

H3: Firms in the foodservice industry which scan the sectors of the environment which are important to their intended strategies will perform at higher levels than those firms that do not.

Limitations

There are a number of limitations of this study.

First, the generalizability of the study is limited because the firms used in the study represent only one of Porter's (1980) generic environments (maturity).

Second, the strategy realized by an organization may be different than that intended (Mintzberg 1978). Realized strategies may be either the result of intended strategy (deliberate) or a stream of decisions which result in emergent strategies. This

research will examine only the intended strategies since they should

be related to environmental sectors scanned.

Third, the use of correlational data-analysis techniques in

cross-sectional studies is only capable of showing relationships, it

cannot impute causality. The strongest claim that may be made is

that the variables are associated statistically. If a strong

relationship is found between variables, then the study may have

identified variables which may have causal connections and as such

suggests hypotheses worthy of follow-up. To the extent that one of

the variables in question is performance, there is a natural

tendency to regard it as a dependent variable, since company

performance is a primary concern of management. However as noted by

Bourgeois (1978: 28):

> "Performance is not simply a dependent variable; as
> feedback, it may serve as a stimulus to corrective action if
> its level is below a certain point, or if high enough it may
> prompt otherwise uncontemplated risk taking in the making of
> new investments. Thus, since past performance can serve as an
> input to decision making, the fact that the level of
> performance correlates with an element of strategy
> does not of itself tell us how much performance is the
> consequence or the cause of that element.".

Fourth, this study is cross-sectional in nature. It may not be

able to demonstrate the direction of causality among the

interrelated variables since the data on firm performance covers a

period of five years while managerial responses are measured at a

single point in time.

Chapter II

Review of Literature

The environment in which business firms operate has become

increasingly dynamic and discontinuous since the turn of the century

with the rate of change and attending variability increasing

dramatically in the last two decades (Ansoff, 1969). A major source

of environmental change is the rapid technological change in

communication (Naisbitt, 1984). The collapse of the information

"float" - the time lag between the transmission of the message by

the sender and its reception by the receiver - facilitates the

sending and receiving of increasing amounts of information. As a

result, the strategic manager is inundated with environmental

information which must be processed and analyzed in the context of

the firm. A state of bounded rationality results where the

organization does not have sufficient ability to respond to each

environmental input immediately and appropriately (Chenault and

Flueckiger, 1983).

The task of the strategic manager becomes one of scanning the

sectors of the environment appropriate to the intended strategies of

the firm; identifying trends and changes within each requiring

immediate response as well as those simply requiring continued

observation; interpreting the potential effects of these

environmental occurrences on the performance of the firm; and

initiating appropriate firm responses. In order to accomplish this task effectively, the scanner must have a good grasp of current organizational strategies, since these strategies serve to focus the direction of the manager's attention (Fay and Beatty, 1987). While it may be relatively simple to identify environmental changes, it is much more difficult to predict the effects the these trends upon the firm and its performance (Utterback, 1979).

The maintenance of co-alignment between the firm and its environment is a major function of strategic managers and is necessary for organizational survival and growth. This task of alignment is dynamic and never-ending since in order to grow and survive the organization must be at:

> "...the nexus of several necessary streams of action; and because the several streams are variable and moving, the nexus is not only moving but sometimes quite difficult to fathom...";

therefore the function of management becomes one of:

> "...shooting at the moving target of co-alignment, in which the several components of that target are themselves moving..." (Thompson, 1967, p. 148).

Environment

The theory of open systems introduced the concept of the environment and its effect on the organization. Scholars in the field of strategic management and organization theory have conceptualized the environment as one of the key constructs for

understanding organization behavior and performance (Prescott,
1986). In an extensive review of the literature of environments,
Lenz and Engledow (1986) identified five approaches to modeling
environments:

1) the industry structure model of Porter (1980)

2) the cognitive model of Weick (1979)

3) the organizational field model of Dill (1958)

4) the ecological and resource dependency model of Aldrich
    (1979) and Pfeffer and Salancik (1978)

5) the era model of Naisbitt (1982).

All these approaches vary in terms of assumptions about
environmental structures, the process and cause of environmental
change, and how managers/researchers come to know and understand
environments (Prescott, 1986). Regardless how environments are
conceptualized and modeled, all researchers have suggested that
environments influence decision making through both managerial
perceptions and objective dimensions of industry structure.

Environmental adaptation

Selznick (1948) postulated that organizations are cooperative
systems constituted of individuals interacting as wholes in relation
to a formal system of coordination. This structure of coordination
is an adaptive organism reacting to influences upon it from an
external environment. In order to maintain the system, the
organization must be cognizant of the possibility of encroachment

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and be able to forestall threatened aggressions or deleterious consequences from the actions of others. The organization must be mindful of the world in which it exists and competes. In order to survive it must adapt.

Thompson (1967) states that central to this approach is the concept of homeostasis where the organization's system in the face of a disturbing environment attempts to remain stable and viable. The best plans of managers have uncertain futures and unintended consequences, their effectiveness is often affected by forces external to the organization over which managers may have little or no control. Thompson (1967, p. 10) conceives of complex organizations as: "... open systems, hence indeterminate and faced with uncertainty, but at the same time subject to the criteria of rationality and hence needing determinateness and certainty.".

Parsons (1960) suggests that organizations exist at three levels: technical, managerial, and institutional. At the technical level most problems are related to the effective performance of the transformation process, the ability to get the job done effectively. The managerial level is concerned with mediating between the technical level and the task environment. The managerial level attempts to control the technical level by deciding in which markets the firm will compete, which suppliers the firm will use, maintenance of inventory levels, etc. At the third level, the

institutional, the main emphasis is the concern with the legitimatization of the firm in its quest for resources and its right to survive.

Thompson (1967) speculates that most organizations attempt to attain rationality (closed system) at the technical level, buffering the technical core from the environment. Inventory levels of both inputs and outputs are maintained in order to ensure the certainty of the production system. It is at the institutional level of the firm that uncertainty is greatest. The organization has little control over the forces with which it must interact. It is open to the influences of the environment which usually act independently of the actions of the organization. This desire for certainty at the technical level and the fact of uncertainty at the institutional level forces the managerial level to mediate between the two. It is the managerial level which must face the uncertainty of the environment, interpret the data received as a result of scanning, and develop systems which reduce uncertainty at the technical level thereby increasing the organization's effectiveness.

Task environment

Dill (1958, p. 410-411) in his study of managerial autonomy in two Norwegian firms, identified the task environment as:

> "...inputs of information from external sources. These inputs did not represent 'tasks' for the organization; by

> task I mean a cognitive formulation consisting of a goal
> and usually also of constraints on behaviors appropriate
> for reaching the goal. When we study the task environment,
> we are focusing on the stimuli to which an organization is
> exposed; but when we study tasks, we are studying the
> organization's interpretations of what environmental inputs
> mean for behavior."

He found the task environment of the two firms to consist of four

elements which had the greatest impact on goal attainment: customers

(distributors and users): suppliers (of materials, labor, capital,

equipment, and work space); competitors (for both markets and

resources); and regulatory groups (government agencies, unions, and

interfirm associations). He thus conceptualized the task

environment as a flow of information to participants in an

organization which was relevant for goal setting and attainment.

Much of the support for the environmental complexity argument is

based upon this view.

Emery and Trist (1965) introduced the concept of "the causal

texture of the environment" where the process of exchange between

the organization and the environment as well as exchanges between

elements of the environment are as important as the environment

itself. They pointed out that the laws connecting elements of the

environment to each other were often incommensurate with those

connecting parts of the organization. It was therefore difficult to

determine at times what was included in the organization-environment

relations; the boundaries could also be "breakpoints". They

hypothesized four "ideal types" of environment:

placid/random: goals and noxiants (goods/bads) are
relatively unchanging and are distributed randomly. There
is no difference between strategy and tactics - "the
optimal strategy is just the simple tactic of attempting to
do one's best on a purely local basis" (Emery and Trist
1965: 24);

placid/clustered: goals and noxiants are still relatively
unchanging; however, they are no longer randomly
distributed but are together in certain ways. The concept
of strategy becomes distinct from tactics, with survival
linked to environmental knowledge. There is the need to
locate an optimal niche from which to compete;

disturbed/reactive: there are a number of similar organiza-
tions with similar goals which attempt to hinder each other
in their quest for the same niche. Strategy must consider
not only the firm's goals and tactics but also those of the
competition; the organizational objective must be defined
in terms of the ability to make and meet competitive moves.
Knowledge of the rules of competition are important, one
must know when not to fight to the death as well as when it
is necessary;

turbulent fields: dynamism arises from the field itself as
well as from the actions from the competition, resulting in
an increase in relative uncertainty. The consequences of
firm actions are increasingly unpredictable.

Emery and Trist (1965) found that the environmental contexts within which organizations exist are changing at an increasing rate due to the impact of technology and must be considered for their own sake.

Environmental uncertainty

Terreberry (1968) agreed that the environments of organizations are evolving, causing most organizational change to be externally induced; thus organizational adaptation is a function of ability to learn and perform according to changes in the environment. She gave an alternate description of Emery and Trist's (1967) turbulent field. According to Terreberry (1968, p. 593) a turbulent field is:

> "...that the accelerating rate and complexity of interactive effects exceeds the component systems' capacities for prediction and, hence, control of the compounding consequences of their actions. Turbulence is characterized by complexity as well as rapidity of change in causal interconnections in the environment."

She found that most firms appear to be operating in a turbulent field environment; and, hypothesized that in order to successfully adapt in turbulent environments organizations should have flexible structure (decentralized decision making), advance information of impending externally induced change (scanning), and, active search for more advantageous input and output transactions (improved technology).

Duncan (1972) empirically investigated twenty-two decision groups in three manufacturing and three research and development

organizations in an attempt to identify the characteristics of the

environment which influence the uncertainty of decision unit

members. He characterized the environment to be:

> "...thought of as the totality of physical and social factors
> that are taken directly into consideration in the decision-
> making behavior of individuals in the organization." (Duncan
> 1972, p. 314).

He went on to differentiate between the internal and external

environment of the organization; identifying the external

environment as consisting:

> "...of those relevant physical and social factors outside the
> boundaries of the organization or specific decision unit that
> are taken directly into consideration." (Duncan 1972, p. 314).

He identified two dimensions of the environment, each of which

exists on a continuum, that may be particularly relevant to

industrial organizations, however they could vary for other types of

organizations:

> simple - complex: the number of factors taken into consid-
>
> eration in decision making;
>
> static - dynamic: the degree to which those factors in the
>
> environment remain stable over time or are in a state of
>
> continual change.

He thus divided the environment into four quadrants: simple/static;

simple/dynamic; complex/static; and, complex/dynamic. His research

indicated that the complex/dynamic environment causes the greatest

uncertainty in decision makers, as well as established that the

dynamic characteristic caused greater uncertainty than the com-

plexity characteristic. Thus his empirical research findings were

in agreement with the theoretical work of Emery and Trist (1965),

Thompson (1967), and Terreberry (1968).

The work of Burns and Stalker (1961), Lawrence and Lorsch

(1967), and Emery and Trist (1965) demonstrated that as the task

environment becomes more dynamic (uncertain), the organization must

become not only more receptive to change, but also adapt its

structure and operations if it is to survive and grow.

While Thompson (1967) summarizes the thrust of management

theory developed in the 1960's and still in force today when he

states that the "essence" of the administrative function is the

reduction of uncertainty particularly at the technical level,

Bourgeois (1978) disagrees.

> "The results of the present research, however, imply that
> uncertainty should not be reduced if it is in fact an
> accurate manifestation of the objective situation. In
> fact, uncertainty may be functional in volatile
> environments, at least when it is experienced at the
> strategy-making level of the organization." (Bourgeois
> 1978, p. 170).

He likens the concept of environmental uncertainty to the concept of

risk in financial management. Risk (as measured by volatility) is

acceptable as long as it is accompanied by the prospect of increased

return.

Environmental boundaries and perception

A problem in conceptualizing the task environment of organizations has been determining the boundaries of the system. Miles, Snow, and Pfeffer (1974) found that measuring the boundary where the organization ends and the environment begins is extremely difficult. Both the interaction and involvement of various elements changes over time and across decision areas, thus what is in and what is out varies from situation to situation.

> "Because organizations are open social systems, they are constantly changing, and their boundaries fluctuate accordingly. At a minimum - indeed perhaps it is the best that can be hoped for - the definition of the organization's boundary should be consistent with the problem under investigation." (Miles, Snow, and Pfeffer 1974, p. 248).

They found in an empirical investigation of 16 firms in the textbook publishing industry, that the actions an organization takes in responding to its environment are much more likely to be consistent with top management perceptions of the environment than any objective indicator of environmental conditions is likely to predict. This is consistent with the findings of Child (1975) who argued that managerial perceptions and actions have a strong influence on organizational responses to the environment. Snow and Miles (1983, p. 239) further suggested that "...those factors that go unnoticed or are deliberately ignored are not part of the organization's enacted environment and thus do not affect managerial decision making and action.".

Bourgeois (1985) compared the perceptions of top management

teams in regards to environmental uncertainty against objective

measures of environmental variability and found that those teams

which accurately perceived their environment in terms of variability

performed at a higher level than those which did not. He included

five elements in the task environment: customers, competitors,

suppliers, regulatory groups, and technology. Bourgeois (1985, p.

554) stated that: "...industry and task environment tap similar

dimensions of a firm's objective environment...". Addressing the

controversy as to which is more important to the study of

organizational performance - perceived or objective environments,

Bourgeois (1980, p. 35) states:

> "Every firm has an objective environment that places
> constraints on the way it operates - eg., an industry group
> has certain technical characteristics that must be attended
> to. At issue is whether a manager's perceptions of
> volatility or variability induce uncertainty and whether
> these subjective impressions override the objective
> situation when critical decisions are made. My position is
> that the objective task environment is "real", measurable,
> and external to the organization, and that perceptions of
> the environment are also real events taking place within
> the organization. Additionally, and of central importance,
> when held by the dominant coalition or top management team,
> these perceptions are considered to be crucial inputs to
> the strategy making process."

De Noble and Olsen (1986) objectively measured the volatility

of the foodservice industry utilizing the market volatility scale

developed by Tosi, Aldag, and Story (1973) and replicated by Snyder

and Glueck (1982). They found that the market volatility of the

foodservice industry (.3634) significantly exceeded the volatility

of the most volatile industry (electronic computing .2759) reported

in the two previous studies. Surprisingly, in two separate surveys

of executives in the industry, De Noble and Olsen (1986) found

little support in terms of executive awareness or concern with the

industry's high level of objective volatility. This lack of

awareness or perception of volatility could be a major factor in the

industry's poor financial performance over the past four years.

Industry structure and strategic groups

Porter (1980, 1985), with the same reasoning as Bourgeois

(1985), found that the structure of the industry within which the

firm competes is a key aspect of its environment, regardless whether

the industry is manufacturing or service oriented. While the

relevant environment is broad, it usually affects all the firms in

an industry in approximately the same manner. Three researchers

(Aguilar, 1967; Hambrick, 1982; Pinto, 1986) found that there

appears to exist within a particular industry a common body of

knowledge which is disseminated throughout industry related media

and is equally available to and known by executives within that

industry. Given the idea of a broad task environment approximately

comprehended by most rival executives, Porter finds it imperative to

identify the key structural features of an industry since these

determine the strength of the competitive forces and therefore

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strongly influence firm profitability. Competition is at the core

of the success or failure of the firm since it determines the

appropriateness of the firm's activities that contribute to its

performance.

Porter (1980, 1985) identified the five competitive forces that

comprise the structural determinants of industry to be:

      a) threat of entry;

      b) threat of substitution;

      c) bargaining power of buyers;

      d) bargaining power of suppliers;

      e) rivalry among current competitors.

He hypothesized that while industry structure is relatively stable,

it can change over time due to the evolution of the industry.

Further, firms through their strategies can influence these five

competitive forces, making the industry either more or less

attractive by their actions.

Porter (1979) empirically tested the theory that companies'

profits are related to the structure within industries as well as to

industrywide traits of market structure. Thus he introduced the

concept of strategic groups and mobility barriers within industries.

He defined an industry as being:

> "...composed of clusters or groups of firms, where each group
> consists of firms following similar strategies in terms of the
> key decision variables." (Porter 1979, p. 215).

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The concept being that firms within an industry are able to compete viably with one another, even though they are not all identical and may not compete on equal terms. In a study of 38 consumer goods industries, Porter (1979) partitioned the industries into two dichotomous groups: leaders, the largest firms who in totality accounted for 30% of industry sales; and, followers, the remaining firms in the industry. He found that the leaders although the largest in terms of sales were not necessarily the most profitable. In 15 of the 38 industries, the followers were more profitable. He found these results to be consistent with the central prediction of the theory of strategic groups: important differences exist in the structural features that explain profit levels for differently situated firms in an industry.

Strategic groups are not equivalent to market segments or segmentation strategies. Porter (1980) states that strategic groups should be defined on a broader conception of strategic posture since they exist for a number of differing reasons, such as differing histories as to entry into the industry, differing internal strengths and weaknesses, etc. Once these groups have formed they tend to be similar in more ways than just their broad strategic postures, and therefore tend to respond in similar fashion to external stimulation. Porter (1980) suggests that the idea of strategic groups is a useful concept since it can be utilized as an intermediate frame of reference between examining the industry as a

whole and looking at each individual firm separately. However,
Porter does find that ultimately every firm is unique and therefore
the use of strategic groups as a means of classifying firms does
raise some questions of judgement concerning the degree to which
strategic differences are important. Analysis becomes complicated
in industries where there exist two or more strategic groups, since
the profit potential of firms in different strategic groups often
varies not only because of differences in the firm's implementation
skills but also because the five broad competitive forces do not
affect all strategic groups in the same manner.

Dess and Davis (1984) utilized Porter's industry structure and
generic strategy typology's in an effort to demonstrate the
viability and usefulness of categorizing firms within an industry
into strategic groups on the basis of their intended strategies.
They stated that:

> "...Porter's framework of generic strategies and
> competitive dimensions provides a potential valuable
> research tool for classifying the strategies of all
> competitors within an industry." (Dess and Davis 1984,
> p. 468-469).

In a field study of 22 nondiversified manufacturing firms in the
paint and allied products industry, they were able to identify the
intended strategies of the firms based upon Porter's three generic
strategies. They found that firm's which espoused a commitment to a
generic strategy outperformed those which Porter (1980)

characterized as being "stuck in the middle", ie. firms who have

failed to develop in at least one of the three directions - low

cost, differentiation, or focus.

Prescott (1986, p. 331) found that:

> "Porter (1980) developed probably the most comprehensive
> treatment of industry influences on firms' strategies and
> performance levels. Overall, these findings have suggested
> that both the perceived and objective environments of an
> industry moderate the relationship between a business'
> strategy and its performance."

His study of 1,638 business units in the Profit Impact of Market

Strategy (PIMS) data base found that the environment modified the

strength but not the form of the relationship between strategy and

performance. Prescott (1986, p. 342) states:

> "Environment is critical because it establishes the context
> in which to evaluate the importance of various relation-
> ships between strategy and performance."

Environmental scanning

Environmental scanning is the process by which executives learn

of events and trends outside of their organization. In the past

decade two basic approaches have been taken by environmental

scanning researchers. One approach examines environmental scanning

as a formalized procedure (Porter, 1980; Jain, 1984; Lenz and

Engledow, 1986; Fay and Beatty, 1987); while the other treats

environmental scanning as a responsibility of the individual

executive in his/her effort to remain current and competitive in the

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industry (Aguilar, 1967; Kefalas and Schoderbek, 1973; Hambrick,
1981, 1982; Farh et al., 1984).

Lenz and Engledow (1986) found that there is still considerable
uncertainty about viable structures for environmental scanning units
and significant administrative problems accompanying their use. In
a study of ten "leading edge" corporations utilizing formal scanning
units, they found three (30%) of the units disbanded shortly after
the completion of the research. Due to the uncertainty of the usage
of formal units as well as the fact that there are few firms in the
restaurant industry with sufficient resources to support such units,
this review and research will be based upon the scanning activities
of individual executives.

Aguilar (1967) in his seminal work defined environmental
scanning as the activity of acquiring information including both
purposeful search and undirected viewing of events and relationships
in a firm's external environment to assist upper management in its
strategic decision making. He found that:

> "The commitment of substantial organizational resources
> means that the price of a mistake becomes prohibitive. The
> resulting need for comprehensive and accurate information
> greatly increases the burden on scanning."(Aguilar 1967, p.
> 9).

He stated that the "ideal scanning system" should be one that is
both structured sufficiently to guide the manager's search for

critical information, and flexible enough to allow for the identification of information not previously identified as critical.

Environmental sector scanning models

Fay and Beatty (1987) and Lenz and Engledow (1986) suggest that the environmental scanners must model their relevant world in order to direct the scanning process and at the same time not unduly restrict it. Past significant researchers of environmental scanning have modeled the environment in the following manner:

Aguilar (1967) in a study of 137 managers from 41 companies, in a sample comprised of 25 chemical companies, 1 pharmaceutical company, 7 manufacturing companies, and 8 service companies serving the chemical industry modeled the environment on five areas of external information:

1) market tidings - current activities in the market and competitive field;

2) technical tidings - technology;

3) broad issues - events occurring outside the industrial environment;

4) acquisition leads - leads for acquisitions, joint ventures, and mergers;

5) other tidings - miscellaneous.

He found that market tidings comprised 58% of total responses which surprised him; however if one considers that the market sector in-

cludes market potential, structural change, competitors, pricing,

sales negotiations, and customers the result should not be that

surprising.

Kefalas and Schoderbek (1973) in a survey of two industries -

farm equipment and meatpacking - interviewed 40 executives and

partitioned the environment into five sectors:

1) market - market potential, structural changes,

   competitive products, pricing, sales, plans, channels

   of distribution, consumer/customer relations;

2) technology - new product, new processes, new

   information technology, licensing and patents;

3) external growth - mergers, acquisitions, joint

   ventures, takeovers, foreign investment;

4) government - Federal Reserve, Department of Defense,

   Department of Commerce, etc,;

5) other - labor market and unions, community, ecology,

   demographics.

They found that executives spent 33% of their scanning time on the

market sector, thus their results were in agreement with those of

Aguilar (1967).

Hambrick (1982) modeled the environment based upon four

sectors:

1) entrepreneurial - product/market trends or events;

2) engineering - events or trends bearing on the

rationalizing the manufacture or delivery of

products/services;

3) administrative - events or trends bearing on

determination of roles and relationships in the

organization;

4) regulatory - government regulations, taxes, sanctions,

accreditations, litigations, etc.

He found that these sectors were meaningful for categorizing

environmental trends and events since they are generally mutually

exclusive and collectively exhaustive.

Pinto (1986) modeled the environment into four sectors:

1) social - demographic trends, sociocultural trends,

purchasing attitudes, work and business attitudes;

2) technological - advances in foodservice and

non-foodservice technologies: new products/equipment,

training, energy conservation;

3) political - local, national, international government,

organized/unorganized common interest groups;

4) economic - Gross National Product trends,

cost/availability of energy/labor, inflation.

Pinto (1986, p. 187) found that while these are broad categories,

they were mutually exclusive, and were sufficient for "...drawing

broad conclusions about the content emphasis of the publications

analyzed." She classified the major publications cited by

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respondents by the number of articles in each sector, assigning the
publication to the segment in which the majority of its articles
fell. She did not survey the respondents directly on their interest
in the various environmental sectors only on their choice of
publications.

Environmental scanning method models

Aguilar (1967) in his study of environmental scanning methods
of 137 executives in the chemical industry developed a model of
scanning methods based upon four modes:

1) undirected viewing - general exposure to information
   where the viewer has no specific purpose in mind other
   than possibly exploration;

2) conditioned viewing - directed exposure, not involving
   active search, to a more or less clearly identified
   area;

3) informal search - relatively limited and unstructured
   effort to obtain specific information;

4) formal search - deliberate effort - usually following a
   pre-established plan, procedure, or methodology - to
   secure specific information.

He found that while a need may be associated with a specific mode at
a specific time, an organization, with its multitude of concerns, is
usually engaged in scanning by all modes simultaneously.

Kefalas and Schoderbek (1973) also partitioned the scanning

process into four activities utilizing the following typology:

1) average amount of time spent for acquisition of external

information;

2) the kinds of external information acquired based on

their modeling of the external environment;

3) the sources of external information utilized;

4) the ways of acquiring external information.

Data on the above four scanning activities were gathered via a scan-

ning questionnaire administered to forty executives of six companies

who occupied different organizational levels and functional special-

ties. These methods were moderated by three scanning determinants:

1) the firm's external environment;

2) the executive's hierarchical level;

3) the executive's functional speciality.

Hambrick (1979) in a survey of the scanning activities of 195

executives in three industries (insurance, hospitals, and private

liberal arts colleges) was the first researcher to develop multiple

methods to tap the construct of environmental scanning with his use

of three measures of scanning. However, they were measured using

three different scales and Hambrick made no attempt to combine them

into a single aggregate, summative measure. He simply stated that:

> "Propositions which were supported on the basis of fewer
> than all three measures can only be interpreted as
> partially supported." (Hambrick 1982, p. 164).

He modeled scanning activities along three dimensions which he reported possessed acceptable reliability and construct validity:

1) frequency method - how frequently respondents learned of events or trends in the environment, scaled 1 to 7;

2) interest method - respondents rated the extent to which they made it a point to remain current on various sectors of the environment, scaled 1 to 5;

3) hours method - total hours spent scanning in an average week, with a percentage breakdown of the various sectors of the environment. This last method was added in order to allow comparison with the research of Kefalas and Schoderbek (1973).

Farh, Hoffman, and Hegarty (1984) in a study of 108 European firms with 406 usable responses of top level managers replicated Hambrick's (1979) research with significant changes. They attempted to assess the environmental scanning of organizations by surveying top level managers and having them respond in light of departmental activities instead of their own personal activity. While Farh, et al utilized Hambrick's environmental subsectors in its entirety, they modified the scanning scales to allow for aggregation into a single summative measure of organizational scanning. In this modification they found it necessary to drop the hours method since it contained an excessive amount of error. It was speculated that this error was caused by two reasons (Farh et al. 1984, p. 211):

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"First, the hours method required the respondent to make a
more complex judgement task: In assessing hours scanned for
each trait, the informant first had to estimate the number
of persons in his/her department who scanned the particular
traits and then estimate the average hours per week a
person would scan that trait. In contrast, the other two
methods required the informant to assess scanning for the
department in a single judgement. Clearly, requesting
informants to estimate individual employee behavior in
terms of hours is a more complex task than assessing the
scanning behavior of a single department as a whole.
Second, the hours method employs only one pair of items to
measure each trait, which includes several different yet
related environmental trends, while the other two methods
ask the informant to respond to items only referring to a
 single trend."

They found that the remaining methods of frequency and interest

possessed positive and statistically significant convergent

validity; and thus seemed to have both convergent and discriminant

validity.

Environmental scanning activity of executives

Bourgeois (1978) in an empirical investigation of the strategy

making process of 20 public corporations in the Pacific Northwest,

disaggregated the strategy making process in five distinct

activities:

1) environmental scanning;

2) objective setting;

3) competitive weapons selection;

4) power distribution;

5) resource allocation.

He found that the first step in the strategic making process - environmental scanning - could be performed with varying degrees of formality and caused some degree of uncertainty for the scanning executive. Environmental scanning is therefore seen as the initial activity in the formulation of a firm's strategic plan. While this has been widely accepted by researchers (Ackoff, 1970; Aguilar, 1967; Hoffer and Schendel, 1979; Hambrick, 1981; Glueck and Jauch, 1984; Jain, 1985), there have been few inquiries into the scanning activities of individual executives in their quest for strategic information. A review of the published results follows.

Aguilar (1967) in his investigation of environmental scanning in the chemical industry found that one of the major concerns of executives was the degree of reliability of the external information.

> "As the president of one medium-sized chemical company said, 'I can usually find more than enough information on questions of importance. The real problem is whether I can believe it or not...Any information that is published or announced is made public with some reason in mind. We always have some ulterior reason for any public announcement that we make.'" (Aguilar, 1967, p. 60).

In addition to his findings on the criticality of reliable information, Aguilar also drew a number of significant conclusions:

1) executives regardless of their functional speciality directed the greatest amount of their scanning to market tidings, which lends support to the hypothesis that

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managers and companies tend to react to environmental
circumstances rather than plan for them;

2) specialization of environmental scanning to certain sectors
of the environment depends to a large extent upon the
executive's functional speciality, somewhat on the size of
the company, and very little upon his hierarchical level in
the firm;

3) concern with Broad Issues was cited by only 14% of the
respondents with the majority (70%) employed by large
companies and the remaining (30%) in medium companies. No
respondents from small companies expressed concern;

4) executives overwhelming (71% versus 29%) utilized personal
over impersonal (published information) sources for
external information;

5) the survey population tended to obtain slightly more
unsolicited than solicited information; with information
from outside sources largely unsolicited (62%) while most
solicited information (76%) was received from inside
sources.

In summary, Aguilar (1967) found that neither functional area,
hierarchical level, nor organization size was strongly related to
the amounts in which executives scanned different environmental
sectors. There is much "shared concern" for various environmental
sectors as can be readily seen by the fact that 58% of respondents

scanned the market sector. He found that most executive

environmental scanning is undirected and informal making it

difficult to isolate because it is intimately involved in the

decision-making process and is a basic behavior in the every day

activity of executives. His methodology severely limited his

findings as he did not allow his respondents to indicate the

relative intensity of their scanning. His questioning allowed for

up to a maximum of four recent instances of a search for information

with an attempt to ascertain two instances of external information.

> "The respondent was asked to provide data for two
> incidents. If both sets of answers involved internal
> sources, the respondent was then asked to cite a third
> case in which an external source was involved....A
> respondent would thus be asked to cite from two to four
> instances, depending on the information given." (Aguilar,
> 1967, p. 213).

Kefalas and Schoderbek (1973) in their investigation into the

scanning activities of executives in two industries - farm equipment

and meat packing - examined the relationship between external

environmental characteristics and organizational information

acquisition behaviors. The environment was separated into a

dichotomous classification as either dynamic (farm equipment) or

stable (meat packing) based upon both objective and subjective data;

and, the scanning activities of executives in the industries

examined. Their findings follow:

1) executives in dynamic environments spent more time

   acquiring information than those in stable environments,

however the difference was not great - 1.9 hours per

working day to 1.7;

2) executives in upper hierarchical levels spent more time

scanning than those in lower levels - 2.2 hours per working

day to 1.7;

3) the market sector dominated the viewing of environmental

sectors scanned (33.3%), with technology being the sector

second most frequently scanned (25%);

4) there was a weak relationship between the executive's

functional speciality and sectors scanned.

These findings while representing absolute differences did not

possess any statistical significance at the .05 level and were

similar to the findings of Aguilar (1967). While there were no

significant statistical relationships, marketing and research and

development executives reported conducting over 50% of their

scanning in their functional area. Kefalas and Schoderbek found,

however, no relationship between the overall amount of scanning and

executives' functional areas.

Hambrick (1979) examined the environmental scanning activities

of executives in three industries - insurance, hospital, and private

liberal arts colleges. He investigated whether upper-level

executives focused their scanning activities based upon a number

factors - hierarchical level, functional speciality, and intended

strategy of the organization. Hambrick cautioned that the study may

pose a limitation on the results since none of the three industries

is known for its managerial or strategic sophistication, and also

there exists a diffusion of power within the organizations of the

two professional industries (colleges and hospitals) studied.

His use of three methods to tap the construct of scanning -

frequency, method, and hours - resulted in moderate convergent and

discriminant validity with intermethod correlations averaging 0.49

and intersector correlations averaging 0.15 . He also reported high

Cronbach alphas for two methods - frequency 0.64, interest 0.88 -

and a test - retest reliability greater than 0.75 (Hambrick 1981:

306).

Hambrick (1981) found that in the organizations studied neither

hierarchical level nor functional area was strongly or consistently

related to the focus or overall amount of scanning activity. He

found as did Aguilar (1967) that a considerable amount of cross-

functional scanning occurred; however, executives in the insurance

industry did scan their functional areas more than executives in the

college or hospital industries.

As to whether executives scanned in support of their organiza-

tion's strategy, Hambrick (1982) discovered no evidence to support

the hypothesis. He speculated that "This may be due to a general

tendency among executives to scan according to their own personal or functional interests, lack of awareness of the organization's strategy, or differences in how the researcher and the executives conceived of strategy. On this last part, it must be noted that the methodology tapped 'realized' strategy, which may have no necessary relationship to 'intended' strategy (particularly an individual executive's impression of the organization's intended strategy).

> "Researchers who attempt to identify linkages between strategy and any types of managerial behaviours must be aware of this problem (my emphasis)." (Hambrick, 1982, p. 169).

Hambrick (1982, p. 170) noted that his study possessed some important limitations:

> "The Miles and Snow strategic typology is clearly not the most elaborate framework that could have been chosen. Additional strategic dimensions or typologies should be used in future scanning studies (my emphasis)."

He did find that his was the first study to use multiple measures of scanning and to conduct appropriate reliability and validity tests of those measures.

Farh, Hoffman, and Hegarty (1984) continued the line of research of viewing scanning as an informal managerial activity conducted by most top managers. However, the purposes of their study were:

1) to modify Hambrick's environmental scanning scale for use at the subunit level;

2) to examine the convergent and discriminant validity of the

    modified scale on a sample of European executives;

3) demonstrate the use of confirmatory factor analysis as a

    general approach for analyzing multitrait-multimethod data.

They reasoned that:

> "The measurement of environmental scanning, therefore,
> centers around two major issues: (1) identifying the
> important environmental traits (sectors, or segments) which
> the managers are likely to scan, and (2) developing methods
> to assess the extent to which managers scan these
> environmental traits.".

They chose Hambrick's scale since it the only one to use multiple

items and methods and because:

> "Our advocacy of a multimethod scale has a theoretical
> basis. Given the current stage of theory development in
> strategic management literature, it is practically
> impossible to develop a definition of informal
> environmental scanning that is acceptable to most scholars.
> Therefore, multiple methods, which are based on different
> but overlapping definitions of the constructs, allow us to
> examine the construct validity of the scales as well as the
> usefulness of the various definitions of the constructs
> behind the scales." (Farh, et al., 1984. p. 199).

Hambrick's (1979) scale was modified to allow for aggregation

of the scanning methods into a single scanning score which could be

combined with that of other executives in the same organization to

arrive at an organizational environmental scanning score for use at

the subunit level of analysis. An analysis of the frequency and

interest scales revealed Cronbach alpha's of 0.58 and 0.84

respectively. Convergent validity was achieved as indicated by the

fact that the path coefficients between traits and their intended

measures were all highly significant. Discriminant validity was

achieved as indicated by the fact that the intercorrelations between

the four traits were very low with the only exception that

administrative scanning and efficiency scanning were moderately

related.

Farh et al. (1984, p. 217) noted several factors which may

contribute to systematic error when examining environmental scanning

at the subunit level:

1) in the selection of key informants in reporting the subunit

     scanning activities, the head of the subunit is the

     appropriate person to provide the information;

2) the size of the subunit may bias the informants reports on

     the frequency and hours subscales since presumably larger

     units have more members scanning the environment;

3) two characteristics of the respondent may also contribute

     to bias in responses:

         a) prior training in strategic management/planning;

         b) personality trait of locus of control.

They suggest that researchers keep these points in mind when

designing future studies.

Pinto (1986) in an investigation of the sources of information

on the external environment utilized by chief financial officers

(CFO's) in the hospitality industry, surveyed the top 200

hospitality firms as rated by <u>Restaurants and Institutions</u>, a well

known industry trade journal. She attributed her disappointing

response rate (23%) to:

> "...an industry extremely unaware of it's external
> environment, and of the importance of the environment to
> its continued survival." (Pinto, 1986, p. 168).

She found that 85% (39) of the respondents conducted some type of

environmental scanning; but in only 18% (7) was environmental

scanning a formalized function, much in keeping with earlier

research. Her findings follow:

1) there exists among CFO's in the hospitality industry a

   "common body of knowledge" which is known and utilized by

   them;

2) the economic environment dominated the literature scanned;

3) CFO's in firms with the higher levels of revenue cited more

   sources of external information utilized;

4) CFO's in younger organizations cited more sources of

   external information utilization than CFO's in older

   organizations.

Pinto found more focused scanning by the chief financial

officers with their attention directed to the economic sector of the

environment. This could be a result of their general functional

interest or an artifact of the times. At the time her research was

undertaken the hospitality industry was in the middle of a decline

of total sales as well as per unit sales and had been in such a decline for approximately two years a condition which could very well bias her findings.

Strategy

In a review of the literature on the measurement of the construct of organizational strategy Venkatraman and Grant (1986, p. 71) were disconcerted "...to find that there exists no widely accepted operational meaning for the term 'strategy'." What follows is a review of the major authors who have attempted to operationalize and measure strategy constructs through observable indicators based upon firm theoretical underpinnings.

The word strategy is derived from the Greek strategos - the art of the general (Snow and Hambrick, 1980). This concept was first introduced into the organizational literature by the Harvard Business School and followed by Chandler's (1962) seminal work of the four major U.S. organizations that pioneered the strategy of diversification.

Hambrick (1980, p. 567) states that strategy is a concept worthy of empirical investigation since it is generally viewed:

>"...as a pattern of important decisions that (1) guides the organization in its relationships with its environment, (2) affects the internal structure and processes of the organization, and (3) centrally affects the organization's performance.".

He also found that no generally accepted approach for measuring

business-level strategy has been developed.

Bourgeois (1978) finds that strategy as a concept has as its

main value - for both profit seeking and non-profit organizations -

the ability to examine how an organization defines its relationship

to the environment in pursuit of its objectives. However, uniform

operationalization for empirical research purposes have been

elusive.

Mintzberg (1978) was one of the first researchers to attempt to

empirically study strategy formulation. He defined strategy as "a

pattern in the stream of decisions", and found basically two types:

intended and realized. Mintzberg (1978, p. 935) found that:

> "...the strategy maker may formulate a strategy through a
> conscious process before he makes specific decisions, or a
> strategy may form gradually, perhaps unintentionally, as he
> makes his decisions one by one.".

As a result of his study of Volkswagenwerk (1920 to 1974) and the

United States involvement in Viet Nam (1950 to 1973), he concluded

that strategy can be viewed as the set of consistent behaviors by

which the organization establishes for a time its place in its envi-

ronment.

Anderson and Paine (1975) hypothesized that managers have

considerable leeway in making strategic choices to meet various

contingencies; and these choices are made in the light of many

subjective variables (perception, politics, emotions). When

examining perceptions they found that the critical area was not the

fact of uncertainty per se but the processing of accurate

information to deal with it. This proposition was empirically

confirmed by Bourgeois (1985) who was able to differentiate high and

low performing firms on the accuracy of the managerial team's

perception of environmental uncertainty.

Hatten, Schendel, and Cooper (1978) in a study of business

strategies in the U. S. brewing industry differentiated between

corporate and business level strategy. Corporate strategy relates

to the product/market choice of the firm and can be compared to the

portfolio decision in investment theory; while, business strategy

relates to competition within a specific product/market area

(Hatten, et al., 1978, p. 592). They found that market structure

plays a strong role in determining business conduct, which in turn

influences performance in terms of both profit and price behavior.

In their study of 13 brewing firms they found that the U. S. brewing

industry was not homogeneous, in fact they were able to

differentiate the 13 firms into 7 homogeneous groups with

significant differences between each group! This study established

empirical support for the hypothesis that few industries are

homogeneous, different strategies are required for different firms

with their various resources.

Miller and Friesen (1983) in a study of the relationship of environment to strategy making in sample of Canadian and United States business firms defined the environment along three dimensions: dynamism (uncertainty), hostility (competition and economic variances), and heterogeneity (complexity); and strategy making along two dimensions: analysis (analysis, integration, and futurity), and innovation (proactiveness and risk taking). They hypothesized that the most appropriate strategies can be selected only if the strategy making process is appropriate for the environment. Environments confront organizations with information processing tasks of varying complexity and while organization structure is one way to facilitate the handling of the information, the strategy making process is another. Miller and Friesen found that increased environmental dynamism seems to occasion the need for both increased analysis and innovation; increasing environmental hostility seems to require additional analysis; and, firms facing more heterogeneity benefit from innovation. However, they cautioned that these findings are tentative in nature and suggested further research on the topic.

Strategy and determinism

Bourgeois (1984) argued against the contingency theories of management and the economic theories of industrial organization which he stated contribute to a mechanistic view of the strategic manager as an analyst. He finds that strategic management is a

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creative activity and not bound by laws of determinism. Bourgeois

(1984, p. 591) contends that:

> "...the top management or dominant coalition always retain
> a certain amount of discretion to choose courses of action
> that serve to co-align the organization's resources with
> its environmental opportunities, and to serve the values
> and preferences of management." (his emphasis).

Thompson (1967, p. 148) addresses the idea of determinism when

he asserts:

> "We must emphasize that organizations are not simply deter-
> mined by their environments. But if the organization is
> not simply the product of its environment, neither is it
> independent. The configuration necessary for survival
> comes...from finding the strategic variables...which are
> available to the organization and can be manipulated in
> such a way that interaction with other elements will result
> in a viable co-alignment.".

Strategic consensus

The preponderance of the literature of organization theory

assumes that there exists goal congruence among the members of the

top management team, especially given the coalitional nature of

organizations (Selznick, 1948; Ansoff, 1965: Thompson, 1967;

Stagner, 1969; Child, 1975; Robinson & Pearce, 1985: Dess, 1987).

Much of the normative literature today stresses the ideal decision

making process where rationally derived means (strategies) are

implemented in quest of previously agreed upon goals - modern

organizations should be guided by clear, consensus - based goals

(Bourgeois, 1980). However Dess (1987) in a review of the

literature on strategic consensus and organizational performance

was surprised to find a lack of empirical research on the subject.

He also found that:

> "...previous research has not consistently demonstrated
> either a positive relationship or a negative relationship
> between consensus on either goals, means, or both and
> organizational performance...I argue that a salient
> limitation of previous research is the tendency to
> disregard the heterogeneity of the environments in which
> organization managers make their strategic decisions. The
> conflicting results obtained in previous field
> studies...may be due to samples of firms facing different
> industry environments (Dess, 1987, p. 261).

Stagner (1969) in one of the first empirical investigations of

corporate decision making found support for a position in favor of

participative management characterized by involvement of all execu-

tives and concern by the chief executive that all the top executives

be satisfied with both the decision making process and the goals-means sequence. In his survey of 260 vice presidents of Fortune Magazine list of the top 500 American corporations, Stagner utilized factor analysis to identify styles of decision making in corporations. The factor identified with managerial cohesiveness and the highest profitability levels was comprised of the following items:

a) high top executive morale;

b) low tension at the top levels of the corporation;

c) no sense of defeat in executives who lose in decision making process;

d) high satisfaction with the decision making process;

e) rare incidence of conflict within divisions;

f) little exaggeration of area importance among vice presidents;

g) no groups at the top.

Stagner (1969) did show that while the corporation was not a single goal directed entity, pursuing many goals simultaneously, it performed at higher levels if there was agreement and acceptance among the members of the top managment team. This idea of agreement permeates the normative planning model literature today (Hofer, 1975; Hatten, Schendel, & Cooper, 1978) with its inherent assumption of the clear picture of corporate goals and means (strategies)

guiding corporate decision makers in their everyday operational activities.

Dess (1987) in a study of private firms in the paints and allied products industry - a 'fragmented industry' (Porter, 1980) - found that consensus on either objectives or competitive methods was positively related to organizational performance. The results implied that it was equally important for the top management team to seek consensus or either the firm's objectives or it's competitive methods. In a call for future research, Dess (1987, p. 274) states:

"The writer concurs with Porter (1980) in that the industry within which a firm competes is a salient context variable and is critical in the development of contingency theories in strategic management (Harrigan, 1983). In this context additional research should provide comparisons across industries to determine if the associations between 'consensus' and performance found in the present study are industry-specific or applicable to a wide variety of competitive environments."

Strategy measurement

In a discussion of the problems of the measurement of strategy, Snow and Hambrick (1980, p. 530) found that not only was it difficult to ascertain whether or not an organization's strategy had changed, it was frequently more difficult to determine whether the organization had a strategy.

"Is a strategy that management has formulated but not fully implemented really a strategy? Or, conversely, is an apparent 'pattern in a stream of important decisions' (Mintzberg 1978) that was not planned by management actually a strategy?".

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They encountered numerous situations where it was difficult to ascertain an organization's intended strategies; and, have found three different explanations to account for this:

> "Probably the most significant reason that researchers have trouble discerning organizations' strategies is that **managers seldom conceive of strategy in the same terms as researchers** (their emphasis)...Therefore, a large part of the problem researchers and managers have in communicating with each other is language. Second, research by Quinn (1977, 1978) indicates that top managers often **avoid announcing explicit goals** (their emphasis) and, in turn, articulating strategy...Finally, we have observed a few organizations that **did not appear to have any intended strategy** (their emphasis)." (Snow and Hambrick, 1980, p. 530).

Dess and Davis (1984, p. 483) found that "The ability of questionnaire data to identify different "intended" strategies in industrial studies has been supported by others (Bourgeois, 1980; Hambrick, 1980)." However, one could argue that Hambrick (1980) did not survey industrial firms in his survey of universities, life insurance companies, and hospitals; these could more appropriately classed as service industries. In this light, it is possible to state that intended strategies have been successfully identified in both manufacturing and service industries.

Strategic Typologies

The field of strategic management has focused increased attention on the development of typologies as a means to study the concept of strategy; for example, Miller and Friesen (1977); Miles

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and Snow (1978); Porter (1980); Robinson and Pearce (1985);

(Robinson and Pearce 1985).

Addressing the usage of typologies in the study of strategy,

Hambrick (1980, p. 572) emphasized the need for:

> "...empirical determination of a strategic typology...that
> confirms the existence of recurring but distinct patterns
> of strategic behavior in business units...";

he also found that:

> "...although typological operationalizations of strategy
> will generally be subject to the statistical limitations
> placed on nominal variables, it appears feasible to apply
> such an approach when strategy is viewed as either a
> predictor, mediator, or criterion construct. The primary
> strength of typologies is that they endeavor to capture
> both the comprehensiveness and the integrative nature of
> strategy."

Miles and Snow (1978) and Miles, Snow, and Pfeffer (1974) in a

study of 16 firms in the college textbook publishing industry

identified four distinct patterns of organizational strategy:

> domain defenders: organizations whose top management per-
> ceive little environmental change and uncertainty,
> therefore make only minor adjustments;
> reluctant reactors: organizations whose top management
> perceive some environmental change and uncertainty, however
> they must be forced by environmental pressure to change;
> anxious analyzers: organizations whose top management
> perceive a great deal of environmental change and
> uncertainty but wait until competitors develop viable

responses then they quickly adopt them;

enthusiastic prospectors: organizations whose top manage-

ment continually perceive environmental change and

uncertainty and continually experiment with potential

responses.

They argued that managerial perceptions guide the strategic choices

managers make in adapting to their environment and that it is

possible for managers in the same environment to make substantially

different strategic decisions.

Hambrick (1979) in a study utilizing the Miles and Snow

typology attempted to obtain a sample of "pure" defenders and

prospectors from among a group of private liberal arts colleges and

found that the degree of homogeneity/heterogeneity in the industry

caused methodological problems by restricting the range of strategic

behavior observed (Snow and Hambrick, 1980). Snow and Hambrick

(1980) found that an organization's business-level strategy is

largely predicated on industry conditions and competitors actions as

demonstrated by Porter (1979). They argue that as a general rule

for sampling within an industry, it should be assumed that the

industry will contain a number of segments; and, that not all of the

organizations in the industry will operate in all of these segments.

Hambrick (1981, 1982) empirically tested the relationships

between the environmental scanning activities of upper level execu-

tives and organizational strategy utilizing Miles and Snow's (1978) strategic typology. However, he found that their typology may not be appropriate for some industries and have serious limitations in others (Hambrick 1980).

Schaffer (1986) utilized the Miles and Snow typology in his study of competitive strategies, structure, and performance in the lodging industry. For purposes of this review only that portion of the study pertaining to strategic typology is discussed. Schaffer modified Dess and Davis's (1984) competitive strategy variables to conform more closely with the Miles and Snow typology in an attempt to group respondents by their intended strategy. An analysis of the factor loadings of the resulting 26 competitive strategy variables indicated support for the Miles and Snow typology although a five factor solution was the most significant found. Schaffer's findings reinforce Hambrick's contention that the Miles and Snow typology may be contingent upon the industry studied.

Porter's (1980) typology of generic competitive strategies is based upon the premise that above average performance in the long term is dependent upon sustainable competitive advantage. Porter (1980) states that although a firm can have a myriad of strengths and weaknesses in comparison to their competition, there are two basic types of competitive advantage a firm can possess: low cost or differentiation. These two basic types of competitive advantages

when combined with the scope of activities which a firm seeks to achieve them lead to Porter's (1980) three generic strategies:

cost leadership - the firm attempts to be the low cost leader in the industry. This requires that the firm have a broad scope and serve many industry segments - the firm's breadth is important to its cost advantage. A low cost producer must exploit all the sources of cost advantage. He cautions that the logic of this strategy usually requires that a firm be the cost leader, not one of several vying for the position. Being the cost leader places demands upon the firm. It must aggressively construct and operate efficient facilities; reduce costs through experience, cost control, and overhead control in terms of marketing, research and development, and service. In terms of the competition it must possess either high market share, favorable access to raw materials, a wide product line, or high volume serving all groups. It would be expected therefore that firms pursuing this strategy would heavily scan buyers, existing competitors, and suppliers in order to be successful;

differentiation - the firm seeks to be unique in its industry along some dimensions that are widely valued by buyers. It selects one or more attributes that many buyers in an industry perceive as important, and uniquely

positions itself to meet those needs, for which it receives
a premium price. This strategy requires that the firm to
possess certain skills such as strong marketing, product
engineering, basic research, and a creative flair. It must
be perceived as a better value than either substitutes or
low cost producers; therefore, one would expect these firms
to scan buyers, existing competitors, and substitutes in
order to be successful;

focus - the firm selects a segment or group of segments in
the industry and customizes its strategy to serving them at
the exclusion of others. This strategy has two variations:

cost focus - the firm seeks cost advantage in its
industry segment;

cost differentiation - the firm seeks differentiation
in its industry segment;

In either case, the firm is required to serve a narrow
target market effectively or efficiently. Dangers to this
strategy include the fact that competitors become
interested in the niche and also begin serving it, or buyer
needs change making other products or services attractive
alternatives. It would be expected then that focus firms
scan buyers, as well as existing and potential competitors
in order to successfully defend their niche and retain
profitability.

A fourth category "stuck in the middle" does not lead to long term profitability. It occurs when a firm pursues a number of generic strategies but fails to achieve any of them, usually resulting in below average performance. Porter finds that industry maturity tends to widen the performance gap between firms successfully pursuing a generic strategy and those that are stuck in the middle since it exposes ill conceived strategies formulated during industry growth.

Porter (1980) found that industry maturity does not occur at a fixed point in the development of the industry, and that it can be delayed by innovations and other events that contribute to continued growth. He does find that the transition into maturity is a critical period for competitors in an industry as fundamental changes occur which may not be recognized and which require difficult strategic responses. Porter (1980, p. 238-239) identified nine significant tendencies during the transition:

1) slowing growth means more competition for market share;

2) firms in the industry increasingly are selling to experienced, repeat buyers;

3) competition often shifts toward greater emphasis on cost and service;

4) there is a topping out problem in adding industry capacity and personnel;

5) marketing, distributing, selling, and research methods
   are often undergoing change;

6) new products and applications are harder to come by;

7) international competition increases;

8) industry profits often fall during the transition
   period, sometimes temporarily and sometimes
   permanently;

9) dealers margins fall, but their power increases.

Porter (1980) finds that rapid growth tends to mask strategic
errors and allow most companies to survive; however, maturity
generally exposes strategic sloppiness and may force companies to
confront the need to choose between the three generic strategies for
the first time.

Lenz and Engledow (1986) suggest the use of models based upon
common disciplinary roots and/or the similarity of their conceptions
of the environment. They developed five models characterized as
follows (Lenz & Engledow, 1986, p. 337):

1) industry structure model: the environment is a pattern
   of competitive forces;

2) cognitive model: the environment is a mental
   representation embodied in a cognitive structure and is
   fashioned out of experiences;

3) organization field model: the relevant environment is a

   field of organizations whose actions affect and are

   affected by a focal organization;

4) ecological and resource model: the environment is a   '

   system of resources and interconnected organizations;

5) era model: the environment is a set of social

   structures, values, and role definitions characterizing

   a particular period of time.

They find that the industry structure model (Lenz and Engledow

1986, p. 339):

> "primarily illuminates economic and technological forces
> within an industry. It is underpinned by an extensive
> empirical base on interfirm competition, and is accompanied
> by concepts (e.g. mobility barriers) and heuristics useful
> for forecasting environmental change. Together these
> provide the basis for informed conjecture about future
> environmental conditions. The reliability of this model
> is, however, essentially limited to mature and declining
> industries in which the structure of an industry is
> apparent and its evolution relatively well understood."

They find a limiting factor of this model the fact that there is no

mechanism to monitor the general environment beyond the industry/

task level. However they find that there is a lack of theoretical

development about the general environment and its relationships to

task level phenomena and that:

> "Advancing knowledge on this critically important frontier
> is one of the more important problems facing organization
> theory and practitioners. Until it is resolved, broad
> scale environmental analysis will remain a largely

atheoretical and virtually open-ended process." (Lenz and Engledow, 1986, p. 344).

What they find as a limiting factor they readily admit has no solution given the present state of research.

The industry structure of Porter (1980) models the environment along five dimensions of competition:

1) threat of entry - entry barriers and reaction of existing competitors;

2) existing competitors - the intensity of rivalry among competitors already in the industry and their reaction to competitive moves;

3) substitutes - the pressurefrom substitute products;

4) buyers - the bargaining power of buyers relative to the firm;

5) suppliers - the bargaining power of suppliers relative to the firm.

There have been no published environmental scanning research articles utilizing Porter's (1980) modeling of the environment. However, Dess and Davis (1984) utilized Porter's (1980) generic strategy typology in studying strategic group membership and performance in the paint and related industry. They stated (Dess and Davis, 1984, p. 468) that:

"It is believed that Porter's framework of generic strategies and competitive dimensions provides a

potentially valuable research tool for classifying the
strategies of all competitors within an industry."

Economic Performance

Organization performance is a multifaceted phenomenon which is

difficult to comprehend and measure (Snow and Hrebiniak, 1980).

Depending upon the orientation of the observer, the time period

utilized, the criteria applied, the results may vary. Generally it

is possible to categorize organizational performance theories into

one of two classifications - economic or behavioral (Anderson,

1982).

The economic theories of the firm emphasize the methodological

orientation and conceptual framework of economic theory, while

behavioral theories generally stress the coalitional nature of

organizations. Randolph and Dess (1984) argue that using Parson's

(1956) classification of organization by type of goal or function,

it is entirely appropriate to measure the performance of economic

firms with financial standards since these are objective and are of

primary importance to the firm. Snow and Hrebiniak (1980) state

that while profitability might not fully account for all aspects of

an organization's performance, it is reasonable to expect well

managed firms to exhibit higher financial returns than their more

poorly managed competitors.

Since profitability measures (ROI, ROA, etc.) are subject to the accounting techniques of the individual firms and also are unable to differentiate between increases of profit margins on sales, inventory turnover rates, or use of leverage, they may not be best for interfirm comparison if used alone (Brigham, 1985). Therefore, two types of measures will be utilized to evaluate firm performance - growth in profitability and growth in sales per unit. These measures should capture performance not only in terms of efficient usage of assets, but also in terms of how well the firms are performing in the market place.

Conclusion

This chapter has reviewed the concepts of environment and strategy and their relationship to the firm's performance. The environment was described as both objective and perceptive information flows into the organization which results in bounded rationality and produces some level of uncertainty in strategic managers. Intended strategy was characterized as the firm's definition of its relationship to its environment in light of its goals. Consensus among the top managment team in terms of objectives and means was discussed. The importance of the use of typologies in the study of both the environment and strategy was examined, as well as the current state of their usage in research.

Chapter III

Methodology

The preceding two chapters defined the domain of interest of
this study as intended strategy making at the business level of the
firm, environmental scanning in support of intended strategies, and
economic performance. That is, this study is concerned with the
economic correlates of environmental scanning in support of intended
strategies in non-diversified restaurant companies. This chapter
will present the research questions, state the working hypotheses
which are used to guide the empirical study, outline the design for
hypothesis testing, describe the operational definitions of the
independent, moderating, and dependent variables, as well as the
instrument utilized to collect and measure the data.

Research questions

This research seeks to address a number of issues which remain
unresolved, as Bourgeois and Astley (1979, p. 43) state:

> "To be sure, the literature on normative policy has long
> stressed the interactions of the firm with its
> environment, the need to scan and assess the environment
> for subsequent matching of opportunities with
> organizational capabilities and managerial desires, but
> rarely is there discussion of the economic results of the
> process, nor has there been overwhelming empirical
> validation for the "optimal" strategic selection."

When addressing future research, they point out:

"...future studies of organizational decision-making would
be deficient without both (1) inclusion of the strategy
and performance variables and (2) distinction of which
level of strategy or strategic decision-making is being
investigated (Bourgeois & Astley 1979: 61)."

In accordance with the above guidelines for future research,
this study addresses the intended strategies, environmental scanning
activity, and the performance of firms which have already made the
primary strategic choice (domain selection), examining second order
strategy (domain navigation).

The research questions addressed by this study are:

1)   Do restaurant firms which espouse a generic intended
      strategy perform at levels higher than firms which
      "are stuck in the middle"?

2)   Does environmental scanning enhance firm performance?

3)   Given an intended strategy, is firm performance
      enhanced by the scanning of selected sectors of the
      environment?

Conceptual Framework

It is proposed that the strategy of a firm, the environmental
scanning activity of its executives, and its performance are
related. Stated simply, executives in high performing firms
deliberately formulate strategy and then base their scanning
activity on the chosen strategies.

Implicit in this research is the idea of top management team

consensus. Thompson (1967) supports Cyert and March (1963) that

organizational goals are established through coalition behavior and

may be considered "as the future domains intended by those in the

dominant coalition" (Thompson, 1967, p. 128). Introducing his

concept of generic strategies Porter (1980, p. 35) states:

> "...effectively implementing any one of the three generic
> strategies usually requires total commitment and
> supporting organizational arrangements that are diluted if
> there is more than one primary approach."

This study is cross-sectional, and while linkages may be

identified, there is no attempt to determine causality since their

direction is impossible to determine.

Several relationships may be inferred from this framework:

a) the overall scanning activity of the executives is for

the most part determined by the intended strategies of

the firm - ie. sectors scanned, overall amount, etc;

b) while researchers have found no relationship to

hierarchical level and amount of scanning activity

(Aguliar, 1967; Hambrick, 1979), the functional area of

an executive does seem to influence scanning (Aguliar,

1967; Hambrick, 1979; Pinto, 1986).

Intended versus realized strategy

Mintzberg (1978, p. 935) defined intended strategy along the
lines of Chandler's (1962) idea of strategy:

> "...the determination of the basic long-term goals and
> objectives of the enterprise, and the adoption of courses
> of action and the allocation of resources necessary for
> carrying out of these goals".

He divided strategy into two types - intended as defined above and
realized. Realized strategy was defined as a pattern in a stream of
decisions (what was actually achieved):

> "In other words, when a sequence of decisions in some area
> exhibits consistency over time, a strategy will be
> considered to have formed." (Mintzberg, 1978, p. 935).

These two strategic types may be combined to define three strategic
outcomes:

1) deliberate strategies - intended strategies that are
   realized;

2) unrealized strategies - intended strategies that do
   not get realized;

3) emergent strategies - realized strategies that were
   never intended, but realized.

Utilizing these outcomes it is possible to examine strategic perfor-
mance as the result of either intended a priori guidelines (deliber-
ate) or heuristic decisions (emergent). In a more recent article
Mintzberg and Waters (1985, p. 269-270), call for future research
to examine:

> ...the process of strategy formation to complement the
> extensive work currently taking place on the content of

strategies...It would be interesting to know how different
types of strategies perform in various contexts and how
these strategies relate to those defined in terms of
specific content. Using Porter's (1980) categories, for
example, will cost leadership strategies prove more
deliberate (specifically, more often planned),
differentiation strategies more emergent (perhaps umbrella
in nature) or perhaps entrepreneurial?...At a more general
level, the whole question of how managers learn from the
experiences of their own organizations seems to be fertile
ground for research. In our view, the fundamental
difference between deliberate and emergent strategy is
that whereas the former focuses on direction and control -
getting desired things done - the latter opens up this
notion of 'strategic learning'...Emergent strategy
itself implies learning what works - taking one action at
a time in search for that viable pattern or consistency.
It is important to remember that emergent strategy means,
not chaos, but, in essence, unintended order. It is also
frequently the means by which deliberate strategies
change.

This research considers the formulation of strategy in high

performing organizations to be a cognitive decision making process

where a priori guidelines are formulated based upon organizational

strengths and weaknesses, as well as environmental inputs obtained

from informal scanning, and organizational goals. Operational deci-

sions are made in light of their contribution to intended strate-

gies. Furthermore, executives continuously engage in environmental

scanning as a feedback system (strategic learning) in order to

evaluate the success of the organization's intended strategy,

altering either their strategic means or operational decisions based

upon this feedback. As Mintzberg and Waters (1985: 271) state:

Our conclusion is that strategy formation walks on two
feet, one deliberate, the other emergent. As noted
earlier, managing requires a light deft touch - to direct
in order to realize intentions while at the same time
responding to an unfolding pattern of action.

It may be argued that it is difficult to determine whether the firm has a strategy (Snow & Hambrick, 1980; Mintzberg 1978); however, empirical studies of intended strategy utilizing the concept of "generic strategies" have indicated that firms which have failed to develop a commitment to specific generic strategies perform at levels below those of firms espousing specific generic strategies (Dess & Davis, 1984; Robinson & Pearce 1985; White 1986).

Since one of the goals of this research is to measure the effect of environmental scanning on strategic performance, intended strategy is the strategic variable measured. It is hypothesized that executives in high performing firms scan environmental sectors important to their intended strategies. Changes in the environment may necessitate changes in strategies and this is when strategic learning and emergent strategy become effective management responses.

Strategic measurement

Snow and Hambrick (1980) found that the measurement of strategy is an attempt to attach absolute values to what is in fact a relative phenomenon, since an organization's business level strategy is largely predicated on industry conditions and competitor's actions. In their research, which spanned six studies of the

strategic behavior of nearly 200 organizations in ten industries, Snow and Hambrick (1980) employed four different approaches to measure the content rather than the process of strategy:

1) investigator inference - the researcher assesses the organization's strategy using all available information. This is a favorite method of case writers and while it has the advantage of generating large amounts of information, its major disadvantage is that it is difficult to generate the large sample sizes required for statistical analysis;

2) self typing - the organization's top managers characterize the organization's strategy. This method is useful for measuring the strategies of large numbers of organizations within a single study and captures the intended strategies of the top managers. It does possess some disadvantages particularly in situations where there is no intended strategy - the executive may invent one for the benefit of the researcher;

3) external assessment - individuals external to the focal organization (competitors, industry analysts, etc.) rate the organization's strategy. Two major shortcomings of this method are that often outside experts tend to report realized strategies whereas firm managers tend to report intended strategies;

and, expert panels may have incomplete or outdated

knowledge of an organization's strategic orientation;

4)   objective indicators - published product-market data.

A major problem with this method is that this

information may not exist or if it does, it may not

be in usable form.

Snow and Hambrick (1980: 535) found that self-typing is the

only sound method for identifying intended strategies, it is ideal

in its currency as the organization's executives are most up-to-date

on the organization's direction, and allows large sample sizes.

This procedure has been utilized by various researchers to identify

intended generic strategies (Dess & Davis, 1984; Robinson & Pearce

1985).

Working Hypothesis

A number of underlying propositions act to guide this research. The first is that firms which commit to generic strategies perform at higher levels than firms which are "stuck in the middle", possessing no espoused intended strategies. A second proposition serves as an overarching working hypothesis : firms which actively scan their environment perform at levels higher than firms that exhibit a less outward orientation. From these two propositions the following working hypothesis are derived:

Hypothesis 1:   High performing firms will espouse at least one generic intended strategy while firms that do not espouse an intended strategy will exhibit low performance.

Thus, it is anticipated that firms in a mature industry such as the foodservice industry require at least one generic strategy to guide them in their strategic decision making. Firms which fail to develop an intended strategy will perform at levels below those which have, given the nature of the industry where high growth is achieved through the capture of competitor's market share.

Hypothesis 2:   High performing firms in the foodservice industry engage in greater amounts of environmental scanning than do low performing firms.

Here the expectation is that in order to adapt and grow firms must be outwardly oriented and actively scan their environment thus performing at higher levels than firms which are more internally oriented and not as active in their environmental scanning.

Hypothesis 3:   High performing firms will exhibit a better match between intended strategies and environmental sectors scanned than will low performing firms.

Here, the expectation is that firms in which the top management team scans more heavily the sectors of the environment appropriate to their intended strategies will perform at levels higher than firms whose top management teams concentrate on less important (to their intended strategies) environmental sectors.

Hypothesis 3.1:   High performing firms espousing a low cost strategy will more heavily scan the **buyer, supplier, and existing competitor** sectors of the environment than will low performing low cost firms.

Here the expectation is that firms which advocate a low cost position must remain current on changes in these sectors since their goal is satisfaction of buyer needs at a cost lower than their competitors.

Hypothesis 3.2:   High performing firms espousing a

differentiation strategy will more heavily

scan the **buyer, existing competitor, and**

substitute sectors of the environment than

will low performing differentiation firms.

Here the expectation is that firms which advocate a differentiation

position attempt to create a product or service recognized as unique

industrywide and therefore must remain current in buyer needs and

existing competition.

Hypothesis 3.3:   High performing firms espousing a focus

strategy will more heavily scan the **buyer,**

existing competitor, and potential

competitor sectors of the environment than

will low performing focus firms.

Here the expectation is that firms which espouse a focus (niche)

strategy must satisfy a buyer need more competently than other firms

as well as defend their position from competitors and therefore must

remain current in buyer needs, existing competitors, and potential

competitors.

Variables to be investigated

As noted by Arnold (1982: 143), contingency theories by defini-

tion hypothesize that the relationship between two variables is

contingent upon some third variable and this study is no different. It is hypothesized that environmental scanning moderates the form of the strategy - performance relationship, therefore strategy and environmental scanning interact in determining performance; or, more plainly explained: the effects of firm strategy (X) on firm performance (Y) depends upon the amount of environmental scanning (Z) performed.

When it is hypothesized that the form of the relationship of X to Y is conditional upon Z, Arnold (1982) finds that from the standpoint of substantive theory, it is sensible to maintain the convention of labeling the primary causal variable under investigation as the independent variable (X) and the additional variable hypothesized to moderate the causal impact of X as the moderator variable (Z). It must be remembered that from a statistical standpoint, the labeling of the two is arbitrary since the interaction is mathematically symmetrical.

It should be noted that since all firms in the sample compete within the same industry, there is no measurement of an environmental variable. Prescott (1986) found that environment moderates the strength (degree) but not the form of the relationship between strategy and performance. He stated that future researchers should examine the strategy - performance relationship within and across subenvironments since:

> "Environment is critical because it establishes the
> context in which to evaluate the importance of various
> relationships between strategy and performance" (Prescott,
> 1986, p. 342).

All firms in this sample compete within the same environmental context, a mature industry. However, there are varying subenvironments: fast food, dinnerhouse/theme, family/coffee shop, and cafeterias. If Prescott's findings hold, different strategies will yield different results contingent upon the subenvironment within which the firm competes. Therefore, while the environment will remain constant, subenvironments are controlled in the analysis of the strategy - performance relationship.

Independent variables

1. Strategy

Porter's (1980) generic strategies

Porter has developed three generic strategies for successful creation of a defensible position to outperform competitors in a given industry. His concept is based on the premise that there are a number of ways in which competitive advantage may be achieved given the structure of the industry. He hypothesizes that:

> "If all firms in an industry followed the principles of
> competitive strategy, each would pick different bases for
> competitive advantage. While all would not succeed, the
> generic strategies provide alternate routes to superior
> performance" (Porter, 1985, p. 22).

A problem with the use of generic strategies is that competitive advantage may be eroded by the action of competitors or industry

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evolution; therefore, in order to be successful it is necessary for the firm "to offer a moving target to its competitors" (Porter, 1985, p. 20) since each generic strategy is vulnerable to different types of attacks.

In this study respondents were requested to characterize their firm's strategy based upon Porter's (1980) definitions of generic strategies.

Porter's three generic strategies are detailed below:

a) cost leadership - the firm sets out to become the low cost producer in the industry. It must be broad based and serve many industry segments as its breadth of operations is often important to its cost advantage, however, quality, service, etc cannot be ignored;

b) differentiation - the firm sets out to differentiate its product or service in such a way as to be perceived throughout the industry as being unique. Ideally, this differentiation should be along several dimensions; and, while the firm can't ignore costs, they are not its primary concern;

c) focus - the firm choses a narrow competitive scope within the industry and sets out to serve a particular buyer group very well, with each

functional policy developed with this in mind. The

focus strategy has two variants:

(1) <u>cost focus</u> - firm seeks cost advantage in

its target segment;

(2) <u>differentiation focus</u> - firm seeks

differentiation in its target segment.

Respondents were asked:

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:_____

_____.

Moderating variable

Environmental scanning

According to researchers (Aguilar, 1967; Hambrick, 1982; Farh

et al., 1984; Pinto, 1986), environmental scanning by executives is

an informal activity which is intimately involved in the decision-

making process and everyday activity. However, it has been well

documented that managers tend to focus their scanning activity on

specific sectors of the environment (Aguilar, 1967; Farh et al.,

1984; Pinto, 1986). Therefore, the measurement of managerial

scanning activity must capture data centered around two major

issues:

1)   the identification of the environmental sectors

scanned - accomplished through the use of Porter's

typology;

2)   proper methodology development to assess the extent

of the scanning activity - achieved through the use

of Hambrick's scales (frequency and interest).

Measurement of scanning and environment/strategy models

In order to satisfy both of the above methodological require-

ments, it becomes necessary to develop a model of the significant

environment to be used as a guide to assess the extent of scanning

activity.

As noted in the previous chapter, several environmental and

strategic typologies have been developed to assist researchers in

their study of strategic management. In the two previous

environmental scanning studies published which utilized a typology

to model the environment and realized strategy (Hambrick, 1982; Farh

et al, 1984), the strategic typologies of Miles and Snow (1978) were

used. As noted by Hambrick (1982: 170):

> "This study has important limitations. The Miles and Snow
> strategic typology is clearly not the most elaborate
> frame work which could have been chosen...Additional
> strategic dimensions of typologies should be used in
> future scanning studies."

Responding to Hambrick's call, this study utilized the industry

structure model to model the environment as well as generic

strategies to capture intended strategy as developed by Porter

(1980). As discussed earlier, Porter's typologies, while based on

firm theoretical underpinnings, have been utilized only once to

assess strategic activity of managers in a service industry. Thus,
this study is an exploratory effort to apply industrial typologies
to a service industry.

In order to assess the extent of environmental scanning
activity, Hambrick's scale as modified by Farh et al. was utilized.
This is the only published scale to use multiple items and methods
to assess environmental traits. As noted by Churchill (1979, p.
66):

>"Multi-item measures have much to recommend them. First,
>individual items usually have considerable uniqueness or
>specificity in that each item tends to have only a low
>correlation with the attribute being measured and tends to
>relate to other attributes as well. Second, single items
>tend to categorize people into a relatively small number
>of groups...Third, individual items typically have
>considerable measurement error...All three of these
>measurement difficulties can be diminished with multi-item
>measures: (1) the specificity of items can be averaged
>out when they are combined, (2) by combining items, one
>can make relatively fine distinctions among people, and
>(3) the reliability tends to increase and measurement
>error decreases as the number of items in a combination
>increases. The folly of using single-item measures is
>illustrated by a question posed by Jacoby (1978: 93): 'How
>comfortable would we feel having our intelligence assessed
>on the basis of our response to a single question?'"

A second important reason for using Hambrick's scale is that it
has been reported to possess acceptable reliability and content
validity as well as convergent and discriminant validity (Hambrick,
1982; Farh et al., 1984). Churchill (1979) states that construct

validity is at the heart of scientific process - does the instrument in fact measure what it purports to measure. In addition to coefficient alpha which is the recommended measure of internal consistency, he recommends other steps which should be taken to assure construct validity, specifically convergent and discriminant validity tests.

> "Evidence of the convergent validity of the measure is provided by the extent to which it correlates highly with other methods designed to measure the same construct. The measures should have not only convergent validity, but also discriminant validity. Discriminant validity is the extent to which the measure is indeed novel and not simply a reflection of some other variable...A useful way of assessing the convergent and discriminant validity of a measure is through the multitrait-multimethod matrix." (Churchill 1979:70).

Dess and Davis (1984) utilized factor analysis of questionnaire data on competitive methods to develop the competitive dimensions associated with each of Porter's generic strategies. These competitive methods were utilized in this research to develop the environmental traits scanned by the firms.

Given the necessity therefore of identifying not only environmental sectors scanned by the executive, but also the intensity of the scanning activity, the following multitrait-multimethod scale was used in the questionnaire:

a) Environmental traits

The environmental traits were developed by adapting the competitive methods developed by Dess and Davis (1984) for Porter's (1980) industry structure typology to the foodservice industry:

1) threat of entry of new competitors - new

   competitors in an industry often bring in additional

   capacity, a desire to capture market share, or

   additional resources. This trait will be measured by

   questions 11E; 11Q; 11R; 11S in the frequency section

   and by 12E; 12Q; 12R; 12S in the interest section;

2) intensity of rivalry among existing competitors - the

   level of competition affects the profitability of the

   industry, particularly if it is intense, by driving

   down margins. This trait will be measured by questions

   11K; 11L; 11O; 11P in the frequency section and by 12K;

   12L; 12O; 12P in the interest section;

3) pressure from substitute products - these also affect

   industry profitability by placing a ceiling on the

   prices firms in the industry may charge. This trait

   will be measured by questions 11F; 11G; 11H; in the

   frequency section and by 12F; 12G; 12H in the

   interest section;

4) bargaining power of suppliers - by raising prices/

   wages, refusing to invest equity capital, charging

   premium interest on loans suppliers are able to affect

   profitability in an industry if these costs can not be

   passed on to buyers. This trait will be measuredby

questions 11C; 11D; 11J; 11N in the frequency section
and by questions 12C; 12D; 12J; 12N in the interest
section;

5) <u>bargaining power of buyers</u> - powerful buyers or those
with many alternate sources are capable of limiting
industry profitability through their buying behavior.
This trait will be measured by questions 11A; 11B; 11I;
11M in the frequency section and by questions 12A; 12B;
12I; 12M in the interest section.

<u>b) Scanning methods</u>

Hambrick's (1979) modified scale:

1) <u>frequency method</u> - this method involves measuring
environmental scanning activities by asking the
respondents how frequently they become aware of events
or trends in the five sectors of the environment (four
traits for each of the five environmental sectors were
developed by the researcher). Scoring for this method
was as follows:

Please rate the approximate frequency with which each
type of information comes to your attention:

1) once a year or less

2) twice a year

3) 4 times a year

4) once a month

5) twice a month

6) once a week

7) once a day or more

2) <u>interest method</u> - this method involves measuring

environmental scanning activities by asking the

respondents to rate their level of interest in the same

twenty traits of the environment on a seven point

interval scale utilizing behavioral anchors. This is a

departure from Hambrick who utilized a five point

scale, but in compliance with Farh et al. (1984) who

recommended that both methods utilize the same scales

in order to allow for their combination into a single

scanning value. Scoring for this method was as

follows:

Please rate the below listed events/trends as to

their interest to you.

not interested __:__:__:__:__:__:__ very interested.

A composite measure of environmental scanning for each trait

was developed by adding the standardized scores across the two

scales for each environmental trait. A total environmental scanning

score was then determined by adding the trait scores.

Control variables

As with any research, this study must be concerned with

variables which increase error by contributing to method variance.

As noted by McGrath (1982, p. 15):

"...research involves a series of dilemmas - choices among
mutually conflicting desderata - and that those dilemmas
can neither be "solved" nor avoided. Thus, in principle
all research methods are seriously flawed - though each is
flawed differently."

All research involves three basic considerations - population,

behavior, and context. As McGrath (1982, p. 74) states:

"It is always desirable (ceteris paribus) 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...The very
choices and operations by which one can seek to maximize
any one of these will reduce the other two; and the
choices that would "optimize" on any two will minimize on
the third. Thus, the research strategy domain is a three-
horned dilemma, and every research strategy either avoids
two horns by an uneasy compromise but gets impaled, to the
hilt, on the third horn; or grabs the dilemma boldly by
one horn maximizing on it, but at the same time "sitting
down (with some pain) on the other two horns."

Respondents were surveyed by questionnaire in an attempt to

attain effective sampling of the population (A). The use of a

typology to model the environment and strategy does place some

limitation on the research by forcing the respondents to reduce the

scope of their possible responses. However, this procedure does

result in the reduction of "noise" (error) and does seem to meet the

requirements of (B) in that there is more control and measurement of

the variables related to the behaviors of interest. Thus there is a

trade-off between scope (the amount of potential information) and

precision (the amount of reduction of systematic error). This

methodological approach should prevent the research from being

impaled by all three of the horns.

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The following variables were controlled for:

a) <u>size</u> of an organization may bias the findings in the
frequency method as it may be safe to assume that the
larger organizations possess more slack and can
therefore afford more members scanning the environment
as part of their duties and generating information to
be utilized internally (Aguliar, 1967; Hambrick, 1979).
In this research size will be 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), it can be argued that
in the operation of restaurant chains the number of
units much like the number of beds in a hospital is a
better indicator of size. While the number of
employees may add complexity to the human resource
management task, the number of units operating in
diverse markets requires additional administrative
support and managerial levels affecting the structure
of the organization as well as the complexity and
uncertainty of the environment within which the firm
competes;

b) <u>age</u> as noted by Daft and Weick (1984), affects the
organization. New, young organizations begin their

existence as test makers. They try new things and
actively seek information about their environment;
however, as the organization grows and time passes, the
environment may be perceived as less threatening thus
decreasing search activity;

c) market breadth affects the performance of the firm for
a number of reasons:

1) the firm's main competitive region may be
experiencing significant differences in economic
growth than other regions of the country;

2) firms that compete nationally are able to achieve
economies of scale not available to regional or
local firms.

d) industry segment - foodservice sector of competition
will differentiate performance particularly since the
segments are growing at different rates.

e) franchising - may affect the performance in terms of
return on assets. Firms which franchise may
experience higher return on assets since they are
receiving some amount of revenue for a concept and not
tangible assets.

Dependent variables

Economic performance was measured by the average percentage of return on sales(ROS), the average return on assets percentage(ROA), and the growth in unit sales. This performance data was collected for the five years 1982 through 1986 inclusive and was self reported by the respondents. The performance measures were not detrended since all the firms are in the same industry and therefore all have experienced the same conditions, ie inflation, bull stock market, etc.

The performance measures of the public firms which responded were checked for accuracy utilizing the published reports in <u>Value Line</u> for the period under study.

The performance measures are expressed by the following formulae:

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

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

Growth in unit sales = <u>total annual sales</u>
                            number of units

Research Design

Since we are researching two relatively unexplored
(empirically) phenomena, strategy making and environmental scanning,
this investigation is exploratory in nature and must be conducted in
the field. The relevant unit of analysis is the firm and the
relevant perspective is that of the chief executive (CEO) and the
top management team (TMT).

Sample

Sample selection was by necessity not random. Due to the exis-
tence of thousands of restaurant companies covering the entire spec-
trum of ownership from small single proprietorships to large
strategic business units of conglomerates with no single published
comprehensive directory, a number of sources were utilized. Firms
were identified from the following:

Restaurants & Institutions "Top 400";

Restaurant Hospitality "Top 100 Chains";

Who's Who in the Foodservice Industry The membership directory

of the National Restaurant Association;

Nation's Restaurant News the entire 1986 edition (50 issues).

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. A letter was
then sent to the chief executive officer (CEO) or president

enlisting the company's participation in the study. A self-addressed post card was enclosed which allowed the executive to list his/her own name as well as up to four other members of the top management team chosen by the CEO to participate. Firms that indicated a willingness to participate were then sent a packet with questionnaires for nominated participants. In an attempt to increase sample size, all firms which did not negatively reply to the initial participation request were also sent a packet of questionnaires. Follow up was accomplished by three successive mailings to nonrespondents. In total, four mailings were conducted.

Firms contacted were confined to the four main segments of the foodservice industry: fast food, family/coffee shop, dinnerhouse/theme restaurant and cafeteria chains.

Methods for Data Collection

The method of data collection for this study was mailed questionnaires completed by the (CEO) and his selected members of the (TMT). The limitations on questionnaire based research are well known (Yu and Cooper, 1983; Hambrick, 1979). Several important 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.

Pretest of Survey Instrument

The survey instrument was be pretested by six firms known to the Center of Hospitality Research and Service at Virginia Tech to be receptive to industry research. The chief executive officer (CEO) was asked to distribute two copies of the questionnaire to members of the top management team for completion and evaluation. The CEO's was also requested to complete and evaluate the instrument. Follow up was be conducted telephonically with the CEO's to encourage response and to ensure the accuracy of the instrument. The questionnaire may be examined in Appendix A.

Data Collection Methods

In this investigation, intended strategy was measured through self-typing by the CEO and the TMT. Specifically the CEO was asked to identify the members of his/her TMT and a questionnaire was mailed to the identified members as well as the CEO.

The intended strategy of the organization was determined by the response of the CEO to question 9 - which of the following strategies best characterizes your foodservice concept. Only the response of the CEO was utilized since it has been argued that the CEO's perceptions of their organizations' strategies are more closely aligned to external measures of strategy than are the perceptions of other executives (Hambrick, 1981). The use of the

self-typing technique is recognized as appropriate in the

determination of intended strategy (Hambrick and Snow, 1980), and

has recently been utilized in two studies of generic strategy (Dess

and Davis, 1984; Robinson and Pearce, 1985).

The environmental scanning activity of the firm was measured

utilizing Hambrick's multi-method scale as modified by Farh, et al

to control for firm and top management team size. The modified

scale measured environmental traits utilizing two different methods:

> 1) interest method - assesses the scanning of environ-
>
>   mental traits based upon the extent to which executives
>
>   make a conscious effort to remain current;
>
> 2) frequency method - assesses the scanning of environ-
>
>   mental traits based upon how frequently the executives
>
>   learn of events in the various sectors.

Both of these methods were measured utilizing a seven point anchored

scale, with the total number of items representing 20 items, four

for each sector of the environment. As recommended by Farh, et al

(1984), a composite measure was constructed by adding up the

standardized scores across the two scales for each environmental

sector.

Nonresponse of Firms

Nonresponse is a major problem in organizational research,

particularly in the hospitality industry (De Noble & Olsen, 1986;

Pinto, 1986; Schaffer, 1986). A random sample of nonresponding

firms was taken in order to ascertain if there were any significant

statistical differences between responding firms and nonresponding

firms.

Statistical Analysis Performed

The data of responding firms was analyzed using two statistical

methods - regression analysis and analysis of variance. Detailed

below are the hypotheses and the statistical methods utilized for

the test of each.

H1: Strategy and performance. The firms were grouped by

strategy espoused by the CEO. Since this is a discrete grouping

variable, regression analysis may not be used. Differences in

performance between strategic groups was determined utilizing

analysis of variance.

H2: Scanning and performance. Firms, regardless of espoused

strategy, were grouped by the performance variables into high and

low performers. This grouping was accomplished by identifying the

25th and 75th percentile points, classifying firms at or above the

75th percentile as high performing and firms at or below the 25th

percentile as low. The middle 50% were disregarded. The mean or

the median values are not used since they divide the sample into

equal halves and there should be very little difference between the

two groups due to the moderating effect of firms lying about the middle measures. This research is interested only in the firms in the outer limits of the variables.

To assess the level of firm scanning, individual responses were transformed into 'z scores' for each scanning variable and summed across methods to attain a total individual scanning score. In using 'z scores', we are simply standardizing each response by subtracting the mean from the respondents score and then dividing the result by the standard deviation. In firms with multiple responses, the individual responses were summed and averaged in the manner recommended by Farh et al. (1984) to attain a firm score. Regression analysis was then used to determine the relationship between firm scanning behavior and performance.

H3: Strategic scanning and performance. Firms were separated by strategic group into four different samples. The three generic strategy samples have the firms grouped by performance as in H2. Analysis of variance was then performed between the high and low performers to ascertain differences in scanning levels among the five environmental sectors important to their espoused strategy.

CONCLUSION

This chapter introduced the research questions guiding this study as well as the conceptual framework. The concepts of intended

and realized strategy, strategic measurement, environmental scanning, and performance were discussed. The working hypotheses and variables under investigation were operationalized and the questionnaire with its inherent limitations was examined. The statistical tests to be conducted on each hypothesis was explained. The following chapter will report the findings of the survey.

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Chapter 4

Research Results

The previous chapter introduced the research questions and
hypotheses used to guide this research, as well as the concepts of
strategy, environmental scanning, and performance. This chapter
will present a description of the participating firms, the survey
data collected, and the statistical analysis conducted.

Pretesting

Pretesting of the survey instrument was begun in August 1987,
with six firms participating. Three questionnaires were mailed to
each chief executive officer with a request that they be distributed
to members of the top management team for completion and criticism.
Each chief executive officer was then contacted by telephone on at
least four occasions for comments and encouragement. Although only
six of the eighteen questionnaires were returned with no adverse
comments, each chief executive telephonically assured the researcher
that the questionnaire was clear, easily understood, and not too
complex to complete. By mid-November 1987, it was determined that
further pretesting would only delay the survey beyond the holidays,
therefore the pretesting results were evaluated based upon the six
returned questionnaires and the comments of the six chief executive
officers and the survey was begun.

The Sample

As discussed in Chapter 3, firms solicited to participate in the study were not chosen at random. Due to the nature of the industry, where most large firms are strategic business units of larger corporations or franchisees and most small firms are independently owned, there is no central data base from which to procure the names and addresses of industry executives. Therefore, firms sampled were firms which had appeared in various industry publications or firms of which the researcher was personally knowledgeable.

Initially 310 firms were requested to participate in the study, with 92 agreeing to participate. Questionnaires were mailed to the 197 persons nominated. Additionally, three questionnaires were mailed to all firms which did not respond to the initial request. In an effort to increase response three additional mailings of only one questionnaire were conducted, with the result that non-responding firms received a total of four different mailings and six questionnaires. The first mailing was sent out mid-November of 1987 and the final one in mid-January of 1988. The last questionnaires were received mid-February of 1988. Table 4.1 details the response rate.

Table 4.1   Targeted and Respondent Samples

	Targeted	Responded		Response Rate
Firms	310	92	Agreed	30%
		65	Fully Participated	21%
Individuals		197	Agreed	
		147	Responded	75%
		133	Complete Responses	68%
		106	Usable Responses	54%

Since this research examined the relationship of strategy and environmental scanning on performance, only responses which were complete in those three areas of the questionnaire were utilized. Where there were multiple answers per firm with disparate performance indices, the chief financial officer or CEO/President's answer was the response used for the firm. Additionally, because the CEO/President response to firm strategy was the grouping variable, any response from a firm where the CEO/President did not reply was not included in the sample. This technique resulted in a smaller sample size and response rate; but, it also resulted in increased accuracy in the measurement of intended strategy since the CEO is considered to a major formulator of an organization's strategy (Thompson 1967, Dess 1987).

Description of Participating Firms

The study was comprised of firms competing in all major segments of the industry, at all levels. Table 4.2 defines the sample firm characteristics as well as the function of all respondents.

Size

Firms participating in the sample ranged from 1 to 5520 units in operation, with 31 (48%) utilizing franchising while 34 (52%) do not. National firms chose to franchise 2 to 1, while regional firms were almost evenly split, and the preponderance of local firms chose

Table 4.2 Firm Characteristics

Functional Area		National	Regional	Local	Total
CEO	33%	8	19	8	35
President	36%	13	16	9	38
Finance	9%	2	5	3	10
Marketing	2%	1	0	1	2
Operations	8%	2	5	2	9
Human Resources	2%	1	1	0	2
Other	10%	3	5	2	10
Total		30	51	25	106

Segment (Firms)

Fast Food	32%	6	15	0	21
Dinnerhouse	38%	7	7	11	25
Family/Coffee	20%	4	6	3	13
Cafeteria	5%	0	3	0	3
Other	5%	1	1	1	3
Total		18	32	15	65

Strategy (CEO/PRES)

Lowcost	34%	5	15	2	22
Differentiation	29%	3	10	6	19
Focus	23%	6	6	3	15
Other	13%	4	1	4	9
Franchised	48%	12	18	1	31
Non-Franchised	52%	6	14	14	34

not to franchise. Company operated units averaged 124 units (mean) and 22 units (median), while franchised units averaged 398 (mean) and 73 (median). As may be readily discerned by the large difference between the mean and the median, there was a tremendous variance in the size of the firms and the number of units operated by either the company or franchisees. Table 4.3 illustrates the size by arena of competition.

The firms were grouped by number of units operated either by the company or franchisees. The size grouping determined by the researcher was based upon the following precepts:

a) firms with less than 10 units may easily function in the same manner as they did when they were founded since the span of control is not too great to preclude a small management team;

b) firms between 11 and 50 units are beginning to be required by size to alter the methods by which they conduct business. They are beginning to experience scale problems;

c) firms greater than 50 units have made the transition from the entrepreneurial to the management team mode;

d) this sizing allows for uniform cell sizes.

Age

The firms in the sample range from 4 to 67 years in operation, with a mean of 22.3 and a median of 19 years. However, 60% of the

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Table 4.3 Size and Arena of Competition

Units in operation	National	Regional	State/Local	Total
Small 1 - 10	1	4	15	20
Medium 11- 50	7	13	0	20
Large >50	10	15	0	25
Total	18	32	15	65

firms lay within the 13 - 34 year grouping. Given the relatively
short life of many restaurant concepts, this sample seems especially
long lived.

Nonrespondents

In an effort to establish that respondents and nonrespondents
did not differ statistically, a random sample of ten firms (five
public and five private) was selected from nonrespondents and
contacted by telephone by the researcher. All cooperated in
providing demographic data, performance data was requested from
privately held firms but all declined to respond. The sample
included six national firms and four regional firms ranging in age
from 12 to 50 years; operating an average of 200 company owned and
283 franchised units; four were dinnerhouse concepts, three were
fast food, and three were coffee shop/family restaurants.
Statistically (pooled T Test), there was no difference in the
performance of the public firms than that of the sample, and
demographically both samples appeared to be from the same
population.

Variables

Performance

As stated in Chapter 3, performance measures are self reported.
This is necessitated by the fact that most firms participating in
the study are not autonomous, public corporations with the

requirement to publish performance data and it is not readily available from other sources. The performance measures of the public firms which responded were checked utilizing the published reports in <u>Value Line</u> for the period under study and no significant difference was noted.

Summary statistics for the separate performance variables are given in Table 4.4. Skewness and kurtosis are provided to indicate the degree to which these variables exhibit the properties of a normal distribution.

Skewness is a measure of the degree to which the data clusters more to the left (positive skew) or the right (negative skew) of the typical bell shaped normal distribution curve. Kurtosis gives an indication of the degree to which the curve is highly peaked (positive kurtosis), indicating that the majority of the data points are clustered within a very narrow range. In a perfectly normal distribution both statistics would equal zero. Due to the fact that the statistical techniques utilized in the subsequent analysis assume that the variables sampled come from a normally distributed population, the extent to which the performance data displays properties of normality reinforces our assumptions of normality of the sample population.

Table 4.4   Performance Variable Descriptive Statistics

Variable	Mean	Standard Deviation	Skewness	Kurtosis	Range Minimum	Maximum
Full Sample						
ROS	7.1	4.7	.1	.5	-5.0	20.0
ROA	12.6	11.0	1.4	3.04	-5.0	50.0
Growth Unit Sales	14.6	13.6	1.2	1.7	-10.0	63.0
Outliers Removed						
ROS	7.0	4.8	.1	.5	-5.0	20.0
ROA	10.3	7.3	-.2	-.4	-5.0	28.0
Growth Unit Sales	12.9	11.1	.5	-.4	-10.00	40.0

In the case of the performance variables, all three exhibit very reasonable approximations of a normal distribution with the exception of Return on Assets which has a slightly high positive kurtosis (3.04). The upper limit for normality of this statistic is 3.0 (Davies & Goldsmith, 1972). While ROA may exhibit a slightly higher than normal kurtosis, according to Bourgeois (1978, p. 103) it is well within values normally encountered in "typical" social science research.

In addition to skewness and kurtosis analysis, the statistical program utilized, Bio-Medical Data Processing (BMDP), provides histograms and normal probability plots for standardized residuals, where standardized residuals of the variable are plotted along the expected values of normally distributed values. This procedure is recommended by Cook & Weisberg (1982, p.2) who state:

> "Diagnostic tools such as this plot have two important uses. First, they may result in the recognition of important phenomena that might otherwise go unnoticed. Outlier is an example of this, where an outlying case may indicate conditions under which a process works differently, possibly worse or better. It can happen that outlying cases have greater scientific importance than the study of the bulk of the data. Second, the diagnostic methods can be used to suggest appropriate remedial action to the analysis of the model.

Figures 4.1, 4.2, and 4.3 graphically illustrate that the performance variables appear to be normally distributed.

HISTOGRAM CF VARIABLE   74 V19

SYMBOL   COUNT
X   93

EACH SYMBOL REPRESENTS

MEAN   ST.DEV.
7.143   4.704
1 OBSERVATIONS

INTERVAL NAME		5	10	15	20	25	30	35	40	FREQUENCY INT. CUM.		PERCENTAGE INT. CUM.	
*-1.7000	+XXX									3	3	4.8	4.8
*711E-17	+XX									2	5	3.2	7.9
*1.70000	+X									1	6	1.6	9.5
*3.40000	+XXXXXXX									7	13	11.1	20.6
*5.10000	+XXXXXXXXX									10	23	15.9	36.5
*6.80000	+XX									2	25	3.2	39.7
*8.50000	+XXXXXXXXXXXX									13	38	20.6	60.3
*10.2000	+XXXXXXXXXXXXXXXX									16	54	25.4	85.7
*11.9000	+XX									2	56	3.2	88.9
*13.6000	+X									1	57	1.6	90.5
*15.3000	+XXX									3	60	4.8	95.2
*17.0000	+X									1	61	1.6	96.8
*18.7000	+X									1	62	1.6	98.4
*20.4000	+X									1	63	1.6	100.0
*22.1000	+									0	63	.0	100.0
*23.8000	+									0	63	.0	100.0

NORMAL PLOT OF VARIABLE   74 V19

SYMBOL   COUNT
*   63

MEAN   ST.DEV.
7.143   4.704

VALUES FROM NORMAL DISTRIBUTION WOULD LIE
ON THE LINE INDICATED BY THE SYMBOL / .

Figure 4.1 Histogram and Normal Probability Plot of Return on Sales

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```
                                        SYMBOL   COUNT       MEAN       ST.DEV.
                                           X        56       12.564        11.050
                              EACH SYMBOL REPRESENTS      1 OBSERVATIONS
INTERVAL                                                 FREQUENCY PERCENTAGE
NAME           5.   10   15   20   25   30   35   40    INT. CUM.  INT.  CUM.
+----+----+----+----+----+----+----+----+
*0.00000 +XXXXXX                                          6    6   10.7  10.7
*3.60000 +XXXXX                                           5   11    8.9  19.6
*7.60000 +XXXX                                            4   15    7.1  26.8
*11.4000 +XXXXXXXXXXXXX                                  13   28   23.2  50.0
*15.2000 +XXXXXXXXXXXX                                   12   40   21.4  71.4
*19.0000 +XXXXXX                                          6   46   10.7  82.1
*22.8000 +XXXXX                                           5   51    8.9  91.1
*26.6000 +                                                0   51    .0   91.1
*30.4000 +XX                                              2   53   3.6   94.6
*34.2000 +                                                0   53    .0   94.6
*33.0000 +                                                0   53    .0   94.6
*41.8000 +X                                               1   54   1.8   96.4
*45.6000 +                                                0   54    .0   96.4
*49.4000 +                                                0   54    .0   96.4
*53.2000 +XX                                              2   56   3.6  100.0
*57.0000 +                                                0   56    .0  100.0
+----+----+----+----+----+----+----+----+
            5   10   15   20   25   30   35   40
```

NORMAL PLOT OF VARIABLE   75 V20

```
                                  SYMBOL   COUNT      MEAN       ST.DEV.
                                     *       56       12.564        11.050
```


Figure 4.2 Histogram and Normal Probability Plot of Return on Assets

HISTOGRAM OF VARIABLE   76 V21

```
                              SYMBOL    COUNT        MEAN       ST.DEV.
                              X           52        14.550      13.609
                         EACH SYMBOL REPRESENTS       1 OBSERVATIONS
INTERVAL                                            FREQUENCY PERCENTAGE
NAME         5    10   15   20   25   30   35   40  INT. CUM.  INT.  CUM.
         +----+----+----+----+----+----+----+----+
*0.00000 +XXX                                         3    3    4.8    4.8
*5.00000 +XXXXXXXXXXXXXXX                            15   18   24.2   29.0
*10.0000 +XXXXXXXXXXXXXX                             14   32   22.6   51.6
*15.0000 +XXXXXXXXXX                                 10   42   16.1   67.7
*20.0000 +XX                                          2   44    3.2   71.0
*25.0000 +XXXX                                        4   48    6.5   77.4
*30.0000 +XXXXXXXX                                    8   56   12.9   90.3
*35.0000 +XX                                          2   58    3.2   93.5
*40.0000 +XX                                          2   60    3.2   96.8
*45.0000 +                                            0   60    .0   96.8
*50.0000 +                                            0   60    .0   96.8
*55.0000 +X                                           1   61   1.6   98.4
*60.0000 +                                            0   61    .0   98.4
*65.0000 +X                                           1   62   1.6  100.0
*70.0000 +                                            0   62    .0  100.0
*75.0000 +                                            0   62    .0  100.0
         +----+----+----+----+----+----+----+----+
              5    10   15   20   25   30   35   40
```

NORMAL PLOT OF VARIABLE   76 V21

```
                              SYMBOL    COUNT        MEAN       ST.DEV.
                              *           62        14.550      13.609
```



```
          ..+....+....+....+....+....+....+....+....+
        -      -                              *     -
E     2 +                          //              +
X       -                        /*                -
P       -                      **                  -
E       -                     */*                  -
C       -                   */*                    -
T     1 +                  */*                    +
E       -               ***/*                     -
D       -              */ *                        -
      0 +            **/ //                        +
N       -           **//                           -
O       -          */ /                            -
R       -         **/                              -
M    -1 +        //**                             +
A       -       //  **                             -
L       -      //  **                              -
V       -     // *                                 -
A    -2 +    /*                                   +
L       -    *                                     -
U       -                                          -
E         ..+....+....+....+....+....+....+....+....+
           -10    0.    10    20    30    40    50   60
                                  V21
```

VALUES FROM NORMAL DISTRIBUTION WOULD LIE
ON THE LINE INDICATED BY THE SYMBOL / .

Figure 4.3 Histogram and Normal Probability Plot of Growth in Unit Sales

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Outliers

It is widely acknowledged that in any regression analysis,
inferences based on ordinary least squares regression may be very
strongly influenced by a few cases lying in the outer regions of the
distribution. This may cause the fitted model to reflect the
unusual features of those cases rather than the overall relationship
between the variables (Cook & Weisberg, 1982). An examination of
the normal probability plots of the performance reveals residuals
which lie at the extreme and appear to be beyond values expected in
a normal distribution. As may be observed in Figure 4.2 three such
residuals occur; while in Figure 4.3, two such values are present.

In an effort to determine if these outlying values were in fact
simply high performing firms or unique cases, Winsorized Trimmed
Means were computed utilizing the BMDP statistical program which
identifies cases which meet the outlier criteria. The program
follows the procedure tested and validated by Dixon and Tukey
(1968). Each CEO of the identified firm was then contacted and
questioned concerning the firm's performance.

In the three cases of Return on Assets, each of the firms fol-
lowed a tactic of leasing all property and equipment. In two cases,
the firm which held the lease was a firm owned by the firm which was
the leasee. The third simply did not desire to invest in a large
amount of assets.

The two cases of extreme growth where likewise unusual. In
both instances the firm had increased the capacity of units during
the period, and computed growth without taking into consideration
the difference in capacity. The smaller firm had simply added
additional dinning areas to the three existing units; while the
larger had made a decision to replace older existing units with new
larger units in the same location.

It seems that these five firms are in fact special cases and
not members of the same population for analysis of Return on Assets
and Growth in Unit Sales. As a result, the analysis will be
reported with the outliers included and removed from the sample.

Scanning

Firm scanning was measured utilizing Hambrick's (1979) multi-
method, multi-trait scale. Although both Hambrick and Farh et al
reported high reliability, convergent validity, and discriminant
validity, the sample was examined to replicate their findings.

In keeping with Churchill's (1979) remonstrance, coefficient
alpha was the first measure calculated to assess the quality of the
scanning scales. The frequency method attained an overall alpha of
.92, while the interest method scored an alpha of .88. These high
scores indicate that the scanning scales are probably internally
homogeneous but give no indication of construct validity.

Construct validity was measured utilizing a multitrait -

multimethod matrix which numerous authors (Campbell & Fiske, 1959;

Churchill, 1979; Farh et al. 1984) find to be a useful tool. A

matrix of zero order correlations between different traits measured

by different methods was constructed, replacing the correlation of

the trait on itself with the coefficient alpha. As Churchill (1979,

p. 70) explains:

> "Evidence about convergent validity of a measure is
> provided in the validity diagonal (3) by the extent to which
> the correlations are significantly different from zero and
> sufficiently large to encourage further examination of
> validity.
> Discriminant validity, however, suggests three compar-
> isons, namely that:
> 1. Entries in the validity diagonal (3) should be higher
>   than the correlations that occupy the same row and
>   column in the heteromethod block (4) This is a
>   minimum requirement as it simply means that the
>   correlation between two different measures of the
>   same variable should be higher than the correlations
>   'between that variable and any other variable which
>   has neither trait nor method in common' (Campbell and
>   Fiske, 1959, p. 82).
> 2. The validity coefficients (3) should be higher than
>   the correlations in the heterotrait-monomethod tri-
>   angles (2) which suggests that the correlation within
>   a trait measured by different methods must be higher
>   than the correlations between traits which have method
>   in common. It is a more stringent requirement than
>   that involved in the heteromethod comparisons of step
>   1 as the off-diagonal elements in the monomethod
>   blocks may be high because of method variance.
> 3. The pattern of correlations should be the same in all
>   of the heterotrait triangles, e.g., both (2) and (4).
>   This requirement is a check on the significance of the
>   traits when compared with the methods...a visual
>   inspection often suffices.

Five matrices have been developed corresponding to the five

industry sectors of Porter's typology as a means of more easily

assessing the convergent and discriminant validity of the scanning

scale. To assist in the interpretation of the matrices, the first -

buyer segment - will be outlined and numbered as Churchill

describes in the above passage.

As may be readily seen in Tables 4.5 to 4.9, the scanning scale

does meet Churchill's requirements for convergent validity as may be

seen by examining the correlations in (3). Also the pattern of

correlations appear to be the same in all of the heterotrait

triangles (2) and (4), when comparing the correlations of the (2)'s

with each other and the (4)'s with each other. However, there does

appear to be some variance caused by method as may be seen when

comparing (3) with (2). It seems that the different traits within a

particular method are more highly correlated with each other than

are same traits across methods. For example, current customer

needs/trends (11A Frequency) is more highly correlated with the

other traits in the frequency method than it is with current

customer needs/trends (12A) in the interest method; indicating some

method variance. Churchill (1979, p. 71) finds that while ideally

the methods should be as independent as possible, sometimes the

nature of the trait rules this out. If the traits are not

independent, the monomethod correlations will be large and the

heteromethod correlations will also be substantial, resulting in the

clouding of the evidence of descriminate validity. While the issue

in this instance has been clouded, it is intuitively appealing to

ascertain that frequency and interest do in fact capture two

different aspects of the construct of scanning.

There is also one instance where the requirment that the

validity coefficients (3) should be higher than the other

Table 4.5   Buyer Segment

	11A	11B	11I	11M	12A	12B	12I	12M
11A	(.91)							
11B	.55	(.91)						
11I	.47	.49	(.91)					
11M	.33	.33	.50	(.91)				
12A	.37	.15	.23	.16	(.88)			
12B	.05	.19	.16	.05	.37	(.87)		
12I	.09	.15	.22	.08	.43	.60	(.87)	
12M	.13	.16	.05	.22	.44	.42	.56	(.88)

Table 4.6   Supplier Segment

	11C	11D	11J	11N	12C	12D	12J	12N
11C	(.91)							
11D	.65	(.91)						
11J	.20	.06	(.92)					
11N	.41	.29	.35	(.91)				
12C	.44	.31	.05	.06	(.88)			
12D	.32	.50	-.10	-.01	.70	(.89)		
12J	.19	.07	.52	.21	.19	.02	(.89)	
12N	.11	.02	.22	.37	.03	-.01	.39	(.88)

Table 4.7   Existing Competitors

	11K	11L	110	11P	12K	12L	120	12P
11K	(.91)							
11L	.52	(.91)						
110	.60	.60	(.92)					
11P	.49	.57	.66	(.91)				
12K	.24	.28	.42	.36	(.87)			
12L	.13	.44	.36	.27	.76	(.87)		
120	.24	.38	.43	.34	.67	.72	(.87)	
12P	.14	.27	.28	.33	.64	.60	.75	(.87)

Table 4.8   Potential Competitors

	11E	11Q	11R	11S	12E	12Q	12R	12S
11E	(.91)							
11Q	.54	(.91)						
11R	.57	.72	(.91)					
11S	.32	.46	.50	(.92)				
12E	.32	.20	.18	-.01	(.88)			
12Q	.29	.48	.45	.35	.28	(.88)		
12R	.26	.48	.52	.41	.28	.69	(.87)	
12S	.23	.40	.40	.61	.21	.61	.67	(.87)

Table 4.9   Substitutes

	11F	11G	11H	12F	12G	12H
11F	(.91)					
11G	.79	(.91)				
11H	.69	.67	(.91)			
12F	.45	.38	.45	(.87)		
12G	.36	.43	.42	.80	(.87)	
12H	.34	.34	.57	.72	.81	(.87)

coefficients in the heterotrait - monomethod triangles is violated.

In the Existing Competitors Table 4.7, trait 11 P (competitor

pricing strategy) appears to be more highly correlated with 12 K

(competitor offerings) .36 and 12 O (competitor new product/service

development) .34 than with its own trait 12 P (competitor pricing

strategy -interest) .33.

Environmental Traits

The environmental traits used to assess scanning activity are

listed below with their codes. This will facilitate the examination

of the five scanning matrices.

Code	Environmental Trait
	Frequency Method
11A	current customer needs/trends
11B	demographic changes in terms of product/service demands
11C	current/future cost of capital
11D	current/future cost of real estate
11E	possible entry into the industry of new competitors
11F	growth of the home frozen prepared meal market
11G	growth of the supermarket/deli market
11H	increased use of home microwave ovens
11I	future changes in customer needs
11J	current cost/availability of raw materials
11K	competitor product/service offerings
11L	expansion plans of competitors
11M	consumer purchasing behavior/price value expectations
11N	current/future conditions of the labor market
11O	new product/service development by competitors
11P	competitor pricing strategy
11Q	acquisition of existing competitors by firms outside industry
11R	cooperation of existing competitors with firms outside of the industry e.g. Hardee's/7-Eleven Stores
11S	threat of foreign expansion into the domestic industry.

	Interest Method
12A	current customer needs/trends
12B	demographic changes in terms of product/service demands

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12C	current/future cost of capital
12D	current/future cost of real estate
12E	possible entry into the industry of new competitors
12F	growth of the home frozen prepared meal market
12G	growth of the supermarket/deli market
12H	increased usage of home microwave ovens
12I	future changes in customer needs/trends
12J	current cost/availability of raw materials
12K	competitor product/service offerings
12L	expansion plans of competitors
12M	consumer purchasing behavior/price value expectations
12N	current/future conditions of the labor market
12O	new product/service development by competitors
12P	competitor pricing strategy
12Q	acquisition of existing competitors by firms outside of industry
12R	cooperation of existing competitors with firms outside of the industry e.g. Hardee's/7-Eleven Stores
12S	threat of foreign expansion into the domestic industry

As may be seen in Table 4.6 Supplier Segment traits C (cost of capital) and D (cost of real estate) seem to be closely correlated within and across methods and only mildly correlated with J (cost of raw materials) and N (labor market) which are also more highly correlated among themselves. It may be that the respondents do not perceive capital markets in the same light as they do labor and materials.

Total Scanning Score

The traits were then summed across methods according to segment in order to arrive at an individual scanning score per segment scanned, e.g. 11F, 11G, 11H, 12F, 12G, and 12H scores were summed in order to arrive at a Substitute Scanning Score. The five environmental sector scores were then summed to arrive at an overall individual scanning score. Of course, as a first step in the overall procedure, all responses were transformed to 'z-scores'. This procedure allowed all respondents in a firm to have their scores summed and averaged to determine the firm scanning score for all industry components and overall scanning score. These variables were also tested for normality in the same manner as the performance variables.

In addition to the descriptive statistics in Table 4.10, Figures 4.4 through 4.9 indicate that all the scanning measures appear to follow a normal distribution.

It appears that the scanning measures approximate a normal distribution with slightly flattened curves and positive skews.

Power Analysis

No discussion of statistical tests and variables is complete without examining the probability that the tests will yield statistically significant results. As Cohen (1969, p. 4) states:

Figure 4.4 Histogram and Normal Probability Plot of Total Scanning Variable

```
HISTOGRAM CF VARIAFLE    77 VZ3
                                    SYMFOL    CCUKT        MEAK       ST.DEV.
                                      X         65        -.C36        4.E32
                        EACH SYMBCL REPPESEKTS              1 OBSERVATIOKS
INTERVAL                                                 FFSCUEKCY PERCEKTAGE
NAME          5    10   15   2C   25   3C   35   40      INT. CUM. INT.  CUM.
*-8.4C0C  +XX                                             2    2    3.1    3.1
*-7.0C0C  +XXX                                            3    4.6       7.7
*-5.6C0C  +XXXXX                                          5   10    7.7   15.4
*-4.2C0C  +XYXXX                                          5   15    7.7   23.1
*-2.8C0C  +XXXX                                           4   19    6.2   29.2
*-1.4C0C  +XXXXXXX                                        7   26   10.8   40.C
*C.C00C   +XXXXXXX                                        7   33   10.8   50.8
*1.40C0C  +XXX                                            3   36    4.6   55.4
*2.80C0C  +XXXXXXXXXXY                                   13   46   15.4   70.8
*4.20C0C  +XXXXY                                          6   52    9.2   80.0
*5.60C0C  +XXXXXY                                         5   57    7.7   87.7
*7.00C0C  +XXXXY                                          4   61    6.2   93.8
*8.40000  +XX                                            2   63    3.1   96.9
*9.80C0C  +X                                             1   64    1.5   98.5
*11.2C0C  +X                                             1   65    1.5  100.0
*12.6C0C  +                                              0   65     .C  100.0
          +----+----+----+----+----+----+----+----+
               5   1C   15   2C   25   3C   35   4C

NCRMAL PLCT OF VARIABLE   79 VZ3
                                    SYMBOL   CCUKT       MEAK       ST.DEV.
                                      *        65        -.036        4.832
```


VALUES FROM NORMAL DISTRIBUTION WOULD LIE
ON THE LINE INCICATEC BY THE SYMBOL / .

Figure 4.5 Histogram and Normal Probability Plot of Buyer Segment Scanning

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HISTOGRAM OF VARIABLE   6) V24

SYMBOL COUNT
X   65
EACH SYMBOL REPRESENTS

MEAN   ST.DEV.
.302   4.053
1 OBSERVATIONS
FREQUENCY PERCENTAGE

```
INTERVAL
NAME              5    10   15   20   25   30   35   40      INT. CUM.  INT.  CUM.
         +----+----+----+----+----+----+----+----+
*-6.5000 +XXXXX                                              5    5    7.7   7.7
*-5.2000 +X                                                  1    6    1.5   9.2
*-3.9000 +XY                                                 2    8    3.1  12.3
*-2.6000 +XXXXXXXXX                                          9   17   13.8  26.2
*-1.3000 +XXXXXX                                             6   23    9.2  35.4
*426E-16 +XX                                                 2   25    3.1  38.5
*1.30000 +XXXXXXXXXX)X                                      11   36   16.9  55.4
*2.60000 +XXXXXXXXXXX                                       11   47   16.9  72.3
*3.90000 +XXXXXXXX                                           8   55   12.3  84.6
*5.20000 +XXX                                                3   58    4.6  89.2
*6.50000 +XXX                                                3   61    4.6  93.8
*7.80000 +XXX                                                3   64    4.6  98.5
*9.10000 +                                                   0   64    .0   98.5
*10.4000 +X                                                  1   65    1.5 100.0
*11.7000 +                                                   0   65    .0  100.0
*13.0000 +                                                   0   65    .0  100.0
         +----+----+----+----+----+----+----+----+
              5   10   15   20   25   30   35   40
```

NORMAL PLOT OF VARIABLE   6) V24

SYMBOL   COUNT   MEAN   ST.DEV.
*   65   .302   4.053


```
E
X    2
P
E
C
T
E    1
D

N
O
R    0
M
A
L

V   -1
A
L
U
E   -2

       -9.      -3.       3.       9.
          -6.        C.       6.
                     V24
```

VALUES FROM NORMAL DISTRIBUTION WOULD LIE
ON THE LINE INDICATED BY THE SYMBOL / .

Figure 4.6 Histogram and Normal Probability Plot of Supplier Segment Scanning

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HISTOGRAM OF VARIABLE   61 V25

SYMBOL   COUNT
×   65

EACH SYMBOL REPRESENTS

		MEAN	ST.DEV.
		-.002	5.539
		1 OBSERVATIONS	

```
INTERVAL                                              FREQUENCY PERCENTAGE
NAME        5    1C   15   2C   25   3C   35   40     INT. CUM.  INT.   CUM.
         +----+----+----+----+----+----+----+----+
*-7.5CCC +XXXXXYX                                        7    7   1C.8   1C.8
*-6.0C0C +XXXX                                           4   11    6.2   16.9
*-4.5C0C +XXX                                            3   14    4.6   21.5
*-3.0C0C +XXXYX                                          5   19    7.7   29.2
*-1.5C0C +XXXXX                                          5   24    7.7   36.9
*497E-16 +XYXXXXXXXYXX                                  12   36   18.5   55.4
*1.50C0C +XYXX                                           4   4C    6.2   61.5
*3.C0C0C +XYXX                                           4   44    6.2   67.7
*4.50C0C +XYXXXXXX                                       8   52   12.3   8C.C
*6.C0C0C +XYXY                                           4   56    6.2   86.2
*7.50C0C +XX                                             2   58    3.1   89.2
*9.C0C0C +XX                                             2   6C    3.1   92.3
*10.5C0C +Y                                              1   61    1.5   93.8
*12.0C0C +XXX                                            3   64    4.6   98.5
*13.5C0C +X                                              1   65    1.5  10C.C
*15.0C0C +                                               0   65    .C   10C.0
         +----+----+----+----+----+----+----+----+
          5    1C   15   2C   25   30   35   4C
```

NORMAL PLOT OF VARIABLE   61 V25

SYMBOL   COUNT
*   65

MEAN   ST.DEV.
-.002   5.539


```
VALUES FROM NORMAL DISTRIBUTION WOULD LIE
ON THE LINE INDICATED BY THE SYMBOL  /  .
```

Figure 4.7 Histogram and Normal Probability Plot of Existing Competitor Scanning

HISTOGRAM OF VARIABLE   82 V25

```
                                   SYMBOL  COUNT          MEAN        ST.DEV.
                                      X      65           .397         5.136
                              EACH SYMBOL REPRESENTS        1 OBSERVATIONS
INTERVAL                                                 FREQUENCY  PERCENTAGE
NAME             5·   10   15   2C   25   30   35   4C   INT. CUM.  INT.  CUM.
            +----+----+----+----+----+----+----+----+
*-5.2000   +XXXYXXXXX                                     9     9   13.8   13.8
*-3.9000   +XYYXXYXY                                      8    17   12.3   26.2
*-2.6000   +XX                                            2    19    3.1   29.2
*-1.3000   +XXYYXXXXXX                                   10    29   15.4   44.6
*142E-16   +XXXYX                                         5    34    7.7   52.3
*1.30000   +XXXX                                          4    38    6.2   58.5
*2.60000   +XXXXXX                                        6    44    9.2   67.7
*3.90000   +XYXY                                          4    48    6.2   73.8
*5.20000   +XXX                                           3    51    4.6   78.5
*6.50000   +XXXXX                                         5    56    7.7   86.2
*7.80000   +XX                                            2    58    3.1   89.2
*9.10000   +XXX                                           3    61    4.6   93.8
*10.4000   +XX                                            2    63    3.1   96.9
*11.7000   +X                                             1    64    1.5   98.5
*13.0000   +                                              0    64     .0   98.5
*14.3000   +X                                             1    65    1.5  100.0
            +----+----+----+----+----+----+----+----+
                 5   10   15   20   25   30   35   40
```

NORMAL PLOT OF VARIABLE   82 V25

```
                               SYMBOL   COUNT       MEAN       ST.DEV.
                                  *       65        .397        5.136
```



```
VALUES FROM NORMAL DISTRIBUTION WOULD LIE
ON THE LINE INDICATED BY THE SYMBOL  /  .
```

Figure 4.8 Histogram and Normal Probability Plot of Potential Competitor Variable
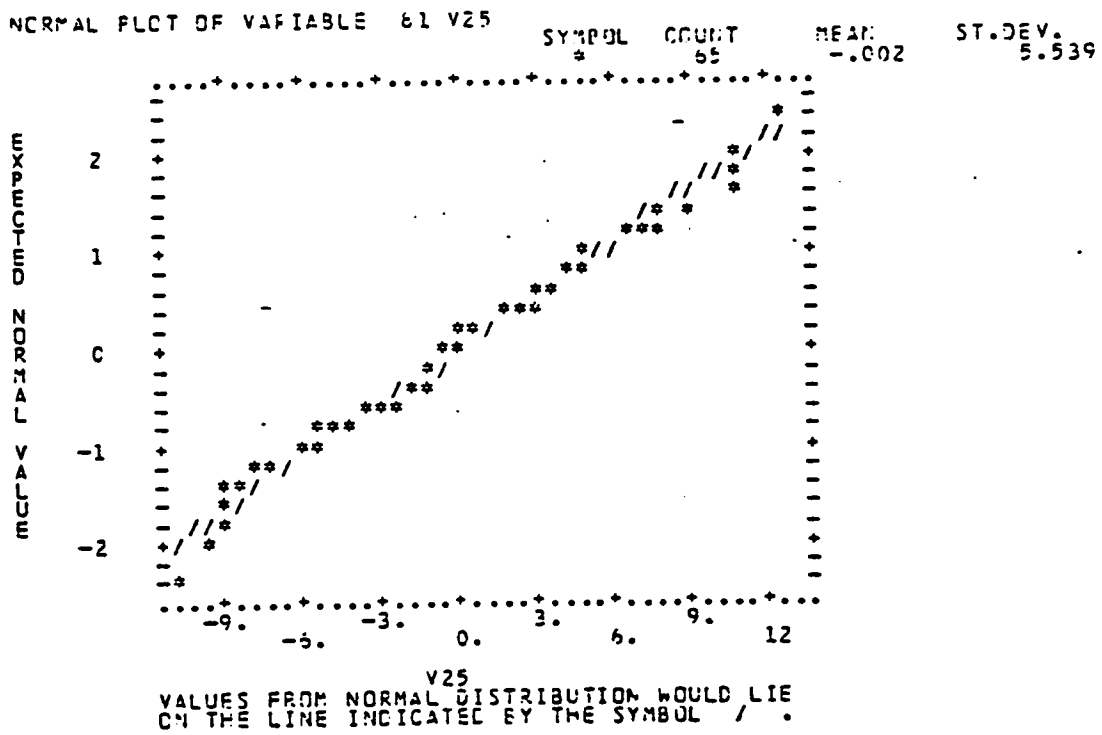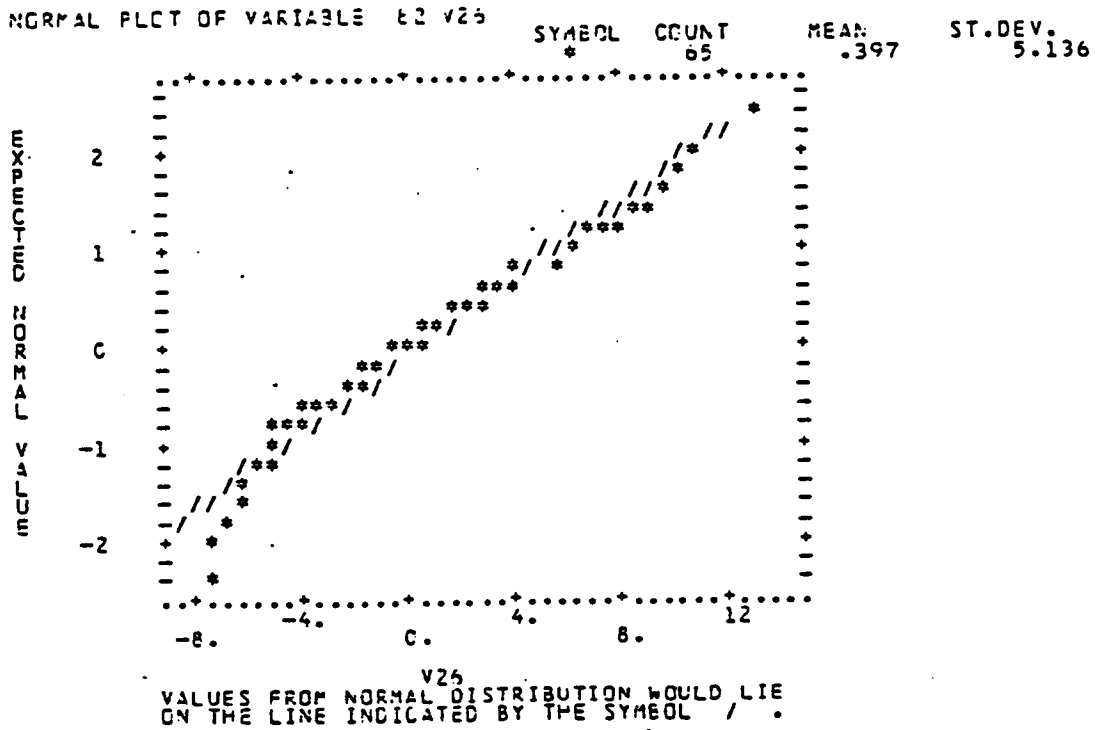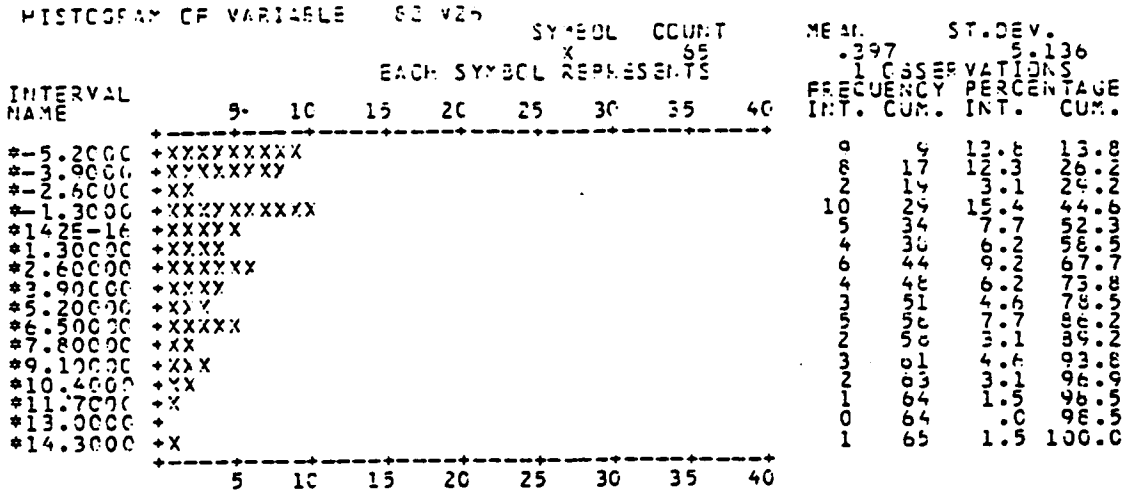
```
HISTOGRAM OF VARIABLE    63 V27
                                    SYMBOL   COUNT          MEAN       ST.DEV.
                                       X       65           .628         4.400
                            EACH SYMBOL REPRESENTS                1 OBSERVATIONS
INTERVAL                                                   FREQUENCY PERCENTAGE
NAME          5    10   15    20   25   30   35    40      INT. CUM.  INT.  CUM.
          +----+----+----+----+----+----+----+----+
*-4.2000C +XXXXXXX                                           7    7  10.8  10.8
*-2.8000C +XXXXXXXXX                                         9   15  12.3  23.1
*-1.4000C +XXXXXXXXXXX                                      11   26  16.9  40.0
*234E-18  +XXXXXXXX                                          8   34  12.3  52.3
*1.40000C +XXXXXX                                            6   40   9.2  61.5
*2.80000C +XXX                                               3   43   4.6  66.2
*4.20000C +XXXXX                                             5   48   7.7  73.8
*5.60000C +XXXXXXXX                                          8   56  12.3  86.2
*7.00000C +XXX                                               3   59   4.6  90.8
*8.40000C +XXXX                                              4   63   6.2  96.9
*9.80000C +X                                                 1   64   1.5  98.5
*11.2000C +                                                  0   64   .0   98.5
*12.5000C +                                                  0   64   .0   98.5
*14.0000C +                                                  0   64   .0   98.5
*15.4000C +X                                                 1   65   1.5 100.0
*16.8000C +                                                  0   65   .0  100.0
          +----+----+----+----+----+----+----+----+
               5   10   15    20   25   30   35   40
```

```
NORMAL PLOT OF VARIABLE   63 V27
                                    SYMBOL   COUNT      MEAN       ST.DEV.
                                       *       65       .628         4.400
```



```
VALUES FROM NORMAL DISTRIBUTION WOULD LIE
ON THE LINE INDICATED BY THE SYMBOL  /  .
```
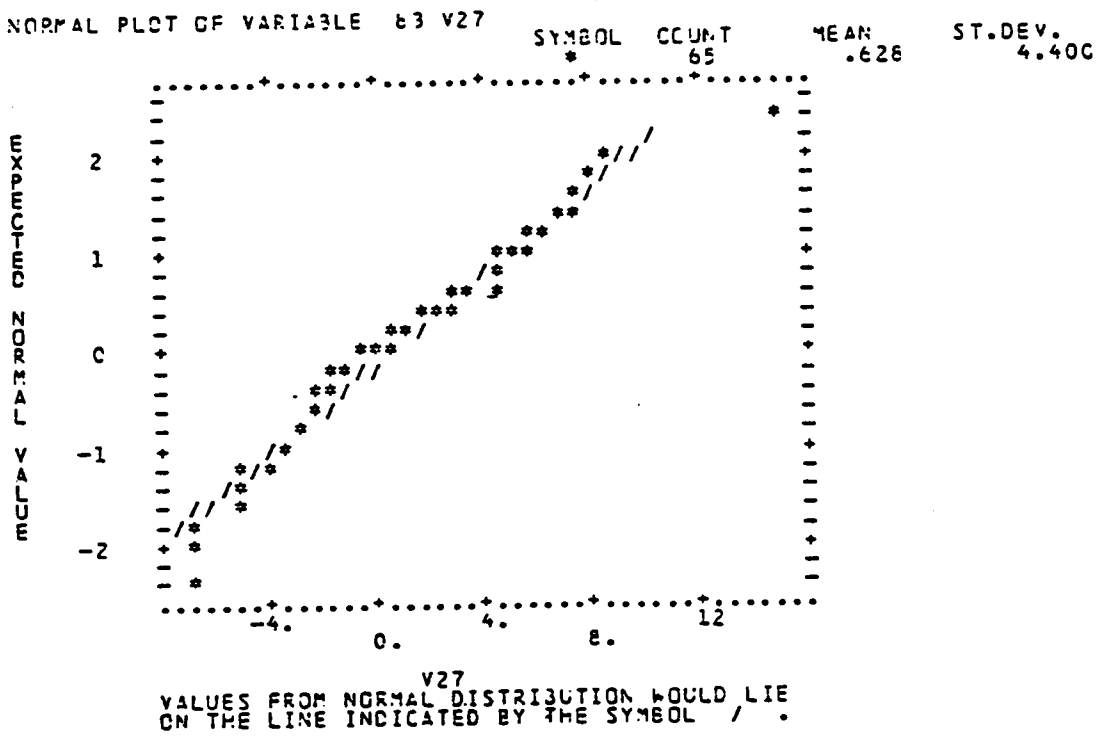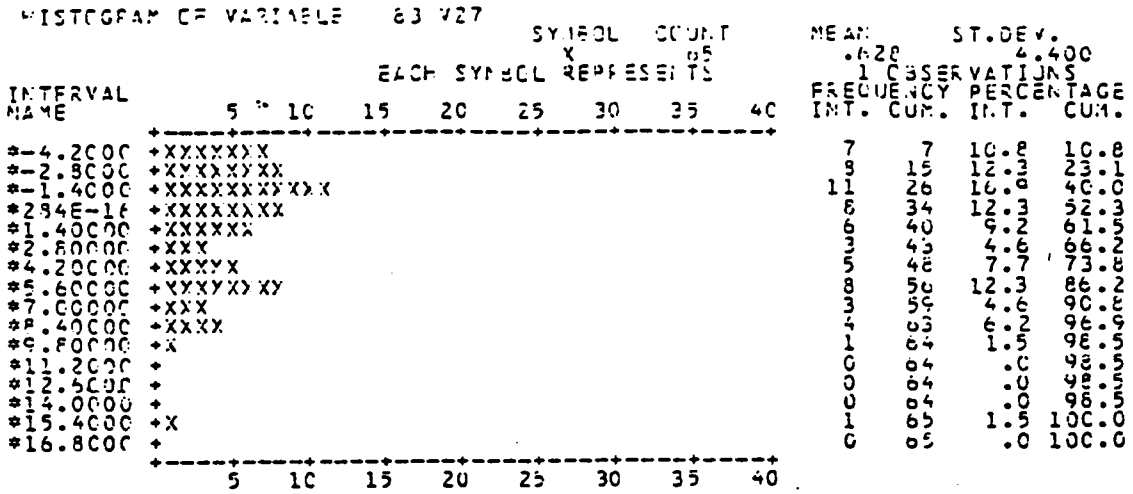
Figure 4.9 Histogram and Normal Probability Plot of Substitute Segment

Table 4.10   Scanning Variable Descriptive Statistics

Variable	Mean	Standard Dev	Skewness	Kurtosis	Range Minimum	Maximum
Total Scan	1.4	20.4	.7	-.3	-27.4	50.5
Buyer	-.07	4.9	.0	-.8	-10.2	10.6
Supplier	.2	4.0	-.3	-.3	- 9.0	9.7
E. Comp.	-.05	5.6	.2	-.6	-10.6	12.9
P. Comp.	.24	5.1	.5	-.6	- 7.6	13.4
Substitutes	.66	4.4	.6	.0	- 6.7	14.7

"The power of a statistical test of a null hypothesis is
the probability that it will lead to the rejection of the null
hypothesis, i.e., the probability that it will lead to the
conclusion that the phenomenon exists...It clearly represents
vital piece of information about a statistical test applied to
research data...consider a completed experiment which led to
nonrejection of the null hypothesis. An analysis which finds
the power was low should lead one to regard the negative
results as ambiguous, since failure to reject the null
hypothesis cannot have much substantive meaning when, even
though the phenomenon exists (to some given degree), the a
priori probability of rejecting the null hypothesis was low."

Utilizing Cohen's methodology, the effect size for each

statistical analysis was computed and then the power of the test was

determined. This analysis was accomplished a posteri and served as

a guide to support the findings of the test. Since outliers were

identified and the statistical tests rerun with them removed, the

power table includes a section for the full sample and the sample

with outliers removed.

From this analysis it becomes apparent that in testing the

full sample for the relationship between strategy and performance,

Return on Assets has a small probability of finding statistically

significant results without the removal of the outliers.

Conversely, the removal of the outliers decreases the probability of

both ROS and Growth of finding significance; however, the power of

ROS (p=.75) is still quite high. The same applies to testing for

significance between scanning and performance, with the exception

that growth has a very low probability of statistical significance

in either instance; and, in keeping with Cohen's distrust of such a

small probability of rejection of the null, should be disregarded or at least viewed in askance.

It should be noted that these power findings do not address the probability of finding significant **substantive** differences versus significant statistical differences. A difference of 2% between the means may not be statistically significant to the researcher; however, it may be of tremendous importance substantively to the executive when it amounts to large sums of money.

Summary

This section has described the variables, examined matters of validity, reliability, normality, and power. The following section will examine the statistical tests and their results.

Examination of the Hypotheses

Having derived and described the variables used to examine strategy, performance and scanning, it is time to examine the statistical tests of the hypotheses outlined in the previous chapter. To briefly review: it has been proposed that the strategy of a firm, the environmental scanning activity of its executives, and its performance are all related - executives in high performing firms deliberately formulate strategy and then scan the environment in support of those strategies.

Before examining the effect of strategy on performance, it is necessary to ascertain if any of the control variables not hypothesized to have a significant effect on performance behave as believed. Therefore, a test of each control variable was conducted. To ensure that there was no significant effect exerted on the firm performance variables, an analysis of variance was conducted and the probability of the null hypothesis (there is no difference) was determined. The control variables examined were size, age, geographic arena of competition, and industry segment. None were found to exert statistically significant effects on the performance variables as may be determined in the following tables.

Having ascertained that none of the control variables appears to possess a significant statistical relationship with the performance variables under study the effects of the hypothesized relationships may be examined.

Hypothesis One: Strategy

H1: Firms espousing a generic intended strategy will perform
     at higher levels than firms that do not espouse an
     intended generic strategy.

Strategy was measured by the CEO's response to Question 9 which asked which of the listed strategic definitions best characterized their firm's strategy. The variables were tested in

the identical manner as the control variables utilizing analysis of

Table 4.12   Analysis of Variance   Size

Estimate of the Means

Variable	Small	Medium	Large
ROS	6.08	8.29	7.13
ROA	10.34	15.31	12.21
GROWTH	15.84	17.92	10.85

One Way Analysis of Variance

Source	DF	Sum of Sq.	Mean Sq.	F-Value	Prob.
ROS	2	47.793	22.89	1.08	.34
Error	60	1324.200	22.07		
ROA	2	202.705	101.35	.824	.44
Error	53	6512.623	122.88		
GROWTH	2	574.718	287.35	1.58	.21
Error	59	10723.316	181.75		

Table 4.13   Analysis of Variance   Age

Estimate of the Means

Variable	15 or less	16 to 30	Over 30
ROS	6.72	7.37	7.45
ROA	14.32	12.04	10.15
GROWTH	16.49	13.59	12.30

One Way Analysis of Variance

Source	DF	Sum of Sq.	Mean Sq.	F-Value	Prob.
ROS	2	6.684	3.34	.14	.86
Error	60	1365.309	22.75		
ROA	2	138.272	69.14	.557	.57
Error	53	6577.056	124.09		
GROWTH	2	170.042	85.02	.45	.64
Error	59	11127.992	188.61		

Table 4.14 Analysis of Variance Geographic Arena of Competition

Estimate of the Means

Variable	National	Regional	Local
ROS	7.16	7.22	6.97
ROA	10.81	13.90	11.55
GROWTH	18.64	12.04	15.14

One Way Analysis of Variance

Source	DF	Sum of Sq.	Mean Sq.	F-Value	Prob.
ROS	2	.663	.33	.01	.99
Error	60	1371.331	22.86		
ROA	2	110.360	55.18	.442	.64
Error	53	6604.968	124.62		
GROWTH	2	484.966	242.48	1.32	.27
Error	59	10813.069	183.27		

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Table 4.15   Analysis of Variance   Industry Segment

Estimate of the Means

Variable	Fast Food	Dinner House	Coffee/ Family	Cafeteria	Other
ROS	7.94	6.73	6.58	8.07	6.67
ROA	13.06	11.17	13.54	14.50	12.56
GROWTH	11.69	17.73	15.58	6.67	10.67

One Way Analysis of Variance

Source	DF	Sum of Sq.	Mean Sq.	F-Value	Prob.
ROS	4	24.220	6.05	.26	.90
Error	58	1347.774	23.23		
ROA	4	72.290	18.07	.14	.97
Error	51	6643.038	130.25		
GROWTH	4	642.224	160.55	.86	.49
Error	57	10655.810	186.94		

variance; since strategy is a grouping variable (ordinal in nature),
it is impossible to utilize regression analysis. The results of
those analysis are presented in Table 4.16.

While an examination of the tables reveal a number of
interesting findings, only ROS appears to be significantly affected
by strategy. The removal of the outliers results in an increase of
the significance of the relationship. No other performance
variables exhibit a statistically significant relationship with
strategy.

Awareness that strategy exerts a significant effect upon
performance is useful; however, it is also important to discern what
strategies seem to outperform the others. Analysis of variance
possesses the ability to discover differences between the means
enabling us to discern which, if any, of the four strategies
significantly outperforms the others. As Tables 4.17 and 4.18
indicate those firms espousing a differentiation strategy
significantly outperform firms following a focus strategy in both
the full and the reduced samples. Because the probability of
committing a Type 1 error increases dramatically when a large number
of t-tests are made on group means , Bonferroni's significance
levels were calculated. While there appear to be a number of
statistically significant t-tests, only the notated findings satisfy
the more conservative requirements given the multiple comparison

Table 4.16 Analysis of Variance Franchising

Estimate of the Means

Variable	Franchised	Non-Franchised
ROS	7.51	6.83
ROA	12.31	12.82
GROWTH	12.48	16.49

One Way Analysis of Variance

Source	DF	Sum of Sq.	Mean Sq.	F-Value	Prob.
ROS	1	7.257	7.257	.32	.57
Error	61	1364.736	22.373		
ROA	1	3.703	3.703	.03	.86
Error	54	6711.626	124.289		
GROWTH	1	248.258	248.258	1.35	.25
Error	60	11049.777	184.163		

problem. This pertains only to the multiple t tests and not the analysis of variance which takes groups into account with degrees of freedom.

While there are limited statistically significant results reported, there are many findings which may be substantively significant to industry executives. Firms following a differentiation strategy report higher ROS and ROA than all other firms in the full sample; while firms following a low cost strategy report higher ROA in the reduced sample. However, it must be noted that firms indicating that they did not follow any of Porter's generic strategies consistently outperformed focused firms. It is difficult to discern what strategies the OTHER firms are following, since most only indicated tactics such as "good value", "large portions", etc and seemed not to have a definable strategy as such.

As may be seen in Table 4.17, in the full sample low cost and differentiation strategies both out performed the focus strategy and other firms to a lesser degree. The removal of outliers (see Table 4.18) does not change the relationship in either ROS or ROA. The other strategy reports higher GROWTH in both samples. This may be due to the impact of two small firms reporting growth far in excess of the other members of the OTHER group. Removal of these two firms results in OTHER strategy reporting GROWTH less than low cost or differentiation firms.

Table 4.17   Strategy - Full Sample

Estimate of the Means

Variable	Low Cost	Different	Focus	Other
ROS	7.79	9.19	4.28	5.89
ROA	13.09	14.39	10.33	10.62
GROWTH	14.69	12.33	13.24	21.92

One Way Analysis of Variance

Source		DF	Sum of Sq.	Mean Sq.	F-Value	Prob.
ROS	Stragegy	3	213.569	71.18	3.63	.018
	Error	59	1158.425	19.63		
ROA	Strategy	3	154.691	51.56	.41	.747
	Error	52	6560.637	126.16		
GRW	Strategy	3	554.476	184.82	1.00	.400
	Error	58	10743.559	185.23		

P Values of All Possible T-Tests, Pooled Variance

Probability ROS	Lowcost	Different	Focus	Other
Lowcost	1.00			
Differnt	.32	1.00		
Focus	.02	.003*	1.00	
Other	.28	.07	.40	1.00

Probability ROA				
Lowcost	1.00			
Differnt	.73	1.00		
Focus	.51	.34	1.00	
Other	.61	.43	.96	1.00

Probability GROWTH				
Lowcost	1.00			
Differnt	.59	1.00		
Focus	.76	.85	1.00	
Other	.21	.09	.15	1.00

* $p < .05$ Bonferroni Significance Level

Table 4.18   Strategy - Outliers Removed

Estimate of the Means

Variable	Low Cost	Different	Focus	Other
ROS	7.79	9.28	3.91	4.87
ROA	13.09	9.94	7.40	8.14
GROWTH	14.69	11.37	10.26	16.06

One Way Analysis of Variance

Source		DF	Sum of Sq.	Mean Sq.	F-Value	Prob.
ROS	Stragegy	3	247.394	82.46	4.22	.009
	Error	54	1054.886	19.53		
ROA	Strategy	3	258.776	86.26	1.69	.181
	Error	47	2396.012	50.98		
GRW	Strategy	3	263.651	87.88	.70	.558
	Error	53	6683.268	126.08		

P Values of All Possible T-Tests, Pooled Variance

Probability ROS	Lowcost	Different	Focus	Other
Lowcost	1.00			
Differnt	.31	1.00		
Focus	.02	.003*	1.00	
Other	.12	.02	.64	1.00

Probability ROA				
Lowcost	1.00			
Differnt	.21	1.00		
Focus	.04	.38	1.00	
Other	.13	.58	.83	1.00

Probability GROWTH				
Lowcost	1.00			
Differnt	.37	1.00		
Focus	.27	.79	1.00	
Other	.78	.36	.28	1.00

* p<j.05 Bonferroni Significance Level

The hypothesized relationship of strategy to performance holds

in this sample only in a limited degree. Firms which espouse a

differentiation or low cost strategy do outperform firms which do

not espouse any generic strategy in two of the three variables

examined, while firms espousing a focus strategy experience the

poorest results. Given these findings and the absence of statistical

significance in two of the three performance variables, Hypothesis 1

must be rejected.

Hypothesis Two: Scanning

>   H2:   Higher performing firms will engage in more environmental
>   scanning than lower performing firms.

Scanning was measured by respondent's stated levels of interest

and frequency of information search in segments of Porter's (1980)

industry structure: buyers, suppliers, existing competitors,

potential competitors, and substitutes. To assess level of total

firm scanning, individual responses were transformed to 'z scores',

summed for each industry segment to attain an individual segment

scanning score, these were summed to attain an individual total

scanning score. In firms where more than just the CEO responded,

individual segment scanning scores and total scanning scores were

summed and the mean calculated as recommended by Farh et al. (1983).

Performance measures were regressed against the firm total scanning

score to assess the significance of the relationship; an analysis of

variance was then performed to ascertain any scanning differences

between high and low performers. In keeping with the already stated

practice of reporting the tests of the full sample and a sample with the outliers removed, the following table outlines the results.

The analysis of variance was constructed in a manner which captured the difference between high and low performing firms. The procedure is as follows:

1) the 25th and 75th percentile points were calculated for each performance variable;

2) firms falling at or below the 25th percentile were classed as low performers and firms at or above the 75th percentile were classed as high performers;

3) firms falling between the 25th and 75th were classed as medium performers for convenience since the analysis was not concerned with them;

4) an analysis of variance was then performed to confirm that there was a difference (p<.001 Bonferroni's level) between the two groups;

5) an analysis of variance was then performed using the performance variable as the grouping variable, the percentiles as cutpoints, and total scanning variable as the dependent variable.

An examination of the results of the regression analysis of the full sample in Table 4.19 suggests that only ROS is correlated (p<.02) with environmental scanning explaining 8.3% of the variance

Table 4.19   Scanning - Full Sample

Regression Analysis

Source	DF	Sum of Sq.	Mean Sq.	F-Value	Prob.
ROS Scanng	1	113.400	113.40	5.50	.022
Residal	61	1258.593	20.63		

Multiple R Square = .0827

ROA Scanng	1	.801	.80	.006	.93
Residal	54	6714.527	124.34		

Multiple R Square = .0001

GRW Scanng	1	78.681	78.68	.42	.52
Residal	60	11219.353	186.98		

Analysis of Variance - Performance and Scanning Level
Estimate of the Means

Grouping Variable	Scanning Level		
	High Perf	Med Perf	Low Perf
ROS	20.4	-2.2	-2.4
ROA	-1.3	5.7	-5.8
GROWTH	6.3	-0.1	-0.5

Source	DF	Sum of Sq.	Mean Sq.	F-Value	Prob
ROS Scanng	2	3959.010	1979.505	7.27	.001
Error	60	16335.505	272.258		

Pairwise T-Test High vs Low p<.001**

ROA Scanng	2	1367.884	683.924	2.33	.106
Error	53	15534.223	293.099		

Pairwise T-Test High vs Low p.50

GRW Scanng	2	511.374	255.674	.81	.449
Error	59	18578.362	314.887		

Pairwise T-Test High vs Low p<.26

** p<.01 Bonferroni Significance Level

in ROS. This is to be expected given the extremely low power of the other two tests, both less than $p < .08$. With the outliers removed in Table 4.20, both the power and the significance of the tests increase for ROA, resulting in both ROS and ROA becoming significantly correlated with scanning.

The analysis of variance of the full sample (see Table 4.19) indicates that high performing firms engage in significantly greater amounts of total scanning than do low performing firms in the ROS variable. Once again the removal of outliers (see Table 4.20) results in a finding that higher performing firms, grouped by ROS and ROA scores, engage in significantly higher levels of total environmental scanning than do lower performing firms.

The removal of outliers also clears up an apparent discrepancy where medium performing firms had higher scanning levels than either high or low performing firms in ROA.

These findings seem to support Hypothesis Two with the exception of Growth in Unit Sales. Hypothesis 2 is not rejected.

Hypothesis Three   Strategy and Environmental Sectors Scanned

    H3: Higher performing firms will exhibit a better match
         between intended strategy and environmental sectors
         scanned than will lower performing firms.

Table 4.20   Scanning - Outliers Removed

Regression Analysis

Source	DF	Sum of Sq.	Mean Sq.	F-Value	Other
ROS Scanng	1	118.195	118.19	5.59	.021
Residal	56	1184.085	21.14		

Multiple R Square = .0908

ROA Scanng	1	254.026	254.026	5.18	.027
Residal	49	2400.762	48.995		

Multiple R Square = .0957

GRW Scanng	1	215.793	215.793	1.76	.189
Residal	55	6730.127	122.36		

Multiple R Square = .0311

Analysis of Variance - Performance and Scanning Level
Estimate of the Means

		Scanning Level	
Grouping Variable	High Perf	Med Perf	Low Perf
ROS	22.2	-1.0	-1.6
ROA	9.7	3.5	-6.2
GROWTH	7.4	1.8	-0.5

Source	DF	Sum of Sq.	Mean Sq.	F-Value	Prob
ROS Scanng	2	3776.591	1888.296	6.92	.002
Error	55	15008.871	272.889		

Pairwise T-Test High vs Low p<.001**

ROA Scanng	2	1620.819	810.410	2.83	.068
Error	48	13724.400	285.925		

Pairwise T-Test   High vs Low p<.02

GRW Scanng	2	951.512	475.756	1.55	.221
Error	54	16571.097	306.872		

Pairwise T-Test High vs Low p<.11

** p<.01 Bonferroni Significance Level

Table 4.21   Low Cost Environmental Scanning - Buyer Sector

One Way Analysis of Variance - Performance and Scanning Level
Estimate of the Means

Grouping Variable	High Perf	Scanning Level Med Perf	Low Perf
ROS	5.67	-0.77	-0.91
ROA	0.75	-0.47	-0.60
GROWTH	1.33	-0.95	-0.48

Source	DF	Sum of Sq.	Mean Sq.	F-Value	Other
ROS Scanng	2	108.953	54.476	3.21	.06
Error	19	321.627	16.928		

Pairwise T-Test High vs Low p<.03 N/S Bonferroni

ROA Scanng	2	5.862	2.932	.14	.87
Error	15	311.034	20.736		

Pairwise T-Test High vs Low p<.96

GRW Scanng	2	17.720	8.860	.44	.65
Error	17	339.175	19.951		

Pairwise T-Test High vs Low p<.53

In order to test this hypothesis, three sub-hypotheses were developed enabling the examination of high and low performing firms in each strategy along with the importance of the sectors scanned. Each of the sub-hypotheses tested a specific strategy as an independent sample requiring a separate calculation of the percentiles (Q1,Q3) for each performance variable. With the result that while a firm may be classed a high performer in the focus strategy sample, it might not be so listed in the context of the overall sample. This is necessary to ensure that all strategies have a sufficient number of both high and low performing firms. A short example is illuminative. At or above the 75th percentile of ROA for differentiation strategy there are four firms. If this same ROA measure was applied to the focus strategy only two firms would be in the sample due to the difference in overall performance of the two strategies. The following table lists the cutpoints as well as the number of firms in each sample for the three generic strategies. Firms which did not espouse one of the three generic strategies were not examined.

Once the cutpoints and sample populations were developed the three sub-hypotheses were tested.

Hypothesis 3.1   Low Cost Strategic Scanning

    H3.1   Higher performing firms espousing a low cost strategy
            will more heavily scan the supplier, existing

competitor, and buyer sectors of the environment than
will lower performing low cost firms.

An analysis of variance conducted in the same manner as for

total scanning was performed on all firms espousing a low cost

strategy. This time instead of examining total scanning, each of

the five environmental sectors was tested after the firms had been

grouped on the performance variable as either high or low

performers. Again for the sake of continuity, medium firms are

reported although of little interest to the present research.

Low cost was only tested once since none of the firms removed as

outliers espoused this strategy and a second test would only provide

the identical information. The analysis of variance for potential

competitors and substitutes is reported since, while not

hypothesized to be significant differentials, they appear to be.

High performing firms in the ROS grouping scanned all segments

at levels exceeding low performing firms. However, only in the

buyer, potential competitor, and substitute sectors were the levels

significantly different; while in the existing competitor sector

they approach significance ($p < .09$). It appears, therefore, that

high performing firms in the ROS category scan the buyer, potential

competitor, and substitute segment more vigorously than do lower

performing firms. The other two measures ROA and GROWTH were unable to significantly differentiate scanning levels between high and low performing firms.

High performing low cost firms, measured by ROS, do scan the buyer sector (see Table 4.22) significantly more than low performing firms and approach significance in the scanning of existing competitors (see Table 4.24); however, while there are no statistically significant differences in their scanning behavior towards suppliers (see Table 4.23), there is an appreciable absolute difference in the means - 3.0590 to 0.1921.

While the other two measures (ROA and GROWTH) fail to statistically differentiate the scanning behaviors at a significant level, high performing firms do scan more heavily in the buyer segment (Table 4.22) for both variables measured by the difference in the means. The results are the opposite in the existing competitor segment (Table 4.24) where low performing firms attain higher absolute scores. They split the supplier segment (Table 4.23) with high performers measured by ROA scanning more heavily; and, approximately even scanning in the GROWTH measure.

Given these mixed results, Hypothesis 3.1 is rejected even though there are segments which high performing firms scan more heavily than low performers.

Table 4.22   Low Cost Environmental Scanning - Supplier Sector

One Way Analysis of Variance - Performance and Scanning Level
Estimate of the Means

Grouping Variable		High Perf	Scanning Level Med Perf	Low Perf
ROS		3.06	-0.19	0.19
ROA		1.38	-0.07	0.38
GROWTH		1.04	-1.12	1.10

Source	DF	Sum of Sq.	Mean Sq.	F-Value	Other
ROS Scanng	2	26.020	13.01	1.46	.26
Error	19	169.102	8.90		
Pairwise T-Test High vs Low p<.19					
ROA Scanng	2	5.827	2.913	.31	.74
Error	15	142.974	9.531		
Pairwise T-Test High vs Low p<.64					
GRW Scanng	2	23.932	11.996	1.50	.25
Error	17	135.237	7.955		
Pairwise T-Test High vs Low p<.97					

Table 4.23   Low Cost Environmental Scanning - Existing Competitor

One Way Analysis of Variance - Performance and Scanning Level

Estimate of the Means

Grouping Variable	High Perf	Scanning Level Med Perf	Low Perf
ROS	5.31	0.31	- .26
ROA	-1.62	2.41	2.71
GROWTH	1.57	-0.40	2.24

Source	DF	Sum of Sq.	Mean Sq.	F-Value	Other
ROS Scanng	2	70.727	35.36	1.71	.21
Error	19	392.741	20.67		
Pairwise T-Test High vs Low p<.09					
ROA Scanng	2	53.429	26.71	1.43	.27
Error	15	281.061	18.74		
Pairwise T-Test High vs Low p<.16					
GRW Scanng	2	27.701	13.85	.54	.59
Error	17	432.227	25.43		
Pairwise T-Test High vs Low p<.84					

Table 4.24   Low Cost Environmental Scanning - Other Findings

Substitute Sector - Return on Sales
One Way Analysis of Variance - Performance and Scanning Level
Estimate of the Means

Grouping Variable	High Perf	Scanning Level Med Perf	Low Perf
ROS	6.86	0.62	1.75

Source	DF	Sum of Sq.	Mean Sq.	F-Value	Prob
ROS Scanng	2	95.010	47.51	3.78	.04
Error	19	239.017	12.58		

Pairwise T-Test High vs Low p<.05 N/S Bonferroni

Hypothesis 3.2   Differentiation Strategy Scanning

> H3.2   High performing firms espousing a differentiation strategy will more heavily scan the buyer and existing competitor sectors of the environment than will low performing firms.

Firms indicating that they followed a differentiation strategy were placed into a separate sample and performance means and cutpoints calculated. In this sample, analysis of variance was conducted on the full sample and a sample with two outliers removed, see Table 4.20

In addition to the hypothesized sectors the other three segments were tested for significance. While most proved to have no significance there were a few which are listed below:

While there is no overwhelming support for the hypothesized relationship in the sample there is again a mixed review. It should be noted that both outliers removed in this sample were the highest performers in ROA with both possessing negative scanning scores. The effect of these outliers is readily discerned in the full samples of both sectors where ROA is the only performance variable in which low performers scan more heavily than high performers. This relationship is reversed with the removal of the two outliers.

In all cases with the outliers removed, and, in ROS and GROWTH with the outliers included, high performing firms scan both sectors more heavily in an absolute sense.

High performers in GROWTH approach significance in both buyer
($p < .06$) (Table 4.26) and existing competitor sectors ($p < .07$) (Table
4.28) in the full sample and improve in significance with the
removal of the outliers: $p < .05$ (Table 4.27) and $p < .03$ (Table 4.29)
respectively. ROS attains significance only in the scanning of
existing competitors ($p < .02$) (Table 4.28) by high performers in the
full sample. The removal of the outliers actually decreases the
significance level ($p < .05$) (Table 4.29). None meet the more
conservative Bonferroni levels.

Although many of the differences are very close to significance
falling within the $p < .10$ range; and, high performers do appear to
scan the hypothesized sectors more heavily; Hypothesis 3.2 must be
rejected at the $p < .05$ level of significance.

Hypothesis 3.3   Focus Strategic Scanning

H3.3   High performing firms espousing a focus strategy will
              more heavily scan the buyer, existing competitor, and
              potential competitor sectors of the environment than
              will lower performing focus firms.

In this analysis, firms indicating that they followed a focus
strategy were placed in a separate sample with the means and percen-
tiles of the performance variables calculated. Analysis of variance
was once again completed on both the full sample and a sample with

Table 4.25   Differentiation Environmental Scanning - Buyer Sector
One Way Analysis of Variance - Performance and Scanning Level
Estimate of the Means - Full Sample

Grouping Variable	High Perf	Scanning Level Med Perf	Low Perf
ROS	5.34	-1.28	0.08
ROA	-1.37	1.04	-0.27
GROWTH	5.15	-2.06	-0.75

Source	DF	Sum of Sq.	Mean Sq.	F-Value	Prob
ROS Scanng	2	122.973	61.49	1.93	.18
Error	15	476.838	31.78		

Pairwise T-Test High vs Low p<.18

Source	DF	Sum of Sq.	Mean Sq.	F-Value	Prob
ROA Scanng	2	19.190	9.60	.30	.74
Error	15	477.034	31.80		

Pairwise T-Test High vs Low p<.78

Source	DF	Sum of Sq.	Mean Sq.	F-Value	Prob
GRW Scanng	2	184.473	92.24	3.54	.05
Error	16	416.512	26.03		

Pairwise T-Test High vs Low p<.06

Table 4.26   Differentiation Environmental Scanning - Buyer Sector
One Way Analysis of Variance - Performance and Scanning Level
Estimate of the Means - Outliers Removed

Grouping Variable	High Perf	Scanning Level Med Perf	Low Perf
ROS	5.34	-0.06	-1.60
ROA	1.49	0.09	-0.27
GROWTH	5.78	-1.37	-0.75

Source	DF	Sum of Sq.	Mean Sq.	F-Value	Prob
ROS Scanng	2	111.252	55.63	1.65	.23
Error	13	439.321	33.79		

Pairwise T-Test High vs Low p<.11

Source	DF	Sum of Sq.	Mean Sq.	F-Value	Prob
ROA Scanng	2	7.306	3.65	.10	.90
Error	13	445.050	34.23		

Pairwise T-Test High vs Low p<.68

Source	DF	Sum of Sq.	Mean Sq.	F-Value	Prob
GRW Scanng	2	166.276	83.14	3.02	.08
Error	14	384.872	27.49		

Pairwise T-Test High vs Low p<.05 N/S Bonferroni

Table 4.27 Differentiation Environmental Scanning - Exist.
Competitor One Way Analysis of Variance - Performance and Scanning
Level Estimate of the Means - Full Sample

| | | Scanning Level | |
Grouping Variable	High Perf	Med Perf	Low Perf
ROS	8.13	-1.46	-0.11
ROA	-0.15	-0.53	3.74
GROWTH	6.00	-2.27	0.37

Source	DF	Sum of Sq.	Mean Sq.	F-Value	Prob
ROS Scanng	2	264.129	132.06	5.13	.02
Error	13	368.639	28.36		

Pairwise T-Test High vs Low p<.01 N/S Bonferroni

| ROA Scanng | 2 | 132.737 | 66.37 | 2.46 | .12 |
| Error | 13 | 350.353 | 26.95 | | |

Pairwise T-Test High vs Low p<.95

| GRW Scanng | 2 | 270.535 | 135.27 | 5.47 | .01 |
| Error | 14 | 346.196 | 24.73 | | |

Pairwise T-Test High vs Low p<.03 N/S Bonferroni

Table 4.29 Differentiation Environmental Scanning - Other Findings
Potential Competitor Sector - Return on Sales
One Way Analysis of Variance - Performance and Scanning Level
Estimate of the Means

| | | Scanning Level | |
Grouping Variable	High Perf	Med Perf	Low Perf
ROS Full Sample	8.50	-0.79	-0.22
ROS Outliers Removed	8.50	1.27	-1.83

Source	DF	Sum of Sq.	Mean Sq.	F-Value	Prob
ROS Scanng FS	2	257.888	128.944	7.59	.005
Error	15	254.851	16.99		
Pairwise T-Test	High vs Low	$p<.006$*	$p<.05$ Bonferroni		
ROA Scanng Out	2	230.578	115.29	8.68	.004
Error	13	172.735	13.29		
Pairwise T-Test	High vs Low	$p<.001$*	$p<.01$ Bonferroni		
GRW Scanng	2	184.473	92.24	3.54	.05
Error	16	416.512	26.03		
Pairwise T-Test	High vs Low	$p<.06$			

the outliers removed. As was the case in the differentiation sample both outliers removed were not only the highest performers, both reported negative scanning scores except for a weakly positive score (0.5056) by one firm in the potential competitor sector. The results of the statistical tests are reported in Tables 4.30 through 4.35.

Except for a significant difference between high and low performers in ROA of the potential competitor sector (Table 4.35), scanning is not a differentiating variable on the performance variables utilized in this study. The remaining sectors, supplier and substitutes, follow the same pattern of non-significance. Firms following a focus strategy seem to be much less active in their environmental scanning than firms following either low cost or differentiation strategies. It should be noted that these are composite z-scores based on the entire sample. Therefore when a high performing focus firm possesses a negative scanning score that is in relation to the rest of the firms in the sample. It is interesting to note that high performing firms in this strategy (who may not be high performing firms over all due to the dividing of the firms into four samples depending upon strategy and developing a high and low cutpoint in performance based on the firms in that sample without regard to firms in other strategies) possess negative scanning scores in 61% (11 of 18) of the performance measures!

Table 4.30   Focus Environmental Scanning - Buyer Sector One Way One Way Analysis of Variance - Performance and Scanning Level Estimate of the Means - Full Sample

Grouping Variable	High Perf	Scanning Level Med Perf	Low Perf
ROS	-2.21	-0.29	1.40
ROA	0.36	0.30	-1.25
GROWTH	0.28	0.20	-0.61

Source	DF	Sum of Sq.	Mean Sq.	F-Value	Prob
ROS Scanng	2	24.734	12.36	.71	.51
Error	11	190.973	17.36		

Pairwise T-Test   High vs Low   p<.26

ROA Scanng	2	6.577	3.28	.20	.82
Error	9	147.679	16.41		

Pairwise T-Test   High vs Low   p<.82

GRW Scanng	2	2.359	1.179	.06	.94
Error	12	213.818	17.819		

Pairwise T-Test   High vs Low   p<.76

Table 4.31 Focus Environmental Scanning - Buyer Sector
One Way Analysis of Variance - Performance and Scanning Level
Estimate of the Means - Outliers Removed

		Scanning Level	
Grouping Variable	High Perf	Med Perf	Low Perf
ROS	-2.61	0.08	2.17
ROA	1.24	0.84	-1.25
GROWTH	0.98	0.52	-0.61

Source	DF	Sum of Sq.	Mean Sq.	F-Value	Prob
ROS Scanng	2	27.483	13.74	0.68	0.53
Error	9	182.690	20.30		

Pairwise T-Test High vs Low $p < .28$

ROA Scanng	2	12.033	6.02	.31	.75
Error	7	137.260	19.61		

Pairwise T-Test High vs Low $p < .54$

GRW Scanng	2	5.621	2.81	.14	.87
Error	10	204.743	20.47		

Pairwise T-Test High vs Low $p < .64$

Table 4.32   Focus Environmental Scanning - Existing Competitors
One Way Analysis of Variance - Performance and Scanning Level
Estimate of the Means - Full Sample

		Scanning Level	
Grouping Variable	High Perf	Med Perf	Low Perf
ROS	-3.46	-2.80	-0.84
ROA	-1.52	-1.83	-5.40
GROWTH	-6.22	0.74	-2.24

Source	DF	Sum of Sq.	Mean Sq.	F-Value	Prob
ROS Scanng	2	16.143	8.07	0.18	0.84
Error	11	505.110	45.91		

Pairwise T-Test High vs Low p<.61

Source	DF	Sum of Sq.	Mean Sq.	F-Value	Prob
ROA Scanng	2	36.370	18.19	.49	.63
Error	9	333.019	37.00		

Pairwise T-Test High vs Low p<.33

Source	DF	Sum of Sq.	Mean Sq.	F-Value	Prob
GRW Scanng	2	116.619	58.31	1.71	.22
Error	12	408.180	34.02		

Pairwise T-Test High vs Low p<.33

Table 4.33 Focus Environmental Scanning - Existing Competitors
One Way Analysis of Variance - Performance and Scanning Level
Estimate of the Means - Outliers Removed

		Scanning Level	
Grouping Variable	High Perf	Med Perf	Low Perf
ROS	-1.41	-1.83	-1.71
ROA	1.50	-1.52	-5.40
GROWTH	-7.27	2.40	-2.24

Source	DF	Sum of Sq.	Mean Sq.	F-Value	Prob
ROS Scanng	2	.257	.14	.002	.99
Error	9	488.737	54.30		

Pairwise T-Test High vs Low p<.97

| ROA Scanng | 2 | 69.485 | 34.74 | .88 | .46 |
| Error | 7 | 276.280 | 39.47 | | |

Pairwise T-Test High vs Low p<.25

| GRW Scanng | 2 | 178.604 | 89.30 | 2.86 | .10 |
| Error | 10 | 312.308 | 31.23 | | |

Pairwise T-Test High vs Low p<.25

Table 4.34 Focus Environmental Scanning - Potential Competitors
One Way Analysis of Variance - Performance and Scanning Level
Estimate of the Means - Full Sample

| Grouping Variable | Scanning Level | | |
	High Perf	Med Perf	Low Perf
ROS	-1.85	-2.87	-2.98
ROA	2.06	-2.16	-4.63
GROWTH	-5.56	1.76	-4.90

Source	DF	Sum of Sq.	Mean Sq.	F-Value	Prob
ROS Scanng	2	2.726	61.49	1.93	.18
Error	11	248.738	22.61		

Pairwise T-Test High vs Low p<.75

ROA Scanng	2	77.214	36.61	2.72	.11
Error	9	127.546	14.17		

Pairwise T-Test High vs Low p<.04 N/S Bonferroni

GRW Scanng	2	175.277	87.64	11.39	.001
Error	12	92.322	7.68		

Pairwise T-Test High vs Low p<.73

Table 4.35 Focus Environmental Scanning - Potential Competitors
One Way Analysis of Variance - Performance and Scanning Level
Estimate of the Means - Outliers Removed

		Scanning Level	
Grouping Variable	High Perf	Med Perf	Low Perf
ROS	-6.82	2.03	-4.90
ROA	2.84	-2.26	-4.63
GROWTH	-3.03	-2.02	-5.38

Source	DF	Sum of Sq.	Mean Sq.	F-Value	Prob
ROS Scanng	2	186.33	93.17	13.05	.001
Error	10	71.384	7.13		
Pairwise T-Test High vs Low p<.35					
ROA Scanng	2	74.432	37.22	2.11	.19
Error	7	123.726	17.68		
Pairwise T-Test High vs Low p<.08					
GRW Scanng	2	23.804	11.92	0.50	.62
Error	9	215.23	23.91		
Pairwise T-Test High vs Low p<.61					

Hypothesis 3.3 must be rejected given the results listed in the following tables.

Additional Analysis

After examining the data and conducting the statistical analysis required to test the hypotheses, a question arose in the mind of the researcher concerning the combined effect of strategy and environmental scanning upon performance. While the relationship was not hypothesized a priori, it appeared to merit investigation and seemed to be a natural next step in the line of research.

Strategy and Environmental Scanning

Strategy has been found to possess statistical significance in its affect on ROS ($p < .018$) in the full sample (Table 4.17); and, ROS ($p < .009$) when outliers are removed (Table 4.18). Environmental scanning likewise has been significant on ROS ($p < .02$) in the full sample (Table 4.19); and, upon the removal of outliers ROS ($p < .02$), ROA ($p < .02$) (Table 4.20). Since they are both significant separately, there is no reason to assume that they will lose explanatory power when combined. We know that the addition of environmental scanning is bound to increase R^2

, the question of interest is whether the increase is due to multicollinearity. If scanning moderates the relationship of strategy to performance, its inclusion in the model will not be additive due to the correlation (either positive or negative) that exists between the two variables.

It then becomes difficult to separate R2 into the predictive

contribution of each variable - scanning and strategy. This causes

great difficulty in estimating the direction of change in

performance when strategy is held constant and scanning level is

altered.

Multicollinearity is demonstrated by significant interaction

effect in a multiple analysis of variance test. Two factors are

said to interact when the difference in the mean responses for two

levels of one factor is not constant across levels of the second

factor. In other words, if with the addition of higher levels of

scanning, the effect of strategy upon performance is not constant,

then this non constancy is explained by the presence of interaction

between strategy and scanning.

In order to test for any interaction effects a two way analysis

of variance was designed. Strategy was coded as either low cost,

differentiation, focus, or, other. Cutpoints for scanning were

derived by obtaining the Q1 (25th percentile point) and Q3 (75th

percentile point) for both samples - full and outliers removed.

Performance variables were classed as the dependent variable, while

strategy and scanning were identified as the independent variables.

Therefore, six multiple analysis of variance tests were run - two

for each dependent variable. The results are listed in Table 4.37.

Table 4.37   Multiple Analysis of Variance

Effect	Variate	F Value	DF	Probability
Full Sample				
Strategy Main Effect	ROS	3.07	3, 51	.03
Scanning Main Effect	ROS	1.06	2, 51	.35
Interaction	ROS	0.55	6, 51	.77
Outliers Removed				
Strategy Main Effect	ROS	2.86	3, 46	.04
Scanning Main Effect	ROS	1.26	2, 46	.29
Interaction	ROS	0.49	6, 46	.82
Full Sample				
Strategy Main Effect	ROA	0.84	3, 44	.48
Scanning Main Effect	ROA	0.00	2, 44	.99
Interaction	ROA	1.95	6, 44	.09
Outliers Removed				
Strategy Main Effect	ROA	1.28	3, 39	.30
Scanning Main Effect	ROA	1.60	2, 39	.21
Interaction	ROA	0.96	6, 39	.46
Full Sample				
Strategy Main Effect	GROWTH	1.37	3, 50	.26
Scanning Main Effect	GROWTH	1.70	2, 50	.19
Interaction	GROWTH	0.40	6, 50	.87
Outliers Removed				
Strategy	GROWTH	2.23	3, 45	.09
Scanning	GROWTH	2.47	2, 45	.09
Interaction	GROWTH	1.64	6, 45	.16

As may be readily discerned, scanning and strategy do not

appear to interact and their relationship appears to be additive.

Which is not to be construed as a negative finding. It simply

implies that they are both parallel and the main effect of each is

not dependent upon the level of the other. Therefore holding one

constant and changing levels of the other should result in

predictable movement in the dependent variable.

The results of the multiple analysis of variance imply that one

need not be concerned with multicollinearity between these two vari-

ables.

Summary

This chapter has presented a description of the firms

participating in the research and the survey data collected.

Statistical relationships among the variables examined by this

research were outlined and studied. Organizational variables: size;

age; arena of competition; and, industry segment were evaluated for

relevance. None were found to have a significant impact on the

performance of the firms in this sample.

The results of hypothesis testing were:

Hypothesis 1 was rejected in that firms which espoused a

generic strategies did not outperform firms which did not.

Firm performance was shown to be significantly related to strategy in one variable - Return On Sales.

Hypothesis 2 was accepted in two performance variables. <u>In both Return on Sales and Return on Assets (after outlier removal), high performing firms significantly engaged in more environmental scanning than did low performing firms.</u> In Growth of Unit Sales, the Hypothesis must be rejected.

Hypothesis 3 the results were mixed.

Hypothesis 3.1 accept for Return on Sales;
            reject for Return on Assets and Growth in
                Unit Sales.
Hypothesis 3.2 reject for all performance variables.

Hypothesis 3.3 reject for all performance variables.

Chapter 5

Discussion of the Results

Having spent three chapters defining research questions,

normative theory, and methodology; and, one chapter reporting the

statistical results of the survey, it still remains to be seen what

new insights are to be gained from all this work. Before the com-

mencement of such a discussion, it will be of benefit to review the

findings of the statistical analysis.

1. Hambrick's modified scanning scales of frequency and interest have been shown to possess construct validity and reliability;

2. The control variables of size, age, geographic distribution, and industry segment do not exert a significant effect upon the performance variables used;

3. Strategy does significantly influence one of the three performance variables - Return on Sales (ROS);

4. Firms pursuing either a differentiation or low cost strategy outperform firms pursuing a focus or other strategy in terms of average performance;

5. Environmental scanning significantly influences two of the three performance variables - Return on Sales (ROS) and Return on Assets (ROA) - once the confounding influence of the outliers is removed from the sample;

6. High performing firms appear to engage in significantly greater amounts of environmental scanning than do lower performing firms;

7. High performing firms following a low cost strategy significantly (measured by ROS) engage in higher levels of scanning in the buyer, potential competitor, and substitutes sectors;

8. High performing firms following a differentiation strategy engage in higher levels of scanning in the buyer and existing competitor sectors when the confounding effects of the outliers are removed. These levels while much higher, are not statistically significant. In addition the firms scan potential competitor and supplier at higher levels which are statistically significant when measured in ROS;

9. High performing firms following a focus strategy out scan low performing firms of the same strategy significantly only in the potential competitor sector when measured by ROA;

10. Holding strategy constant, it is possible to predict the direction of the change in performance given a change in the scanning behavior of the firm;

11. Firms espousing a focus strategy scan at lower levels and report lower performance than firms espousing either a differentiation or low cost strategy.

Given these empirical "facts" one is tempted to imply causality; e.g. strategy causes performance. Before discussing the findings, the cautions raised in the first chapter must be restated. The realized strategy of a firm might be totally different from the intended - this research does not address implementation; and, the statistical tests utilized are correlational techniques and are capable of only discerning relationship not cause.

Scanning Scale

The confirmation of high reliability and construct validity of the scanning scales in an industry noted for its volatility is good news for future researchers. The scale will enable close monitoring of trends developing in the industry. There is a problem with the

development of the traits as is seen with the low correlations

between two groups of traits in the supplier sector - real

estate/capital cost vs labor/materials cost. Snow and Hambrick's

(1980) warning that researchers and managers have difficulty in

communicating is typified here. The researcher perceived the four

to be closely related components of the supplier sector while the

respondents apparently did not. This aside, the use of an

environmental typology to develop the traits and the two methods of

frequency and interest seem to work.

Control Variables

The finding that the control variables do not exert a

significant effect upon performance is not as surprising as it first

appears. The restaurant industry is basically an industry in which,

with a few exceptions in the fast food segment, strength in the

local market is more important than national or regional presence.

Success is dependent upon the quality of the customer's last visit.

Unlike manufacturing and most service industries, the buyers of this

industry are usually quite capable of providing the service for

themselves or seeking satisfaction from substitutes - convenience

stores, supermarket deli's, microwavable frozen dinners.

Companies do not gain much economy of scale from size, except

perhaps greater yield in terms of marketing costs per store in

operation. There are few national suppliers of raw materials with

whom long term contracts may be made at resulting cost savings.
Most suppliers of raw materials are usually local companies who are
able to base prices upon local market conditions. The exception to
this may be fast food firms specializing in frozen hamburgers and
french fries which are able to operate large commissaries. This
tactic is filled with the hidden costs of transportation,
warehousing, and processing. The nation's largest foodservice
company contracts procurements to regional suppliers, choosing not
to operate commissaries. Other large restaurant chains which
utilize fresh food purchase at the local level. The same is true
with equipment. Once the firm is operating ten units, it can order
directly from the equipment manufacturer if the managers know
exactly what model is required. Since most firms in the sample are
larger than ten units, they all possess the same opportunity. In
early 1988, the oldest firm in the sample divested itself of an
equipment company it had operated for over twenty years, preferring
instead to purchase on the open market.

Larger companies have historically had a greater number of less
profitable units than smaller firms since their efforts at expansion
have usually resulted in the development of marginally profitable
markets in an attempt to continue growing once primary markets have
been fully developed. In this study, the condition appears to hold
since the growth in sales per unit of large companies is slower than
that of the smaller firms.

Arena of competition in terms of national, regional, or local does not significantly affect performance in the industry as a whole due to differences in local preferences. Many firms have attempted to take a successful regional market preference national only to fail. Unlike hard goods, food tastes are not homogeneous throughout the nation, and the probability of success is affected primarily by local conditions. Hence, even national firms find they must compete on a local basis. The largest restaurant company in the U. S., conducts few nationwide marketing campaigns, relying instead on regional and local co-ops more attuned to the local conditions; and, is consistently rewarded with the highest average recall in buyer awareness surveys, while its less recognized competitors continue with national campaigns much to the dismay of their franchisees.

The age of the firm does not seem to affect performance, again due to the nature of the industry. Consumer tastes change rapidly, while loyalty to a particular brand is not strong. An exception to this may be the single unit operator who knows all customers by name having forged a bond between his business and the community. In the rest of the industry, owners, managers, and employees turnover at extremely high rates,forming no bond with the customer. Loyalty is based upon the customer's last experience, local effects of marketing programs, and current customer needs. Also, due to high managerial turnover, the age of the firm does not ensure a cohesive top management team brimming with industry experience.

Differing industry segment profitability has been a precept of
the popular industry press.   This study found no evidence to
support the contention that any one segment was more profitable than
the others.

Industry Maturity

In chapter one the symptoms of a mature industry were
enunciated. The foodservice industry fits easily into that
classification. The tell tale signals are present. What has been
obvious to academicians
is now obvious to practitioners, the foodservice industry has
entered maturity. The 665 unit Shoney's Inc., as well as Church's,
TGI Friday's, Friendly Ice Cream and Vicorp have begun cutting
expansion due to what they cite as "industry maturity". Shoney's
long considered an industry leader has concluded that the industry
environment is not sufficiently attractive to aggressively continue
expansion.

Over expansion in the face of slowing demand has resulted in
the dilution of human resources as less acceptable hourly and
managerial personnel are available; and, the muddying of concept
lines with accompanying confusion on the part of the consumer as to
the focus of chains. Faced with high property costs, employee
shortages, and a soft demand, chains are rethinking expansion plans.

This mature market constrains firms in a number of ways:

    a) slow growth and more competition for market share;

    b) buyers are more experienced and discriminating;

    c) there is a greater emphasis on cost/service;

    d) overcapacity;

    e) new products/service increasingly more difficult to

       develop;

    f) falling industry profits.

Given these less than ideal conditions, the strategy - environment interface becomes paramount.

Strategy

Strategy does have a significant effect upon performance in the industry, both in absolute terms and in statistical results. Firms espousing a differentiation strategy outperformed all others in ROS while low cost firms experienced greater levels in ROA. Firms choosing to focus their efforts were rewarded with significantly lower performance. The high performance in growth of unit sales by OTHER firms was due to the effect of a small sample size (9); and, two small firms in the sample (3,& 11 units) reporting high growth (23% and 35% respectively). The removal of these two firms from the sample resulted in GROWTH declining from a mean of 21% to 10% less than both low cost and differentiation firms. With this in mind,

there are valid reasons why differentiation and low cost strategies
are successful in the foodservice industry.

Differentiation Strategy

This strategy attempts to build brand loyalty among customers
and offer a significantly better product/service than either low
cost producers or substitutes. The skills necessary to successfully
compete include strong marketing, innovation in product/service
development, and strong cooperation among the channels of distribu-
tion. The major risks involve imitation - a very definite risk in
the restaurant industry; and, the increasing attractiveness of low
cost and substitutes as the marketplace matures.

The restaurant industry is greatly influenced by marketing. A
fact which is becoming increasing apparent to industry executives.
Differentiation is a marketing driven strategy where the wants and
needs of customers are identified and satisfied by the firm. New
products and services are developed to meet the changing tastes of
the population and quality is stressed. By definition
differentiation attempts to bring about higher profits, establishing
the firm as different from the rest of the industry. Economic
performance is enhanced through the value added to the product or
service. Firms following this strategy successfully should
experience greater return on sales and in this sample they do. The
majority of firms espousing a differentiation strategy are regional

(10- 32%) in absolute terms and local (6 - 40%) in terms of
percentage, with national firms preferring other strategies.

Low Cost Strategy

Low cost strategy stresses economy and the efficient use of
resources. Costs are to be controlled; and, an operations
orientation (company needs focused) rather than a marketing
(customer needs focused) orientation is stressed. Because of this
strategic orientation of efficient and effective use of assets, ROA
should be enhanced. Once more this hypothesis appears to hold.

In order to be successful, low cost firms must command high
relative market share, have favorable access to raw materials, offer
a broad menu line, or possess high volumes. In the foodservice
industry, only in the fast food segment are there firms which
command high relative market share. As stated earlier, most firms
possess the same access to raw materials; therefore, in this
industry low cost firms must establish their position on either
broad menu lines or high unit volumes.

The skills required to successfully compete include process
engineering, intense labor supervision, ease of production, and a
low cost distribution system. Translated to the food service
industry, they require the industrialization of service - no
flexibility in menu, equipment, or service; and low cost units.

More appropriate for fast food, cafeteria, and family/coffee shop
segments than dinnerhouses.

Low cost strategy has its risks. Technological change (take
out and home delivery services of full service restaurants,
convenience stores; supermarket deli's); imitation; and, inflation
which narrows the margins between low cost and other restaurants; as
well as failure to notice changes in the environment all act to
thwart the low cost producer.

Focus Strategy

While the other two generic strategies outperformed firms which
did not espouse any of the three generic strategies, focused firms
fared poorly compared to all. This strategy is a mixture of both
low cost and differentiation. It calls for the practitioner to
identify market segments or groups not being adequately served by
either of the two other strategies and then act to fill the need.
This strategy may work in the industrial economic setting but not in
the food service industry.

In assessing the strengths of focus strategy, one only finds
the ability of serving groups not served by other strategies. This
does not hold in the restaurant industry. All segments attempt to
attract customers from all segments of society. Whether it is fast
food, dinnerhouse, family/coffee shop; or cafeterias they attract

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customers from all of society. There are no segments or groups in

society whose needs are not fulfilled by firms pursuing either low

cost or differentiation strategies. Risks involved in pursuing a

focus strategy include: increased costs from serving the segment;

little difference in groups; and, imitation. These are very real in

the foodservice industry. There are no disenfranchised to draw from

in the hospitality industry today. Market segmentation, driven by a

mature market, ensures that any profitable demographic,

psychographic group is represented in the industry. It appears that

there are no under served industry segments.

It appears that to focus is to be stuck in the middle between

the only two successful strategies - differentiation and low cost.

Focus strategy would seem to be a successful strategy only for local

firms. Surprisingly, given the significant differences in local

market tastes and conditions, six national firms (33%) espoused a

focused strategy. Not surprising, 67% (4 of 6) of them fell below

the sample mean in performance. In a nation of rapidly changing

tastes and trends fueled by the growth and pervasive influence of

electronic communications, focusing nationally on any demographic

variable is filled with risk. Combining that with an industry known

for high business risk simply increases the danger. Higher levels

of risk are expected to be accompanied by higher levels of return,

in this study it does not hold in the case of focused firms.

Even though the hypothesis of the superiority of generic strategies over others was not statistically supported, due mostly to the poor performance of focused firms, there are still significant findings for the industry. Differentiation and low cost appear to be the two strategies which are capable of allowing a restaurant chain, be it regional or national, to achieve high performance. Focusing on a narrow segment is probably best left to local or regional firms and does not appear to result in high performance in any instance.

Scanning

As stated in earlier chapters, environmental scanning is expensive. Time and resources must be diverted from other more tangible enterprises to engage in an activity which may have no discernible rewards. Scanning is such an informal procedure, that unless an active search for information is brought on by an important event, most executives are unaware they are engaging in it. Therefore, it becomes important to demonstrate the economic effects of such behavior to justify it. This research has accomplished that goal.

One must be careful here, however. The results do not indicate that environmental scanning brings about enhanced economic performance. It may only be stated that high performing firms - those whose performance is in the 75th percentile and above of all firms in this sample - scan at significantly higher levels than those firms whose performance places them at or below the 25th percentile.

It may be that these high scanners/performers are simply aggressive firms seeking and capitalizing upon opportunities.

While it may be argued that scanning does have a significant impact upon performance it does not hold that high scanning firms are high performing firms. An analysis of variance where firms were grouped on level of scanning activity, revealed that high scanning firms were not necessarily high performing firms. There was no statistical correlation between high scanning and high performance. While there was a significant difference between high performing and low performing firms in terms of the amount of environmental scanning carried on by each, the reverse is not true.

If only scanning was necessary for high performance, then all high scanning firms would be high performers. Since this is not the case; and, it holds strategy does of and by itself account for high performance, scanning must be a necessary but not sufficient reason for high performance in the industry.

There is a case, however, that may be argued for aggressive environmental scanning in the restaurant industry. Kefalas and Schoderbek (1973) found that executives in dynamic environments scanned at slightly higher levels than those in stable environments; and, Hambrick (1979) found that it was not unreasonable to speculate that some attributes of the organization's environment account for

patterns in scanning activities. His research also found

significant differences in scanning across the three industries

studied; prompting him to conclude that the industry itself emerged

as a predictor of scanning activity. The restaurant industry is

dynamic (De Noble and Olsen 1986). In order to remain current and

profitable, environmental scanning must occur. As this study has

demonstrated, firms engaging in low levels of scanning perform at

correspondingly low levels regardless of the strategy espoused. The

significance of the differences in ROS and ROA (outliers removed)

are of sufficient magnitude to encourage executives to evaluate the

amount of environmental scanning activity taking place in the firm

for its congruence with strategic orientation, and its level of

intensity.

Scanning in Support of Strategy

While the three hypothesized relationships of scanning of envi-

ronmental sectors to strategy were rejected, there are noteworthy

findings.

Hambrick (1979: 194) was unable to conclude that strategy alone

was strongly related to executive environmental scanning. He did

surmise that strategy and industry may interact to create "one-way"

differences in scanning where in a particular industry one strategy

may require particular scanning but another may not. This study

seems to confirm that supposition. High performing firms espousing

different strategies stress different sectors of the environment in their scanning behavior. Differentiation firms scanned overall slightly more than low cost; however, in terms of environmental sector they were more active in scanning suppliers, existing competitors, and potential competitors. Low cost firms were more active in the buyer and substitute sectors. Focused firms appeared to scan no sectors with any intensity.

Previous researchers (Aguilar, 1967; Hambrick, 1979; Pinto, 1986) have concluded that a common body of knowledge exists in an industry which is disseminated through media equally available to and used by executives within the industry regardless of strategic orientation. This study has found differences in the sectors scanned by high performing firm espousing differing strategies, apparently refuting this idea of a common body of knowledge equally utilized by all. As has been noted, scanning seems to be significantly related to performance. Focused firms enjoyed the poorest performance of all sample firms; and, interestingly, engaged in the least total scanning activity:

        a) focus vs lowcost p=.12;

        b) focus vs differentiation p=.14.

It may be that while focused firms restrict their competitive activities to a niche, they also restrict their scanning activity. They may become too parochial.

Hambrick and Pinto also found it rare that executives would discuss their scanning behavior in terms of strategy, most preferring to scan in support of their functional bent. This study did not address that issue; and, there are major differences in the thrust of the studies. Hambrick examined the scanning behaviors of differing levels of individual executives and Pinto surveyed only chief financial officers of hospitality firms. The present study examined the scanning of the firm either as a composite score of the top management team, or that of the chief executive officer. It can be argued that the functional area of these groups is strategy.

Relation of Environmental Sectors to High Performance

It is intuitively appealing, given the nature of the generic strategies developed by Porter (1980), that differing strategic orientations require different environmental emphasis. Firms must be concerned with those sectors possessing the greatest opportunities or threats given the firm's strategy. This "one-way" scanning, as Hambrick characterizes, seems to be necessary for success. This study appears to empirically confirm this idea.

Low Cost Strategy and Environmental Sectors

The nature of low cost producers is such that they must be concerned with buyers, suppliers, and substitutes. A low cost product is seen more often than not by the buyer as a generic product, with little differentiating it from competitors save price.

One reason for this is that low cost producers do not attempt to shape buyer tastes, only satisfy them at margins that allow them to maintain an advantage over competitors. This is not to say that low cost producers compete strictly on price. It is only that their orientation is directed at innovations involving the transformation process. They do tend to cluster at the lower end of the pricing structure as may be seen in this sample by their lower return on sales. Their scanning activities must be directed toward buyer behavior in terms of identifying trends and wants, not shaping them. Hence the emphasis of high performing low cost producers on the buyer sector.

This identification in the mind of the buyer of generic product also forces the low cost producer to be aware of the threats of substitute products. A problem associated with being generic is that substitutes are more readily accepted than for differentiated products or services in the mind of the buyer. Thus low cost fast food producers must be concerned with the growth of substitutes which offer the same basic function - convenient food. Hence the concern with the growth of supermarket deli's and microwaveable convenience food.

The third area one would surmise that low cost producers would scan heavily is that of suppliers. In this survey they did not. There could be an excellent explanation for this finding. The

respondents may not have considered real estate costs and cost of capital as members of the supplier sector, hence the low scores in that sector. An examination of the means of the four variables reveals that real estate costs (3.7 & 4.7) and capital costs (3.4 & 4.6) do seem to be regarded differently than current cost/availability of raw materials (4.9 & 5.6) and current/future conditions in the labor market (4.0 & 5.8). Perhaps had the researcher been more attuned to the perspectives of the industry executives, the hypothesized relationship would have held.

An other area that differentiated high from low performing firms in the low cost strategy was the amount of scanning directed toward potential competitors. The reason for this would seem to hold for much the same reasons as it does for the scanning of substitutes. If you are not considered special by the buyers, you must be attuned to erosion of your competitive position by the entry of new competitors.

Differentiation Strategy and Environmental Sectors

Following the same reasoning as before, sectors which should be important to differentiating firms are buyers and existing competitors. Surprisingly, high performing firms were not statistically different from low performing firms in this sector. However, on an absolute scale, the difference between the means was large 5.3 to 0.1 (ROS) and 5.1 to -0.7 (GROWTH). Apparently, there was a large amount of variance present to cloud up the issue.

Existing competitors was a significant differentiator between
the two groups. If a firm is attempting to stand out from the
competition, it must be knowledgeable of them.

Interestingly, high performers also significantly outscanned
low performers in the potential competitor and substitute sectors.
It may be in this strategy it is not the quantity of scanning; but,
how forward looking the firm is. In other words, in order to be a
successful differentiator, the firm must possess an outward
orientation - an attribute of which is scanning. It may be that
what makes a differentiation firm successful is not the sector
scanned as much as to the concept that they are more outwardly
attuned. The scanning of potential competitors and substitutes
requires more insight into the workings of the marketplace than the
scanning of other sectors. One must first be able to identify where
potential competitors are likely to originate. It may be that only
differentiating firms, which require imagination, are best suited
for this type of activity.

Focus Strategy and Environmental Sectors

One would hypothesize that focusing firms must be aware of
buyer, existing competitor, and potential competitor sectors in
order to become high performers. Focused firms are ones who look

for the strategic niche - the unfulfilled buyer need that other
firms do not meet for one reason or another. They are the ones who
specialize in unusual tastes not addressed by other firms. They
have narrow markets which they serve profitably; which, because they
are narrow can not be shared with other competitors - hence the
awareness of potential competitors. In this study, the focus firms
present a good case for the effect of scanning on performance: firms
in this sample were not differentiated by any environmental
scanning; and, they were the least successful group in all
performance categories. They did not appear to be a good test of
the hypothesis since there were so few high performers when compared
with the entire sample.

Strategy and Environmental Scanning

Both variables have been found to have a significant
relationship with performance. They also do not appear to be
related as demonstrated by the lack of interaction effects or
significant correlation. The implications of this are that if one
of the two independent variables is held constant and the other
changed, it is possible to predict the direction of the change in
the dependent variable. While the magnitude of the change will not
be known a priori, we are able to state that given a specific
strategy, increased environmental scanning should result in a
increase in performance all other factors held constant.

Summary

This chapter has discussed the results of the research. The relationship of strategy to the performance variables was addressed; as was that of scanning. Differences between the scanning activities of high performing firms and low performing firms were noted. An exploration of the scanning activities of high performing firms espousing specific generic strategies and their scanning activities was examined. Finally, the relationship of strategy and scanning with their mutual affect upon performance was discussed. In the following chapter, conclusions drawn from the data, methodological weaknesses, and implications for further research will be presented.

Chapter 6

Conclusions

Having discussed the findings of the empirical research, what conclusions may be implied from the data?   Two very important conclusions to be extracted from this study are:

1) strategy does affect performance in a given environment and therefore the concept of determinism does not hold;

2) high performing firms scan in support of strategy.

In addition to these universal findings, one may also conclude that specific strategies require the firm to conduct more extensive scanning activities in certain sectors of the environment. Firms correctly identifying these sectors enjoy higher performance than their less perceptive rivals. Also, the benefit of Hambrick's scanning scales has been demonstrated, while the weaknesses of other methodologies have been exposed.

This chapter will begin with a review of the substantive conclusions generated; will then discuss the strengths and weaknesses of the methodology; and, finally conclude with the implications for further research.

Substantive Conclusions

Strategy seems to be significantly related to firm performance. The firm is simply just not a creature of its environment, with no choice of strategic direction. This is good news for proactive executives desiring to shape the destiny of the firm. The environment does, however, appear to limit the success of various strategies as may be seen by the poor performance of the focus strategy. Firms espousing this strategy, even though they engaged in scanning activities did not perform as well as firms in the other two strategic groups.

In examining the differences in performance between firms not espousing a generic strategy and both low cost and differentiation, we again note large but not significant separations between the performance means of the sample. The failure by these firms to espouse a specific generic strategy seems to have resulted in lower performance also.

Given this scenario, the task of management seems to be identifying strategies which provide a match between the firm's strengths and the environment. This is the soul of strategic management theory.

Bourgeois (1978) found that in volatile environments firms should increase their environmental information gathering through greater boundary spanning activity, while firms in more stable

environments should reduce the number of boundary spanners to reduce costs and potentially uncertainty inducing information. The search for environmental information while increasing uncertainty seems to enhance performance. This holds in the present study.

The volatile environment of the restaurant industry requires increased scanning. High performing firms in all three strategies engaged in higher levels of scanning than lower performing firms within strategic groups.

What seems to emerge from all this is that between group performance is affected by strategic choice; while, within group performance is affected by environmental scanning. We have arrived at the crux of the matter. Firms which have made the strategic error of not properly relating to the environment will derive limited benefit from increased environmental scanning. However, the failure to engage in scanning activity when the firm has made an error in strategic choice will have greater consequences on performance, than on firms which have correctly chosen strategy but scan at low levels.

Strategy is important in that it allows the firm to focus its efforts in a manner which will ensure maximum likelihood of success given environmental conditions. Scanning, on the other hand, fulfills two functions:

a) tracks general environmental events to ensure that

the firm is maintaining the proper strategic stance,

remaining ever vigilant of the requirement to change

strategic orientation;

b) monitors sectors of the environment requiring

special attention due to firm strategy.

Together in a dynamic environment, they enhance the survival of the

firm.

Methodological Weaknesses

As with all exploratory research in the social sciences, this

study is rife with methodological shortcomings.

A major limitation is the cross-sectional design of the study

and the use of correlational analysis. This does not allow for the

inference of causality, only that a relationship exists where the

direction of change in the dependent variable may be predicted given

the direction of change in the independent variables. This is a

common limitation given the state of organizational research. Other

more specific limitations are present in this research:

a) the use of intended strategy instead of realized

strategy. This was covered extensively in early

chapters and is simply listed here for the sake of

accuracy;

b) the use of strategy as an ordinal variable, thus not

allowing the use of multiple regression analysis. At

this time, few other methods recommend themselves for use in defining strategy. Davis and Dess (1984) used factor analysis of competitive tactics to arrive at strategic factors. This technique has more than its share of critics and while considered for use in this study, it was not utilized. There appear to be no parsimonious measures that capture the construct of strategy adequately for use in questionnaire format for large samples;

c) the performance variables chosen may not have captured the construct as well as others. There was some early confusion on the computation of the growth in unit sales. Three respondents noted on their questionnaires that their answer was average annual growth. What the researcher desired for simplicity was simply the difference in the average unit sales for the entire period. Once raised, this apparent discrepancy resulted in the researcher sampling firms (10) reporting growth greater than 5% to ensure that the figure was based on the entire period and not average annual growth. All firms queried computed the growth figure as originally designed. However, the specter of doubt as to the accuracy of the growth variable was raised and has not been fully put to rest, especially given its performance; also, the problem of differing

unit sizes caused some reporting difficulties and the

removal of two firms from the sample as outliers. Also

the amount of investment in real assets of some firms

required their removal from the sample;

d) differences in definitions of environmental traits

between the researcher and the respondents. This point

was raised earlier in terms of the lack of congruence

in defining what comprises the supplier sector.

Suggestions for Future Research

There are a number of tacks future researchers may take using
this study as a beginning point.

Refinement of measures:

a)   given the inability to utilize regression analysis in the

examination of strategy, some acceptable continuous

variable which captures the construct of strategy in such

a way as to allow large sample sizes in order to realize

the full benefit of regression analysis;

b)   refinement of the environmental trait scales to enable

both researchers and practitioners to communicate what is

actually occurring;

c)   development of performance measures which are capable of

discriminating between different levels of leverage,

accounting method variations, etc. which indeed capture

firm performance.

Refinement of design:

a)   the cross-sectional design may be compared to a picture

     drawn from memory, it may have very little in common with

     reality. Asking executives what their scanning behavior

     has been for the past five years usually results in a

     description of their scanning behavior today. For the

     study of strategy, it seems that a longitudinal design is

     much better. What you lose in sample size and statistical

     analysis you compensate for with insight into the forces

     at play. Future researchers might be better advised to

     elicit the support of a small number of organizations and

     study them in depth over time.

Future areas of inquiry

There are a number of logical extensions of this research:

a)   examination of the effectiveness of competitive tactics

     given an intended strategy;

b)   the identification of other organizational variables which

     may work in conjunction with strategy and scanning -

     Management team cohesiveness, agreement on means-ends

     variables, dispersion of power, etc.

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c)   the match in high performing firms between intended and

realized strategy.

Summary

This study has demonstrated that in the foodservice industry,

strategy and environmental scanning do have a significant upon firm

performance. There have been methodological shortcomings in the

research design and measures which have been listed. Future areas

for continued research and design refinement have been suggested.

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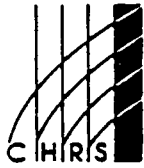
A NATIONWIDE STUDY OF TYPES OF STRATEGIES, ORGANIZATION
STRUCTURE, COMPETITIVE INTELLIGENCE GATHERING ACTIVITIES, AND
THEIR EFFECTS UPON PERFORMANCE IN RESTAURANT FIRMS

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.)

Importance to Overall Strategy

Competitive Methods	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

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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*)

	Importance to Overall Strategy				
Competitive Methods	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

12. A second method of measuring an executive's market intelligence gathering activity is to assess the interest he/she has in the event/trend. Please rate the below listed events/trends as to their interest to you.

	Not interested				Very interested		
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 at 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

13. Have you engage in the types of market intelligence gathering which you answer in Q-11 and Q-12 for the entire period of 1982-1986?

_____ Yes
_____ No

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 meaning, 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 statement/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.

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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 cost
_____ 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 extensive summary of this national restaurant study.

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