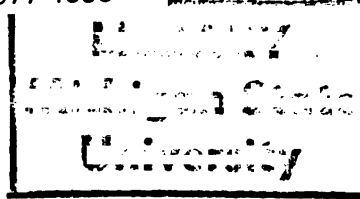




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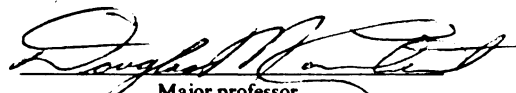
INTEGRATING CUSTOMER SERVICE AND MARKETING STRATEGIES
IN A CHANNEL OF DISTRIBUTION:
AN EMPIRICAL STUDY

presented by

JAY U. STERLING, B.A., C.P.A.

has been accepted towards fulfillment
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**INTEGRATING CUSTOMER SERVICE AND MARKETING STRATEGIES
IN A CHANNEL OF DISTRIBUTION:
AN EMPIRICAL STUDY**

by

Jay U. Sterling, B.A., C.P.A.

A DISSERTATION

**Submitted to
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in partial fulfillment of the requirements
for the degree of**

DOCTOR OF PHILOSOPHY

Graduate School of Business Administration

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ABSTRACT

INTEGRATING CUSTOMER SERVICE AND MARKETING STRATEGIES IN A CHANNEL OF DISTRIBUTION: AN EMPIRICAL STUDY

By

Jay U. Sterling, C.P.A.

During the past two decades, customer service research has both experienced significant advancements and been characterized by a number of shortcomings. This research corrects the major deficiencies of past studies. It integrates customer service with the other components of the marketing mix (product, price and promotion), and tests a methodology to identify appropriate, integrative marketing strategies in a multi-echelon marketing channel. The research: 1) develops a methodological framework with the ability to predict share of industry business based on the perceived effectiveness of member firms' marketing services; 2) determines the relative contribution of each of the marketing mix components to overall share of business for each level of the channel of distribution; 3) identifies and describes market segments based on the unique customer service, product, price and promotion attributes desired by each echelon of the marketing channel; and, 4) identifies appropriate customer service and integrative marketing strategies using a methodology that can be utilized in the future by management in general.

The research findings were based on responses to a mail survey from 263 dealers, 177 end users and 122 key decision influencers involved in the purchase, sale and use of office

systems and furniture products. Each questionnaire was comprised of four sections: Part A - Importance rankings for the marketing variables used to select, measure performance of, and retain manufacturers/vendors; Part B - Information concerning expected customer service levels; Part C - Perceptions of manufacturers'/vendors' performance for the same variables analyzed in Part A; and, Part D - Meaningful demographic (characteristic and classification) data for each channel level.

The major conclusions of the research were: 1) Superior performance by manufacturers, with respect to their marketing services, leads to an increase in the share of business allocated by customers; 2) Product and physical distribution/customer service factors contributed to the shares of business allocated to manufacturers by dealers, end users and key decision influencers. (The most frequent factors were "product flexibility" and "order cycle/lead time". Price and promotion influences occurred less frequently.); and, 3) Market segments can be identified on the basis of their unique customer service and other marketing mix needs.

In the future, successful firms will be those that allocate their overall budget among the marketing mix elements more effectively and efficiently than competitors. This research provides management with a methodology that can be used to establish customer service objectives, while simultaneously giving full consideration to both overall marketing strategies and explicit customer needs.

ACKNOWLEDGMENTS

A number of people provided invaluable assistance in this research. They deserve special recognition.

Douglas M. Lambert, PepsiCo Professor of Marketing at Michigan State University, was more than just the chairman of my committee. From the time I entered the doctoral program he served as a mentor, research colleague and friend. It was due to his suggestions, insights and interest that this study was able to achieve all of its originally stated goals. Professor Forrest S. Carter gave freely of his valuable time in order to insure that the research focused on the truly significant hypotheses, and that the author obtained the quantitative skills required to effectively analyze each hypothesis. Ronald Savitt, Professor of Marketing, and former chairman of the Department of Marketing, supported and guided me at every step in the doctoral program, as well as the research.

Three fellow students deserve special praise. James Wolter, a compatriot in the doctoral program, ably assisted in phoning prospective respondents. Without his assistance, response rates would have surely suffered. Bill Wellington, another doctoral candidate, spent many hours in helping to restructure the huge files resulting from the returned surveys into a manageable and effective data base. He also unfailingly provided valuable assistance during the hypothesis testing phase of the study. Duncan Lawrence, an MBA graduate assistant, was a constant

companion during the analytical phases of the research. Without his input it would have been impossible to complete the study in a timely manner.

Financial support from an unnamed company made this research possible. As a result of their support, the study evolved into the largest and most comprehensive study of customer service to date.

Finally, I wish to especially recognize and thank my wife, Angela. It was due to her insistence and endorsement that I originally decided to return to school after twenty-five years in industry. However, her support did not end when I started in the Ph.D. program. She provided constant encouragement and also served as an expert typist, collator of survey mailings and an unfailing coder of data all through the Ph.D. program. She truly deserves special appreciation for her many sacrifices and dedicated involvement in my efforts.

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CHAPTER 1

INTRODUCTION

During the past two decades, significant advancements have been made in customer service research. However, a majority of this research has concentrated primarily on defining and measuring the importance of customer service in isolation from the other components of the marketing mix -- either across industries or for a specific industry. The objectives of this research were to integrate customer service with the other components of a specific firm's overall marketing mix, and to identify integrative strategies in a multi-echelon marketing channel that lead to an increased share of business.

The balance of this chapter summarizes the design and objectives of empirical research that was conducted in the office products industry. The chapter is comprised of the following sections: (1) the business problem; (2) relevant theory, including prior research; (3) the research purpose; (4) hypotheses tested; (5) methodology employed; (6) managerial relevance of results; and, (7) organization of the research.

THE BUSINESS PROBLEM

It is generally recognized that a firm's market share and profitability will be affected by the manner in which management allocates scarce resources to the product, price, promotion and physical distribution components of the marketing mix [McCarthy, Kotler]. LaLonde and Zinszer [1976, p. 159] stated that

"customer service" is a substitute for the term "physical distribution" and Lambert and Stock [1982, p. 65] defined "customer service" as the output of a firm's physical distribution system. This research demonstrates that customer service requires the same level of managerial attention, expertise and planning that promotion, price and product efforts have traditionally received, if firms are to successfully implement efficient and effective marketing strategies.

Although the integration of customer service with the other components of the marketing mix is a significant problem in industry, research to date [Levy, 1978; Perreault, 1973; Rogers; Tucker, 1980] indicates the following: in most companies customer service is not effectively integrated with the other elements of the marketing mix; potential trade-offs are frequently ignored because they are too difficult to identify and/or measure; and the relationships between/among other channel members are not considered when establishing customer service levels. In addition, most corporate operating systems usually concentrate on one of the following narrow objectives:

- Decrease physical distribution costs while maintaining existing customer service levels.
- Decrease physical distribution costs while also improving customer service levels [Lambert and Zemke, p. 5].

REVIEW OF RELEVANT THEORY AND PRIOR RESEARCH

A review of the customer service literature identified the following characteristics and deficiencies:

1. Focus of early research.
2. Firm versus customer perspective.
3. Customer service not positioned properly in the marketing mix.
4. Failure to examine multiple echelons in the marketing channel.
5. Inadequate sample size of past surveys.
6. Other weaknesses.

Each of these deficiencies is described in detail in the following section.

Focus of Early Research

A primary objective of empirical research is to obtain data that will enable the researcher to generalize the findings and draw more meaningful, significant conclusions. Many of the past studies dealing with customer service failed to accomplish this goal because they either looked at multiple industries as a homogeneous group -- or did not extend the findings for a unique industry to the firm specific level, where actual conclusions with respect to alternative marketing strategies must eventually be tested. For instance, Simon [1965, pp. 33-34] utilized a basic multi-attribute model to evaluate the total customer service offerings by separate manufacturers in three different industries.

Perreault [1973] surveyed 216 purchasing agents of industrial products in several manufacturing industries. His objectives were to describe the purchasing environment, measure satisfaction with the different elements of customer service provided by suppliers, and determine the importance of customer service relative to the other factors in the purchasing decision. However, LaLonde and Zinszer [1976, pp. 163-169] found that even though customer service was generally considered a key element by management, the perception of customer service varied by industry and explicit standards of performance and objectives were frequently non-existent.

In addition to a broad multi industry focus, early research into customer service typically concentrated on inventory only a few, narrowly defined services, such as reliability, order accuracy and cycle times [Rakowski, p. 56]. Most ignored the need to develop a broad corporate policy for customer service. For example, Hutchison and Stolle [1968, pp. 87-88] proposed six principal steps to managing customer service: define the elements of service; determine the customer's viewpoint; design a competitive service "package"; develop a program to sell the service; test-market the program; and, establish performance controls. While the recommendations are still applicable and worthy of consideration fifteen years later, their definition of the factors to be included in the physical distribution "package" was limited to the ordering and shipping services provided by suppliers.

Stephenson and Willett [1968, p. 78] proposed the following eleven customer service activities: order cycle length; consistency of order cycle length; order preparation technique; order accuracy; condition of order receipts; order size; order frequency; billing accuracy; billing efficiency; quality of back order procedures; and, quality of claims handling. Only the first three were included in their research because the authors believed these items had the most influence on demand.

Firm Versus Customer Perspective

Until 1974, very few studies of customer service analyzed the subject from the viewpoint of the customer. The more popular definitions viewed physical distribution service in terms of the activities involved in managing the services provided by manufacturers. It was not until Perreault and Russ [1974, 1976a, 1976b, 1977] that customer service began to be derived from customers' needs. They also provided another important contribution to the discipline. Prior to their work, physical distribution/customer service research focused on the relative importance of the mean and variance of order cycle time, and on case studies of sales and profit results due to improvements in service. Perreault and Russ examined how suppliers could change the customer service they provided to customers in order to increase profit [Perreault and Russ, 1976a, 1977].

Like their predecessors, Perreault and Russ [1974, pp. 5-7; 1976b, pp. 7-8] used variables that primarily emphasized the order delivery aspect of physical distribution. Even though the attributes used were narrowly focused, Perreault and Russ made

two important contributions: they identified several elements of physical distribution service, which, if improved, would most likely increase customer satisfaction; and, they concluded that suppliers must be careful when surveying customers lest they imply improved performance that the supplier would not or did not intend to deliver [Perreault and Russ, 1976b, p. 10].

Gilmour [1977, p. 142-143], in a study of the customer service requirements of the scientific instruments and supplies market in Australia, noted that a major difficulty associated with customer service was measurement. "How can the supplier determine which customer service elements are important to a particular customer and then, how can he (the supplier) measure his performance on these factors?" He concluded that prior research was fragmentary and had been limited solely to attempts at establishing a theoretical basis for the response of customers to varying levels of service.

Gilmour [1977, p. 148] theorized that markets could be segmented on the basis of their service requirements. His research examined the potential for such an approach by utilizing nine customer service variables developed from the fifteen used by Perreault and Russ [1974, p. 5]. The author believed that the "potential existed for suppliers to reduce customer service costs and/or improve the level of customer service provided by recognizing differential customer service requirements for individual customer segments" [Gilmour, 1977, p. 148].

Customer Service and the Marketing Mix

Generally, researchers have failed to correctly position "customer service" within the framework of the firm's overall corporate marketing strategy. That is, they have not included all of the important variables that influence purchase behavior when establishing levels of expenditure for the four components of the marketing mix. A majority of the studies either examined customer service in isolation from the rest of the marketing mix [Hutchison and Stolle; LaLonde and Zinszer; Marr; Perreault, 1973; Rogers; Stephenson and Willett; Wilson], or perceived no functional boundaries to customer service, and consequently included in the customer service component variables which in fact were related specifically to price, product or promotion [Banting; Christopher, 1983; Cunningham and Roberts; Levy, 1978, pp. 240-243; Simon, p. 35; Tucker, pp. 199-204]. In other words, "customer service" has either been studied in isolation from the rest of the marketing mix, or has been broadened beyond its intended role, so as to become, in essence, the output of all marketing effort [which is more properly termed customer satisfaction].

For example, Levy [1978, p. 1; 1981a; 1981b] expanded upon the work of Perreault and Russ [1974] by developing a generalized methodology for implementing "the other half of the marketing concept." The research provided a foundation for the integration and management of all elements of the customer service interface. This study was one of the first to use more than twenty variables. However, many of these variables were, in fact, more

accurately assignable to other components of the marketing mix, even though they were all categorized as "customer service" attributes. This tendency to expand customer service to other marketing mix components has occurred frequently, beginning with the first studies performed in the late sixties [Simon, 1965, p. 35]. In addition, past studies typically assumed that price, quality of the physical product and promotional elements of the marketing mix remained constant. In fact, these factors may vary according to the services offered and received [Tucker, 1980, p. 7].

Failure to Examine Multiple Channel Echelons

Heskett [1977, p. 91] proposed that if logistics was to be employed as an effective, competitive tool, management must factor logistics into the design of business strategies on a continuing, long-term basis. One area that should be addressed during this process is to determine the extent to which the firm has employed "channel vision" in determining who should do what, when, where and how in the company's channels of distribution. Shycon and Sprague [p. 73] supported this concept by urging manufacturers to examine the whole distribution sequence even though they controlled only part of their products' distribution flow from plant to final consumption. Only then can manufacturers identify: who makes the purchase decision; at what stages of distribution decisions are made; and, how they may ultimately affect the manufacturer's sales volume.

Tucker [1980, p. 121] observed that non-channel - specific (generic) customer service variables, which have historically

been utilized in research, may not perform effectively or consistently when used in the context of different industries, or at the firm-specific level. These generic and non-channel - specific variables may prove to be ambiguous and vague to respondents. In fact, the author proposed that this may have been a major reason for the large occurrences of "not applicable" and "no opinion" responses in both her own and Levy's studies [Tucker, 1980, p. 106].

Unfortunately, very few empirical studies have examined more than one level in the distribution channel. Lalonde and Levy [1977, p. 27] identified the importances of thirty-eight services to both frozen food processors/manufacturers and wholesalers/distributors. They found significant differences in perceptions of customer services between the numbers of these two channel levels. Levy [1978] surveyed 42 manufacturers and 66 wholesalers in the over-the-counter pharmaceutical products industry in order to determine the relative importances of seventy-one variables from both channel level's perspectives. Marr [1980] interviewed thirty-one manufacturers and customers in an unspecified industry to determine: the relative importance of seven customer service variables; and, relative differences in attitudes between the two groups. Tucker [1980] surveyed 60 manufacturers, 120 wholesalers and 148 chain drug stores in the same industry researched by Levy. Her major objectives were to define customer service in a channel of distribution, measure the perceived importance of the variables for each channel level and determine differences in opinions between buyers and sellers.

All of these studies suffered from small sample sizes and/or low response rates. Therefore, other than measuring relative importance, many of the researchers' stated objectives could not be achieved. Tucker [1980, pp. 162-163] concluded that the inter-relationship between various channel levels has not been successfully studied with respect to customer services.

Inadequate Sample Size of Past Surveys

Another characteristic of many past customer service studies was relatively low response rates. LaLonde and Zinszer [p. 15], in their landmark study of customer service, cautioned that their findings should be treated as tentative, because the original sample sizes, response rates and resulting respondent groups were generally too small to derive generalizable conclusions.

Both Levy [1978, p. 126] and Tucker [1980, pp. 94, 96] could not perform all of the desired multivariate analyses required to fully test their hypotheses, because of both a small sampling of firms and low response rates. As a result, the number of customer service variables examined exceeded the number of respondents.

Even if 100 percent sampling had occurred and good response rates had been achieved, the industries surveyed in several past studies were not large enough to support multivariate analyses of customer service on an industry-wide basis [Tucker, 1980, p. 116]. Both Cunningham and Roberts [1979] and Banting [1976] surveyed buyers of pump and valve castings. In both instances, the total available number of respondents were so small that low response rates severely hindered meaningful analysis. Wilson

[1974, p. 187] selected distributors of plumbing fixtures in a five state area. His total available population was sixty four wholesalers, of which thirty seven responded. Because his useable sample was so small, he could not test his major hypothesis that historical purchases were linked to customer service preferences.

Gilmour [1977, p. 141] interviewed six manufacturers and thirty-two customers in the Australian scientific instrument and supplies industry. Because of his small data base, his conclusions were restricted to observing differences in opinions between the two groups. Simon [1965, p. 34] interviewed eighteen manufacturers in three industries concerning thirty-one services used to evaluate the performance of suppliers. Again, his research was limited to determining the relative importance and overall satisfaction of the variables involved. Marr [1980, p. 433] attempted to derive seven "salient" variables from a list of thirty-one for an unidentified industry. However, a lower than anticipated response rate led to possible unreliable results, since the sample size consisted of only 31 manufacturing firms.

Other Weaknesses

In addition to the deficiencies identified in the preceding sections, many researchers have encountered difficulties in accurately representing terminologies when constructing specific, descriptive measurement attributes. Tucker [1980, p. 115] believed this problem was partially due to the fact that each such study's scope was industry - wide, and not company specific. This breadth of coverage increased the likelihood that for any

given service category, someone might respond at the extreme points of the scale or use the "not applicable" response option. It is only recently that very specific measures of customer service have been suggested, rather than aggregated terms such as "lead time", "reliability of service" or "price". In practice, most companies use only limited, specific measures to define services received.

Several researchers deleted low variance customer services, primarily because the number of respondents exceeded the number of variables researched. [Gilmour, 1977; Levy, 1978; Marr; Rogers; Simon; and Tucker, 1980]. However, the inclusion of only customer services with a high variance in importance ratings/scores creates an implicit assumption that all services with low variances in their ratings are unimportant because either: they are indistinguishable from one another; all suppliers offer them; or, the supplier had to meet certain minimum standards to be considered as a vendor. Thus, salient variables may in fact be omitted during the course of the research, or key customer service requirements may de facto be embodied in the deleted variables with low variances in their scores.

Perreault [1973], Rosenberg and Stern [1971] and Tucker [1980] were unable to identify meaningful factors (underlying constructs) in their respective studies of customer service and channel relationships. Levy [1978, p. 147-149] was successful in deriving seven factors along a functional orientation from the thirty-one variables exhibiting the largest standard deviations

in mean importance scores. However, he had to use oblique rotation methods to derive a final solution. This technique tends to diminish the independence of each factor and may result in inter-correlation.

RESEARCH PURPOSE AND OBJECTIVES

The purpose of this research was to test a methodological framework with the ability to: 1) identify the marketing variables used to select and evaluate vendors; 2) determine the relative contribution of each of the marketing variables to the overall share of business allocated to manufacturers by dealers, end users and key decision influencers; 3) ascertain the relative importance of the individual components of the marketing mix (product, price, promotion and physical distribution/customer service) to the overall share of business allocated to manufacturers by customers; 4) accurately identify and describe market segments based on the unique customer service and other marketing services requirements of each of the different echelons that comprise a marketing channel; and 5) identify appropriate customer service and integrative marketing strategies in a multi-echelon channel. Specifically, the research considered the following factors which influence the establishment of an effective package of marketing services:

- Relative importance of the various customer service and other marketing services elements.
- Competitive practices.

- Customer perceptions (intermediaries, end users and key decision influencers) of vendor performance.
- Relationship of customer service to the other components of the marketing mix.
- Inter-action of various channel members.

This study also addressed the difficulties and deficiencies of prior research discussed elsewhere in this chapter. As such, the research was designed to:

- test hypotheses related to the effect of customer service and other components of the marketing mix on a firm's overall success in the market place, as measured by the share of business received.
- compare the decision criteria used by various levels of the channel to determine if different marketing strategies were required to serve different levels and/or market segments in the marketing channel.
- identify the decision variables used by intermediaries (wholesalers and/or dealers) and customers (end users) when making the decision to buy from a firm or its competitors. Those who influenced the purchase decision were also studied.
- determine how intermediaries, end users and key influencers perceived the customer service and other marketing support offered by each of the major competitors serving the market.
- determine if perceptions varied by demographic variables such as geographic location, customer type, sales volume, sales growth, profit, dealer category or industry/market segments served.
- obtain ideal/preferred standards of performance from customers for use in developing new and/or revised customer service and other marketing strategies.

HYPOTHESES TESTED

The research examined three major questions: 1) Does superior performance by manufacturers with respect to their marketing services, significantly contribute to customer satisfaction, in the form of market share? 2) Does customer service play an equal or more important role than the other components of the marketing mix in the selection of vendors' products and in the overall share of business achieved by manufacturers? and, 3) Can managerially useful market segments be identified on the bases of their unique customer service or other marketing mix needs?

Past empirical research dealing with customer service failed to successfully test or validate key hypotheses related to the above questions. For example, Wilson [1974, p. 187] could not test his major hypothesis that historical purchases by wholesalers were linked to customer service preferences for the following reasons: his useable sample was too small; too many restrictions were placed on the decision making scenario of wholesalers; and errors were made by respondents during the data collection phase of the research. Also, the assumption was made that distributors could examine customer service offerings by manufacturers in isolation from differences in price, quality and product related services.

Perreault [1973, pp. 87-89, 169, 170] failed to establish any directional relationships between: the number of deliveries, the number of alternative suppliers available to a purchaser, the proportion of orders cancelled or average delivery time; and the

importance of customer service as viewed by purchasing agents. Also, he was not able to identify any clusters of customer service variables which tended to group together. The results of his research indicated that future research on customer service should concentrate on the role of customer service in a specific industry.

Levy [1978, pp. 207-208] examined both an entire industry (prescription drug) and a specific manufacturer. When he attempted to identify market segments of manufacturers' wholesale drug distributors based on their unique customer service needs, he was not able to obtain managerially significant or stable results. Levy mailed questionnaires to 129 manufacturers and 296 wholesalers, and received responses from 42 and 66, respectively. The small data bases precluded the ability to perform sophisticated multivariate analyses.

Tucker [1980, pp. 94, 96] was unable to test several of her proposed hypotheses due to small sample sizes relative to the number of questions, non-normal distributions and frequent use of "no opinion" and "not applicable" response options. Specifically, she could not test: whether both importance of, and satisfaction with, selected service activities were linearly related to over-all satisfaction; and, if groups of customers could be identified either by their ratings of customer service performance and satisfaction, or by the functional relationship between satisfaction with specific activities and over-all satisfaction.

There were several unique aspects of this study that enabled the researcher to successfully overcome the failures of prior empirical research:

1. The quality of the pre-test phase of the study insured that all meaningful variables were identified.
2. Variables were constructed from the pre-test phase that proved to be industry specific, accurately constructed/defined and uniformly interpreted by respondents.
3. The sample size and response rates were large enough to enable rigorous and reliable testing of the data.
4. Sufficiently comprehensive questions were included so that extensive analysis of demographic data and customer service standards/requirements could be successfully achieved.
5. Importance rankings and performance evaluations were obtained for all of the variables used to select and retain vendors. This precluded the inadvertent omission of "salient" variables during the analysis phase of the research.

As a result, it was possible to test the key questions previously described, as well as avoid deficiencies of past studies. The following represents a formal statement of the hypotheses examined in this research.

- H₀₁: There is no significant relationship between the share of business realized by manufacturers -- and evaluations by intermediaries (dealers), customers (and users) and key decision influencers, of vendors' (manufacturers) performance with respect to the variables used to select and retain vendors.
- H₀₂: The marketing mix components (product, price, promotion and physical distribution/customer

service) contribute equally to the share of their business that intermediaries (wholesalers/dealers) customers (end users) and key decision influencers currently allocate and would ideally prefer to allocate to manufacturers.

- H₀₃: There are no statistically significant differences in demographic (characteristics and classification) data for market segments of intermediaries (wholesalers/retailers) and customers (end users) identified on the basis of responses to importance scores (PART A variables).

RESEARCH METHODOLOGY

In order to accomplish the foregoing objectives and test the stated hypotheses, the research concentrated on one industry and emphasized investigations of a specific firm. The study consisted of the following integrative, sequential methodology that can be readily transferred to settings in other industries: (1) external audit; (2) internal audit; (3) evaluation of customer perceptions and (4) identification of opportunities. The overall framework for this methodology is based on the procedures proposed by Lambert and Zenke [1982].

1. EXTERNAL AUDIT - IDENTIFICATION OF KEY VARIABLES AND COMPETITIVE ANALYSIS - Key intermediaries (wholesalers/retailers) and customers (end users) were selected and interviewed. Based on this pre-test, all of the firm's wholesalers/dealers, selected wholesalers/dealers who sold competitive products, customers (end users), and key decision influencers, were surveyed by mail. The objective of this phase was to identify relevant marketing mix variables used by the different echelons in the channel when making the decision to buy. This phase also determined how wholesalers/dealers, customers (end users) and key decision influencers perceived the marketing services actually provided by each of the major vendors in the

industry. Demographic information enabled the researcher to determine if there were significant differences in responses to variables, such as type of account, market served, geographic location, sales volume, growth, and the percentage of business given to each vendor.

2. INTERNAL AUDIT: Company records of the sponsoring firm were examined and key personnel interviewed. The objectives were to determine existing performance levels, how performance was measured and reported, and the potential impact of prospective changes in marketing services policies.
3. EVALUATION OF CUSTOMER PERCEPTIONS: Results of surveys from Phase 1 were compared to the findings from the internal audit portion of the research. The objective of this phase was to determine what the top rated vendor in each category was doing to create the perceptions disclosed in Phase 1. In addition the "salient" marketing variables used to select and retain vendors were identified.
4. DETERMINATION OF MARKET SEGMENTS: Intermediary (dealers/wholesaler) and customer (end user) respondent groups were further segmented on the basis of their evaluations of the importance of the various marketing services offered by manufacturers. The objective was to identify managerially useful market segments in order to meet the potentially different customer service and other marketing services needs of customers.
5. IDENTIFICATION OF OPPORTUNITIES: The responses of wholesaler/dealers, customers (end users) and key decision influencers were analyzed, using the relevant criteria from Phases 1 and 3. The results were used to identify those customer service and other marketing variables that, if changed, offered the best opportunity for a manufacturer to increase the share of business received from each respondent group.

LIMITATIONS

All of the companies studied were either dealers, end users or key decision influencers in the office products industry. They were not selected at random, but rather on the basis of recommendations and lists submitted/suggested by the sponsoring firm. Consequently, it is conceivable that these companies are managed by executives who are more knowledgeable and aware of vendor selection and evaluation than those employed by other companies within and without this industry. In addition, the industry studied is in the growth stage of product life cycle and frequent product introductions and innovations, as well as intense price competition, characterize the industry. These facts should be recognized when considering the results of the study.

Although the sample may not be representative of all companies, it does reflect a broad range of the firms involved in three different levels of the marketing channel in a single industry that consists of over twenty-five manufacturers in a highly competitive environment. Therefore, the research should have encountered the major theoretical and pragmatic issues that a manager in other industries is likely to face when attempting to select and evaluate vendors.

MANAGERIAL RELEVANCE OF RESULTS

In the past, the customer service area of marketing has received periodic attention from researchers. With few exceptions, this research has been limited to an examination of the trade-offs that existed between and among the various

customer service/physical distribution elements. Therefore, significant future contributions can be made by those who broaden their perspective and study the trade-offs between customer service/physical distribution and the other components of the firm's marketing mix, as well as base their studies on a total channel perspective. This must be done in order to achieve corporate objectives with respect to long-run profitability and market share. Successful firms in the 1980's will be those which allocate their overall budget among the marketing mix elements more effectively and efficiently than competitors.

Since most corporations have limited marketing resources, management must apportion resources in a manner that will maximize overall marketing efficiency and effectiveness. In order to accomplish this, the following managerial questions need to be answered:

- Which components of the marketing mix contribute most to overall customer satisfaction and market share?
- How important is customer service with respect to the other components of the marketing mix?
- How much, and what type of, customer service is required to develop an effective, overall marketing strategy?
- Can managerially useful market segments be constructed on the basis of their marketing services requirements?

This research answered each of these important questions. All of the variables considered when making the decision to buy were included in the research. Consequently, the findings make

it possible to give full consideration to overall marketing strategies and explicit customer needs, while simultaneously establishing customer service objectives. In addition, the methodology recognized the impact of channel member interactions on both customer service requirements and marketing strategies. Previous empirical research did not establish the importance of the channel environment when analyzing customer service. Prior studies also did not attempt to recommend standards for, as well as changes to, operating systems that affect customer service and other marketing mix strategies.

Some of the components of the proposed research methodology have been used in prior research. However, this research integrates these, plus the following additional elements into one sequential process: internal audit of the firm's current customer service operating system; comparison of findings from external and internal audits; and, an evaluation of customer perceptions at the firm level. Consequently, it provides management with a definitive, workable operating procedure to use as the occasion may require in future periods, across multiple industries.

ORGANIZATION OF THE RESEARCH

The balance of the dissertation is presented in Chapters 2 through 6. Chapter 2 reviews the relevant literature that served as the underlying theoretical and conceptual bases for the research. In this chapter, the concept of "customer service" and how it can be managed are examined. Next, the integration of customer service with the other components of the marketing mix

is explored. The chapter also evaluates prior, empirically based research involving customer service. In addition, the industrial buying behavior and purchasing processes are reviewed. The chapter concludes with an analysis of market share models.

Chapter 3 discusses the research design utilized by the dissertation. First, the methodology and the framework for data collection are described. Initial findings from the pre-test phase of the study are reviewed. The balance of the chapter examines the hypotheses outlined in Chapter 1, including the rationale for each hypothesis and a description of the statistical analysis used.

Chapter 4 presents the general results of the study, including: the specific demographic information for each respondent group; the preferred standards of performance required by each respondent group with respect to quantifiable marketing services; the perceived importance of each of the marketing services provided by manufacturers in the industry; and the similarities/differences in perceptions among the three respondent groups regarding both the importance of, and vendor performance on, the marketing services available from manufacturers.

Chapter 5 reviews the findings of the research. Results from testing each of the hypotheses are analyzed and reported. The appropriate statistics developed from the study are summarized in total as well as by respondent group.

Finally, Chapter 6, summarizes the research, presents conclusions drawn from the study and explores both the research and managerial implications and recommendations.

Various appendices follow Chapter 6 including the actual mail questionnaires and detailed findings for each respondent group.

CHAPTER 2

REVIEW OF THE LITERATURE

The purpose of Chapter 2 is to: explore the literature pertaining to customer service; develop the methodology outlined in chapter 1; and support the hypotheses proposed by the research. As such, the chapter is divided into the following sections: the development stage of "customer service"; the customer service interface with marketing; managing customer service; empirical research related to customer service; the role of industrial buying behavior in determining marketing policies, standards and levels; predicting market share; and, summary.

THE DEVELOPMENT OF CUSTOMER SERVICE

Originally, integrated physical distribution management was conceived as a cost center. Lewis, Culliton and Steele, [1956, pp. 64-65] in their classic study of air freight as an alternative to carrying local inventories, introduced the concepts of total cost analysis and trade-offs to distribution/logistics. They recognized that air freight could also be used to: formally plan for emergencies as they arose [p. 39]; avoid always having inventory on-hand to handle emergencies [p. 54]; or reduce in-plant inventories by providing reliable, on-time deliveries [p. 65]. Drucker [p. 103] supported this initial emphasis on costs because physical distribution could only mar, soil, tear, scratch, or otherwise downgrade the product.

Gradually, however, proponents of the integrated physical distribution concept began to recognize the service issue. Magee [p. 96] suggested that, when analyzing the distribution system of a firm, some of the toughest questions arose at the general management level, such as: what degree of sales service was the system to provide; and how far should a firm go to meet customers' service needs? In 1962 Heskett [p. 40] proposed the American Marketing Association revise its definition of physical distribution to place more emphasis on the placement and timing of goods (the creation of place and time utilities). He believed distribution management should be responsible for determining and implementing physical and temporal movement services, as well as providing levels of supply service. Simon [p. 32] expanded upon this theory, by stating that the success of a firm's marketing strategy could very well hinge upon the effective rendering of technical services. In fact, when all of an industry's suppliers offer equal or competitive prices and quality products, technical services are clearly a means of differentiating the product in the market place. In this instance, technical services were defined as those activities, besides sales of the product, which produce for the purchaser the expected utility or end values in terms of product performance for which the product was obtained [Simon, p. 32].

The merger of competitive advantage and customer service was supported by Stewart [1965, p. 67]. He proposed that a properly designed physical distribution system could actually generate additional sales volume by: minimizing out-of-stock occurrences;

reducing customer inventory requirements; solidifying supplier-customer relationships; enabling expanded market coverage; and, allowing greater concentration on demand creation [Stewart, 1965, p. 68]. Hutchison and Stolle [p. 86] combined the cost reduction potential with the sales impact to suggest that the level of customer service could have an important affect on profits, both directly and indirectly. Stockouts, excessive delivery times, and lack of repair service all result in lost sales. Therefore, they concluded that customer service goes far beyond the commonly recognized elements of physical distribution. In the customer's mind, it involves every point of contact with the supplier, prior to, during, and following the sale. This view appears to be too broad, in light of generally accepted terminology proposed by more recent authors, such as Lambert [1976, p. 4].

Another way to trace the development of customer service is to review the definitions of this term that have evolved over time. The first formal effort to define customer service was completed by the Conference Board in 1970 [Hopkins and Bailey]. This report proposed that selling the prospective customer is only half the battle --- winning his loyalty as a customer for repeat sales is the other half. There are likely to be certain factors in both stages which turn out to be crucial. Quality of service that suppliers are able to offer is one of the most important. Heskett [1971, pp 140-145] described these services and condensed them into three areas of emphasis:

1. The elapsed time between the initiation of an order by the customer and the receipt of the order from the supplier.

2. The minimum size of an order, or the limits in the assortment of items in an order, which a supplier will accept from the customer.
3. The percentage of items in a supplier's warehouse which might be found to be out-of-stock at any given point in time.

Perreault and Russ [1974, p. 39] observed that the most popular definitions of customer service such as those above, took the supplier's viewpoint. The less popular view, used very rarely, involved a customer perspective, specifically: "the interrelated package of activities provided by a supplier which creates utilities of time and place for a buyer, and insures form utility." [Perreault and Russ, 1976b, p. 3].

In their landmark exploratory study of customer service for the National Council of Physical Distribution Management, LaLonde and Zinszer [p. 159] defined customer service as a customer oriented corporate philosophy which integrates and manages all of the elements of the customer interface within a pre-determined cost-service mix. To determine this mix, Shycon and Sprague [p. 73] advocated that the manufacturer must measure the extent to which downstream stocking policies and customer decisions affect his own profits. The manufacturer must provide a service level within its sphere of control that optimizes profits, as well as customer goodwill. In addition to profitability, other important factors must be considered when establishing service levels: the nature of competition, the critical nature of some items, the substitutability of the product, the stockholding practices of the customer, the growth stage of the market, and the channels of distribution used [Ray and Millman, p. 325]. It is clear that

physical distribution management had moved beyond the simple control of costs toward the more positive approach of treating distribution as a profit maximizing system [Herron, p. 122].

Tucker [1980] provided several meaningful perspectives to the study of customer service. She stated that:

1. Customer Service is generally presumed to be a means by which companies attempt to differentiate their product, keep customers loyal, increase sales and improve profits [p. 191].
2. The key to customer service is understanding the customer and his perceptions. It doesn't matter what a supplier does, but rather what customers think the supplier does in the area of customer service [p. 191].
3. Customer service activities can be measured in quantifiable or qualitative terms. Qualitative ways involve asking customers their opinions about services they receive [p. 192-3].

More recently, researchers have begun to view customer service as an integral part of marketing strategy. They view customer service as the output of the physical distribution system [Lambert and Zemke, 1982, p. 4, and Lambert and Lewis, 1983, p. 50] and the "place" component of the marketing mix [Lambert, 1976, p. 4]. As such, it can be used to influence the product. For instance, product availability and order cycle time can differentiate a product and increase its market penetration or influence its price, if customers are willing to pay more for better service [Lambert, 1976, p. 4, and Ball, 1980, p. 5-6]. Therefore, customer service represents the interface between the demand creation portion of marketing and the place component of

this marketing mix. In so doing, it creates time and place utilities.

THE CUSTOMER SERVICE INTERFACE WITH MARKETING

Marketing was originally conceived to include both negotiatory and physical supply/distribution functions. As such, marketing was viewed as a "whole" entity, from a managerial, systems, behavioral, and social standpoint [Bartels, 1977, p. 22]. Unfortunately, physical supply and negotiatory functions are currently dealt with separately, with little evident effort to integrate them with the other half of marketing. How did this tendency to fragment marketing into "marketing" and "distribution" develop and how might they be re-united?

Bartels [1976, p. 228] believed that the marketing mix (product, price, promotion and physical distribution) was in reality a modern version of the factors implied in the original conception of marketing by Butler [1911]. Initially marketing was a group of straightforward functions. However, under the mix concept, marketing is revealed as a coordinated function built around policy formation. Thus the marketing mix represents a combination of means for achieving the marketing objectives of a business firm, which are blended in varying proportions by management in consideration of prevailing circumstances [Bartels, p. 228]. Early marketing scholars [Shaw, 1915; Weld 1917; and Cherington, 1920] all agreed that distribution functions were the most fundamental aspect of marketing, around which all the other aspects of marketing evolved. The basis for this premise was that institutions (such as manufacturers, wholesalers and

retailers) arose to perform functions that were inherent to the marketing task. This in turn led to specialization, which helped to reduce the costs of marketing.

Unfortunately, the marketing concept seems to have assumed away the problems of physically moving product to the consumer or end user and managing the channel of distribution [LaLonde and Zinszer, pp. 158-9]. Thus, while physical distribution is one of the oldest activities in marketing, we have ignored its affects on the market place, taking its presence for granted [Schary and Becker, p. 127]. There appears to be a natural schism between those parts of marketing designed to create markets for new products or new products for existing markets --- and those activities designed to maintain the pipeline, retain present customers or keep customers supplied [Schary and Becker p. 134].

In 1962, Parker [p. 15] also noted that, contrary to much of the current literature, marketing management is much broader than sales management. However, in far too many instances the steps being taken to improve the efficiency of marketing activities: were restricted to market research, selling and sales promotion aspects of marketing; and, failed to include the other marketing functions. Until all marketing activities are integrated and all marketing costs are considered, the potential for improved efficiency and cost reduction cannot be realized [Parker, p. 16].

The separation of physical distribution from marketing would not have occurred had there not been conceptual voids in the structure of marketing thought [Bartels, 1977]. For example:

1. Transportation and storage were never considered to be marketing institutions,

although these two activities were always regarded as marketing functions [p. 23].

2. When attention in marketing turned to the study of systems, social and not physical systems became of primary interest [p. 24].
3. There has been a long standing misconception in the literature concerning the economic utilities of time, place and possession that marketing is presumed to create. The first two of these belong primarily to the domain of distributionists and the last one to market financing. Therefore, if marketing were deprived of these utilities it would have little, conceptually, to stand on from the standpoint of traditional terminology [p. 24].
4. Marketers have dealt with the maintenance of inventories primarily as a storage function and not as an availability function. Thus, marketing analysts have misread a function which distributionists have made essential to the core of their systems analysis and "total cost" concepts [p. 24].
5. A void in management control has become increasingly evident because practitioners and theoreticians have acted as though distribution were something apart from marketing. The functions grouped under marketing management have little if anything to do with physical distribution processes and costs [p. 25].
6. There has been no effective integration of theories of marketing and physical distribution. There is, to the contrary, a continuing tendency for academicians to think of department organization structures as consisting of separately identified "marketing" and "distribution" units [p. 25].

On the other hand, Lambert and Cook [p. 124] see significant promise for improved corporate profitability, if the inefficiencies that result from treating physical distribution and marketing as separate and unrelated functions are eliminated. One area for improved efficiencies involves strategic marketing

planning. For example, failure to consider customer service in planning marketing strategies will affect market penetration/share and failure to consider the costs associated with distribution activities will likewise reduce profitability. This theory is supported by Shaw [1916] who said that the failure to coordinate the demand creation and physical distribution activities of marketing was certain to upset the equilibrium of forces which lead to efficient distribution.

Why, then are the developments of physical distribution taking place outside the mainstream of marketing, and how can they be re-integrated into the marketing mainstream? Marketing expertise is becoming uncommon and less available to those in physical distribution, as the major emphasis of marketers shifts to previously unrelated areas, such as social responsibility, societal marketing, services marketing and non profit marketing [Lambert and Cook, 122]. The danger of course is that marketers (academicians, practitioners and students) who do not consider themselves logisticians will divorce themselves from physical distribution, and in effect: reject two of the major utilities (time and place) that marketers can offer to consumers; and, ignore the impact that distribution costs have on the profitability of market segments [Lambert and Cook, p. 122].

Physical distribution planning, when properly exercised, cuts across and embodies elements of most corporate decision centers [Bowersox, 1961, p. 393]. Therefore, profitable marketing activity can only be realized when a balance is achieved between minimum cost distribution and excessive service

levels. Minimum cost arrangements do not necessarily represent profit maximization positions, and very few sales managers, who are inherently dedicated to high customer service levels, can adequately evaluate the impact of service upon sales [Bowersox, 1961, p. 394]. Therefore, management's alertness to these relationships is an important determinant of the cost (efficiency) and service (effectiveness) of distribution. Neuschel [p. 126] pointed out some other common marketing decisions that can directly impact physical distribution costs and customer service levels:

1. Selling incentives that result in large variations in sales volumes and attendant administrative peaks and valleys.
2. Decisions to increase sales volumes that require uneconomical levels of inventories.
3. Proliferation of product lines which complicate production, inventory control and warehousing problems.

Bartels reasoned that specialization in the development of different segments of a discipline is profitable, up to a point, but in the long run, an integration of the subject was imperative. In this instance, management must be capable of dealing with advertising/promotion/selling and distribution, not merely as a combination of two separate functions, but as a conceptual integration of the variables inherent in both [Bartels, 1977, p. 27]. Based on the literature reviewed thus far, there is a growing need to re-integrate logistics and marketing. This can be accomplished most effectively if marketers incorporate customer service into strategic marketing planning.

To properly coordinate physical distribution/customer service with the other corporate activities, marketing and distribution executives must take an equally active role in market research, product development, pricing, sales and promotion. However, Bartels [1974, p. 76] stated that this may be difficult to achieve for the following reasons:

1. At a time when many problems of distribution are calling for solutions, the broadened concept of marketing has turned attention away from logistics to non-business interests.
2. Methodology has to some extent replaced substance as the primary content in marketing research.
3. Forms of decision making have become more important than knowledge of the subject about which decisions are to be made.
4. Marketing literature has become increasingly esoteric, abstract and unintelligible to many business practitioners.

To solve this dilemma, LaLonde and Zinszer [1976, p. 159] proposed that customer service be viewed as the "other half of the marketing concept". Like the marketing concept, customer service pervades the entire corporation and is not the exclusive responsibility of any one functional department. A primary task of the marketing executive is to maintain and/or expand market share and sales in the face of uncertain supply and scarce or limited resources. Lambert and Lewis [1981, p. 536] proposed that significant advantages could be achieved in the market place by allocating marketing dollars more efficiently and effectively than competitors. Over time it appears that firms in general have looked to price, product and promotion as sources for

gaining a competitive advantage more frequently than they have to distribution/customer service [Lambert and Zemke, p. 2]. The authors concluded that physical distribution/customer service is an excellent source of competitive advantage when product, price and promotion begin to become homogeneous within an industry. This is a condition that is becoming the rule in U.S. industry, as more and more products move toward the mature stage of the product life cycle.

MANAGING CUSTOMER SERVICE

Thus far, the review has defined customer service and described its relationship to the marketing concept. It is also necessary to delineate how customer service should be managed at the firm level, before an effective research methodology can be constructed.

Hutchison and Stolle were among the first to propose a formal process to manage customer service, which they viewed as a six step procedure [1968, p. 90]:

1. Define the elements of customer service.
2. Determine customer viewpoints with respect to:
 - a. Additional elements that would be important if offered.
 - b. The economic significance to customers of each element.
 - c. Ratings of service levels of competitors.
3. Design a competitive service package.
 - a. Assess the minimum requirements for meeting customer needs.

- b. Identify features that will achieve a competitive advantage.
 - c. Identify possible tradeoffs among alternatives.
 - d. Accurately determine all of the economic aspects.
- 4. Develop a program to sell the new customer service package.
 - 5. Market test the program.
 - 6. Establish performance controls, including standards and variances of actual performance versus these standards.

Shycon and Sprague [p. 77] described several questions that must be addressed in order to determine the most profitable service level for each major product line and market segment:

- 1. What is the market share of the product?
- 2. How often is the product purchased?
- 3. What are the stocking policies of wholesalers and/or dealers?
- 4. What is the value of the product?
- 5. What is the profit margin of the product and/or customer group?
- 6. Is the market highly competitive?

Wagner [p. 165] observed that careful scrutiny of successful customer service programs revealed certain common elements:

- 1. An accurate, precise definition of customer service.
- 2. Determination of customer viewpoints.
- 3. Development of a competitive service package.
- 4. Setting up a program to "sell service".
- 5. Market testing the program.
- 6. Establishment of performance controls.

Perreault and Russ [1974, p. 42-44] built upon the model proposed by Hutchison and Stolle, as follows:

1. Define/delineate the relevant elements of physical distribution service (PDS).
2. Audit each element and determine:
 - a. Current service levels provided by the firm.
 - b. The level of service provided by competitors.
 - c. The costs of providing current PDS elements.
3. Determine PDS elements that warrant further consideration, propose specific changes and identify the:
 - a. Stated importance of each element to customers.
 - b. Competitive potential of the changes to each element.
 - c. Relative costs of making the changes in service levels.
4. Identify feasible service packages by specifying possible changes in each element and determining the associated costs.
5. Collect and analyze the data:
 - a. Measure the impacts of various changes on profits.
 - b. Perform trade-off analyses, such as conjoint analysis.
 - c. Compile market segments, based on customers' PDS needs or preferences.

For many years several consulting firms have been active in developing customer service strategies. They frequently present their recommended procedures at the annual meeting of the

National Council of Physical Distribution Management. For example, Shycon Associates [Shycon and Ritz, p. 454, and Baritz and Zissman, p. 609] recommended that firms:

1. Determine the reasonable expectations of customers relative to the full range of customer service provided.
2. Identify those factors on which a customer evaluates the supplier, explicitly and implicitly.
3. Identify those elements of customer service which dispose the customer to place a greater volume of business with a supplier, and those which cause a customer to reduce the volume of business with a supplier.
4. Develop the sales response to the pertinent elements of customer service.
5. Determine competitive customer service practices.

The firm of AT Kearney [Graham, p. 267] stated that a company's success in managing customer service depended on its ability to:

1. Identify the unique requirements of each product/channel/market.
2. Meet the needs of the various groups that impact the "buy" decision in each segment.
3. Meet the changing needs of customer service over time.
4. Realize that individual customer service elements have a range of acceptable levels that can be traded off against each other.

To accomplish these goals, Graham [p. 275] proposed the following sequential process:

1. Identify customer needs.
2. Evaluate competitors.
3. Measure existing service levels.

4. Estimate the impact of alternative strategies on the market.
5. Evaluate alternatives.
6. Establish realistic competitive goals.
7. Continually measure results.

Finally, Lambert and Zemke [pp. 5-15] outlined a comprehensive methodology to improve customer service levels:

1. Conduct an external audit:
 - a. Identify the elements of customer service that customers believe to be important when making the decision to buy.
 - b. Determine how customers perceive the service being offered by each of the major vendors in the market.
2. Conduct an internal audit to determine:
 - a. How is customer service currently measured?
 - b. What are the current performance standards or objectives?
 - c. What is the current level of attainment/results versus objectives/standards?
 - d. The profitability of existing customers, customer groups and channels of distribution.
3. Identify variances between the firm's practices and its customers' expectations:
 - a. Isolate those variables that, if changed, promise to lead to the greatest improvement in customer satisfaction.
 - b. Determine, through trade-off analysis, the various levels that will lead to profit oriented service and marketing strategies.
4. Set new service performance standards and on-going measurements of performance.

Having identified the sequential processes that have been used, or are recommended, to develop and manage customer service, several key concepts, as well as the specific components of the management process are examined: the relationship of customer service to demand creation; the role of customer service in trade-offs; the external audit; the internal audit; and, setting customer service policies and standards.

The Relationship of Customer Service to Demand Creation

As far back as 1968, researchers recognized that the effects of customer service on both sales and costs: were measurable and predictable with considerable accuracy; could be evaluated with acceptable accuracy; and, were rarely so nebulous or intangible as to be imponderables [Hutchison and Stolle, p. 86]. Early studies emphasized that if firms were to effectively manage the service function in terms of total profit, it was necessary to make some estimate of sales that could reasonably be expected to result from changes in customer service [Stephenson and Willett, p. 85]. Unfortunately, as these authors pointed out in a subsequent article [Willett and Stephenson, p. 279], the assumptions used to operationalize most distribution models limited the demand effects of customer service. These models assumed an adequate level of service, that is, service was given only implicit considerations as a system variable. This, despite the fact that different levels of customer service can elicit differential demand responses.

The problem which demand must deal with is whether the manufacturer can influence a retailer to stock and/or sell his

products. If we add increased logistics effort at the manufacturing level, and we observe an increase in sales, can we identify the specific cause of the increase? Is it due to promotions, better physical supply channels, lower prices, or improved product quality? The inability to specify and separate variables makes the problem of empirical verification difficult. Schary and Becker [1976, p. 129] identified three sets of market variables which influenced the output side of the response function: the types of product; the differences in perspectives within the channel; and the position of the retailer in relation to his customers.

The Role of Customer Service in Trade-Offs

Cost to service trade-offs have been a commonly accepted phenomenon in physical distribution, since first discussed by Lewis, Culliton and Steele [1956]. Willet and Stephenson [p. 279] for example, suggested that service variables (specifically reorder time and delivery consistency) could substantially affect buyers' profits via modification of inventory investment, ordering costs, and out-of-stock frequencies. However, Bowersox [1969, p.66] ,Neuschel [p. 134] and Parker [p. 18] all cautioned firms to seek a balance between reasonable customer service goals and realistic cost expenditures that would best achieve overall managerial goals. They also observed that this balanced relationship would seldom result in the lowest total cost for the physical distribution system. In fact, Lambert and Zemke pointed out that a major shortcoming of most customer service studies

and/or action plans was that they usually focused on one of the following narrow objectives:

1. Decrease distribution costs while maintaining existing customer service levels.
2. Decrease distribution costs while improving customer service levels [p. 5].

Researchers have offered several solutions to the failure to adequately consider trade-offs when establishing distribution or broader, corporate strategies. Gefert [p. 81] believed management did not possess meaningful cost data to challenge over-expanded distribution/marketing systems or marketing's belief that corrective action would jeopardize market share. Wagner [p. 162] proposed that customer service should be a clearly defined, separate cost center, because current, specific service offerings were not assigned relevant costs, nor were they measured in terms of their expected benefits, such as increased revenues or decreased costs. Buffa and Bryant [p. 45] saw a need for firms to quantify the relationships between customer service levels, inventory investments and operating expenses. They reasoned that bringing these items together, and measuring the resulting cause and effect relationship would provide the distribution manager with the necessary tools to influence the executive decisions that affect his operations. Another alternative is to determine the implicit trade-offs that are made by customers between the prices they pay and the level of service provided to them [Perreault and Russ, p.186]. Finally, Graham [p.270] observed that a primary objective of a customer service study should be to compare the importance of service to the other

elements of the marketing mix, including: consumer demand, advertising, product quality, promotion, and price and discounts.

External Audit

Heskett [1977, p. 90] reasoned that if logistics was to be employed as an effective, competitive tool, as well as a significant component of strategy, management must factor logistics into the design of business operating strategies on a continuing, long-term basis. He also stated that the first step in achieving this objective consisted of an audit to explore strategic questions, such as [pp 90-91]:

1. What levels of service do customers expect?
2. What levels of service do competitors provide?
3. How do competitors achieve their service levels?
4. To what extent has the firm assured itself that its strategy meets desired levels of costs and services to end users?
5. To what extent has the firm employed "channel vision" in determining who should do what, when, where and how in its channels of distribution?
6. Does the firm's logistics strategy support its corporate strategy?

Shycon and Sprague [p. 73] supported Heskett's channel perspective. They observed that although manufacturers control only part of a product's distribution from plant to sale, they must nevertheless examine the whole sequence in order to identify: who makes purchase decisions; at what stages of distribution they are made; and, how they may ultimately affect sales. Wagner [p 162] reasoned that an external audit was

required because the amount (level) of service provided must be based on the needs of buyers, and according to results from empirical research, customers often expected considerably more in terms of service than they explicitly related to their suppliers. Sabath [p 26] expanded this concept by proposing a two part study of customers: First, identify what they mean by "service"; and, then determine the level of each service they desire.

This approach has several advantages. For example, many firms set an in-house or industry standard service level without asking their customers what level of service they want [Sabath, p. 26]. Even worse, many "service levels" are set arbitrarily, and often too high. Providing too much customer service may be an unwise move if customers form the habit of, or expect to, receive such excesses regularly. "Over servicing" can cause buyers to adjust their own purchasing as well as scheduling practices, so that they become dependant on levels of service which originally were neither requested nor needed [Wagner, p. 163]. It is also necessary to audit customers so that the firm can determine reactions that customers might take when faced with a stockout [Lambert and Lewis, 1981, p. 545]. Only then can the firm evaluate the costs and benefits associated with various service policies.

Before turning to the internal audit, it is necessary to review specific services (attributes) that should be researched in an external audit. In this respect, Sabath [p. 27] suggested the following questions should be directed to customers:

1. If the firm could guarantee deliveries without exception, how long would you be willing to wait for deliveries?
2. On ordinary, repetitive shipments, which is more important to you, speed or reliability?

Bryant and Buffa [p. 23] believed that information flow was equally as important as physical flow. They reasoned that customers look for consistent and valid information so that they can be informed of those items that are in-stock, as well as those that are made to order. Product availability (order completeness and fill rates) is another area that needs to be examined. Shycon and Sprague [p. 73] found that in the food products industry reprisals almost always occurred in the event of recurring service failures by the manufacturer. These reprisals generally involved rejections of: new, untried product offerings; established, slower moving items; or, reductions in assigned shelf space.

Finally, Christopher [1983, p. 4] pointed out that it is essential to understand customer service in terms of the differing requirements of the various market segments served by the firm. This is because no universally appropriate list of customer service elements exists. That is, each market that the company serves will attach different importance levels to different service elements.

Internal Audit

According to Lambert and Lewis [1981, p. 545] an internal audit of customer service affords the firm a means to evaluate the level of service currently provided to customers. It not

only allows the evaluation of existing service, but also provides a benchmark for appraising the impact of changes in customer service policies. However, Sabath [p. 29] warned that there is a tendency on the part of firms to measure that which is reassuring and/or easy to measure---rather than what is relevant, potentially difficult to measure, or disturbing.

In addition to determining the current level of service provided to customers, it is also necessary to perform a customer profitability profile [Ball, p. 8; and, Lambert and Zemke, p. 11-15]. The objective is to identify areas for improvement, as the distribution system incurs the costs of servicing all of the firm's customer accounts, not just the attractive and/or profitable ones. Ball [p. 8] warned that, without careful design, the distribution system may create a negative impact on the business, as unprofitable accounts, segments, or channels use up the contribution generated by more profitable ones.

Lambert and Lewis [1983, p. 52] summarized this area by recommending inclusion of the following questions in the internal audit:

1. How is customer service currently measured within the firm?
2. What are the units of measurement?
3. What are the performance standards or objectives?
4. What is the current level of attainment - results versus objectives?
5. How are these measures derived internally?
6. What is the internal customer service reporting system?

7. How do each of the firm's internal functional areas of the business perceive customer service?
8. How do these functional areas interface in a communications and control context?
9. What is the variance in order cycle time, and how does this variability impact the customer's business?

Setting Customer Service Standards and Policies

The basic objective of physical distribution management is to identify and implement the most profitable overall combination of customer profiles for all product - customer pairs [Herron, p. 125]. However, in order to accomplish this task, the distribution manager must have planning tools to accurately predict the anticipated effects upon his operations that would probably result from executive management proposals [Buffa and Bryant, p. 45]. In the final analysis, measurements of customer service are in reality surrogates for measuring customer satisfaction with the organization's delivery performance.

Therefore, customer service level targets or standards should be calculated for each specific need. In addition they should be competitive, achievable, accepted by management, and measurable [Bryant and Buffa, p. 23]. Christopher [1983, p. 5] described how these standards should be determined. Careful studies need to be conducted which explore the quantitative trade-offs between various levels of customer service and the costs of achieving such levels, so that the most profitable policy for each customer segment can be identified. Perreault and Russ [1974, p. 44] recommended careful analysis of customers

in order to: identify major distribution service areas to focus upon; methodically and systematically identify and evaluate the most appropriate service package; and, permit the firm to proceed iteratively to test the several different sets of changes in service.

Having established customer service standards, it logically follows a firm can next:

1. Define an overall company philosophy of customer service in terms of attitude, organization and responsibilities.
2. Inform customers what they might expect in the form of customer service [Christopher, 1983, p. 5].

Bryant and Buffa [p. 23] proposed that a written customer service policy is necessary because it allows customers to plan their ordering and inventory needs, allows sales people to know under what parameters they can sell, and allows distribution and production departments to measure themselves. It is essential for a firm to adopt a customer service policy that is based on customer needs, is consistent with overall marketing strategy, and advances the long-range profit objectives of the company [Lambert and Lewis, 1981, p. 536].

In summary, Christopher [1983, p. 5] identified a number of prerequisites that must exist in order to achieve the most effective deployment of corporate resources associated with the development of customer service policies:

1. Recognize that the various parties involved in the purchasing decision perceive customer service differently.

2. Trade-offs exist between the various components of the customer service mix, and must be evaluated.
3. The unique customer service requirements of each product/channel/market segment must be identified.

In addition to these prerequisites, firms need to be aware of certain impediments to an effective customer service strategy: misdefining customer service, overlooking customer profitability, establishing unrealistic customer service policies, failing to research properly, burying customer service costs, misusing customer service as a sales incentive, blurred lines of authority, equating the number and location of warehouses with customer service, adding bodies rather than systems, undertrained/undercompensated personnel, and misreading the seller's market [Blanding, pp. 6-10].

EMPIRICAL RESEARCH RELATED TO CUSTOMER SERVICE

In this section of the literature review past empirically based research dealing with customer service is presented. It is divided into three sub-sections: the variables included in past studies; hypotheses tested and major findings of past studies; and, conclusions and implications from past studies.

Variables Included in Past Customer Service Studies

Fourteen of the major studies involving empirically generated data related to customer service have been selected for review. They are summarized, as follows:

1. SIMON (1965)

Six firms in each of three industries
(chemicals, electrical equipment and

electronic data processing) were personally interviewed. The objective was to develop a conceptual basis from which individual "technical service" organizations might develop more particularized means of evaluating and measuring their work. Five elements of technical product services were derived through factor analysis from an original list of 31 services: Anticipation, accuracy in problem definition, completeness, responsiveness, and problem-solving efficiency. Importance scores and over-all satisfaction with present levels of performance were obtained from each manufacturer. While the services researched were technical in nature, this study did lay a promising base for future research in customer service.

2. HUTCHISON & STOLLE (1968)

700 retailers in the drug and sundry industry were surveyed. All but two of the twelve variables included dealt with order cycle time, order processing and inventory availability. 480 (69%) of the dealers responded to the survey. Opinions were sought on: actual service levels being provided by major manufacturers in the industry; the importance of service to customers; the economic effect of each element on customers' costs and profits; how the company compared in performance with competitors; the importance of consistency of service relative to the service level itself; and the dollar value that customers placed on service time and other service elements.

3. STEPHENSON & WILLETT (1968)

The same 700 drug and sundry drug retailers surveyed by Hutchison and Stolle were surveyed. Twelve variables, all dealing with order cycle time, order processing and billing procedures were included. 480 retailers, or 69% responded. The objective of this phase of the study was to link a supplier's profitability to his logistics services.

4. PERREAULT (1973)

216 purchasing agents of industrial products used in manufacturing were surveyed. This

represented a response rate of 54%. The ten variables included were very similar to the ones used by Stephenson and Willett. The objectives were to: describe the purchasing agent's environment; measure satisfaction with the different elements of customer services provided by suppliers; and, determine the importance of customer service relative to the other factors in the purchasing decision.

5. CUNNINGHAM & ROBERTS (1974)

25 buyers of pump and valve castings were interviewed in person to determine the importance of twelve different service factors. This was the first study to consider other components of the marketing mix (for example, product line breadth, payment terms and sales representatives). The two markets were successfully segmented on the basis of demographic data. Buyers could also distinguish a difference between the service provided by different suppliers.

6. BANTING (1976)

This study duplicated the Cunningham-Roberts survey. 73 out of 343 (21%) Canadian pump and valve manufacturers responded to the questionnaire. The relationships observed in the previous study were replicated by this follow-up survey.

7. WILSON (1974)

37 of 64, or 58% of selected wholesalers in the plumbing fixtures and suppliers industry were surveyed. Sixteen variables were included in the study. Ten represented physical distribution/customer service and the others consisted of product quality, price, billing procedures and sales training. The objective was to develop an empirical procedure to analyze the demand generating characteristics of customer service elements.

8. LALONDE & ZINSZER (1976)

Manufacturers, carriers and public warehousemen were surveyed on two separate occasions to determine: the key elements of customer service; if they differed in importance by industry; how they were

measured; how the customer service function interfaced with other major corporate functions; and, which measurements were most appropriate in measuring system performance. 25% of 1299 firms responded to the first survey and 39% of 398 companies replied to the second form. Twenty-one variables were identified by the research, sixteen of which can be classified as physical distribution.

9. GILMOUR (1977)

6 manufacturers and 32 customers in the Australian scientific instrument and supplies industry were interviewed personally concerning nine variables (one product, two selling, one promotion and five distribution). The objectives were to determine the relative importance of these variables; the similarities/differences to each other; and differences in perceptions between manufacturers and customers.

10. LALONDE & LEVY (1977)

100 processors and 90 distributors in the frozen food industry were surveyed. Response rates were not identified. Thirty-eight variables were analyzed (two product, seven price, eight selling/promotion and twenty-one physical distribution). The objectives were to clarify the perceived importance of each element and identify differences in perceived importance between manufacturers and wholesalers.

11. LEVY (1978)

42 manufacturers and 66 wholesalers in the over-the-counter pharmaceutical products industry were surveyed. This represented response rates of 33% and 22%, respectively. The questionnaire included seventy-one variables: five product, eleven price, twenty-one selling/promotion, and thirty physical distribution. The objectives were to determine: the relative importance of each variable, from both the suppliers' and customers' perspectives; the perceived performance of the major competitors in the industry; a generalizable methodology for implementing customer service strategies; managerially usefully market segments; and,

to apply trade-off techniques to a select group of customers.

12. CHRISTOPHER, SCHARY & SKJOTT - LARSEN (1979)

This study examined the purchasing process of retail buyers of grocery products. The size of the sample and response rates were not disclosed. The result identified twenty-three customer service elements. Eight of the items were non-physical distribution. From this list, six elements were extracted for further study using conjoint analysis. They also developed importance scores and vendor performance ratings for each of the 23 variables.

13. MARR (1980)

31 manufacturers and customers (retailers) in an unspecified industry were surveyed. Response rates were not disclosed, however, they were lower than hoped for. The study included seven salient customer service variables. All dealt with delivery, inventory availability and order processing. The objectives were to determine the: relative importance of each; differences in attitudes between manufacturers and retailers; and, the salient beliefs of each channel.

14. TUCKER (1980)

60 manufacturers, 120 wholesalers and 148 chain drug stores in the prescription drug industry were surveyed. Response rates were 47%, 41% and 35%, respectively. The questionnaire contained forty-two variables: two product, six price, fifteen selling/promotion and eighteen physical distribution. The objectives were to: define customer service in a channel of distribution; measure the perceived importance of each variable for each channel level; measure overall satisfaction with manufacturers' performance; determine differences in opinion between buyers and sellers; establish a relationship between selected service activities and overall satisfaction; and, identify market segments based on service needs.

The specific variables researched in each of the preceding studies are itemized and compared in Table 1. From this table, as well as the preceding overviews of each study it is possible to draw some meaningful conclusions. Initial research concentrated on broadly defined variables (for example: over-all service levels; delivery time; order reliability). With the exception of billing and claims services, early studies ignored the need to develop a broad corporate/marketing perspective for customer service. Until 1974 very few studies analyzed the subject from the viewpoint of the customer/end user. Prior to Perreault in 1974, no studies examined how suppliers/manufacturers could change the customer service they provided to customers in order to increase profits. Levy's study was the most comprehensive to date, as it included 71 variables. However, it failed to recognize that many of these variables were in fact more appropriately assignable to marketing mix components other than customer service. Finally, Tucker surveyed the same industry as Levy's study and many of her variables appear to have been extracted from this earlier research.

TABLE 1
COMPARISON OF SERVICE ELEMENTS
PRIOR EMPIRICAL RESEARCH

	Hutchison Stolle 1968 (12)	Stephenson Willett 1968 (11)	Perreault 1973 (10)	Perreault Russ 1974 (15)	Cunningham Roberts 1974 (12)	Wilson 1974 (16)
<u>Product Variables (10)</u>						
Breadth of product lines					X	
High quality, dependable products						X
Replacements guarantee-faulty products					X	
Availability of testing facilities					X	
Ability to demonstrate equipment						
Provide adequate supply-new introductions						
Provide reasonable sized master case packs						
Small quantities per shelf pack cartons						
Provide accurate, consistent master pack qty's						
Mfr. consults w/whlsr re potential products						
<u>Price Variables (16)</u>						
Realistic, consistent pricing policy						
Price of product						X
Prompt and comprehensive bid quotations					X	
Advance information re price changes						
Allow reorders of new product at intro prices						
Allow reorders of promo product at promo prices					X	
Price protection for wholesaler						
Discount structure from list price						
Provide net price and cash discount (no list)					X	
Adequate credit terms/discount period						
Extended/seasonal credit policies					X	
Ability to receive orders before invoicing						
Invoice format/organization	X	X		X		X
Billing accuracy/procedures		X	X	X		X
Claims handling/procedures/quality		X				X
Expedient recognition of debits and credits						
<u>Promotion/Selling Variables (32)</u>						
Frequency of salesmen visits	X			X		
Mfr. reps. turn in orders promptly						
Representation/knowledge of mfr. reps.					X	
Ease of contact to clarify problems					X	
Provision of technical advice re problems					X	
Product design services provided by mfr					X	
Technical services after the sale					X	
Mfr. assistance re national accounts						
Mfr. sells thru wholesalers only						
Mfr. assistance re inventory management						
Mfr. reps. available for whlsr. sales ratings						

	Butcherson Stolle 1968 (12)	Stephenson Willett 1968 (11)	Perrault Ruse 1974 (10)	Cunningham Roberts 1974 (14)	Wilson 1974 (18)
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Inventory reliability/availability
 Fill rate (% on 1st shipment)
 Order Completeness (% of lines shipped)
 Order Completeness (% of cases shipped)
 Use of substitution to increase fill rates
 Use of subcontracting to increase fill rates
 Immediate availability of fast sellers
 Inventory status information available
 Inventory backup during promos
 Adjust whslr inventories for overstocks

Consolidation allowed/disallowed
 Proper carton identification
 Ability of customer to select carrier
 Backhaul/freight pickup allowance
 Adherence to special shipping instructions
 Adherence to special pkg. instructions
 Proper carton identification
 Unitized/palletized shipments
 Identification of product damage
 Picking errors/warehouse damage
 Condition of order on arrival
 Mfr. accepts returns re damage, recalls, errors
 Procedures for returned merchandise
 Mfr. accepts returns by dir. to whslrs.
 Mfr. accepts freight on overstock returns
 Auto. ship new product intro to whslr.

X

X

X

X

X

X

TABLE 1 (cont.)
COMPARISON OF SERVICE ELEMENTS
PRIOR EMPIRICAL RESEARCH

	Lalonde Zinszer 1976 (21)	Gilmour 1977 (9)	Lalonde Levy 1977 (38)	Levy 1978 (71) ^a	Marr 1980 (7)	Tucker 1980 (42) ^a	Christopher 1983 (22)
Product Variables (10)							
Breadth of product lines							X
High quality, dependable products						X	
Replacements guarantee-faulty products	X		X				
Availability of testing facilities							
Ability to demonstrate equipment		X		X			X
Provide adequate supply-new introductions				X			
Provide reasonable sized master case packs			X	X		X	
Small quantities per shelf pack cartons				X			
Provide accurate, consistent master pack qty's				X			X
Mfr. consults w/whseir re potential products				X			
Price Variables (16)							
Realistic, consistent pricing policy				X			
Price of product							
Prompt and comprehensive bid quotations			X	X		X	
Advance information re price changes				X			
Allow reorders of new product at intro prices				X			
Allow reorders of promo product at promo prices				X		X	
Price protection for wholesaler			X	X		X	
Discount structure from list price				X		X	
Provide net price and cash discount (no list)				X		X	
Adequate credit terms/discount period			X	X		X	X
Extended/seasonal credit policies			X	X		X	
Ability to receive orders before invoicing				X			
Invoice format/organization			X	X		X	
Billing accuracy/procedures	X		X	X			
Claims handling/procedures/quality	X		X	X			
Expedient recognition of debits and credits				X			
Promotion/Selling Variables (32)							
Frequency of salesmen visits							X
Mfr. reps. turn in orders promptly				X		X	
Representation/knowledge of mfr. reps.							
Ease of contact to clarify problems							
Provision of technical advice re problems		X		X			
Product design services provided by mfr	X						
Technical services after the sale							
Mfr. assistance re national accounts	X		X	X			
Mfr. sells thru wholesalers only						X	
Mfr. assistance re inventory management	X		X	X		X	
Mfr. reps. available for whse. sales ratings				X		X	

	LaLonde Sinszer 1976 (21)	Gilmour 1977 (9)	LaLonde Levy 1977 (38)	Levy 1978 (71) ^a	Marr 1980 (7)	Tucker 1980 (42) ^a	Christopher 1983 (22)
Inventory reliability/availability							
Fill rate (\$ on 1st shipment)	X		X	X	X		X
Order Completeness (\$ of lines shipped)			X	X	X		X
Order Completeness (\$ of cases shipped)	X		X	X			
Use of substitution to increase fill rates			X	X			
Advance info on order deletions/subs.			X	X			
Immediate availability of fast sellers	X		X	X			
Inventory status information available							
Inventory backup during promos							
Adjust whlsr inventories for overstocks							
Consolidation allowed/disallowed							
Prepaid shipping terms			X	X		X	
Ability of customer to select carrier				X			
Backhaul/freight pickup allowance			X	X			
Adherence to special shipping instructions	X		X	X			
Adherence to special pkg. instructions			X	X	X	X	X
Proper carton identification			X	X			
Unitized/palletized shipments							
Practical/effective packaging	X						
Picking errors/warehouse damage	X						
Condition of order on arrival	X						
Mfr. accepts returns re damage, recalls, errors				X		X	
Procedures for returned merchandise	X		X	X		X	
Mfr. accepts returns by dlrs. to whlsrs.				X		X	
Mfr. absorbs freight on overstock returns				X		X	
Auto. ship new product intros to whlsr.				X		X	

^aFour variables in the Levy study and one in the Tucker study were virtually identical to other variables listed. These have been eliminated from this comparative analysis of variables.

Hypotheses Tested and Findings of Past Studies

In this sub-section, the major questions researched and the primary objectives of prior empirically based studies of customer service are reviewed.

The first study of significance [Simon, 1965] examined eighteen manufacturing purchasing agents in the chemicals, electrical equipment and data processing industries. The goal was to develop a conceptual basis upon which individual purchasing organizations might develop more particular means of evaluating and measuring their work [p. 34]. To accomplish this, Simon [p. 34] sought from each interviewee the factors that were considered to be most important in evaluating the performance of suppliers. Thirty-one services were examined in the following broad categories: design, pre-start-up, negotiation, educational, visitation, maintenance and repair, product adaptation, and emergency assistance. The importance weights for each individual element differed significantly across the three industries. Therefore, the author was unable to combine them in any way to produce a set of universally applicable factors [p. 35]. Simon also discovered that the relationship between satisfaction and performance was better represented by a curvilinear versus linear model [p. 36]. The major result of this study was the development of a rudimentary technique to measure customer satisfaction [pp. 37-38]. Using factor analysis the author was

able to establish five qualitative service constructs: anticipation, accuracy in problem definition, completeness, responsiveness, and problem-solving efficiency. The means of quantifying/measuring performance on these qualitative concepts was developed to assist in optimizing service levels.

Hutchison and Stolle's survey of 480 customers of an unidentified manufacturer disclosed that the overall customer image of their manufacturing sources affected customer reactions to delivery time perceptions [p. 92]. Customers were less concerned with a manufacturer's delivery time, when their opinion of the manufacturer was high. They also found that: greater consistency of service was worth the price of one-day longer delivery time; delivery service ranked with product quality as the most important overall element of supplier choice; and, it was possible to design a customer service package that quantitatively related cost and service levels [p. 93]. The authors accomplished this by computing annualized distribution costs and showing what the operating costs would be for a variety of combinations of warehouses.

Stephenson and Willett [1968, p. 81] found that buyers could distinguish differences in the length of the order cycle and tended to allocate their purchases in favor of suppliers providing superior delivery performance.

Willett and Stephenson [1969] attempted to define the relationship between supplier service and customers' evaluations of that service. They found that the relationship between service times and their ratings by buyers were not exponential,

but rather were best represented by a linear function [p. 283]. Two other factors, efficient order methods and short distances from suppliers warehouses, tended to offset reductions in ratings occasioned by excessive times.

Perreault and Russ have published several papers which evolved from the former's dissertation [Perreault, 1973]. The objectives of their 1974 article [Perreault and Russ, p. 41] were to demonstrate: how a supplier could change the physical distribution services it provided in order to increase profits; how a distribution manager could identify the combination or package of service elements that should be offered; and, which package best justified its costs in terms of marginal revenue. Their recommendation was to operationalize a conceptual model of the physical distribution services management process that was previously reviewed in the "Managing Customer Service" section of this chapter. In addition, this article served as a foundation for two subsequent publications in 1976 [p. 41] which operationalized this conceptual article.

In 1976 Perreault and Russ [1976a, p. 5] reported on their investigation of the relative importance of physical distribution service compared to other factors in the purchasing decision. They also explored the impact on expectations regarding customer service levels that occurred when purchasing agents were asked for their overall satisfaction with physical distribution service. They found that: physical distribution service was second only to product quality in importance during the patronage decision process; twenty-five percent of the respondents

cancelled orders frequently when faced with a backorder situation; and, the greater the frequency of deliveries, the greater the importance of physical distribution service [p. 9].

In 1976 Perreault and Russ [1976b, p. 186] also demonstrated how the revenue generating aspect of physical distribution service could be considered. They compared three methods of measuring the implicit trade-offs that take place in a purchaser's evaluation of supplier offerings and services: additive conjoint scaling; multifactor generalization of thurstone's law of comparative judgment; and, a constant sum method that estimated trade-offs by transformation of intervally scaled, explicit importance estimates. The trade-off evaluation involved the following four variables that emerged from the previous article as most important in the decision process: delivered price, average delivery time, percentage of defective product, and stockout percentage (all ten variables researched are described in Table 1 which was reviewed in the preceding subsection of this chapter.) The authors concluded that future research should use either the conjoint scaling method or the multifactor/comparative judgment model to measure trade-offs.

Cunningham and Roberts [1974, p. 15] sought to determine if customer service was a significant determinant of the buyer's attitude toward suppliers in the pump and valve castings industries. Results showed that delivery reliability was considered most important among the twelve variables [p. 22]. It was also possible to distinguish between the services required by the two industries studied on the basis of their importance

rankings [p. 22]. Buyers were readily able to discriminate between the performance of their suppliers and non-suppliers on the most important service factor, delivery reliability [p. 26]. Finally, seven of the twelve factors were rated as extremely important and acted as prerequisites or qualifying factors in the vendor selection process. That is, vendors were required to meet a minimum "threshold" of service in order to qualify for consideration by buyers [p. 26].

Banting [1976, p. 136] duplicated the Cunningham and Roberts study when he surveyed seventy three manufacturers of pumps and valves in Canada and used the same twelve factors as the earlier study. He also found that delivery reliability was considered to be the most important service variable. However, the rankings for the other twelve variables showed considerable variation between the two studies [p. 139]. The other findings of the Cunningham and Roberts study were confirmed [pp. 140-1430]. Banting expanded the previous research by showing that, if similarity with respect to vendor performance occurred on a very important service, then a lower ranked element was used to distinguish between suppliers during the vendor selection process [p. 143]. Using discriminant analysis, two elements of customer service outweighed all other components in discriminating between suppliers and non suppliers: prompt and comprehensive bid quotations; and, ease of contact with a person in authority [p. 144].

Gilmour [1977, p. 141] found that considerable differences existed between the service provided by manufacturers and those

required/desired by customers. Thus, suppliers in general did not recognize that service requirements differed significantly between customer segments. A major deficiency of this study however, was the omission of price and quality, because the author believed both were maintained at an almost identical level by all manufacturers in the industry studied (scientific instruments and supplies) [p. 148]. Gilmour also discovered that it was possible to distinguish market segments by their required services.

LaLonde and Levy [1977, p. 27] identified the importance of thirty-eight services to both frozen food processors/manufacturers and wholesalers/distributors. This was the first study to expand the variables researched to include an equal quantity of physical distribution and non distribution services. The findings of this study indicated that: distributors did not believe manufacturers' order processing systems were as important as manufacturers believed they were; larger food service distributors tended to be more sensitive to virtually all customer service areas than small food service distributors; there were significant differences in perceptions of customer service between the packer/processor and distributor channel levels; and, larger distributors had higher expectations of customer service performance than did smaller distributors [pp. 28-35].

Like Perreault, Levy has published several papers related to his dissertation research [Levy, 1978]. He stated that one approach to setting customer service standards is to determine

the importance of services as perceived by customers, and then provide better service on those items considered to be most important [Levy, 1981a, pp. 87-88]. Levy also reviewed and commented on the traditional ways of determining importance:

1. The ranking of variables in terms of importance (However, it is difficult to determine the magnitude of each variable).
2. Constant sum scales (This technique is difficult to use if many variables are being evaluated).
3. Likert - type scales (This technique can be used to prioritize service activities, but relatively small response variations can make it difficult to derive meaningful information) [pp. 87-88].

In his opinion, the difficulty with all three methods is that management obtains no specific information which helps them determine the level of service to provide [p. 88]. Levy also observed that a question which has not been addressed by past research is whether or not improvements in customer service are perceived by customers to be of marginal declining importance [Levy, 1981b, p. 15]. Using an additive conjoint technique, he derived estimates of utilities for specific levels of individual customer services that were most consistent with the customers' stated preferences for combinations of those services. However, the results of this study were inconsistent with past empirical research [p. 21]. The author found that differences in lead time variability were relatively unimportant to wholesalers. Levy surmised that this was because wholesalers had reached a point of diminishing marginal returns with respect of leadtime, leadtime variability and fill rates. This observation was probably due to

the fact that the industry was over performing on these variables. Diminishing marginal returns did not occur, however, with respect to terms of sale.

In another article Levy [1981c, p. 39] attempted to: identify the perceived importance of each customer service, from both suppliers' and customers' perspectives; group the services into a set of factors which would assist managers to understand the multidimensional nature of customer service; and, determine the aspects of customer service which cause marketing channel conflict. Unfortunately, little distinguishing information was derived from much of the data, as all respondents perceived many of the variables to be equally important [p. 40.]. Forty-one of the seventy-one variables were deleted from further study because all had relatively low coefficients of variation (standard deviation divided by the mean), even though they were generally perceived to be "very important" or "somewhat important". Using direct oblimin/oblique rotation factor analyses on the remaining thirty variables [pp. 45-46] Levy derived seven factors that represented a functional orientation/view of customer service. The factors thus derived were:

1. General financial aspects of management.
2. Sales persons responsibilities.
3. Promotion.
4. General information provided to customers.
5. Package identification.
6. Inventory management services.
7. General management services.

Levy [1981c, p. 47] also performed discriminant analyses to determine how wholesalers differed from manufacturers in their view of customer service. He discovered that each channel level differed significantly in its overall view of the importance of each of the services, as well as on four of the seven factors. This study provided a framework for categorizing customer services, identifying a function oriented structure of customer service, and indicating that an underlying function oriented structure of customer service existed.

Marr [1980, p. 433] derived seven salient variables from a list of thirty-one for an unidentified industry. He observed that differences in perceptions of importance did exist between the different channel levels, as well as between customer segments. Marr used Fishbein's Expectancy Value model [Hansen, 1976; and Wilkie and Pessemier, 1973] to evaluate and examine attitudes. That is, the perceptions of customer service were viewed as having two measurable components: the belief (strength); and the evaluative aspect (importance of the variable). The results of this study may not be reliable, however, since the sample size consisted of only 31 manufacturing firms.

Using the results of Roger's [1979] dissertation, Uhr, Houck and Rogers [1981, p. 159] proposed that logistics was a marketing mix variable that should be adjusted in accordance with the needs of each target market. The authors proposed that overall customer satisfaction and profits could be increased as a result of manipulating the customer service variables. In

particular, three variables were considered: communication time for requests for assistance; order cycle time; and, variability of delivery time. Responses from seventy-seven distributors of industrial lighting fixtures suggested that profit for the specific product considered was maximized regardless of response time to requests for assistance. On the other hand, profits were influenced by the variability in delivery time, and to a lesser degree by lead time, itself [p. 167]. The profit responses were determined for each respondent by converting percentage sales responses from each combination of services offered to a dollar gross profit and net profit change for the costs associated with a particular service combination. The authors concluded that customer services have considerable potential for increasing profits.

Gilmour [1979] used the seventeen variables recommended by Perreault and Russ [1974] to survey forty diverse manufacturing firms in his examination of the relationship between customer service and demand. Using each manufacturer's evaluation of their own performance on each variable, relative to major competitors, as well as demographic data for each industry, he developed a comprehensive demand response function [p. 92].

Shycon and Ritz [1981] and Baritz and Zissman [1983] both observed that past proprietary research by their consulting firm indicated that differences in customer service performance could be quantified. In general, superior performance equated to a 5 to 6 percent increase in supplier sales. Therefore, the authors concluded that good or bad customer service can affect the

success or failure of the firm's products in the market place, in the form of sales, market share, growth and return on investment [Shycon, 1982, p. 565]. The question must be asked, however, whether a 5 to 6% increase in sales is significant?

Tucker [1980] was unable to either prove/disprove or test most of her five major hypotheses due to: small sample sizes relative to the number of variables researched; non-normal distributions; and, frequent use of "no opinion" and "not applicable" response options. Specifically, she could not test: whether importance of, and satisfaction with, selected service activities were linearly related to overall satisfaction; and, if groups of customers could be identified either by their ratings of the importance of, and satisfaction with, customer service performance and satisfaction, or by the functional relationship between satisfaction with specific activities and overall satisfaction. However, she did discover that manufacturers and wholesalers showed many significant differences in their ratings of the importance of, and satisfaction with, customer service variables, while fewer differences were identified between wholesalers and retailers.

LaLonde and Zinszer [1976] reached the following conclusions:

1. There are significant differences among industries in their views of the various elements of the customer service function [p. 168].
2. Customers tend to remember the times that they received poor service, rather than the routine, adequate levels of customer service which they normally receive [p. 168].

3. Customer service levels in most firms are set at a higher service level than necessary to provide customer satisfaction [p. 169].
4. Most firms do not specifically measure the cost implications of changes in customer service levels [p. 169].
5. Most firms do not understand what their customers really want in terms of customer service [p. 169].
6. The evidence suggests that customer service reflects the management style of a firm and the structural realities of the marketplace. The organizational performance standards and specifics of implementing a customer service program must be tailored to the company and to its view of the marketplace [p. 160].
7. Consistent with the concept of customer service as a management philosophy, the evidence suggests that top management should be involved in determining the level and scope of the customer service activity of the firm. The evidence also suggests that where the firm establishes specific performance standards without carefully surveying customers they tend to be set higher than customers actually require [p. 161].
8. There appears to be a relationship between the development of the customer service function and the availability of cost information. Those industries and/or firms which have a well developed costing system also tend to have a well developed customer service function [p. 167].
9. Suppliers and customers tend to evaluate the product variable of the marketing mix as being less important than the firm manufacturing the product [p.120].
10. Customer service perceptions and measurements of performance are both situational to specific industries and the mix of customer services offered tends to be situational to the specific firm [p. 154].
11. Product availability is considered to be the single most important element of customer service by the firm's suppliers, customers,

and the purchasing and physical distribution functions of the firm [p. 120].

LaLonde and Zinszer warned, however, that these findings should be treated as tentative due to the following limitations of the study [pp. 15-16]:

1. The original sample sizes, response rates and resulting respondent groups were generally too small to derive generalizable conclusions. Only public warehouse responses were sufficiently large. The following data summarizes both of the surveys used to compile the findings:

	<u>Total Sample</u>	<u>No. of Responses</u>	<u>Response Rate</u>
<u>1st Questionnaire</u>			
Manufacturers	525	105	20%
Merchandising	117	30	26
Carriers	164	21	32
Warehouses	493	163	33
<u>2nd Questionnaire</u>			
Suppliers	85	18	21%
Manufacturers	223	118	53
Customers	90	18	20

2. Respondents were drawn from the membership of the National Council of Physical Distribution Management, who tend to represent state-of-the-art firms and are not broadly representative of typical U.S. industry.
3. Respondents were for the most part distribution executives. Other functional executives can have substantial input into defining and implementing customer service programs.

There have been five major dissertations that tested key hypotheses dealing with customer service [Perreault, 1973; Wilson, 1974; Levy, 1978; Rogers, 1979; and Tucker, 1980]. Most involved looking for the relative importance of variables among respondents. The specific hypotheses tested by each of these dissertations are examined in Table 2.

TABLE 2
SUMMARY OF HYPOTHESES TESTED IN PREVIOUS RESEARCH

PERREAULT (1973)	
A great number of deliveries will lead to greater costs, in the event slow or inconsistent services occurs. If customers service results in higher costs to manufacturers, it will be a more important consideration. The more alternative suppliers available to a purchaser, the less important will be customer service. Therefore, improved service performance will require less attention in the decision process.	1) Variable treated as independent variable in a regression. None of regressions accounted for a significant amount of the variance in the dependent variable (index of customer service importance).
	2) Overall H_0 was that several variables will affect the importance of customer service, in either a positive or negative way. None of the hypothesized directional relationships were supported. No relationship (regardless of direction) was found between the variables and the overall importance of customer service.

The higher the proportion of orders that have to be cancelled and directed to an alternative supplier due to backorders, the greater the attention that customer service will demand.

Average delivery time is positively related to the importance of customer service. (Longer delivery times will lead to increased uncertainty on the customer service variable, and therefore attract more attention and importance to that variable.

Table 2 (cont'd.)

The purchaser's satisfaction with the overall customer service provided will be inversely related to the importance of customer service.	
There are clusters of customer service variables which tend to group together.	Neither orthogonal nor oblique principle components analysis detected less complex dimensions for the customer service mix.
The relative importance of the ratings (beta weights) of the different customer service elements provided by suppliers and rated by purchasers are equal ----- Beta weights are a measure of the amount of variance in the dependent variable (the rating of overall satisfaction of customer service by purchasers) accounted for by each of the independent variables (ratings of relative importance of customer service variables).	Rejected through regression analysis, based on the correlations between the sets of regression weights. The results indicated that each of the sets of beta weights for the three products tested must be treated independently. The conclusion is that those studying aspects of customer service should concentrate on the role of customer service specific to a particular purchasing situation.
The order method used by the purchaser has a direct impact on the average delivery time (Re-test of Willett & Stephenson (1969) research)	Rejected the expected direction of the relationships of the independent variables (method of order placement) did not hold consistently across classifications of products studied and relatively small proportions of the variance in the delivery times were accounted for.
The time, expense and effort that should be directed toward the evaluation of customer service by purchasing managers and the suppliers who provide that service should be a function of how important customer service is relative to other factors in the purchasing decision.	Generally supported. For the three products tested, the relative importance of different variables in the decision process are quite consistent.

Table 2 (cont'd.)

WILSON (1974)	
H ₁	The complex concept of customer service can be scaled by the distributor-wholesaler respondent. <i>Partially Accepted.</i> Significance levels could not be stated nor confidence intervals constructed. There was a large number of different points of view (contrary to prior research). Meaningful, interpretable perceptual configurations were found in only 2 groups.
H ₂	The subjects (distributor/wholesalers) are homogeneous in their perceptions of the customer service offerings of the manufacturer. <i>Rejected.</i> There was most definitely more than one homogeneous perceptual subspace or point of view present in the data. It was concluded that due to the heterogeneity of perceptions, the respondent groups used different customer service attributes to make their similarity judgments. A formal discriminant analysis could not be performed to segment customers because of insufficient sample size.
H ₃	The ratio-scaled distance between subjects' ideal points and the stimulus points in the joint space configuration are inversely related to the market share received by manufacturers (i.e., customer service preferences will show substantial association with purchase behavior). <i>Rejected.</i> Could not use regression as planned. Customer service preferences revealed in an ideal point analysis were not sufficient in themselves to "explain" the rank order of historical purchases. Therefore, findings suggest that overall preferences for a manufacturer were not based entirely on matters of customer service.

Table 2 (cont'd.)

Levy (1978)		
H ₁	The underlying structure of the relevant customer service attributes is consistent with accepted marketing channel literature.	Accepted. Through oblique factor analysis (direct oblimin method), the factors derived appear to represent a "function oriented" view of the customer service interface between manufacturers and wholesalers. All of the factors represented fairly specific functions that manufacturers provide. An underlying function oriented customer service structure existed for the set of attributes tested.
H ₂	Managerially useful market segments of customers within some general customer group can be identified on the basis of their unique customer service needs.	Rejected. None of the clustering approaches (sales volume, geographic area, number of warehouses operated, net sales represented by pharmaceutical products) showed useful or stable results. Due probably to differing results of different data sets, and relatively small number of wholesaler respondents
H ₃	Customer market segments within some general customer group differ from each other in their view of the importance of customer service.	Not tested, Due to failure to accept H ₂).
H ₄	Customer market segments within some general customer group differ from suppliers in their view of the importance of customer service.	Accepted, Assuming an undifferentiated customer service strategy.

Table 2 (cont'd.)

H _{4a}	Wholesalers are equal to manufacturers on all customer service factors in the discriminant function.	Rejected.
H _{4b}	The wholesalers are equal to the manufacturers on each customer service factor in the discriminant function given all other factors are included in the equation.	Rejected First 4 factors of 7 total. This indicates that wholesalers and manufacturers differ in their view of customer service on these factors).
ROGERS (1979)		
H ₁	Is there a positive relationship between customer service and profits for the specific company-customer research setting?	Supported. The profit service relationship was positive, that is, profits can be increased through customer service.
H ₂	Can it be demonstrated that customer service variables can be manipulated to maximize profits?	Supported. There were many viable service combinations that Company X could employ to maximize or approach maximization.

Table 2 (cont'd.)

H ₃	Can the sensitivity of profit to selected customer service variables be determined?	Supported. The canonical and ridge analyses revealed that profits were quite sensitive to changes in order cycle time and variability of order cycle time. Thus, the sensitivity of profits to changes in customer service variables can be determined. Communication time, order cycle time and variability of order cycle time can be manipulated to maximize profits.
	NOTE: the method used to measure levels of profit are discussed in the preceding section of this chapter.	
		TUCKER (1980)
H ₁	Between suppliers and customers, there is no difference in perceptions about the importance of customer service activities, their satisfaction with supplier's performance of customer service activities, or overall satisfaction with buyer-seller relationships.	Rejected. Using students t-test, about half of 41 variables showed statistically significant differences in mean and variance values at manufacturer-wholesale level. About 30-35% of variables showed statistically significant differences at wholesaler-retailer level.
	There is no difference in mean importance ratings reported by:	Rejected in entirety for manufacturer-wholesaler dyad
la	1) manufacturers and wholesalers	Rejected for importance and satisfaction
lb	2) wholesalers and retailers	scales for wholesaler retailer channel interface.

Table 2 (cont'd.)

	There is no difference in mean satisfaction ratings of customer service activities reported by: lc 1) manufacturers and wholesalers ld 2) wholesalers and retailers There is no difference in perceptions of overall satisfaction reported by: le 1) manufacturers and wholesalers lf 2) wholesalers and retailers	
H ₂	Channel specific definitions of customer service and non channel specific definitions have equal explanatory power in predicting overall customer satisfaction. Customer service variables have as much explanatory power - - - 2a as all other variables in predicting manufacturer's estimates of wholesaler's satisfaction with customer service --- and with wholesaler's estimates of retailers overall satisfaction with C/S 2b as all other variables in predicting wholesalers overall satisfaction with manufacturers --- and retailers overall satisfaction with wholesalers.	Not testable by regression due to limitations caused by survey replies: 1) little differentiation in importance scores 2) variance associated with importance ratings tended to be low 3) multi-modal response distributions and unequal variances were observed in both satisfaction and importance measures 4) only a small proportion of respondents was able to respond without using "no opinion" or N/A.

Table 2 (cont'd.)

		Not Testable: Observations (relies) were less than number of variables and there was heteroscedasticity of the data.
H ₃	Importance of and satisfaction with selected customer service activities are linearly related to overall satisfaction.	
	3a R ² values will be higher with multiple regression model than with a linear approximation of a non-linear relationship.	
	3a The number of significant attributes to enter the model will be fewer using multiple regression rather than a linear approximation of non-linear relationship.	
H ₄	Groups of customers can be identified both by their ratings of customer service importance and satisfaction and by the functional relationship between activity satisfaction, importance and overall satisfaction.	Not Testable due to failure to test H ₃ .
	Manufacturers can segment their wholesalers by	
	4a 1) the importance they attach to selected customer services activities	
	4b 2) their satisfaction with selected customer services activities	
	4c 3) the equation which best relates importance and satisfaction to overall satisfaction.	

Table 2 (cont'd.)

	Wholesalers can segment their retailers by:	
4d 1)	the importance they attach to selected customer service activities	
4e 2)	their satisfaction with selected customer service activities	
4f 3)	the equation which best relates importance and satisfaction to overall satisfaction	
H ₅	The results of H ₁ through H ₄ will be the same at the manufacturer-wholesaler and wholesaler-retailer interface.	Not Rejected. Of the hypotheses which could be evaluated, there was overall consistency from one channel level to another.

Most of these empirically based studies failed to successfully test or validate key hypotheses. For example, Wilson [1974, p. 187] could not test his major hypothesis that historical purchases by wholesalers were linked to customer service preferences for the following reasons: his useable sample was too small, too many restrictions were placed on the decision making scenario of wholesalers, and errors were made by respondents during the data collection phase of the research. Also, the assumption was made that distributors could examine customer service offerings by manufacturers in isolation from differences in price, quality and product related services.

Perreault [1973, pp. 87-89, 169, 170] failed to establish any directional relationships between: the number of deliveries, the number of alternative suppliers available to a purchaser, the proportion of orders cancelled or average delivery time; and, the importance of customer service as viewed by purchasing agents. Also, he was not able to identify any clusters of customer service variables which tended to group together. The results of his research indicated that future research on customer service should concentrate on the role of customer service in a specific industry.

Levy [1978, pp. 207-208] examined both an entire industry (prescription drug) and a specific manufacturer. When he attempted to identify market segments of manufacturers' wholesale drug distributors based on their unique customer service needs, he was not able to obtain managerially significant or stable results. His research was also affected by the fact that the

questionnaires were mailed to a small sample of firms (129 manufacturers and 296 wholesalers), and a small percentage of both groups responded (42, or 33% for manufacturers and 66, or 22% for wholesalers) [Levy, 1978, p. 126].

Tucker [1980, pp. 94, 96] was unable to test several of her proposed hypotheses due to small sample sizes relative to the number of questions, non-normal distributions, and frequent use of "no opinion" and "not applicable" response options. Specifically, she could not test: whether both importance of, and satisfaction with, selected service activities were linearly related to over-all satisfaction; and, if groups of customers could be identified either by their ratings of customer service performance and satisfaction, or by the functional relationship between satisfaction with specific activities and over-all satisfaction.

Conclusions and Implications of Past Studies

Virtually all of the major studies undertaken to date have attempted to determine the relative importance, or weight of each of the variables examined. This is because top management must decide how to apportion the firm's efforts and funds to those factors that will maximize customer satisfaction. However, Willett and Stephenson [p. 279] pointed out that there are research difficulties in analyzing buyer response to physical distribution services. Relevant data are difficult to obtain and the functional relationship between service and the purchase decision may be confounded by other determinants of buyer response.

In addition, Perreault and Russ suggested that: suppliers have inaccurate perceptions of the physical distribution services they and their competitors provide; customers have fairly accurate perceptions of the services they receive; changes in distribution methods which tend to improve physical distribution service have resulted in increased sales and profits for certain firms; and, customers are aware of the physical distribution services they are currently receiving and know how they would respond if a supplier were to change its distribution service package [Perreault and Russ, 1974, p. 41]. Also, a competitive advantage may accrue to the marketer who helps his customers focus on the specific mix of physical distribution service elements offered, and assists the purchasing manager to recognize good service [Perreault and Russ, 1976a, p. 9].

Several other authors have offered meaningful managerial insights based on their research. Levy [1981a, p. 87] believed that suppliers should consider customer service needs in conjunction with the costs of providing those services. Logistics managers may actively utilize customer service variables to increase profits by: determining the specific needs and wants of customers; determining how responsive, in terms of sales, each customer would be to a change in service levels; grouping customers with similar physical distribution needs; and, designing a specific service mix for each segment [Uhr, Houck and Rogers, p. 168]. Christopher proposed a similar process [1983, p. 6], and in addition reasoned that customer service is essentially about perceptions. These perceptions are in turn

influenced by a combination of experience, buyer-seller relationships and beliefs about alternative sources of supply [p. 9]. This latter point reinforces the need to perform an internal, as well as external, audit of the firm's customer service performance levels.

The following summarizes the implications of past studies for future research:

1. Sample Size

A characteristic of many past customer service studies was the use of relatively small samples. These studies include: Gilmour (1977) Cunningham and Roberts, Levy (1978), Marr, Simon, Tucker (1980) and Wilson. This materially affected the ability of each researcher to perform meaningful statistical analyses.

2. Terminology of Measures

It is only recently that very specific measures of customer service have been suggested, rather than aggregated terms such as "lead time", "reliability of service" or "price". In practice, most companies use only limited, specific measures to define services received. In addition, Tucker [1980, p. 106] pointed out that one reason for large occurrences of "not applicable" in both her own and Levy's studies was due to the fact that many of the variables used were ambiguous and vague because they were non-channel specific.

3. Deletion of Low Variance Variables

Previous researchers deleted variables with low variances in their importance scores from further analysis [Gilmour, 1977; Levy, 1978; Marr; Rogers; and Tucker, 1980]. The justification for omitting some variables was probably due in reality to low response rates. As a result, several of the studies emerged with more variables than respondents. This, of course, prevents any meaningful multivariate analysis. However, the inclusion of only customer services with a high variance in importance ratings/scores

creates an implicit assumption that all services with low variances in their ratings are unimportant either because: they are undistinguishable from one another; all suppliers offer them; or the supplier had to meet certain minimum standards to be considered as a vendor [Tucker, 1980, p. 166]. Thus, salient variables may in fact be omitted during the course of the research. Key customer service requirements may de facto be embodied in the deleted variables with low variances in their scores.

4. Modeling Vendor Attitudes

The multi-attribute literature has primarily been confined to consumer behavior research. Tucker [1980, pp. 44-48] reviewed the various compensatory, non-compensatory disjunctive, and non-compensatory conjunctive forms of multi-attribute models. Results from tests in the consumer behavior literature indicate that linear expectancy value models outperform more intricate models. In addition to Tucker, a number of other researchers found that the relationship between customer service performance and satisfaction was linear. Therefore, they used a linear expectancy model in their studies [Cunningham and Roberts; Marr; Perreault, 1973; Simon; and, Willett and Stephenson]. A form of this model was used in this study. It is explained in detail in chapter 3 under the section titled "Description of Hypotheses Tested".

5. Development of Constructs

Perreault, Rosenburg and Stern, and Tucker were unable to identify meaningful factors (underlying constructs) in their respective studies of customer service and channel relationships. Levy was successful in deriving seven factors along a functional orientation from the thirty-one variables exhibiting the largest standard deviations. However, he had to use oblique rotation methods to derive a final solution. This technique, however, tends to diminish the independence of each factor and may result in inter-correlation [1978, p. 147-149].

6. Level of Investigation

Prior studies have either examined multiple industries as a homogeneous group [Cunningham and Roberts; Gilmour, 1979; LaLonde and Zinszer; and Perreault, 1973]---or did not extend the findings for a unique industry to the firm specific level, where actual conclusions with respect to alternative marketing strategies must eventually be tested [Wilson; Gilmour, 1977; Banting; LaLonde and Levy; Levy, 1978; Marr; and Tucker, 1980].

Tucker [1980, pp. 106, 121] pointed out that non-channel specific (generic) customer service variables, which have historically been utilized in past research, may not perform well or consistently when used in the context of different industries, or at the individual firm level. They may prove to be vague to respondents.

Tucker also observed that even if 100 percent sampling of the industry had occurred, and good response rates had been achieved, the industries studied were not large enough to support multivariate analyses of customer service on an industry - wide basis [1980, p. 116].

7. Key Informant Issue

Relatively few studies [LaLonde and Zinszer; LaLonde and Levy; and Levy, 1978] have noted specific attempts to direct the surveys/interviews to those executives who were in fact able to affect customer service decisions and/or measure their perceived performance and importance. Recognition of "key informants" and organizational buying behavior is critical to successful research in an industrial environment. This point is reviewed in the following section of Chapter 2.

8. Marketing Mix Perspective

Researchers have failed in the past to correctly position "customer service" within the framework of the firm's overall corporate marketing strategy. They have not included all of the important variables that influence purchase behavior [Banting; Cunningham and Roberts; Gilmour, 1977; Marr; Perreault, 1973; Rogers; Simon; and, Stephenson and

Willett]. A majority of the studies have also examined customer service in isolation from the rest of the marketing mix [Hutchison and Stolle; LaLonde and Zinszer; Marr; Perreault, 1973; Rogers; and, Stephenson and Willett]. Others have perceived no functional boundaries to customer service, and consequently included in the "customer service" component variables which in fact were related specifically to product, price or promotion [Banting; Christopher, 1983; Cunningham and Roberts; Levy, 1978; Simon; and Tucker, 1980]. In other words, "customer service" has either been studied in isolation from the rest of the marketing mix or has been broadened beyond its intended role as the output of the physical distribution system. In such instances customer service has in affect become the output of all marketing effort. In fact, the output of all marketing is "customer satisfaction" [Lambert and Stock, 1982b, pp. 13-14].

INDUSTRIAL BUYING BEHAVIOR

The industrial purchase represents the outcome of an interaction between buyers and sellers who share independent outcomes and conflicts, and who attempt to influence each other [Bonoma, Zaltman and Johnston, p. 5]. This section is comprised of the following subsections:

1. Analysis of the models used in the industrial buying process.
2. Individual versus group roles in the decision making process.
3. Identification of criteria and "salient" variables used to select vendors.
4. Review of past empirical studies related to industrial buying.
5. Summaries and conclusions

Models of the Industrial Buying Process

Sheth [1973, p. 52] observed that organizational (industrial) buyer behavior consists of three distinct aspects:

1. The psychological world of the individuals involved in organizational buying decisions.
2. The conditions which precipitate joint decisions among these individuals.
3. The process of joint decision making with the inevitable conflict among the decision makers.

Therefore, industry buying decisions may not rest solely in the hands of purchasing agents. In fact, Webster and Wind [1972, p. 13] posited that industrial buying behavior was a joint factor of: 1) individual characteristics; 2) group factors; 3) organizational factors; and, 4) environmental factors. These findings were supported by Bonoma, Zaltman and Johnston [1977, p. 36] who observed that the modern purchasing function was too complex for a simplified buying technique. As the buyer function becomes more complex, the need for a good system of evaluation becomes more important. As industrial products become more standardized, there is a tendency for buyer emotions to enter the decision, unless a vendor evaluation system is used [Bonoma et al., p. 36]. The authors concluded that the complex context of the buying process, and the vague and often changing composition of the buying center, make it difficult to estimate the impact of organizational (firm) influences on the buying process --- as well as to ascertain just who is involved in organizational buying.

To better understand this process, it is important to recognize the following distinct differences that exist between industrial and consumer buyer behavior:

1. Functional interdependence. Effective buying depends on very careful and complex ongoing coordination of several parts of the business, such as product engineering, production, quality control and purchasing.
2. Product complexity. The product is often a variable tailored to the unique needs of each customer. It may also represent a complex array of personal, technical, economic and legal relationships between buyer and seller.
3. Buyer/seller interdependence. Industrial customers depend on their suppliers as the lifeline of their business. Negotiations and bargaining are key activities for both buyer and seller --- versus arms length transactions that typify consumer marketing.
4. Buying process complexity. Industrial buying situations involve many people, interacting with one another, in the context of a formal organization, using multiple buying criteria.

The multiperson nature of the buying process has led to the concept of the buying center, which includes all organizational members involved in a purchase decision. However, existing literature is limited concerning how buyers and buying centers actually process information in selecting vendors, and in the specific rules they tend to use [Vyas and Woodside, p. 30]. In addition, access to the "gatekeepers" who collect, filter and transmit relevant purchasing information to the key decision makers is no less important than access to the powerful members of the decision group [Moriarty and Spekman, p. 145].

Perhaps the first attempt to understand the industrial buying decision making process was the study by Cyert, Simon and

Trow in 1956 [pp. 237-248], who documented three aspects of the decision process:

1. Common processes which were "routine" and recurred within the organization at various stages in the decision.
2. Communication processes which represented the information flow within the organization.
3. Problem solving processes which dealt with locating viable alternatives for solving the buyer problem.

Webster [1965, p. 77] developed one of the earliest conceptual models of the industrial buying process, which was comprised of the following four elements or stages:

1. Problem recognition.
2. Organizational assignment of buying responsibilities.
3. Search procedures for identifying product offerings and for establishing selection criteria.
4. Choice procedures for evaluating and selecting among alternatives.

Bonoma, Zaltman and Johnston [p. 4] expanded on Webster's definition. They viewed industrial buying behavior as both explicit and implicit transactional decision making interactions through which profit centers, represented by authorized delegates:

1. Establish the need for products or services.
2. Search among and identify potential suppliers.
3. Evaluate the marketing mix of potential suppliers.
4. Negotiate for and enter into agreements concerning purchase terms.

5. Complete a purchase.
6. Evaluate the purchase's utility in facilitating the organization's goals.

Choffray and Lilien [pp. 112-116] compared organizational (industrial) buyers to individual consumer goods purchase behavior. They outlined a four stage choice process that is applicable to both types of purchases: perception, evaluation, preference and choice. In industrial purchasing situations, however, product perception differences, in the form of ratings of products on relevant scales, are likely to occur among decision participants as a result of differences in background and job responsibilities. Also, the identification of differences in evaluation criteria across decision-participant groups is important when one tries to understand industrial purchases. For example, one would not expect production engineers to use the same criteria as members of purchasing departments when assessing product alternatives. Establishing preferences involves determining the importance of evaluation criteria. Buyer behavior models must be capable of identifying and quantifying differences in the relative importance of evaluation criteria across buying groups. A comparison of the different evaluation criteria used by different decision groups leads to a better understanding of how decision participants form preferences. Finally, choice formation deals with the mapping of each decision participant's preferences of product alternatives into an estimate of the likelihood of endorsing each product.

They categorized the formation of preferences for products involving the evaluation of multiattribute alternatives into two broad categories of models [Choffrey and Lilien, pp. 127-128]:

1. Compensatory models allow trade-offs between attributes.
2. Noncompensatory models do not admit such trade-offs. There are four sub-types of this model:
 - a. Dominance models (When comparing alternatives, individuals identify the subset that dominates all others on all evaluation criteria simultaneously.)
 - b. Conjunctive models (To be considered for final choice, a product has to meet minimum requirements on all evaluation criteria simultaneously.)
 - c. Disjunctive models (Product alternatives are evaluated on the basis of their maximum levels on some, but not all, criteria.)
 - d. Lexicographic models (These process attribute levels sequentially. First, product alternatives are ranked in accordance with the most important evaluation criteria. If all prospective vendors are perceived to be performing equally on a variable, the next most important criteria is considered until all evaluation criteria have been considered.)

Vyas and Woodside [pp. 33-36] used a combination of the above models to empirically test a five step, convergent decision process consisting of:

1. Identification of potential vendors.
2. Qualification/weeding out of vendors through "conjunctive" decision rules to establish a minimum level for each criterion in the initial search.

3. Requesting prospective vendors to submit bids.
4. Evaluation of bids. Suppliers are dropped from consideration using a "lexecographic" screening procedure.
5. Selection of the vendor.

Based on this, plus other studies reviewed, Choffray and Lilien [p. 129] suggested that several models, some linear (such as simple additive models) and some nonlinear (such as conjoint analysis, expectancy value and complex utility models) should be examined. The one that works best in terms of preference recovery, interpretability, and parsimony should be retained.

Individual Versus Group Roles in the Decision Process

Almost all results from past research indicate that expectations will differ substantially among purchasing agents, engineers and product users. This is because each function considers different criteria to be salient when judging prospective suppliers or product brands [Sheth, 1973, p. 52]. Because more than one, and often many, individuals are involved in the purchasing decision process, organizational buying must be studied differently than consumer buying. Effective use of industrial marketing resources requires an understanding of: who are involved in the purchasing process (who are the purchase influencers?); and, how do they buy (what are the stages involved in the process and how do the involved individuals influence the process?) [Lilien and Wong, p. 1]. Surveying only purchasing agents may be dangerous, because they typically exercise widely differing degrees of influence or decision making authority for

various types of purchases (for example, routine buys versus capital expenditures) [Senon, p. 79]. Therefore, it is not surprising that McMillen [pp. 207-211] found the number of occasions where the purchasing agent was the most influential voice was decreasing. In fact, Wind [1978, p. 165] observed that most buying under "new task" and "modified rebuy" situations was undertaken by multiperson buying centers. "Straight rebuy" situations, on the other hand, tended to primarily involve a single purchasing agent.

A review of the literature disclosed conflicting opinions concerning the correct approach to use when analyzing the industrial/organizational buying environment. Johnston pointed out that research conducted on the role of purchasing indicated that purchasing managers were not isolated from others within the firm. To understand industrial buying behavior one must, therefore, understand how others affect the purchasing manager's role and how the purchasing manager affects others in the buying center [Johnston, p. 80]. Unfortunately, research models that focus on organizations often hypothesize construct relationships that cannot be tested. This is because they typically ask individuals to report strictly personal information, such as their feelings, opinions or behavior [Phillips, p. 395]. Measurement of these and other organizational characteristics requires research methods different from those used to measure the characteristics of individuals. In marketing contexts, the measurement of organizational characteristics typically has entailed the use of a "key informant" method, a technique of

collecting information concerning a social setting through the interviewing of a selected number of participants. Therefore, most current views of industrial buying behavior include the influence, interests and actions of other functions within the firm on the purchasing process [Johnston, p. 79].

Unfortunately, researchers have offered little evidence to document the reliability and validity of measurements obtained via the "key informant" method [Phillips, p. 396]. Empirical studies of joint decision making has been difficult, since neither a theoretical framework nor research tools in marketing appear geared to group decision processes. As a result, marketing practitioners and researchers have generally considered group decision making as a process that cannot be observed or measured, but which must be inferred from observations of responses to specific marketing stimuli [Choffray and Lilien, p. 136]. According to Webster and Wind [1972, p. 12], all organizational buying behavior is individual behavior. Even though the individual may be acting to benefit others or the firm in general, it is still only the individual, not the organization, who can have motivations, emotions, cognition and behavior. Therefore, individual organizational members should be the targets of the industrial marketer's strategy, and not the abstract entity of the organization [Webster and Wind, p. 18].

Identification of Criteria Used to Select Vendors

In order to identify which attitudes are determinant and to discern their relative degree of determinance, it is necessary to go beyond the mere scaling of respondents' attitudes [Myers and

Alpert, p. 15]. The ranking of criteria by itself is of dubious reliability in determining how purchasing agents select vendors [Semon, p. 79]. An investigator interested in identifying attributes which are determinant for the choice among brands should always ask for the absolute level of attribute performance for each brand evaluated. This "dual questioning" (importance rankings and vendor evaluations) facilitates regression analysis, because respondents are asked to "tell" which attributes are both important and different [Myers and Alpert, p. 19]. When attitudinal and behavioral criteria point in the same direction, marketers can feel more confident in drawing conclusions about deterministic attitudes. Past research in consumer buying behavior supports the hypothesis that consumer choice may be predicted from knowledge of the position occupied by the various offerings in relation to some set of relevant product attributes, after the attributes have been weighted by the consumer according to relative importance [Lehmann and O'Shaughnessy, p. 36]. It would seem logical to assume that similar conclusions could be drawn for industrial buying behavior.

What variables are "salient"? That is, what is the set of criteria used by organizational buyers in making buying decisions? Myers and Alpert [p. 14] reasoned that salient variables in decision making are those variables that are problematic. They are not only important, but also differentiate one offering from another. Thus, if a variable is evaluated relatively equal for all brands, it is not a determinant

attitude or feature in the actual purchase decision. If all brands are perceived to achieve the same level of performance, it will not be as important as some attribute for which differences in performance are the basis for current brand preferences.

In order to replicate the "real world", marketing researchers should create stimulus tasks that parallel the product evaluation environment. To accomplish this, one must first learn which properties have significant effects on a buyer's evaluation strategy. If the stimulus profiles are not complete, the study's internal validity may be threatened [Scott and Wright, p. 214]. External validity may also suffer. If the stimulus profile restricts respondents from considering information normally found to be useful, or if the cues available change, the weighting patterns may shift. As a result, Wind [1978, p. 180] believed there is a need for greater attention to the conceptual and operational definitions of variables, their reliability, and standardized definitions which would enhance the validity of the results. The selection of variables should follow an appropriate organizational-psychographic model --- instead of an ad hoc approach, such as using seemingly relevant items from previous studies [Wind, 1978, p. 178].

Despite the numerous academic and commercial organizational buying behavior studies, Wind [1978, p. 164] concluded that very few substantive generalizations could be drawn with respect to which variables would have what effect under what conditions. He attributed this frustrating state of affairs to three factors:

1. A lack of systematic efforts to build a cumulative body of substantive findings about

organizational buying behavior and its determinants.

2. The nonrepresentative nature of most of the academic studies, such as: sample design (small, convenient samples); types of respondents (students); and, tasks (nonmarketing).
3. A lack of comparable conceptual and operational definitions across studies of both dependent variables, such as purchases, share, loyalty --- and independent variables, such as attitudes and decision making style.

In addition to the above concerns, it is important to explore the responses of organizational buyers to marketing variables by market segments. Johnston [p. 78] proposed the firm as the best unit of analysis, and that from the perspective of macrosegmentation, objective variables such as demographics should serve as the first step in the market segmentation process. Opposing this view, Wind [1978, p. 166] recommended that information on the importance of each criterion in the purchase decision should serve as a basis for organizational market segmentation. Using this concept, firms could be grouped based on similar response patterns to the importance rankings of variables.

The research in this dissertation used both methods to develop market segments. Segments were initially formed using importance scores from the marketing variables evaluated by respondents. Each segment was defined managerially, using demographic data.

Review of Past Empirical Studies

In 1968, Myers and Alpert [p. 15] studied the airline industry to determine the overall image of competing carriers. They found that the airline receiving the highest overall evaluation also realized the greatest increase in share of market in the months preceding the study. Therefore, they concluded that the attitudes of respondents in effect equaled the way they behaved when selecting carriers. Mc Aleer [1974, p. 15] surveyed consulting engineers, architects, electrical contractors and commercial building contractors to determine buying motives, compared to those of industrial advertisers. The results were disconcerting, since industrial advertising managers did not seem to understand the major considerations that influenced the purchase of their products. Thus, the study refuted the fundamental assumptions of earlier studies that sought to investigate the industrial buying process through inferences drawn as a result of analyzing the content of industrial advertisements. The results of Mc Aleer's study also supported Duncan [p. 450] who in 1940 severely criticized studies that interpreted business motivations based on advertising appeals. He also stated that if the needs of customers represent "classical buying motives" developed under a faulty "fundamental assumption", they become suspect, and the suggested strategies developed to satisfy these "needs" may or may not be effective.

Lehmann and O'Shaughnessy [p. 36] analyzed the choice criteria used by purchasing agents to select suppliers, in order to determine if these criteria varied with the type of problems

encountered in adopting particular products. Six of the seventeen attributes used varied significantly across the four product purchase categories studied. Therefore, the authors concluded that the importance of attributes was significantly influenced by the types of product under consideration.

Research performed by Crow, et al. in 1980 [pp. 34-44] suggested that industrial buyers frequently employed multi-stage decision models involving conjunctive processes. This theory was expanded by Vyas and Woodside [pp. 30-36] whose study focused on the products purchased on long-term contracts/agreements, such as blanket purchase orders, for eighteen products in six different, non-competitive companies. They discovered that individuals within a buying center used similar methods to systematically reduce the number of alternatives to be considered. This procedure involved a heuristic process that involved successive applications of rules deemed appropriate, so that the number of alternatives were reduced to a manageable few by the decision maker. Vendor bids were first evaluated by using noncompensatory conjunctive decision rules, and then a disjunctive decision rule with respect to the price quoted. These considerations are important when constructing the format and contents of survey instruments.

Johnston [p. 80] reported that past studies indicated purchasing and non-purchasing members of the firm had divergent views about their respective roles in the purchasing process. Even interviews with multiple members of a firm did not solve the problem of whom to believe, or how to resolve these conflicts.

Therefore, the question of whom to believe when the perceived roles are different among the various members of the firm is difficult to answer. In fact, when Phillips [pp. 411-412] attempted to assess the reliability and validity of measurements of organizational concepts obtained by key informant processes, he observed that the use of only a single informant per unit of analysis did not permit a strong assessment of convergent or discriminant validity. This occurred because variations in measurements due to methods factors (such as positional biases or knowledge deficiencies associated with each informant) could not be modeled. The results suggested that future investigations should devote greater attention to informant selection criteria, and that no single informant is likely to be found who is the "most reliable informant" on all issues.

Lilien and Wong [pp. 6-10] surveyed 2151 purchase influencers in 878 diverse manufacturing plants and their involvement/non-involvement in each of seven phases of the purchasing decision process. They found that users were more involved in earlier phases of the decision process, whereas purchasing agents and managers were more involved in later, vendor selection phases. The results largely supported a series of conjectures about buying center structure found in the organizational buying literature.

Summaries and Conclusions of Industrial Buying Behavior

Based on the preceding review of the organizational/industrial buying process, it is possible to draw some significant conclusions. Sheth [1973, p. 52] proposed that

as the marketing mix becomes standardized among the suppliers in oligopolistic markets, implicit criteria (such as reputation, size, location, technical expertise, personality and salesmanship) will become more and more significant in the industrial buyer's decision. He also suggested the following implications for marketing researchers [Sheth, 1973, p. 56]:

1. It is necessary to conduct research on the psychology of other than purchasing agents in an organization.
2. It is possible to operationalize and quantify most of the variables included as part of industrial buyer behavior models.
3. It is important to realize that not all industrial decisions are the outcomes of a systematic decision making process.

Lehmann and O'Shaughnessy [p. 36] stated that past research indicated uncertainty reduction was a major motivation in decision making in general, and industrial buying in particular. This proposition was supported by Wind [1978, p. 164] who found that the behavior of individual buying center members could be explained by their perceptions of the criteria used to distribute rewards. Vyas and Woodside [p. 41] expanded this proposition as follows:

1. Buyers do not use just one simple evaluation model, but rather a combination of decision rules at various stages in the choice process.
2. Although the choice process is complex, the decision rules used at various stages were relatively simple.
3. Avoiding risk appeared to permeate much of the decision rules.

The historical belief that there were a set number of steps or stages that always occurred in a specific chronological order is thus apparently unfounded. This position was supported by Johnston [p. 78] who discovered that many research studies found a different number of steps, and some also indicated that these steps did not follow a consistent sequence.

Wind [1978, pp. 162-163] found several major shifts in the emphasis of the research related to industrial buyer behavior:

1. Greater emphasis is being placed on complex models of buyer behavior.
2. There is a shift from individual respondents to buying center and exchange processes as the units of analysis.
3. Considerably more emphasis is being placed on the organizational buying process, in particular product and vendor selection.
4. More emphasis is occurring on the development and implementation of models of responses to marketing strategies.
5. There is a greater concern for the segmentation of organizational buying markets.

Several other authors have recommended various approaches when studying the industrial marketing process:

1. The consideration of different evaluation criteria across decision groups leads to a better understanding of how decision participants form preferences [Choffray and Lilien, p. 131].
2. Certain strategies should be adopted in an attempt to reduce measurement error in informant reports. Asking questions in a manner which requires less demanding social judgements should minimize measurement error. Questions which ask informants to report on relatively objective, observable phenomena should be less demanding and less subject to distorting influences [Phillips, p. 412].

3. Researchers should consider the design of more creative data collection procedures instead of the conventional rating scale, such as ranking variables or assigning 100 points among a group of variables. [Wind, 1978, p. 179].
4. Because the current assumptions and research approaches of industrial buying behavior can be criticized on the grounds that they have not led to a coherent attack on the topic, the need exists to provide a reconceptualization of the subject before attempting new research [Johnston, p. 85].
5. It is desirable that any new conceptualizations be: 1) more conducive than previous attempts to the development of explanatory mechanisms; and, 2) much better suited for concerted empirical efforts [Johnston, p. 85].

Bonoma, Zaltman and Johnston [p. 17] offered the following summary of the literature dealing with industrial buying behavior. "First, an enormous amount of literature has been generated which does little to identify causal relationships or promote explanation of the industrial buying behavior process. Second, many people in the area subscribe to a somewhat debatable and questionable set of assumptions about the underpinnings of industrial buying behavior. Third, there is a dearth of theoretical and empirical evidence for selecting and grading in importance the types of variables that have been singled out for analysis. One finds little, if any, predictive power in current efforts to explain industrial buying behavior. Thus, it is clear this phenomenon is a complex one which is not easily subject to scientific scrutiny."

MARKET SHARE MODELS

"Absolute advantage is not enough if all competitors live up to the same high standards. What is important in competition is differential advantage. It is the search for differential advantage which keeps competition dynamic." Alderson's comments in 1957 [p. 101] still apply in today's business environment. The author also stated that differential advantage existed when the share of a firm's investment in a strategic factor (such as product, price, promotion, or physical distribution) exceeded its share of the market. There is a tendency, he said, for long run share of market to follow the direction of this difference [p. 141]. Therefore, the sources of differential advantage are investments in product, price, promotion, and physical distribution variables which maximize the net present value of market share. The balance of this section: examines the basic role of market share in developing marketing strategies; the different models that are available to predict market share; the results of past empirical efforts to predict market share; and, concluding comments.

The Role of Market Share in Marketing Strategy

Since the early 1970's many companies have adopted formalized approaches to strategic planning in which relative market share has played a central role [Buzzell, 1981a, p. 42]. One reason for this emphasis is that the scarcity of capital, higher interest rates and slow economic and market growth have made many managers more sensitive to their company's business/product portfolios. It is necessary to weed out

marginal contributions to profit, in order to improve returns on invested capital [Wind and Mahajan, 1981, p. 31].

Most companies think and plan not only in terms of market share, but also in terms of sales and profit. They see market share gains as the key to long-run profitability. However, as Bloom and Kotler [p. 65] pointed out, the proper goal is not to maximize market share, but rather to attain an optimal level of market share, one that does not alter the company's long-run risk or profitability in an unsatisfactory way. To accomplish this balance, marketing strategies should be adapted not only to market share considerations, but also to the major trends in the competitive structure of the market. If market share creates profitability, firms may be able to increase market share and profitability by modifying their position vis-a-vis competition [Catry and Chevalier, p. 34].

It is only natural, therefore, to correlate strategic ambitions with the components of the marketing mix. In this way explicit meaning is given to the term marketing strategy. The output of strategy, the marketing mix components (price, product promotion and physical distribution), represent the inputs to portfolio analysis. Thus, market share depends on the strategies developed for each of these mix components. The allocation of scarce resources to brighten a star, milk a cow, or kill a dog should be linked more directly to the functional elements of the marketing mix [Cook, 1983, p. 68; Buzzell and Wiersema, 1981c, p. 27].

Buzzell and Wiersema also proposed that a realistic approach to explaining market share change must include all of the important elements of marketing strategy, and must relate any single competitor's actions to the contending moves of rivals [1981b, p. 136]. Broadly speaking, the marketing mix defines the strategic elements to be considered. However, even under each of these broad categories, there are multiple arenas in which a firm may wish to commit its marketing resources. The issue is how investments in these separate arenas should be allocated to arrive at the best combination of overall market strategy [Chattopadhyay et al., p. 135]. Therefore, from a theoretical, as well as managerial standpoint, the most meaningful analysis is one that links market share with relative investments in the marketing mix variables [Parasuraman and Varadarajan, p. 125].

Since market share plays such a central role in strategy analysis and formulation, it is important to know how market share is typically distributed among competitors. Buzzell [1981a, p. 42] proposed the best way to accomplish this, as well as to determine the costs and profitability associated with share, was to compute "relative share". That is, the second largest firm's share is divided by the largest firm's share, the third largest by the second largest, and so forth. Thus, each competitor's market share represents a constant proportion (or ratio) of the share of the next higher ranking firm [Buzzell, 1981a, p. 46]. The author found that market share patterns in an industry followed a common basic pattern and a semi-logarithmic distribution described this pattern quite well. The typical size

ratio between the first and second, second and third, and third and fourth largest firm was .64 [Buzzell, 1981a, p. 46].

A Comparison of the Models Used to Predict Market Share

The single variable model is common in economics and marketing. Economists typically address price independently from other marketing mix variables and marketers use pricing models, advertising models, salesforce models, and so forth [Dolan, p. 229]. When competitive reaction is the desired consideration, however, the focus on a single marketing instrument is not acceptable. For example, product policy and pricing policy are not separable, because a price change by a firm may not be met by a competitive price move, but rather by a change in a competitor's product quality or advertising program. Therefore, reaction behavior is complex and tracking just direct responses would lead to mistaken inferences [Dolan, p. 229].

The literature contains a wide variety of modelling approaches aimed at predicting and/or explaining the effects of various factors on market share, or changes in market share. Generally, they consist of one of the following three functional forms. (Each is reviewed in depth, using Lilien and Kotler, pp. 67-80, 91-96; and Buzzell and Wiersema, 1981c, pp. 28-29 as references):

1. Linear (additive).
 2. Multiplicative.
 3. Attraction.
1. Linear Models are also additive models, and are expressed statistically, as follows:

$$M_{jt} = a_j + b_1 x_1 + \dots + b_n x_n$$

$$= a_j + \sum_k^k (B_{jk} x_{jkt})$$

where M_{jt} = market share of brand j in period t

a_j = intercept term for brand j

B_{jk} = k th response coefficient (market parameters) for brand j

x = marketing actively effort (value of decision variables for brand j)

Linear models have several characteristics that make them appealing: they are easy to visualize and understand; they can approximate many more complicated functions fairly accurately and efficiently; and, classical econometric methods are applicable for parameter estimation.

However, linear models do have several drawbacks: they assume constant returns to scale for each of the marketing instruments and therefore ignore the fact that many instruments, such as advertising may have threshold or saturation effects; they assume no interaction between variables; they have poor normative implications which may provide limited values for decision making; and, they are not robust. That is, the sum of market shares allocated will not in general add to 1.

Some of these advantages can be overcome, however, through the use of curvi-linear equations, such as quadratic (exponential) or semi-log response models. In addition, individual variables whose effects on market share are believed to be non-linear, can be included by linearizing them with appropriate transformations.

2. Multiplicative Models are non-linear in their parameters but linearized statistically, by taking logarithms of the original equation. This form is expressed as:

$$M_{jt} = a_j x_1^{b_1} (x_2^{b_2}) \dots (x_n^{b_n})$$

$$= a_j \prod_{k=1}^k (x_{jkt})^{B_{jk}}$$

This model permits interactions at all levels between marketing variables. Thus, it is a

constant elasticity model, and is extremely flexible. It can accurately characterize increasing returns-to-scale situations. Like the additive model, however, the market share functions are not robust, that is the sum of the market shares will not necessarily add to 1.

Note: Both the additive and multiplicative models are simple to use and understandable. They have been used in a variety of empirical studies and have provided a good fit to the observed data. However, they do not satisfy the preferred conditions of model consistency. That is, market share can be greater than 1, less than zero or sum to something other than 1, across all brands observed.

3. Attraction Models are intrinsically non-linear models, and are expressed as follows:

$$M_{jt} = \frac{A_{jt}}{\sum_{i=1}^n A_{it}}$$

$$\text{where: } A_{jt} = a_j \prod_{k=1}^K (X_{jkt})^{B_{jk}}$$

$i = 1 \dots n$, the number of brands in the market

This model is useful when demand approaches an upper limit as the marketing effort becomes large. It infers that the marginal sales response will be proportional to the level of untapped potential ($M - A_{jt}$).

Attraction models are based on the fundamental theorem of market share determination which states that the market share of various competitors will be proportional to their share of the total marketing effort of all competitors. Their theoretical advantage is that resulting forecasts of share are both sum and range constrained, and they deal with competing brands in a disaggregate form.

However, their practical application may be hampered by disadvantages such as: greater complexity (especially when linearization of the model is not statistically possible); the likely presence of multicollinearity among the marketing activity decision variables; and, the difficulty of obtaining sufficient data regarding competitors' market share and marketing activity levels.

Results of Prior Empirical Studies of Market Share

Relatively few studies have been conducted which formally considered the simultaneous nature of the competitive process at the firm level. Weiss [1969, p. 37-49] appears to have made the first systematic comparison of different types of market share models. He compared the performance of three linear, one multiplicative and one non-linear (attraction type) models. The models were compared on the basis of goodness of fit, as measured by R^2 values and the variance of the residuals. Weiss concluded [p. 49] that all five models fit extremely well with the attraction model producing a marginally higher R^2 .

Rao [1972, p. 177] evaluated five alternative econometric models of advertising-sales relationships for cigarettes. He concluded that model performance was sensitive to the way in which variables were defined, but the method of estimation had no significant impact. That is, he found little differences among alternative models in their ability to fit the data [pp. 180-181].

In 1974, Wildt [p. 50] reported on the development of a simultaneous equation regression model of the competitive interaction among three major firms involved in the sale of a relatively inexpensive branded product. The model incorporated

many of the characteristics essential for a usable sales response function, including:

1. The simultaneous nature of competitive effect.
2. The complete marketing mix.
3. Carryover effects.
4. Interaction among variables.

Using an additive model, Wildt found market share to be affected by four management decision variables: advertising, promotion, new product activity and relative price [p. 60].

In 1976, Prasad and Ring modelled the interaction of price and several forms of advertising with market share changes. A linear model was used for each experimental panel of consumers, with the experimental brand's market share serving as the dependent variable [p. 392]. The method of analysis employed a stepdown/exclusion form of stepwise multiple regression, in order to minimize the risk of omitting relevant variables and avoid producing biased estimates [p. 394]. The results indicated that interactions among the marketing mix variables were statistically significant in determining market share. These interactions could determine whether a marketing mix variable had a favorable or unfavorable influence upon a brand's market share.

Buzzell and Wiersema used the existing Profit Impact of Marketing Strategies (PIMS) data base from the Strategic Planning Institute in Cambridge, Massachusetts [1981b, p. 135] to identify the strategic factors generally involved in market share gains. The following factors emerged as significant [p. 138]:

1. Increases in new product activity.

2. Increases in relative product quality.
3. Increases in expenditures for sales forces, advertising and sales programs (relative to the rate of growth of the served markets).
4. The competitive position of the firm in the market served.

The authors found that businesses with market shares below a critical level tended to gain share, while those with share above that level tended to lose share. For instance, market leaders tended to lose share if they held more than 40 percent of the served market, and to gain share if they held below 40 percent. They concluded that changes in market share were strongly related to the beginning level of share for each firm, as well as the relative rank of each firm with respect to market share position. Overall, the PIMS market share models explained about 40% of all of the variation in market share changes for manufacturers of consumer products and 30% for raw materials and industrial products manufacturers [Buzzell and Wiersema, 1981b, p. 143].

Using the PIMS data base, Buzzell and Wiersema also performed cross-sectional regression analyses of three categories of business (consumer goods, raw materials and industrial goods). The objective was to determine the general relationship between market share change and variables representing competitive position and marketing strategy. [1981c, p. 40]. The approach was different from previous research in that it:

1. Included a more comprehensive set of independent variables.
2. Included a broader range of businesses in a multitude of consumer goods and industrial markets.

3. Utilized data readily available to most businesses [p. 40].

The results indicated considerably more determinants of market share change existed than were reflected in many of the earlier studies:

1. Both beginning market share level and relative rank in overall share position were important variables.
2. Product quality and new product activity were consistently and positively related to market share change (that is, as expenditures on these two variables increased, so did market share).
3. Various marketing expenditures were related to market share change in different ways for the three categories of businesses.
4. Exit and entry of competitors appeared to be significant determinants of share change [pp. 35-37].

The authors used an additive (linear) model for both studies because: attraction models require reasonably accurate estimates of a business's share of total competitive marketing activity on a variety of dimensions; the majority of PIMS participants indicated they could not provide reliable estimates of this nature; and it appeared few managers could use share models that called for share-of-total market data without having to go to great lengths to collect such data [1981c, p. 30].

Naert and Weaverbergh [p. 148] conducted an extensive comparison of thirteen market share models using data for gasoline and electric razor brands --- on three basic model specifications (linear/additive, multiplicative, and attraction). They also calibrated each model by whether it used ordinary least squares (OLS), generalized least squares (GLS), or iterative GLS

procedures. The authors concluded [p. 152] that better forecasts generally were obtained from models that used GLS attraction specifications and simple regression models with constrained parameters. Also, a naive model, in which predicted share equaled the previous period's share, produced better forecasts than most of the models tested.

Ghosh et al. systematically compared the effects of different forms of market share models, estimation procedures, and levels of parameterization on the performance of models similar to those utilized by Naert and Weverbergh [p. 202]. The models were evaluated in terms of both parameter validity and predictive accuracy. With the exception of attraction models, the parameter estimates for all models generally displayed good face validity. For ordinary least squares (OLS) estimation, models with brand specific parameters generally provided more accurate forecasts. The most accurate short-term forecasts resulted from the OLS linear model with brand specific parameters and normalization of the data. For long-term forecasts, the most accurate model was the OLS multiplicative model with brand specific parameterization. For simple models (linear and multiplicative), ordinary least squares (OLS) and generalized least squares (GLS) yielded similar coefficients. Normalization of linear and multiplicative models generally provided only modest improvements. Models with brand-specific parameters led to better forecasts. All of these findings contradicted those from the Naert and Weverbergh study. [p. 208].

Concluding Comments

It is imperative that, when modelling market share, managers understand the selected measures and their properties (Wind and Mahajan [1981, p. 31]. Rao [p. 181] found that, on the basis of R^2 , the method of estimation appeared to be a significant factor. Thus, the choice of the appropriate method of estimation and the specification of dependent variables may be treated in practice as a trade-off between the two criteria. The most appropriate form of model and estimation procedure may well depend on the particular application, the type of data available and the objective of the analysis. Ghosh et al. [p. 208] found in their comparison of different models that no negative forecasts arose and the sum of market share forecasts was close to one.

Based on the findings of past empirical studies, it appears that three problems frequently arise in building multiple variable market share models [Lilien and Kotler, pp. 110-114]:

1. Heteroscedasticity: the disturbance terms do not have the same variance.
2. Autocorrelation: the disturbance terms are not independent.
3. Multicollinearity: two or more of the independent variables are related.

The first two problems can be handled by a single procedure known as generalized least squares (GLS). Multicollinearity is most often handled in one of three ways: eliminate some independent variables; reduce the independent variables to a smaller number of principal components, through factor analysis; or, use RIDGE regression [Lilien and Kotler, pp. 115-116].

With respect to the content of the variables used and breadth of the marketing mix involved, prior empirical studies indicated the following:

1. its uncertain which of the marketing mix variables are more important, and how these variables interact in affecting sales. Thus, there is a need to consider the interactive effects of marketing mix variables in building realistic decision models in marketing [Prasad and Ring, pp. 391, 395].
2. Most empirically based studies were conducted using restricted data, such as advertising or price data exclusively, and were aimed at testing alternative model formulations. Therefore, the generalizability of their findings is questionable [Wind and Mahajan, 1981 p. 34; Buzzell and Wiersema, 1981c, p. 28].
3. Most users of share measures have failed to: 1) carefully explore the role of share in their marketing and corporate strategic models; 2) assess its relative importance under different environmental scenarios; and, 3) establish empirically for their own brands, the historical and projected relationship between share and the effectiveness of their marketing strategy variables.

Managers and researchers both tend to rely on a single share measure, sacrificing for the sake of simplicity very valuable diagnostic insights into the market position of the firm or products [Wind and Mahajan, 1981, p. 39].

4. Since different definitions of measurement, products, markets, time horizons, and denominators can lead to considerably different share outcomes, the value of a single measure of share is limited [Wind and Mahajan, 1981, p. 39].
5. With few exceptions, researchers have failed to obtain direct empirical evidence concerning the cause-effect relationship between share or other objectives, such as profits ---- and the effectiveness of marketing strategy variables [wind and Mahajan, 1981, p. 39].

6. Managers need to focus on the issue of why a significant competitive or differential advantage exists in a given product market [Cook, 1983, p. 68].
7. Studies using the PIMS data base concluded that succesful share building strategies involved a combination of several competitive factors, and most successful share building strategies were based on giving primary emphasis to one or more segments within the served market. [Buzzell, 1981a, p. 143].
8. With few exceptions, researchers have concentrated on specific product categories or industries. Thus, its difficult to compare their results, due to the differences in variables used, and modelling approaches employed. They have also been restricted to mainly non-durable consumer goods [Buzzell and Wiersema, 1981c, p. 29].
9. Many of the published modelling approaches are of little help to managers who do not possess the required data used in these studies. Thus, few if any, insights can be gained with respect to market share changes for the products for which they are responsible, because the pertinence of these state-of-the-art models seems remote and too theoretical. [Buzzell and Wiersema, 1981c, p. 29].

SUMMARY OF THE LITERATURE

The purpose of this chapter was to review the relevant literature to determine: 1) how customer service developed; 2) how customer service interfaces with marketing; 3) the most effective way to manage customer service; 4) the results of past empirical research related to customer service; 5) the industrial buyer behavior process; and 6) the role of market share models.

Many of the comments that Parker [p. 16] made with respect to the marketing literature prior to 1962 are still applicable today. Until all marketing activities are integrated and all

marketing costs are considered, the potential for improved efficiency and cost reduction cannot be realized. This chapter has demonstrated how the separation of physical distribution from marketing would not have occurred had there not been conceptual voids in the structure of marketing thought. On the other hand, Lambert and Cook [p. 124] see significant promise for improved performance by companies if the inefficiencies that result from treating physical distribution and marketing as separate and unrelated functions are eliminated. This dissertation attempts to reunite these two elements of corporate strategy by examining all of the variables used to select, evaluate performance of and retain vendors.

Many researchers have proposed exhaustive, integrative methodologies to improve customer service in the context of the overall marketing environment. However, few have actually tested these theoretical processes empirically. In addition, the majority of past customer service studies have been characterized by one or more of the following weaknesses:

1. Concentrating on transportation, inventory and order service variables to the detriment of a broadly based customer service policy.
2. Failing to recognize variables related to the other components of the marketing mix.
3. Failing to view customer service from the viewpoint of customer needs.
4. Examining multiple industries as a homogeneous group, and/or failing to extend the findings for a unique industry to the firm specific level.
5. Failing to correctly position "customer service" within the framework of the firm's overall corporate marketing strategy.

6. Researching only one level in the marketing channel, and thereby ignoring the fact that multiple echelons exist, each of which requires unique and different marketing services.
7. Relying on inadequate sample sizes and/or response rates which have precluded the use of extensive multivariate statistical methods to test key hypotheses proposed by past researchers.
8. Using generic broadly defined, vague and multiple statement variables which frequently resulted in excessive, "not applicable" or "not used" responses, heteroscedasticity (non-homogeneous variances), or too many responses which viewed all of the variables to be almost equal in importance.
9. Deleting variables with low variances in responses, which implicitly assumed that all low variance services were unimportant.
10. Equating the importance of variables rated by respondents with the "saliency" / "determinancy" of services used to differentiate and select vendors.
11. Failing to identify meaningful underlying constructs from the variables examined that were both managerially and functionally useful and interpretable.

A major purpose of this dissertation was to build on the methodologies and techniques developed by past research, as well as to correct the deficiencies and weaknesses of these prior studies.

With respect to industrial buying behavior, the literature review disclosed that one clearly needs to know what behavior people involved in the industrial buying process exhibit, before attempts are made to identify why they exhibit them. Also, the findings from the pre-test phase of the research supported conclusions from the study by Crow, et al. [pp. 34-44] that:

individuals in the buying centers used similar methods to systematically reduce the number of alternatives to be considered; that the procedure involved a heuristic process which involved successive applications of rules deemed appropriate; and that vendor bids were evaluated by using noncompensatory conjunctive decision rules, and a disjunctive decision rule with respect to the price quoted.

The historical belief that there were a set number of steps or stages that always occur in a specific chronological order is apparently unfounded. Thus buyers do not use just one simple evaluation model, but rather a combination of decision rules at various stages in the choice process.

Bonoma, Zaltman and Johnston [p. 17] summarized the literature dealing with industrial buying behavior; as follows:

1. An enormous amount of literature has been generated which does little to identify causal relationships or promote explanation of the industrial buying behavior process.
2. Many people in the area subscribe to a somewhat debatable and questionable set of assumptions about the underpinnings of industrial buying behavior.
3. There is a dearth of theoretical and empirical evidence for selecting and grading in importance the types of variables that have been singled out for analysis.
4. One finds little, if any, predictive power in current efforts to explain industrial buying behavior, which is complex and not easily subject to scientific scrutiny.

Concerning the area of market share models, this research recognized that different measures can produce different market share results, and that considerably more determinants of market

share change exist than have been reflected in many of the earlier studies in this area.

Chattopadhyay et al. [p. 129] concluded that the formulation of marketing strategy would benefit greatly from the development of a direct and actionable link between a firm's market performance goals and its marketing mix expenditure decisions. Also, the computation of differential advantage must be consistent with the market response function. The uncertainties of competitive response, the discontinuity of capital outlays, and the abrupt changes in primary demand may lead some to prefer a linear solution as a first approximation in addressing this goal [Cook, 1985, p. 140].

CHAPTER 3

RESEARCH DESIGN

This chapter outlines the research design used to gather the data required to test the various hypotheses identified in Chapter 1, as well as the methodology utilized during the course of the study. The chapter begins with a brief overview of the research process. Then, each of the following individual design components are examined in depth: description of the research methodology; framework for data collection; initial findings from the pre-test phase of the study; survey format; description of the hypotheses tested; and, summary.

OVERVIEW OF RESEARCH PROCESS

The research design described in this chapter consists of the following five components:

1. Research Methodology

This section outlines the underlying objectives that served as the bases for the research. In addition, the following procedures used to achieve these objectives are examined: external audit (identification of key variables and competitive analysis); internal audit; evaluation of customer perceptions; determination of market segments; and, identification of opportunities.

2. Framework for Collection of the Data

The purpose of this section is to identify the industry examined by the study and to describe the context and extent of the industry's channel. In addition, this section enumerates the

procedures used to derive: 1) key marketing attributes used by each level in the channel to evaluate manufacturers and/or vendors; 2) expected customer service and other quantifiable marketing service levels that are required by each echelon in the channel; and, 3) relevant demographic (dealer, end user and decision influencer characteristics and classification) information.

3. Initial Findings from Pre-test Phase of Study

Results from in-depth interviews with twenty-six firms are analyzed. The process used to select and question each firm is reconstructed, as well as the iterative process used to develop and refine each of the follow-up mail questionnaires that were sent to firms comprising each of the three distinct channel levels.

4. Survey Format

The purpose of this section is to review the development and contents of the three mail questionnaires as a whole, as well as individually. The specific objectives sought from each section of the mail questionnaires are also examined, as an introduction to Section Five.

5. Description of the Hypotheses Tested

An objective of this final section is to examine the rationale underlying each of the hypotheses that were tested in this study. In addition, statistical techniques used by the researcher to test hypotheses are reviewed.

DEVELOPMENT OF RESEARCH METHODOLOGY

The objectives of the study centered on two major research efforts: 1) the testing of key hypotheses related to the interaction of customer service with other components of the marketing mix; and, 2) the testing of a generalizable methodology that can be employed at the firm level to identify and implement competitively advantageous marketing strategies. Specifically, the research sought to:

1. Identify all of the variables related to product, price, promotion and physical distribution/customer service that were used by members of each of the following channel echelons when selecting and retaining vendors/suppliers in the office products industry.
 - a. Intermediaries (wholesalers and/or retailers).
 - b. Customers (end users).
 - c. Key decision influencers (architectural and design firms).
2. Determine the perceived importance of each of the decision variables used to select, evaluate performance of, and retain vendors/suppliers, from the perspective of each of the three channel echelons being surveyed.
3. Determine the perceived performance of the major manufacturers and their franchised dealers as a group, for each of the variables used by channel members to select, evaluate and retain vendors/suppliers.
4. Explain how intermediaries, customers and key decision influencers differed in their perceptions of both the

importance of variables, and vendor/supplier performance with respect to these same variables.

5. Identify if expectations of performance by manufacturers with respect to quantifiable marketing variables differed by channel echelons and/or identifiable market segments.
6. Determine the extent to which market share was influenced by the level of manufacturers' performance in the various services that comprised the marketing mix.
7. Resolve which components of the marketing mix (product, price, promotion or physical distribution/customer service) contributed the most to the share of business realized by the major vendors (manufacturers) serving the industry.
8. Ascertain which components of the marketing mix (product, price, promotion or physical distribution/customer service) contributed the most to the amount of their purchases that dealers, end users and key decision influencers would ideally prefer to allocate to manufacturers.
9. Identify target market segments of both intermediaries (dealers) and end users (customers) based on their perceptions of the importance of customer service and other marketing services.
10. Identify deficiencies in current marketing services and strategies provided by the major manufacturers to intermediaries, customers and key influencers.
11. Ascertain those marketing variables that, if changed, offered the best opportunities to improve profits and/or achieve a competitive differential advantage.

In order to achieve the foregoing objectives, the research employed the following sequential methodology:

1. External Audit (Identification of Key Variables and Competitive Analysis)

- a. Enumeration of Attributes: In-depth, personal interviews were held with twenty-six firms that either sold, purchased or recommended the purchase of office products. Firms were selected on the basis of their geographic location, annual dollar volume sold/purchased and the major brands which they sold. The objective was to obtain as broad a perspective as possible, so that the researcher could compile both comprehensive and meaningful questions for the subsequent mail survey portion of the research. A breakdown of the firms involved in this phase of the research is presented in Table 3.

Prior empirical research of topics related to customer service [Levy 1978 and Tucker 1980] relied on the Nominal Group Technique (NGT) developed by Delbecq, Van de Ven and Gustafson [1974] to complete the pre-test phase of the research. This process collects information from representatives of the industry and/or its customers by means of one or more highly structured focus group interview sessions. It requires the participants to refrain from communication with each other until after they have answered the specific questions posed by the interviewer (e.g., "what type of

TABLE 3
BREAKDOWN OF FIRMS INTERVIEWED IN PRE-TEST PHASE

GEOGRAPHIC LOCATION:	INTERMEDIARIES: WHOLESALEERS/DEALERS	CUSTOMERS: END USERS	KEY INFLUENCERS: ARCHITECTURAL & DESIGN FIRMS
Midwest	3	2	
Northeast	3	1	1
Southeast	2	2	
Southwest/Rocky Mountains	2	2	
West Coast	4	3	1
TOTAL	14	10	2
MAJOR BRANDS SOLD/PURCHASED:			
Manufacturer A	2	3	
Manufacturer B	4		
Manufacturer C	3	2	
Manufacturer D	2	2	1
Manufacturer E	3	2	1
Manufacturer F	8	7	2
Manufacturer G	6	1	
Manufacturer H	2	1	
Manufacturer I	6	2	1
Manufacturer J	5		
Manufacturer K	4	5	1
Manufacturer L	3	1	
	48*	26*	6*

*Each firm interviewed dealt with more than one manufacturer

Table 3 (cont'd.)

	INTERMEDIARIES: WHOLESALESALE/DEALERS	CUSTOMERS: END USERS	KEY INFLUENCERS: ARCHITECTURAL & DESIGN FIRMS
ANNUAL DOLLAR SALES/PURCHASES OF OFFICE PRODUCTS:			
Less than \$500,000		2	
\$501,000 to \$1,000,000		2	
\$1,100,000 to \$2,000,000		1	
\$2,100,000 to \$3,000,000	1	1	
\$3,100,000 to \$5,000,000	2	1	
\$5,100,000 to \$7,500,000	1		
\$7,600,000 to \$10,000,000	2		
\$10,100,000 to \$15,000,000	1		
\$15,100,000 to \$20,000,000	1		
\$20,100,000 to \$25,000,000	2		
\$25,100,000 to \$30,000,000	1		
Over \$30,000,000	1		
	<u>12**</u>	<u>7**</u>	

**Not all firms supplied these data

services are provided by manufacturer's?"). These ideas are first recorded in a round robin fashion and then each is discussed until a consensus is reached as to its importance. Levy [1978, p. 73] and Tucker [1980, p. 191] cited the following advantages to NGT: it assures different processes for each phase of creativity (fact-finding and evaluation); it balances participation among group members; the serial discussion of each service provides a preliminary pre-test for the wording of the customer services to be used in the subsequent mail questionnaires; and, it minimizes interviewer and interpersonal biases found in individual and group interviews.

Despite the preceding comments, this research did not utilize NGT as a pre-test vehicle for the following reasons:

- extensive research already exists in the development of specific customer service variables used by practitioners in industry (please refer to Chapter 2 of this dissertation).
- the pre-test phase of this study emphasized information collection which could best be obtained on a one-to-one basis (for example, specific wording of variables, additional variables that were unique to the industry being studied or attributable to only one echelon in the channel, specific service level components that were expected by each level in the channel, and comprehensive demographic data for each channel level).
- although NGT may be less expensive than personal one-on-one interviews, it is more difficult to arrange and schedule representative groups in a short-time frame, and also does not effectively utilize the skills of researchers who are

experienced and knowledgeable in the topic being studied (customer service).

- regardless of the comments made by previous researchers, the results of NGT can easily be derogated by one or two dominant individuals in the group (this can happen when top executives are mixed with middle range managers) .
- since three different channel echelons were investigated, it was important to solicit ideas individually from each level so that the unique attributes, expected service levels and demographic issues could be investigated in-depth, separately.
- prior studies conducted by the researcher [Lambert and Sterling, 1984; Lambert, 1985; and Sterling and Lambert, 1985] indicated that more meaningful and comprehensive questionnaires evolved through an iterative series of in-depth interviews (for example, additions, revisions and deletions are incorporated into subsequent interviews).
- the unique attributes of the researcher (that is, prior business experience in marketing, accounting, physical distribution and customer service, as well as extensive practice in dealing with all levels of industry management) were best utilized by in-depth, one-on-one interviews.

Several additional, distinct advantages of personal interviews also emerged during the course of the twenty-six in-depth personal interviews conducted by the researcher. It was possible to: actually observe interviewees while they filled out the "pre-test" questionnaire; probe for the underlying interrelationships and logic used to answer each question; and, to actually measure the time required to complete the questionnaire by a single individual. None of these techniques could have been effectively employed in a NGT environment. In addition, this study

examined competitive practices of a broad, representative sample of dealers, end users and architectural and design firms from an extremely competitive industry (office products). It would be both unrealistic and unwise to expect that representative groups of competitors could be assembled for a joint session as required by NGT.

The purpose of the pre-test phase was to identify all of the variables used by each level in the channel to select, measure and retain manufacturers/vendors of office products. Additional aspects of this phase are discussed in succeeding sections of this chapter.

- b. Mail Questionnaires: A mail questionnaire was used to gather the data required for testing the hypotheses proposed by the research. A separate questionnaire was sent to representative firms in each of the three channel echelons examined in the study: 1) intermediaries (wholesalers/dealers); 2) customers (end users); and, 3) key decision influencers (architectural and design firms). Each of the three questionnaires followed the same sequential format, as follows:

PART A contained the variables (attributes) used to select, measure and retain manufacturers and/or vendors.

PART B collected information concerning expected service levels required by each channel level/echelon from manufacturers/vendors.

PART C measured the perceptions of the individual channel levels with respect to manufacturers'/vendors' performances for the same variables analyzed in PART A of the questionnaire.

PART D identified meaningful demographic (characteristics and classification) data for each channel level and/or different market segment.

Three separate questionnaires were developed; one for intermediaries (wholesalers/dealers) that purchased office products from manufacturers; one for customers (end users) that purchased office products from manufacturers and/or dealers; and, one for key influencers (architectural and design firms) that recommended and/or actually selected manufacturers/vendors for client firms (end users). These questionnaires are found in Appendices A through C.

Specific processes used to: construct the respondent sample (mailing list); select attributes (variables) for parts A and C of the questionnaire; construct the information to be included in the expected service level (PART B) and demographic (PART D) portions; and,

mail the questionnaires are discussed at length in the following sections of this chapter.

The information obtained from the external audit phase of the research was used as input to both the "Internal Audit" and "Evaluation of Customer Perceptions" phases of the research, described in the following two sections.

2. Internal Audit

- a. Derive Existing Service Levels: Internal records and management reports of the cooperating firm were examined in order to determine existing service levels provided to intermediaries (wholesalers/retailers) and customers (end users). In addition, interviews were conducted with personnel responsible for managing the key service components identified in the external audit phase of the study. The scope of this investigation was to focus on those customer service and other marketing services which were perceived by the various channel levels as most important in the selection, measurement and retention of manufacturers/vendors (as determined from PART A of each questionnaire).

The objective of this phase was to determine: existing service levels for those variables that offered a potential competitive advantage if improvements were attainable; if and how performance was currently being measured and reported to management; and, the potential

impact that improvements or changes in marketing policies would have on overall market share.

3. Evaluation of Customer Perceptions

a. Determination of the Top Rated Vendor in Each Variable

Examined: Frequencies of PART C of the mail questionnaire were reviewed to identify the top rated vendor in each of the marketing services ranked by respondents.

b. Comparison of Vendor Rankings to Importance Ratings:

Frequency listings of PART A of the mail questionnaire were prepared. Those variables that were rated overall as "important" to "very important" were extracted for comparison to the vendor rankings developed in PART C. In this manner, it was possible to determine those variables for which no major manufacturer was providing outstanding levels of performance, and those for which only one or a very few vendors were providing satisfactory performance.

4. Determination of Managerially Useful Market Segments

Neither Levy [1978, pp. 160-162] nor Tucker [1980, p. 111] were able to construct managerially useful market segments. Levy attempted to differentiate segments on the basis of their unique customer service needs (perceived importance rankings of customer service attributes), as well as on various demographic data (for example, geographic location, sales volumes, and number of distribution centers operated by each wholesaler). It was

determined in all instances that managerially significant market segments could not be identified using any of several clustering approaches [Levy 1978, pp. 160-162]. In some instances (sales volume and geographic location), the results indicated that segments could be identified, but were unstable (that is, the results were different depending on which data set was used as input to the clustering algorithm). Levy concluded that the results in his segmentation analysis could also have been caused by the relatively small number of wholesaler respondents.

Tucker [1980, p. 111] also failed in her efforts to segment respondents on the bases of their ratings of customer service attributes and satisfaction with those same attributes, as well as on the functional relationship between activity (attribute) satisfaction, importance, and overall satisfaction. She was unable to test this hypothesis due to the small data base (response) sizes and heteroscedasticity of the data (non-equal error variances across all observations).

Even though prior research failed to establish non-uniformity of opinion among respondents, it is still desirable to develop such segments. The manufacturer must be able to devise programs to meet the potentially different physical distribution/customer service marketing and information needs of its customers [Levy 1978, p. 84]. Therefore, this research attempted to identify managerially useful market segments using a two stage approach:

- 1) Cluster algorithms were applied, similar to the methods employed by Levy [1978, pp. 160-161] in order to

identify broad based market segments within each level of the channel (that is, intermediaries and customers). The objective was to group each level in the channel so that they exhibited similar response patterns to marketing service attributes within groups, and different response patterns between groups.

- 2) Discriminant analyses were then performed using PART D data (key demographic information) as the independent variables, and the segments derived from the cluster process as the dependent variables.

Both of these techniques are described in greater depth in the last section of this chapter dealing with the testing of hypothesis No. 3 of the study.

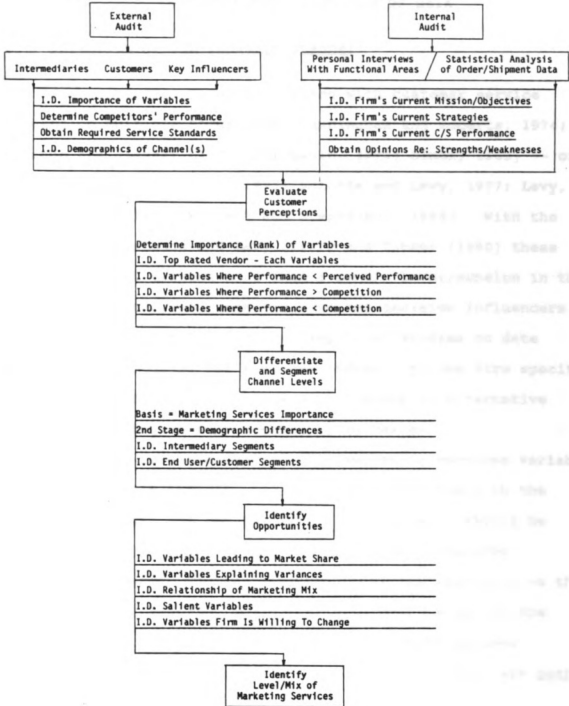
5. Identification of Opportunities

The final phase of the methodology represented a managerial approach to problem solving. It represented a summation and comparison of previous work undertaken in phases 1, 2 and 3, as well as the results from the statistical analyses performed in conjunction with the hypotheses tested in the research.

Using the relevant criteria identified in the external audit (phase 1) and evaluation of customer perceptions (phase 3), an overall analysis of the cooperating firm's performance and strategies with respect to its overall mix of marketing services was completed. The marketing services variables identified from this analysis were also compared to the variables that emerged from the testing of hypothesis 1 (share of business prediction

using regression), and hypothesis 2 (marketing mix relationship using factor analysis and regression). The objective of this phase was to identify those customer service and other marketing services that, if changed, offered the best opportunity for improved profit performance and/or additional share of business. The variables (marketing services) identified in this phase served as inputs to further research conducted outside this dissertation. The objective of this follow-up research was to identify specific packages of marketing services that offered the best opportunities for improvement. This was accomplished through conjoint analysis, in which survey respondents were asked to rank combinations of customer service and other marketing elements. This last phase will enable a firm to develop profit oriented service and marketing strategies, by quantifying trade-offs of marketing services. A flow chart of the methodology proposed and used by the study is described in Figure 1, attached.

FIGURE 1
METHODOLOGY FOR DEVELOPING MARKETING MIX PLANS



FRAMEWORK FOR COLLECTION OF DATA

1. Selection of the Industry/Channel

Past empirical research dealing with customer service focused on multiple industries [Cunningham and Roberts, 1974; LaLonde and Zinszer, 1976; Perreault, 1973; Simon, 1965] -- or a single industry [Gilmour, 1977; LaLonde and Levy, 1977; Levy, 1978; Tucker, 1980; Willett and Stephenson, 1968]. With the exception of LaLonde and Levy [1977] and Tucker [1980] these studies did not examine more than a single level/echelon in the marketing channel, and none included key decision influencers in their analyses. In addition, no empirical studies to date extended the findings for a unique industry to the firm specific level, where actual conclusions with respect to alternative marketing strategies must eventually be tested.

Empirical research dealing with marketing services variables should focus on a specific industry, multiple levels in the marketing channel and the results of the research should be related to the performance and strategies of a specific manufacturer/vendor in the industry. This approach enables the researcher to: identify and accurately describe all of the variables used in the decision process; identify salient (determinant) variables; and, obtain conclusions that are both generalizable and managerially useful.

Based on this reasoning, the office products industry was selected as the focus of the study. The industry was highly competitive, in the growth stage of the product life cycle, and was characterized by continual product innovation. Due to the intense competitive environment, customer service appeared to be particularly important to those firms that attempted to achieve competitive differential advantages through their marketing strategies.

The majority of finished product was shipped to franchised dealers by each of the approximately twelve to fifteen major manufacturers. It was common for dealers to handle competing brands, although very few sold more than one brand of the leading four manufacturers. These four manufacturers accounted for over half of the total market share for this industry. In addition, most of the major manufacturers utilized more than one dealer in major metropolitan markets (for example, New York, Atlanta, Dallas, Los Angeles). All of the major manufacturers also operated "showrooms" in ten to fifteen major metropolitan markets throughout the United States and Canada. These showrooms displayed each firm's products in an office setting, as well as served as the base for district or territory salesmen who called on dealers and key end user accounts.

Approximately sixty to seventy percent of each manufacturer's product was made to order -- these customized products were sold as a result of contract/project bids that were negotiated either by dealers or the manufacturer with end user firms (for example, manufacturing firms, financial institutions,

insurance companies). The average lead time for made to order contract/project orders ranged between eight and twenty weeks, depending on both the manufacturer and the backlog in orders at any given point in time. The balance of each firm's product (thirty to forty percent) were manufactured for inventory. All of the major manufacturers offered some type of "quick ship" order program for base line, in-stock merchandise, which typically required one to two weeks to receive after the order was placed.

Most of the major manufacturers also sold directly to large end users who desired to deal directly with the manufacturer, rather than through franchised dealers. Some of the manufacturers discouraged or minimized direct sales for fear of weakening their franchised dealer base. Others actively sought this business, but normally rebated a portion of their gross margin profits back to the dealer in the form of a "fee" for servicing these "national" accounts locally. The majority of direct sales occurred as the result of large, one-time contracts/project orders that had been awarded on the basis of competitive bidding.

The industry was further characterized by key decision influencers (architectural and design firms) that actively participated in the selection of manufacturers' products and local dealers to service the account on large installations (primarily involving new office building construction). "A & D" firms created a dichotomy within the industry. They served as a significant source for large volume orders to a manufacturer who

catered to this market segment -- however, over-reliance on the part of dealers or manufacturers could depress normal operating profit margins. A & D firms typically sought the absolute lowest price during the negotiation/bidding process, and/or split a contract between several manufacturers if an opportunity existed to reduce the cost of the total package price.

Thus, the marketing channel structure for this industry contained multiple echelons. As a result, products could move through several different logistics channels. It was a large industry with many firms involved at each stage in the channel, and included a unique opportunity to examine interactions among/between several different echelons simultaneously. In addition, mailing lists of dealers, customers (end users) and key influencers (A & D firms) were readily obtainable.

2. Procedures Used to Derive Survey Format

Separate questionnaires were developed and mailed to each of the three echelons involved in the channel under review: wholesalers/dealers; customers (end user firms); and key decision influencers (A & D firms). Seven hundred forty seven (747) dealers who sold products manufactured by one of the four largest manufacturers were surveyed. Nine hundred seventy nine (979) end user customers who purchased and installed office systems products were also surveyed. End user firms were selectively chosen so that all geographic areas were represented, a broad spectrum of industries were included, and varying sizes of projects (in dollars) were incorporated into the sample.

Eight hundred and three (803) architectural and design firms (key decision influencers) who regularly did business with the four largest manufacturers, as well as the other major producers, comprised the last questionnaire category. Again, respondents were selected so that all geographic areas were represented, all the one hundred top dollar volume interior design firms (as identified annually by Interior Design Magazine) were included, and a representative group of smaller, regional firms were chosen.

The following three sub-sections describe the framework that was utilized to construct the major categories of each questionnaire: 1) key marketing services (variables) used to select, measure and retain vendors; 2) expected marketing service levels required by each echelon in the channel; and, 3) demographic (characteristics and classification) information.

- a. Key Marketing Variables (Attributes) Used: There are two primary techniques that researchers can use to identify, select and construct variables for inclusion in surveys. One approach is to rely on the variables used in past research. The other procedure is to construct new variables using a pre-test research/interview process, which may or may not use variables derived from past research.

A preliminary objective of this study was to identify an exhaustive and comprehensive list of customer services and other marketing services that were used by

each of the three channel levels being studied to select -- measure performance of -- and retain vendors (manufacturers and/or wholesalers/retailers). In addition to deriving all relevant criteria, this process also sought to: construct terminology for the variables that were specific to the industry and readily understood by all respondents; develop variables that acknowledged the unique requirements and practices of each channel echelon surveyed; and, select variables that reflected a broad perspective of services involved in all four components of the marketing mix (product, price, promotion and physical distribution/customer service).

Based on the experience of the researcher and a review of the prior research, it became evident that this study could not rely on past research for the variables to be included in the questionnaires. This belief was further supported by the following facts:

- * Most of the variables used in past empirical research were found to be too general or broad in their context. As a result, respondents in the pre-test phase had difficulties in interpreting the meaning and significance of the variables for their industry.
- * When studying different levels in a marketing channel, many variables will be unique to a single echelon, while others may apply to more than one group.
- * Tucker [1980, p. 111] concluded from her research that ambiguous, vague and non-channel specific variables were probable causes for "no opinion"

and/or "not applicable" responses and heteroscelasticity of other responses.

- * Prior empirical studies emphasized the role of customer service, frequently in isolation from the other components of the marketing mix. Thus, many of the variables required for this integrative study were ignored by these previous efforts.

To insure that both reliable and managerially interpretable data were collected, the following sequential process was followed in developing the final construction of the attributes (variables): Levy's [1978, pp. 240-243] list of 71 customer service attributes was used as a starting point, since it was the result of extensive research and testing. Twenty-six of these variables were eliminated from this study because they were either too specific to the industry (prescription drugs) which he explored, or were found to be inapplicable during the pre-test. Of the remaining 45 attributes, thirty-eight underwent extensive rewording during pre-test interviews with participating firms (wholesalers/ dealers and customers).

Both the researcher and his chairman had extensive experience in planning and managing research related to customer service and other marketing services. Therefore, they were able to add twenty-two variables to those compiled by Levy prior to the pre-test phase of the study. In addition, management of a leading firm in the industry reviewed the sixty-seven

preliminary variables (45 from Levy's list and 22 conceived by the researcher and his chairman). Marketing and logistics personnel of the firm were able to provide additional variables that they believed should be measured, as well as suggest several that applied to the specific industry. Thus, the initial interviews in the pre-test phase were conducted using a total of 85 variables.

During the course of the twenty-six in-depth, pre-test interviews another fourteen attributes were identified for use on the wholesaler/dealer questionnaires. In addition, extensive rewording of virtually every variable occurred as a result of the iterative process that resulted from the various series of pre-test interviews.

A similar process was followed for the other two questionnaires involving customers (end users) and key decision influencers (A & D firms). A total of eighty-eight and eighty-two variables, respectively, evolved from the pre-test interviews for these two questionnaires. However, a noticeable change in the mix of sources occurred. A much higher percentage of the final variables evolved from the interviews themselves (for example, 24 of the 88 end user questions originated with pre-test interviews, and 21 of the 82 A & D firm questions).

One other factor should be noted. Prior research has primarily emphasized the customer service component of the marketing mix when constructing marketing services variables. For instance, half of the forty-five variables used in this research that originated with Levy [1978, pp. 240-243] represented variables involving either customer service or physical distribution activities. The balance were in reality services more accurately related to the other components of the marketing mix (product, price and promotion). However they were classified by both Levy [1978, pp. 239] and Tucker [1980, pp. 142-147] as customer service. This research expanded the narrow view that all services provided to customers represent "customer service", by:

1. Seeking measurements on a broad range of services from all four components of the marketing mix, and
2. Identifying these variables in the broader context of "marketing services."

Of the final ninety-nine variables included in the questionnaire for wholesalers/dealers, one-third (33) represented customer service/physical distribution services, 22 were product related, 28 were promotion related and 16 concerned price. A summary of both the sources for the variables used in all three questionnaires, as well as their allocation to the four marketing mix components, is reported in Table 4.

TABLE 4
COMPOSITION AND SOURCES OF VARIABLES
USED ON MAIL QUESTIONNAIRES

	MARKETING MIX COMPONENT				P.D.
	TOTAL	PRODUCT	PRICE	PROMOTION	
<u>WHOLESALE/DEALERS</u>					
Levy (with little or no revisions)	7	-	1	2	4
Levy (with major revisions)	38	4	12	4	18
Sterling/Lambert	22	7	5	4	6
Sponsoring Firm	18	6	5	6	1
Pre-test Generated	14	5	5	-	4
	<u>99</u>	<u>22</u>	<u>28</u>	<u>16</u>	<u>33</u>
<u>END USERS (CUSTOMERS)</u>					
Levy (with little or no revisions)	7	-	-	2	5
Levy (with major revisions)	26	3	5	4	14
Sterling/Lambert	18	7	1	4	6
Sponsoring Firm	13	6	2	4	1
Pre-test Generated	24	7	10	2	5
	<u>88</u>	<u>23</u>	<u>18</u>	<u>16</u>	<u>31</u>
<u>A & D FIRM (KEY INFLUENCERS)</u>					
Levy (with little or no revisions)	7	-	-	2	5
Levy (with major revisions)	25	3	4	4	14
Sterling/Lambert	16	6	1	4	5
Sponsoring Firm	13	6	2	4	1
Pre-test Generated	21	7	8	2	4
	<u>82</u>	<u>22</u>	<u>15</u>	<u>16</u>	<u>29</u>

- b. Expected Service Levels Required by Respondents: The questions included in PART B of each questionnaire were derived from the researcher's prior business experiences, as well as from a search of the literature for the quantifiable variables used to measure and manage the customer service, physical distribution and marketing activities in actual firm settings. During the course of the pre-test interviews, refinements were made to each question so that they would be readily understood by prospective mail respondents, and be specifically tailored to the practice of the industry under review.
- c. Relevant Demographic (Characteristics and Classification) Information: The financial data sought in each questionnaire were sourced from research previously performed by the researcher and his chairman for the National Association of Accountants with respect to how firms abandon stock keeping units, products and product lines [Lambert, 1985]. The balance of the questions evolved during the course of the pre-test interviews. Thus it was possible to construct demographic questions both comprehensive in their scope, and uniquely tailored to the specific characteristics of the office products industry. Separate demographic questions were developed for each channel echelon in this manner.

INITIAL FINDINGS FROM PRE-TEST PHASE OF STUDY

The pre-test phase of the research is analyzed from three perspectives: the process used to select and question each of the participating firms; the iterative techniques used to develop and refine questions in each section of the three follow-up mail survey forms; and, the results generated by the pre-test interview phase.

1. Process Used to Select and Question Each of the Participating Firms

The objectives of the researcher in conducting in-depth interviews were twofold: to gain knowledge and insights into the office products industry, so that the ensuing research would be both meaningful and useful; and, to construct comprehensive and incisive questions in all sections of subsequent mail questionnaires. It was concluded that approximately twenty to twenty-five firms should be targeted for interviews. All major geographic areas of the United States were represented so that any differences due to this variable could be detected, and so that no one part of the nation could distort the data collected from this phase. To accomplish this, two each, dealers and end users were targeted in the following areas: the Northeast (New York metropolitan area); Southeast (Atlanta region); Southwest/Rocky Mountains; West Coast (Southern California); and, Midwest (Michigan). Three additional firms (one end user and two dealers) were included in the West Coast interviews because this market was the fastest growing segment, the largest volume user

of office products, and typically set trends in design and applications of the product.

Wholesalers/retailers who sold products manufactured by each of the four major manufacturers were selected at random from the Yellow Pages of the phone directory for each area analyzed. The primary person contacted in each of the firms was the Vice President or General Manager of Sales/Marketing. In all, fourteen of the seventeen dealers contacted by phone agreed to the interview.

A total of twelve customer firms (end users) and, key decision influencers (architectural and design firms) were also interviewed during the pre-test phase of the study. Companies were suggested to the researcher for each geographic area by the cooperating firm. These companies were selected so that a multiplicity of industries were included in the potential list. In all cases, the individual contacted was either the purchasing agent responsible for office products acquisitions, or the facility manager of the firm.

2. Iterative Technique Used to Develop and Refine Questions

A total of eight revisions were made to each questionnaire before the final drafts were completed. This process occurred after each successive set of interviews, as well as after several group planning sessions with the cooperating firm. Consequently, the wording of all variables, expected service level requirements and demographic data evolved through a continual interaction with all levels in the channel: manufacturer, wholesalers/dealers, customers (end users) and key decision influencers. Each

interview was tape recorded and lasted approximately two to two and one-half hours. Participants not only filled in the latest version of the questionnaire, but also provided comments with respect to the comprehension, interpretation and relevance of all questions. They were specifically encouraged to offer suggestions on possible questions that should be added or deleted, as well as their opinion regarding the probability of firms in general answering a mail questionnaire of the type and length used in the pre-test interviews.

3. Results from In-depth Interviews

Several useful conclusions were derived from the twenty-six personal interviews conducted during the pre-test phase of the research:

- a. The original variables, derived both from prior research, as well as from the personal experiences of the researcher and his chairman, required extensive rewording in order to provide the clarity required in a mail questionnaire. This confirmed Tucker's [1980, p. 111] comments that ambiguous, vague, and non-channel specific variables were probable causes in her research of "no opinion" and "not applicable" responses and heteroscedasticity of other responses.
- b. The customer (end user) and key influencer (A & D firm) questionnaires utilized a much higher proportion of variables originating from the pre-test interviews,

than did the intermediary (wholesaler/retailer) questionnaire:

TABLE 5
PROPORTION OF VARIABLES DERIVED FROM
PRE-TEST INTERVIEWS

	NO. OF TOTAL VARIABLES	% DEVELOPED FROM INTERVIEWS
Wholesalers/Retailers	99	14%
End Users	88	27%
A & D Firms	82	26%

This suggests that prior research has concentrated more on the immediate contact (for example, wholesalers) in the manufacturer's channel of distribution to the possible detriment of the requirements of multi-echelon channels.

- c. For those marketing variables rated as to their importance by at least 80% of the twenty-six firms, the physical distribution/customer service category consistently received higher ratings than any of the other components of the marketing mix. For example, twelve of the twenty variables receiving mean scores of six or more on the wholesaler/dealer interviews were Customer Service related questions. Of the top 16 variables in each marketing mix category, Customer Service variables achieved an average score of 6.2 (out of a possible 7 points) -- while the other components

earned the following average scores: Product (5.1); Promotion (4.7); and Price (5.3). The differentials in scores on the end user surveys were very similar to those just enumerated. Because this sample was small and non random in nature, these findings could not be generalized. However, they supported the researcher's contention that customer service is very important in developing effective marketing strategies.

- d. Most firms (wholesaler/retailer and end user) ranked over all competitiveness of price as very important (6 or 7 on a scale of 7). However, additional discussions with each firm's representatives, disclosed that the final bids submitted by competing manufacturers and/or dealers in most instances varied little in their bottom line costs to prospective users. Thus, price appeared to be an initial barrier to enter the market (submit bids), but not a salient dimension in selecting eventual suppliers.
- e. A wide array of expected service requirements as well as demographic questions emerged from the pre-test interviews. A review of previous research [Levy 1978, pp. 256-257; Perreault 1978, pp. 213-214; Rogers 1979, pp. 31-34; Tucker 1980, pp. 205-206; and Wilson 1974, p. 231] disclosed that relatively little information was sought with respect to expected service requirements and demographic data in their survey

instruments. This may have partially accounted for both their failures to establish meaningful market segments and their inability to test key hypotheses. Conversely, the relationships involving these data were successfully established in this research.

- f. The initial survey form prepared by the researcher for review with the cooperating firm and subsequently with the pre-test firms contained a large proportion of variables related to physical distribution/customer service (twenty-nine variables out of sixty total items). This was due to the fact that prior research heavily emphasized customer service variables when studying the buying decision. However, the interviews conducted during the pre-test phase of the research supported the basic contention of the researcher that the buying decision was, in fact, a multidimensional decision process. For instance, the final questionnaire for wholesalers/dealers that evolved from the pre-test phase reflected a total of ninety-nine variables of which thirty-three were related to physical distribution/customer service. Thus, while only four additional variables were added to this category during the pre-test interviews, thirty-five new variables were added to the original thirty-one variables related to product, price and promotion. This finding also supported another basic premise of the research that customer service cannot and should

not be examined in isolation from the other components of the marketing mix.

- g. The original plan conceived for this study called for the Phase 1 data (external audit) to be collected in two separate questionnaires. However, discussions with various pre-test firm representatives indicated that they would prefer to receive one longer questionnaire, rather than two separate surveys spread over several months time. They also indicated that they would take the time to answer a combined questionnaire as proposed by the research, providing they were properly approached, and promised a copy of the research findings. The reason most frequently cited for this attitude was the lack of meaningful data and knowledge available to marketers and purchasers alike in the office products industry. The results of the mail survey supported this finding. Response rates of all three groups were higher than anticipated, even though the questionnaire was twelve pages in length and required approximately two hours to complete.

SURVEY FORMAT

This section reviews the overall construct of the three mail questionnaires in total, as well as highlights key differences between each form. As an introduction to the next, and last section of the chapter, this section concludes with a review of

the specific objectives derived from the questionnaire phase (external audit) of the research.

1. Review of Questionnaire Format

As previously stated in the first section of this chapter, concerning the external audit phase of the research, each of the three questionnaires were divided into four parts:

PART A requested respondents to rank the importance of the variables/services provided by manufacturers/vendors on a scale of 1 to 7 (one being "not important," and seven equalling "very important"). They were asked to base their rankings on the number that best expressed the importance to their firm of each of the variables used to select and retain vendors. If a factor was not applicable, not used by the firm, or possessed very little weight in their evaluation of suppliers, respondents were instructed to circle the number "1." A rating of "7" (very important) was reserved for those factors that both possessed significant weight in their evaluation of suppliers, and also caused the respondent firm to reevaluate the amount of business done with the vendor in the event of inadequate performance. A listing of the variables used in this part of each questionnaire may be found in Appendices A, B, and C. Seventy-seven of the 99 variables used in the wholesaler/dealer questionnaire were also used in the end user survey form. An additional eleven unique variables

were added to these common attributes to achieve the 88 variables included in the final end user list.

PART B instructed respondents to provide information with respect to the levels of customer service that they required and/or expected from suppliers of office products. These data represented all of the marketing services that could be readily quantified and requested information with respect to: the minimum number of sales calls required from manufacturers' and/or dealers' sales representatives during a typical year; the advance notice required (and received) on price changes; the minimum dollar value of an order that should qualify for a quantity discount; the methods currently used to transmit orders to suppliers; the total average order cycle (lead time) required as well as the acceptable range (variation/delay) in lead time that was acceptable; the minimum order completeness service level that was acceptable; the advance notice preferred prior to arrival of orders; preferred options in the event an order could not be shipped by the committed delivery date; the length of time that manufacturers and/or dealers were expected to hold an order in the event of a delay requested by their customers; the estimated percentage that they believed total firm revenues would decrease in the event they were to lose their major vendor as a supplier; and, terms of payment preferred.

PART C repeated the variables listed in Part A of each questionnaire. In this instance, respondents were requested to evaluate the performance of their four major suppliers who accounted for a majority of their purchases of office systems and furniture product. Vendors (suppliers) were ranked on a seven point scale (1 equaling "poor performance" and 7 equalling "excellence performance").

PART D required respondents to provide the researcher with dealer/customer/key influencer characteristics and classification information, so that market segments could be identified and more meaningful analyses of the previous sections could be obtained. Each of the three respondent group sections contained demographic related questions unique to the specific channel level involved, as follows:

DEALER CHARACTERISTICS AND CLASSIFICATION INFORMATION

1. Annual sales volume.
2. Average rate of sales growth.
3. After tax profit.
4. Average gross margin.
5. Assets represented by inventory and accounts receivable.
6. Percent of facility space devoted to sales/display and warehousing activities.
7. Number of major, on-going accounts served.
8. Number of selling locations employed.
9. Number of people employed in direct selling and indirect sales support activities.
10. Number of vendors added and deleted during the past year and five years.
11. Percentage of business by market segment.
12. Zip Code.

END USERS CHARACTERISTICS AND CLASSIFICATION INFORMATION

1. Annual sales volume.
2. Number of employees who work at functions requiring office systems and furniture.
3. Percent of office systems and furniture acquired by contract bidding, yearly blanket orders, long-term contractual agreements, etc.
4. Annual purchases of office systems and furniture.
5. Percent of annual purchases secured from manufacturers, dealers and A & D firms.
6. Source normally contacted initially when contracting for office systems and furniture (manufacturer, dealer or A & D firm).
7. Typical discount from published list price normally secured.
8. Specification of the selection process/technique used to select vendors of office systems and furniture.
9. Industry classification.
10. Zip Code.

A & D FIRMS CHARACTERISTICS AND CLASSIFICATION INFORMATION

1. Square feet of interior office space planned yearly.
2. Annual dollar value of office systems product specified for clients.
3. Number of contracts/projects specified annually.
4. Number of people employed as project directors, designers, other billable staff and non-billable staff.
5. Approximate discount from published retail price normally secured.
6. Percent of office systems and furniture specified as the result of competitive bidding, yearly blanket orders, long-term contractual agreements, etc.
7. Source normally used (manufacturer versus dealer).
8. Number of dealers regularly used.
9. Percent of business specified by industry classification.
10. Zip Code.

In addition, all three respondent groups were asked to list both their current and ideal/preferred percentages of business allocated to each of the major manufacturers in the office systems and furniture industry, as well as to provide their overall evaluations of the performance of each of these manufacturers.

2. Specific Objectives of Each Questionnaire Section

- a. PART A (Importance of Marketing Services): The objective of the questionnaires' initial section was to identify both the relevance and perceived importance of the elements of each component of the marketing mix (product, price, promotion and physical distribution/customer service) when selecting and retaining vendors/suppliers -- from the perspective of intermediaries (wholesalers/dealers), customers (end user firms) and key decision influencers (architectural and design firms).
- b. PART B (Expected Customer Service Performance and/or Standards): The objectives of the second part of the questionnaire were to establish requirements (expectations) of respondents (intermediaries, customers and key influencers) with respect to quantifiable marketing services variables provided by vendors (suppliers) of office product, and to provide the data necessary to measure overall satisfaction of each channel level with these same vendors.
- c. PART C (Evaluation of Manufacturers' Performance): The objective of the third part of the questionnaire was to determine the perceived performance provided by the industry's major manufacturers (suppliers) for each of the marketing services included in PART A of the survey.
- d. PART D (Dealer Characteristics and Classification Information): The objectives of the final part of the questionnaire were two fold: To identify managerially useful market segments of intermediaries and customers based on demographic variables (for example, geographic location, customer type, sales volume, customers served); and, to compare these market segments to those segments developed on the basis of their unique customer service and other marketing services needs.

Using the data collected from each part of the questionnaires, all of the foregoing objectives were satisfied by testing the various hypotheses addressed in the next section of this chapter.

DESCRIPTION OF HYPOTHESES TESTED

The last section of this chapter deals with the hypotheses tested in the research. First, each hypothesis is stated, then

the rationale underlying the need for each is explained, and finally, the statistical technique that was used to test and resolve the validity of the research question is reviewed.

FIRST HYPOTHESIS

H_{01A}: There is no significant relationship between: 1) the share of business realized by manufacturers; and, 2) evaluations by intermediaries (wholesalers/dealers), customers (end users) and key decision influencers of vendors' (manufacturers) performance with respect to the variables used to select and retain vendors.

H_{01B}: There is no significant relationship between 1) the share of their business that respondents would prefer to allocate to manufacturers under ideal conditions; and, 2) evaluations by intermediaries (wholesalers/dealers), customers (end users) and key decision influencers of vendors' (manufacturers) performance with respect to the variables used to select and retain vendors.

The objectives of these hypotheses were to determine if superior performance by manufacturers with respect to their marketing services contributed to increased market share. A separate series of tests were performed for each of the three respondent groups, as follows:

1. "Relative" share of business was computed for each manufacturer/vendor by dividing the largest manufacturer's share (as reported in Part D of the questionnaire by each respondent) into the remaining smaller manufacturers' share percentages. (The manufacturer with the largest share was assigned a value of one.) The logic for this method was explained in detail and validated empirically by Buzzell [1981, pp. 138-139]. It was also tested in this research by performing parallel regressions as outlined for this hypothesis, using absolute share values and relative share ratios. Consistently higher R²'s were obtained when relative share computations were used. This technique was also used in testing Hypothesis H₀₂ in this research.
2. SPSS Stepwise multiple regression [Nie, et al., pp. 345-347] was carried out using the "relative" share of business for each of the fifteen major vendors as the

dependent variable. The independent variables represented all of the variables ranked by each respondent group:

- * 99 variables for intermediaries (dealers).
- * 88 variables for customers (end users).
- * 82 variables key decision influencers (A&D firms).

3. The values for these independent variables were derived by multiplying the normalized importance ranking of each marketing variable from PART A of the questionnaire -- by the normalized score of respondents' beliefs with respect to each vendor's performance (PART C) for each of the variables identified in PART A of the survey. (This new multiplicative variable is henceforth referred to as "A * C".) Multi-attribute models of buyer behavior, such as the formula used in this research, are also referred to as "linear expectancy value" models. They state that overall satisfaction or belief is some algebraic function of importance and satisfaction (or performance) [Hansen, 1976; Wilkie and Pessemier, 1973]. The most common equation, and the one used in this research is stated as follows:

$$A_{jk} = \sum_{i=1}^M (I_{ik} * B_{ijk})$$

where: i = an attribute (marketing variable)
 j = a brand (or manufacturer)
 k = a customer, end user (or respondent)

so that A_{jk} = respondent k's attitude score for brand/
 manufacturer;

I_{ik} = the importance weight given attribute/
 variable i by respondent k;

B_{ijk} = customer/respondent k's belief as to the
 extent (level) to which attribute/
 variable i is performed by brand/
 manufacturer j.

Linear expectancy models such as the one outlined herein have been shown, empirically, to outperform more intricate models [Bass and Wilkie, 1973; Hansen, 1976].

4. All PART A and PART C variables were normalized as outlined by Bass and Wilkie [1973, pp. 265-268], by using the following formulas:

IMPORTANCE WEIGHT (PART A VARIABLES)

$$IN_{ik} = I_{jk} \leq iI_{ik}$$

BELIEFS/PERFORMANCE (PART C VARIABLES)

$$BN_{ijk} = B_{ijk} \leq jB_{ijk}$$

where:

i = individual attribute (variable)
 j = individual vendor
 k = individual respondent
 IN = normalized importance weight
 BN = normalized performance/belief

The use of normalized data results in: less distortion in diagnostic conclusions by revealing more dimensions of attitude structure; a meaningful increase in the average number of significant attributes; and, leads to significant increases in r^2 [Bass & Wilkie, pp. 266, 268].

5. SPSS Stepwise multiple regressions were performed on two different share of business levels for each respondent group:
 - a. Relative share ratios as currently allocated to manufacturers by respondents.
 - b. Relative share ratios that respondents would prefer to give to each manufacturer under ideal conditions in the future.

SECOND HYPOTHESIS

- H_{02A}: The marketing mix components (product, price, promotion and physical distribution/customer service) contribute equally to the share of business received by vendors (manufacturers) from dealers, end users and key decision influencers.
- H_{02B}: The marketing mix components (product, price, promotion and physical distribution/customer service) contribute equally to the share of their business that dealers, end users and key decision influencers would prefer to allocate to vendors (manufacturers).

The purpose of these two hypotheses were to determine if physical distribution/customer service played an equal or more important role than the other elements of the marketing mix (product, price, promotion) in the overall share of business

currently and prospectively achieved by vendors (manufacturers).

These hypotheses were evaluated using factor analysis, as follows:

1. R technique factor analysis, utilizing Varimax (orthogonal) rotation, was completed for all PART C variables for each respondent group, utilizing the SPSS computer package [Nie, et al., pp. 468-514], as follows:
 - a. STAGE ONE: The variables used in Part C of each respondent group's questionnaire were segregated a priori into four sub-sets approximating the four components of the marketing mix (product, price, promotion and physical distribution/customer service). Factor analyses were performed on each of the four sub-sets for each of the three respondent groups. "Interim variables" were identified for each marketing mix category by selecting variables with factor loadings of 0.5 or greater -- on those factors which accounted for 95% of the variance.
 - b. STAGE TWO: All of the "interim variables" described in a., above, were aggregated into one, combined subset for each respondent group. In addition, variables from the stepwise multiple regression in H_{01} were compared to the variables identified in stage one of the factor analysis. As a result several variables with high R^2 values were identified which did not emerge from the factoring process. These were added to the stage one factor process. This new, combined, reduced set was then factor analyzed a second time to arrive at a final set of factors and key variables.
2. An internal consistency "Coefficient Alpha" test was performed on the reduced sets of key variables derived from the two stage factor analysis described in 1, above. The purpose of this technique was to eliminate inconsistent variables and thus derive a "reliable set" for subsequent use in multiple regression, clustering and discriminant analysis procedures. The formula used in this process was proposed by Peters [1979, p. 8].
3. Using this final reduced set of "key variables" stepwise multiple regression was executed. The dependent variable consisted of both "relative" current and ideal/preferred share of business for each of the fifteen major manufacturers/vendors. The independent variables were computed by creating a unique weighted

score for each of the reduced sets of key variables derived from the factor analyses. This weighted score was derived by computing a mean (average) score of performance from PART C of the questionnaire for the "reliable set" of variables in each factor. This mean "performance" score was used in assigning an overall value to the marketing services identified by the factor analysis process.

4. Two separate regressions were performed for each respondent group (dealers, end users and key decision influencers). The dependent variable in each situation was varied to correspond with the market share statements in H_{02A} and H_{02B} .
5. H_{02A} and H_{02B} were tested using the Beta score of each overall factor value derived in 3, above, and a Student's t test.

Both hypotheses H_{02} and H_{03} were initially analyzed by using factor analysis because: 1) the number of variables for further research can be minimized while the amount of information in the analysis is maximized; 2) factor analysis can be used to search data for qualitative and quantitative distinctions, when the amount of data is so large as to be beyond comprehension; and, 3) it can test hypotheses if a domain is hypothesized to have certain qualitative and quantitative distinctions [Stewart, 1981, p. 51]. Certainly these functions applied to this research in which 99 variables were rated as to their importance by 562 respondents, as well as up to four vendor performance evaluations of each variable by each respondent. In addition, the a priori assignment of marketing mix variables to one of four marketing mix components is a direct effort to verify certain given distinctions.

Both Aaker [1980] and Stewart [1981] cited the following objectives of factor analysis:

1. Seek to establish dimensions within the data by studying the interrelationships among variables.
2. With respect to marketing, identify the important dimensions (qualitative data) by which people or products may be differentiated.
3. Reduce the number of variables in a study (without great loss of information) to a more manageable set.
4. Identify underlying constructs in the data that may have practical and theoretical significance.
5. As a preliminary before regression analysis so as to reduce multicollinearity and/or improve prediction.

Varimax (orthogonal) rotation is generally preferable, because it searches for a set of factor loadings wherein each factor has some loadings (correlation) close to zero and some close to -1 or +1. This relationship indicates a clear association between the variable and the factor, (that is, it maximizes correlation within a factor) and it also minimizes multi-collinearity among/across factors (that is, the resulting factor scores are linearly independent). This feature is particularly important when the resulting factors containing a reduced number of variables are used in subsequent multiple regression and clustering analyses. Stewart [1981, pp. 56, 59, 61] summarized his discussion by stating that the empirical evidence comparing the several types of factor analyses does not support the commonly held conclusion that the choice of technique is crucial to the final result. In other words, the type of analyses or rotation method does not appear to be critical to the final solution in most situations. Also, the findings of studies suggest that over-factoring by one or two factors has less severe

consequences for the final solution than does taking too few factors.

The final factor solution evolving from this phase of the research was used to derive a manageable set of "key" variables, which in turn served as input data to subsequent multiple regression, clustering and discriminant analyses which are described throughout Chapters 3 and 5.

THIRD HYPOTHESES

- H_{03A}: Unique groups of intermediaries (wholesalers/dealers) and customers (end users) cannot be identified on the basis of their ratings of the importance of marketing services provided by vendors (manufacturers).
- H_{03B}: There are no statistically significant differences in demographic (respondent characteristic and classification) data reported by each market segment group identified in H_{03A}.

This final set of hypotheses was included in the research in order to determine if managerially useful market segments could be identified on the basis of the unique demographics of respondent groups. In so doing, it was possible to discover if these market segments differed from each other in their perception of the importance of the marketing services provided by manufacturers.

1. A two stage clustering procedure similar to the one proposed by Punj and Stewart [1983a, p. 145] was employed to cope with the problem of determining starting points in the form of "a priori" descriptions of expected clusters. In the first stage, a hierarchical method which has demonstrated superior performance (Ward's minimum variance) was used to obtain a first approximation of a solution. By examining the results of this preliminary analysis, Punj and Stewart [1983a, p. 145] said that one could determine both a candidate number of clusters and a starting point for the iterative partitioning process.

In addition, this preliminary analysis was used to examine the order of clustering of various observations and the distances between individual observations and clusters. Thus "outliers" (extraneous variables that did not fit any of the identified clusters) were eliminated from further analysis.

The remaining cases were then submitted to a second stage, iterative partitioning analysis for refinement of the clusters, using the CLUSTAN two stage cluster analytic software package. Due to the large size of the sample developed by this research (562 respondents), the major deficiency (small sample size) encountered by Levy was avoided in this study.

The objective of the clustering routine was to group dealer and end user respondent groups so that they exhibited similar response patterns to PART A attributes (importance rankings) within groups and different response patterns between groups. Factor scores of the reduced set of key PART A variables (importance rankings), rather than the raw ranking values, were used as inputs to the cluster analysis in H_{03A} in order to reduce redundancy found in the raw data and thereby avoid problems of multicollinearity.

2. Discriminant analyses [Nie, et al., 1975, pp. 434-457] were performed on the clusters developed from H_{03A}, above, using PART D demographics (characteristic and classification information) as independent variables.

The objective was to determine if membership in a cluster (market segment) could be differentiated on the basis of demographic data. That is, were there differences in perceptions of the importance of marketing services among respondents that could also be delineated on the basis of differences in demographics?

SUMMARY

Chapter three has described in detail the: research design and methodology; data collection framework; initial findings from pre-tests; survey formats; and, the processes used to test the research hypotheses. It has reviewed the sequential steps followed, as well as the specific analyses performed. The rationale for performing each procedure and testing the hypotheses were also presented.

Chapters 4 and 5 present the findings of the research, based on the research design format developed in this chapter.

CHAPTER 4

DESCRIPTION OF THE DATA BASE

The general results from the mail survey are presented in Chapter 4. The chapter provides a summary of the following: response rates; demographic profiles of each respondent group; required/preferred customer service standards; summary statistics of importance ratings of the variables; comparisons of importance rankings and vendor evaluations by channel level; and, comparisons of responses to Part A importance rankings by title of respondent.

OVERALL RESPONSE-MAIL SURVEYS

The overall purpose of this study was to identify the marketing services that offered the best opportunities to achieve differential advantage in the office systems and furniture industry, as well as to improve customer satisfaction. In addition to the hypotheses tested the study enabled the researcher:

1. To identify the specific demographic information that characterized each of the following three major marketing channel levels involved in the sale and purchase of office systems and furniture:
 - a. Intermediaries (dealers)
 - b. Customers (end users)
 - c. Key decision influencers (architectural and design firms)
2. To obtain required/preferred standards of performance with respect to quantifiable marketing services from dealers, end users and A&D firms, and determine if these standards differed by channel level.

3. To identify all of the variables related to product, price, promotion and physical distribution/customer service that were used by members of each of the three marketing channel levels when selecting and retaining vendors/suppliers in the office systems and furniture industry.
4. To determine the perceived importance of each of the decision variables used to select, evaluate performance of, and retain vendors/suppliers from the perspective of each of the three marketing channel levels.
5. To explain how dealers, end users and A&D firms differed in their perceptions of both the importance of variables and vendor/supplier performance.

In order to satisfy the above research objectives and test the proposed hypotheses, a 12-page questionnaire was mailed to a national sample of dealers, end users and key decision influencers (architectural and design firms):

1. Seven hundred forty-seven (747) dealers who sold products manufactured by one of the major manufacturers in the industry were surveyed. Of these, 263 dealers (35 percent) responded.
2. Nine hundred seventy-nine (979) end users (customers) of office systems and furniture products were surveyed. These firms were selectively chosen so that: all geographic areas were represented, a broad spectrum of industries were included, and varying sizes of projects (in dollars) were represented. A total of 177 (18 percent) end users responded to the survey.
3. Eight hundred three (803) architectural and design firms (key decision influencers) who regularly did business with the major manufacturers of office systems product comprised the last category. A&D firms were selected so that all geographic areas were represented, and all of the top one hundred interior design firms plus a representative group of smaller, regional firms were

included. A total of 122 (15 percent) A&D firms responded to the survey.

4. Response rates for dealers were higher than for the other two respondent groups because one-half of the sampled dealers were called by phone prior to mailing the questionnaires. This was done because the overall sample size available was smaller than the other two groups, and because the researcher believed a large number of responses was required to perform the statistical analyses required to test the hypotheses. The results justified this added effort. The response rate on the half that were called was 46 percent versus 23 percent on the half that were not called. This result adds credence to the belief that telephone calls will increase response rates, as well as improve the validity of mailing lists.

Given the length (12 pages) and complexity of the questionnaires, the response rates for all three channel levels were higher than anticipated and provided the researcher with a data base sufficiently large to test all the hypotheses in the study. Each of the questionnaires consisted of the following four parts:

Part A contained the variables used to select, measure and retain manufacturers and/or vendors. Importance rankings were obtained for each variable, using a scale of from 1 (Not Important) to 7 (Very Important).

Part B collected information concerning expected service levels required by each channel level from manufacturers/vendors.

Part C measured the perceptions of the individual channel levels with respect to manufacturers'/vendors' performance for the same variables analyzed in Part A of the questionnaire.

Part D identified meaningful demographic (characteristics and classification) data for each channel level and/or different market segment.

Since non-response bias is always a concern in mail surveys, the respondents were divided into two groups: early respondents, those who returned the answered questionnaire within five to 36 days after mailing; and late respondents, those who returned the questionnaire within 37 to 99 days after the first mailing. If non-response bias is a major problem, early respondents should be different than late respondents with respect to their answers to questions. The assumption of this time trend extrapolation test is that nonrespondents are more like late respondents than early respondents [Armstrong and Overton, p. 397].

Analysis of early respondents versus late respondents on all 246 variables from the dealer questionnaire revealed only ten variables which showed statistically significant differences ($p < .05$). None of these differences were of managerial significance. For the 103 marketing services included in Part A of the questionnaire early and late respondents differed significantly in their responses on only 3 of the variables. Differences in responses for early and late respondents of the end user and A&D firm questionnaires were also very low. Thus non-response bias did not appear to be a problem in these three surveys.

Demographic Characteristics and Classification Data of the Respondent Groups

Tables 6, 7 and 8 describe the demographics of each respondent group, respectively. Each of these exhibits are summarized, as follows: Dealer respondents (Table 6) obtained approximately 60 percent of their average \$6,821,000 revenue from

TABLE 6
DEALER CHARACTERISTICS & CLASSIFICATION INFORMATION

Key: Figures in parentheses indicate Number of Respondents

	Mean	Median	Standard Deviation
Number of respondents	263		
1. Average annual gross sales volume	\$6,821,000	\$2,600,000	\$10,114,000
2. Percentage of gross sales represented by systems and furniture product	60.0%	60.0%	27.7%
3. Average years in business	16.1	10.2	16.7
4. Average rate of sales growth - last five years	25.7	15.2	44.1
5. Net profit as a percent of sales			
a. Last year	4.5%	4.0	5.6%
b. Typical/normal year	5.1	3.5	5.3%
6. Percent of total assets represented by:			
a. Inventories	31.5%	29.0%	20.0%
b. Accounts receivable	33.6%	30.1%	17.7%
7. Average annualized inventory turnover:			
a. Systems product	12.8	8.0	18.0
b. Furniture	8.0	5.0	9.0
8. Approximate space (sq. ft.) devoted to:			
a. Warehouse storage	19,600	10,000	25,100
b. Sales and display activities	9,800	6,000	11,500
9. Average gross margin on systems product	26.5%	25.0%	7.0%
10. Number of major, on-going and repetitive customers:	333	50	926
11. Number of selling locations operated by firm	1.9	1.3	1.7
12. Number of people normally employed in selling:			
a. Full-time employees	12.3(231)	7.3	14.5
b. Part-time employees	3.7(54)	1.5	13.9
c. Reps or agents	3.5(17)	1.8	3.7
d. Customer service/order entry	5.8(220)	3.5	8.9
e. Customer maintenance/admin. activities	6.7(198)	3.3	11.8
13. Number of vendors/suppliers added/deleted:			
a. Additions (last year/last 5 years)	4.1/13.8	2.9/8.3	3.8/16.0
b. Deletions (last year/last 5 years)	3.5/9.8	2.3/5.7	3.4/12.1
14. Percentage of business specified as to manufacturer by: (office systems product/furniture)			
a. A&D Firms	19%/17%	15%/10%	16%/14%
b. Customer/End user	25%/25%	20%/18%	20%/20%
c. Dealer	62%/63%	65%/65%	24%/22%
15. Percentage of office systems business represented by: (office systems product/furniture)			
a. Large one-time contracts/projects/bids	30%/23%	25%/20%	18%/16%
b. Major on-going accounts	44%/39%	45%/40%	20%/19%
c. Small one-time jobs	17%/24%	20%/20%	16%/17%
d. Small on-going accounts	19%/22%	11%/19%	18%/17%
16. Percentage of office systems and furniture ordered from major vendor via a "quick ship" ordering program	34.2%	27.5%	21.9%

the sale of systems products. During the past five years they experienced an average growth of 26 percent, an average gross margin of 26.5 percent on systems product, and a net profit of about 5 percent. Accounts receivable and inventories both accounted for approximately 33 percent of total assets. The average dealer added more dealers than it deleted during the past five years (14 versus 10). Typically, dealers specified the manufacturer's brand on 60 percent of the occasions (versus the customer or A&D firms). The two most frequently used methods to obtain systems business from end users were the results of large, one-time contracts/project bids (30 percent) and major, on-going blanket purchase order accounts (44 percent). Finally, dealers used some type of "quick ship" program to order product from manufacturers approximately one-third of the time.

End user respondents (Table 7) purchased an average of \$1,800,000 in office systems and furniture product annually -- for approximately 5,400 employees who worked at functions requiring this product. These firms used three primary processes to select vendors of systems product: large, one-time contracts; major, on-going purchases under blanket purchase orders; and, long-term contractual agreements. About 60 percent of the time, end users contacted the manufacturer first when deciding to contract for office systems product on a negotiated contract/project basis. The average net discount negotiated on major projects/contracts was 44 percent. Normally, one of three techniques was used to actually select vendors on major contracts: special committee (22 percent); standard, on-going

TABLE 7
END USERS CHARACTERISTICS & CLASSIFICATION INFORMATION

Key: Figures in parentheses indicate Number of Respondents

	Mean	Median	Standard Deviation
Number of Respondents	177		
1. Average annual gross sales/revenue	\$1,768,000,000	\$315,000	\$3,897,000
2. Number of employees who work at functions requiring office systems/furniture	5,423	1,500	11,687
3. Average annual purchases of office systems and furniture	1,806,000	600,000	3,916,000
4. Percentage of total office systems product purchased as a result of:			
a. Large, one-time contracts	51% (102)	50%	40%
b. Major, on-going purchases via blanket orders	48 (48)	50	31
c. Long-term contractual agreements	51 (47)	50	36
d. Small, one-time jobs	22 (70)	17	21
e. Small, on-going purchases	31 (81)	20	31
5. Source normally contacted first when contracting for office systems product on a negotiated basis:			
a. Manufacturer	63%		
b. Dealer	31		
c. A&D Firm	6		
6. Percent of annual office systems product purchases submitted to following sources:			
a. Contract/Project Orders			
1) Manufacturers	55% (63)	50%	33%
2) Dealers	78 (132)	100	31
3) A&D Firms	35 (21)	20	39
b. "Quick Ship" Orders			
1) Manufacturers	50% (45)	36%	41%
2) Dealers	80 (121)	100	32
3) A&D Firms	38 (9)	44	10
7. Approximate discount from published retail price secured on latest major contract negotiation	44%	45%	12%
8. Approach normally used to select major vendors (major contracts/other purchases)	MAJ/OTHER	144 / 137	
a. Special committee for each project	22% / 4%		
b. Standard on-going group	36 / 43		
c. A single individual	20 / 38		
d. Outside A&D firm	8 / 4		
e. Other	14 / 11		

Table 7 (continued)

	Mean	Number of Respondents
9. Degree of involvement in vendor selection process by activity/function (Not Involved, Involved, Makes Final Decision)	NI / INV / DEC	
a. Vice President -- Administration	19% / 38% / 43%	74
b. Vice President -- Other	22 / 45 / 33	36
c. Purchasing Director	25 / 54 / 21	117
d. Purchasing Agent	25 / 61 / 14	117
e. Facility Management -- Director	14 / 56 / 30	106
f. Facility Management -- Other	28 / 60 / 12	95
g. Administration Director	53 / 32 / 15	93
h. Administration -- Other	73 / 22 / 5	80
i. Architectural Project Administrator	41 / 51 / 8	96
j. Design/Construction Administrator	41 / 49 / 10	94
k. Accounting/Finance	69 / 28 / 3	87
l. Engineering Functions	81 / 17 / 2	83
m. Legal	76 / 22 / 2	84
n. Top Management (CEO/Div GM)	47 / 33 / 20	98
o. Board of Directors	87 / 6 / 7	84
10. Method used to select source (Competitive bids/ preferred dealer/preferred manufacturer)	BID / DLR / MFG / COMBO	
a. Large, one-time contracts/projects	59% / 6% / 8% / 27%	144
b. Major, on-going contracts	41 / 14 / 19 / 26	132
c. Small, one-time jobs	31 / 29 / 14 / 26	138
d. Small, on-going purchases	25 / 40 / 12 / 23	131
11. Industry classification of respondents (Number)		
a. Manufacturing -- Consumer/Industrial	11%	18
b. Manufacturing -- Process industries	6	10
c. Manufacturing -- High tech	17	27
d. Services	12	20
e. Communications & Utilities	7	11
f. Financial institutions	21	34
g. Insurance	10	17
h. Government & Education	8	13
i. Miscellaneous	8	13

group (36 percent); or a single individual (20 percent). Three individuals were most frequently involved in the actual decision to select a specific vendor: Vice President of Administration (43 percent); Vice President-Other (33 percent); and, Director of Facility Management (30 percent). Two industries accounted for about 40 percent of the respondent companies: Hi-tech manufacturers (17 percent); and, financial institutions (21 percent). However, several other industries were represented by significant numbers of respondents: consumer/industrial product manufacturers; service industries; and, insurance companies.

A&D firms (Table 8) responding to the survey planned/designed an average of 650,000 square feet each year that required or used office systems and furniture product. This represented about \$2,700,000 in systems product specified for clients each year, consisting of about 21 contracts. Office systems were specified in about one-half of the instances as a result of large, one-time contracts. The balance of the product specification process was evenly divided between major, on-going purchase orders, long-term contractual agreements and small, one-time jobs. Three-fourths of the time, an A&D firm contacted the manufacturer first, when beginning the negotiation for office systems product. However, actual bid specifications were normally submitted to dealers in three-fourths of the instances. The average discount obtained from published list prices averaged 40 percent. A&D firms regularly worked with about four dealers of office systems product and they also estimated that their

(A&D) business represented about 30 percent of these dealers' annual sales volumes.

TABLE 8
A&D FIRMS CHARACTERISTICS & CLASSIFICATION INFORMATION

Key: Figures in parentheses indicate Number of Respondents

	Mean	Median	Standard Deviation
1. Number of Respondents	122		
2. Average square feet planned/designed in total each year	647,800	250,000	1,324,000
a. Average percent applicable to office systems product	50.1%	50.2%	27.7%
b. Annual dollar value of office systems product specified for clients	\$2,728,000	\$600,000	\$4,768,000
c. Average number of contracts specified in a normal business year	21	10	24
3. Number of people normally employed as:			
a. Project directors	3.5	2.4	4.1
b. Senior designers	4.8	2.6	11.3
c. Junior designers	7.5	2.8	23.7
d. Other billable staff	7.6	3.1	12.2
e. Non-billable staff	4.7	2.4	7.0
4. Percentage of total office systems products specified as a result of:			
a. Large, one-time contracts	51% (81)	50%	26%
b. Major, on-going purchases via blanket orders	30 (41)	20	24
c. Long-term contractual agreements	28 (39)	20	23
d. Small one-time jobs	28 (76)	20	25
e. Small, on-going purchases	15 (49)	10	12
5. Source normally contacted first when contracting for office systems product on a negotiated basis:			
a. Manufacturer	78% (76)		
b. Dealer	22 (22)		
6. Percentage of annual office systems product specifications submitted to the following sources:			
a. Manufacturers	36% (76)	21%	29%
b. Dealers	77 (96)	85%	26%
7. Approximate discount from published retail price secured on the latest six months	39.9%	40.1%	9.3%
8. Method used to select source (Competitive Bids/ Preferred Dealers/Preferred Manufacturer)	BID / DLR / MFG / COMBO		
a. Large, one-time contracts/projects	49% / 6% / 41% / 4%		(100)
b. Major, on-going contracts	23 / 22 / 51 / 4		(96)
c. Small, one-time jobs	19 / 35 / 42 / 4		(99)
d. Small, on-going purchases	24 / 40 / 42 / 4		(97)
9. Percent of major dealers' annual sales volumes accounted for by contracts specified by respondent A&D firm	30% (64)	13%	35%
a. Number of dealers with whom respondents regularly do business re office systems products	4.2 (91)	3.5	3.5

Table 8 (continued)

	Mean	Median	Standard Deviation
10. Approximate percent of respondents' office systems product annual dollar volume that is specified for the following industry categories:			
a. Manufacturing -- Consumer products	26% (24)	20%	21%
b. Manufacturing -- Industrial products	16 (21)	10	12
c. Manufacturing -- Process industries	23 (17)	14.5	25
d. Manufacturing -- High tech	30 (37)	19	29
e. Agriculture and mining	19 (6)	10	21
f. Construction	16 (9)	11.5	15
g. Transportation	19 (11)	11	19
h. Communication	17 (28)	10	24
i. Public utilities	11 (18)	10	11
j. Financial institutions	28 (64)	20	24
k. Insurance	13 (36)	10	13
l. Wholesaling/retailing	12 (18)	10	8
m. Professional services	34 (76)	20.5	28
n. Other services	16 (32)	15	10
o. Government and Education	14 (30)	10	15
p. Miscellaneous others	26 (25)	20	21

**Required/Preferred Standards of Performance
for Quantifiable Marketing Services**

Appendix D contains the results from Part B of the questionnaires. The major findings are summarized as follows:

1. When respondents were asked for the level of various quantifiable marketing services that they required, the results were relatively comparable across all three respondent groups. The following represent those services which were similar across the three channel groups (with the required range in parentheses):
 - a. Advance notice required on price changes (5.5 to 7 weeks)
 - b. Methods used to transmit "quick ship" and contract/project orders. (However, the percentages for several transmittal modes did vary for all three groups between "quick ship" and contract/project orders.)

	<u>Quick Ship</u>	<u>Contract</u>
U.S. Mail	39-52%	54-72%
Inward WATS	31-39%	20-23%
Other Phone	34-53%	19-37%

- c. Minimum acceptable order completeness for contract orders (92.2 percent) and quick ship orders (88.6 to 91.8 percent).
- d. Advance notice preferred prior to arrival of order: Contract orders (8.2 to 10.8 days); and, "quick ship" orders (2.9 to 3.7 days).
- e. Extension in delivery date in the event of an unanticipated project delay (2.9 to 3.1 weeks).
- f. Preferred action by manufacturers in the event that orders cannot be delivered when promised and the back order does not affect installation: backorder (27-47 percent); cancel (4-6 percent); and, split and ship 49-67 percent).

2. Several services did, however, display meaningful variations in requirements across the three respondent groups:
 - a. Average order cycle time expected for contract orders (7.8 to 11.7 weeks) and quick ship orders (10.8 to 21 days).
 - b. Acceptable range in order cycle, that is delays in delivery beyond promised date: contract orders (2.0 to 4.8 weeks); and, quick ship orders (6 to 9 days).
 - c. Preferred actions in the event a manufacturer cannot deliver its order by the promised date, and the backorder will affect installation: backorder and ship complete (26-54 percent); cancel backorder and ship balance (7-11 percent); and, split ship as product becomes available (39 to 63 percent).

The implications of the above three services are that order cycle time requirements can vary significantly depending on the marketing channel level, the type of order (contract versus quick ship), and the affect on installation. Consequently, the level of service provided on these variables must be flexible, monitored closely, and tailored to each specific channel level and/or market segment.

The Perceived Importance of Marketing Services Variables Used by Each Channel Level to Select, Evaluate Performance of, and Retain Vendors/Manufacturers

A total of 99, 88 and 82 variables were identified and used for the dealer, end user and A&D firm questionnaires, respectively. Appendix E compares the overall average (mean) response and variance (standard deviation) of each variable, for the three different respondent groups surveyed:

- Dealers (263 respondents)
- End Users (177 respondents)
- Architectural and Design Firms (122 respondents)

Mean responses varied considerably, both within each respondent group--as well as between/among the three categories of dealers, end users and A&D firms. Evaluation of the 16 variables rated as most important by dealers (those with a mean score of 5.9 or more, on a scale of 1 to 7), disclosed that nine were physical distribution/customer service variables, three were price variables, two were promotion variables and two were product variables. The 16 variables that received the highest importance ratings from dealers, end users and A&D firms are summarized in Table 9 with the appropriate marketing mix components identified:



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TABLE 9

IMPORTANCE SCORE OF 16 MOST IMPORT VARIABLES BY RESPONDENT GROUP

DEALERS	MEAN SCORE		MKTG. MIX COMPONENT	DESCRIPTION
	END USERS	A&D FIRMS		
6.4/.8	6.5/.8	6.4/.8	P.D.	Ability of manufacturer to meet promised delivery date
6.4/.8	6.3/.8	6.4/.8	P.D.	Accuracy in filling orders
6.3/1.0	6.1/1.0		Price	Competitiveness of price
6.1/.9	6.1/1.0	6.1/.9	P.D.	Advance notice on shipping delays
6.1/1.1			Price	Special pricing discounts on contract orders
6.0/.9	6.2/.9	6.5/.8	Product	Overall manufacturing and design quality relative to price
6.0/.0		5.9/1.1	Promo	Updated and current price data, specs and promotion material
6.0/.9	6.1/.9	6.2/.8	Promo	Timely response to requests for assistance from manufacturers representatives
6.0/.9	5.9/1.1	6.0/1.1	P.D.	Order cycle consistency (small variability)
6.0/1.0	5.8/1.2		P.D.	Length of promised lead time for quick ship orders
6.0/1.0	5.9/1.0	6.1/.9	P.P	Accuracy of manufacturer in forecasting estimated ship dates
6.0/1.0	5.8/1.1		P.D.	Completeness of contract orders
5.9/1.1			P.D.	Ability to expedite and/or provide rush service
5.9/1.1			Price	Adequate advance notice of price changes received

Table 9 cont.

DEALERS	MEAN SCORE		MKTG. MIX COMPONENT	DESCRIPTION
	END USERS	A&D FIRMS		
5.9/1.1	5.8/1.1		P.D.	Completeness of quick ship orders
5.9/1.1	5.9/.9	6.6/.7	Product	Overall aesthetics and finish
	6.0/1.0	6.0/1.1	P.D.	Action on customer service complaints
	5.9/1.0	5.9/1.1	Product	Continuity (non- obsolescence) of products
	5.9/1.0	6.0/1.1	P.D.	Manufacturer's willingness to accept returns of damaged product
	5.8/1.0		Price	Realistic, consistent pricing policy
		6.0/1.1	Promo	Overall demeanor of sales representatives
		5.9/1.0	Price	Prompt and comprehensive bid quotations
		5.9/1.2	P.D.	Manufacturer pays freight and handling on returns
		5.8/.9	Product	Overall functional capability & flexibility of product

Note: First value represents the mean importance score

Second value represents the standard deviation

There were several variables for which no single manufacturer was perceived to be performing at a superior level. In fact, about one-third of the variables fell into this category for all three respondent groups. Several of these variables were

considered to be very important, that is, they were ranked in the top 15 percent). These variables are summarized in Table 10.

TABLE 10
VARIABLES RANKED HIGH IN IMPORTANCE
FOR WHICH
NO VENDORS WERE PERCEIVED TO BE PROVIDING SUPERIOR SERVICE

<u>VARIABLE</u>	<u>NO ONE PROVIDES SUPERIOR SERVICE</u>		
	<u>DEALERS</u>	<u>END USERS</u>	<u>A&D FIRMS</u>
Ability of manufacturer to meet promised delivery date		6.5/5.2	6.4/4.7
Competitiveness of price	6.3/5.4	6.1/5.4	5.7/4.8
Advance notice on shipping delays	6.1/5.1	6.1/5.0	6.1/4.6
Special pricing discounts available on contracts		5.8/5.1	5.8/5.0
Timely response to requests for assistance	6.0/5.4	6.1/5.3	
Accuracy of manufacturer to forecast estimated ship dates		5.9/5.1	6.1/4.7
Ability to expedite/provide rush service on orders	5.9/5.1	5.7/4.9	5.5/4.2
Adequate advance notice on price changes		5.5/5.0	
Action on customer service complaints		6.0/5.0	6.0/4.7

Note: First value represents the Part A mean importance score

Second value represents the highest Part C performance
score received by any of the top 15 manufacturers

Comparison of Perceptions of Importance Rankings and Vendor Performance Evaluations by the Different Channel Levels

The objective of this phase of the research was to determine if similar marketing strategies could be developed and offered to all three levels in the marketing channel, or if separate unique strategies should be adopted for each. Appendix F addresses this issue. There were 72 variables that were used by all three respondent groups (dealers, end users, A&D firms). Of these 48 (67 percent) received significantly different importance rankings by the distinct groups. Further, the performance of vendors, as perceived by each group, differed materially for 34 (47 percent) of the 72 variables. Based on this analysis the following important conclusions were derived:

1. It was not possible to use the 72 common variables in completing the various analyses required to test the three major hypotheses of the research; therefore, when analyzing the specific levels of the channel, the complete set of variables were used (99, 88, and 82, respectively).
2. The three respondent groups perceived fewer differences in the importance of, and performance on, advertising, promotional and personal selling variables.
3. Physical distribution/customer service variables appeared most frequently when looking at differing opinions across the three groups (20 of 48 for importance scores, and 14 of 34 for performance ratings). This was not surprising when one considers the fact that this component of the marketing mix is both the least understood and most neglected by marketing scholars and practitioners.
4. Twelve of the sixteen most important variables described in the preceding subsection of this chapter exhibited considerable variation in importance ratings

across groups, as well as in perceptions of vendor performance.

Comparisons of Responses to Part A Importance Ratings
by title of respondent

It was previously disclosed in Chapter 2, that empirical research dealing with industrial buying behavior normally obtained survey data from two sources: 1) individual "key informants" and, 2) group buying centers (multiple respondents). The literature review also discussed the difficulties, complexities and impracticalities that were encountered when attempts were made to obtain data from groups of decision makers. This research did not seek multiple responses to the three questionnaires for the following reasons:

1. The length and complexity of the questionnaire (12 pages) precluded any additional questions in this area. Dillman [pp. 54-55] pointed out that response rates will generally decline significantly when survey instruments exceed twelve pages.
2. Considerable effort was expended to develop accurate mailing lists that identified the actual key decision maker for all three respondent groups. This was achieved by telephoning selected dealers before the survey forms were mailed, and by having the lists screened by regional sales personnel of the cooperating firm.
3. The dealer and A&D respondent groups were in fact homogeneous in the composition of their management. Presidents and or principals, and vice presidents of marketing/sales represent a concise group of decision makers with respect to vendor selection at the dealer level. All top management A&D firm personnel have similar backgrounds and input into the selection of vendors on behalf of their clients.

In order to verify the decision to use only one "key informant" for each respondent company, analyses of variance (ANOVA) calculations were performed for each of the three respondent groups. Job titles were grouped into the following classifications for dealer: owner/president (141), senior management (49), sales/marketing (28), operations management (19), and accounting/finance (11). Job titles for the end user respondent group consisted of general/top management (19), purchasing (46), administrative (38), facilities management (43), and architects/engineers (19). A&D firm respondents were categorized into the following groups: senior management (42), directors/managers (38), and others (25).

These title classifications were compared for their mean importance scores from Part A of each questionnaire to determine if any statistically significant differences existed ($p < .05$). For dealers, 4 of the 103 variables displayed significant differences among the respondent groups. The results for A&D firm title classifications were similar. Thus, neither of these respondent groups displayed any abnormal differences across the individuals completing the questionnaires. This indicated that individual key informants provided consistent and homogeneous responses across each of these two sample groups.

With respect to end users, 16 of the 95 variables exhibited significant differences among the title classifications when the measures of Part A importance ratings were computed for each title classification. These results were not unexpected since the end user respondent firms consisted of diverse industries,

with varying demographics, as well as more diverse job titles than the other two respondent groups. Closer examination of the variables displaying significant mean response differences disclosed that in all but two instances, the category of top/general management rated the variables significantly lower than the other four classifications of respondents. This finding was consistent with research performed by Lilien and Wong [p. 10]. Twelve of the sixteen variables consisted of services related to price (dealing primarily with terms of payment and claims) and physical distribution (associated with returns and transportation terms). This would indicate that senior management views these two areas with less concern than other functions involved in the decision process of selecting vendors.

However, 83 percent of the variables did not display significant variance in their mean responses. Also, the variance that did occur consisted of senior management's down rating of two specific areas, both of which were intuitively logical. Therefore, the researcher concluded that the overall responses of end users were in fact reliable for use in testing the major hypotheses of the research.

CHAPTER 5

RESEARCH FINDINGS

The purpose of this chapter is to review the findings related to the hypotheses tested by the research. Each research hypothesis and its associated tests is reviewed and evaluated in this chapter.

First Hypothesis:

H_{01A}: There is no significant relationship between: 1) the share of business realized by manufacturers; and, 2) evaluations by intermediaries, (dealers), customers (and users) and key decision influencers (A&D firms) of vendors' (manufacturers) performance with respect to the variables used to select and retain vendors.

H_{01B}: There is no significant relationship between: 1) the share of their business that respondents would prefer to allocate to manufacturers under ideal conditions; and, 2) evaluations by intermediaries, customers and key decision influencers of manufacturers' performance with respect to the variables used to select and retain vendors.

Both of these hypotheses were rejected for all combinations: current versus preferred share of business; and, channel level. That is, share of business was influenced by a manufacturer's level of performance on the marketing services it offered to all of its customers (direct and indirect).

Stepwise multiple regression was performed to test this set of hypotheses. In each case, relative share (current or ideal/preferred) for the respondent group involved (dealers, end users or A&D firms) was the dependent variable. The independent variables represented the importance ranking of each of the

marketing services variables from Part A of the questionnaire multiplied by the perceived performance rating of each vendor as evaluated by individual respondents in Part C of the questionnaire. This multiplicative variable is hereafter referred to as "A*C". In the case of dealers, there were a potential of 1052 observations (263 respondents times 4 evaluations of vendor performance) for each of the 100 A*C variables. A more detailed explanation of, and justification for, the calculation of each dependent and independent variable is found in Chapter 2. Table 11 summarizes the R^2 developed for current and preferred share of business allocations as reported by each of the three respondent groups -- using the combined value of the importance score of each variable times the performance score for each manufacturer/vendor evaluated on each of the variables. The combined A*C variable was computed for the top 15 manufacturers/vendors in order to ensure adequate sample sizes for each combination of dependent/independent variable.

Table 11
Summary of Multiple Regressions
Hypothesis H₀₁

	<u>Current Market Share</u>	<u>Preferred Market Share</u>
<u>Dealers</u>		
No. of cases	677	677
No. of A*C variables	100	100
Significant variables (p<.05)	28	27
Adjusted R ²	.67970	.62525
Overall F ratio	80.0133	65.4135
Overall significance	.000	.000
<u>End Users</u>		
No. of cases	318	318
No. of A*C variables	93	93
Significant variables (p<.05)	9	21
Adjusted R ²	.65662	.62755
Overall F ratio	151.1080	57.6793
Overall significance	.000	.000
<u>A&D Firms</u>		
No. of cases	270	270
No. of A*C variables	87	87
Significant variables (p<.05)	22	14
Adjusted R ²	.69396	.67189
Overall F ratio	50.7371	68.7410
Overall significance	.000	.000

The R² for all three respondent groups were extremely high, for both current and preferred market shares. Since a perfect prediction value is 1.0, these data indicate that it was possible to account for approximately two-thirds of the variance in both actual and preferred market share based on a manufacturer's performance on the marketing variables. The implications of this finding are highly significant for a firm which has both market presence (current share) and the resources to improve or change its marketing strategies.

The only disturbing result of this analysis was the fact that R^2 's for ideal/preferred share of business decreased from the R^2 for current, actual levels, for all three respondent groups. Further investigation disclosed that in virtually all instances preferred share allocations declined from current levels for the two largest manufacturers while the share that respondents would like to give to smaller manufacturers in the future increased. This may indicate a concern on the part of dealers, end users, and A&D firms of becoming overly dependent on the larger, dominant firms.

A minimum F ratio of 3.84 was specified in each stepwise regression routine. Thus, any variable with a significance level greater than .05 was deleted during each stepwise iteration, so that only significant variables from the full sets of 100, 93 and 87, respectively, emerged. A detailed listing of the variables that proved to be significant in predicting market share are displayed in Appendix G. Several interesting observations resulted from this analysis:

1. Physical distribution/customer service and price variables contributed little to the prediction of current end users share of business allocations.
2. On the other hand, physical distribution/customer service variables were a significant contributor to share in all other analyses. Price variables were also major factors in determining current share for dealers and A&D firms.
3. With the exception of end users' current share of business allocations, significant variables were fairly evenly distributed across the four marketing mix components.

4. The importance of a variable did not necessarily equate to predicting (influencing) share. For instance, only six of the sixteen dealer variables ranked as most important were also part of the multiple regressions in this hypothesis. Results were similar for end users (four of sixteen) and A&D firms (eight of sixteen). This lends credence to the belief that salient variables may differ from the most important ones, particularly if all vendors are providing acceptable levels of service.
5. Of 113 possible variables, 46 predicted current share of business for at least one of the three respondent groups. Of these, only eleven were used by more than one respondent group. These are displayed in Table 12:

TABLE 12

MARKETING SERVICES INFLUENCING MULTIPLE RESPONDENT GROUPS

HYPOTHESIS H_{01A}

<u>Importance Rank</u>	<u>Variable</u>	<u>Dealers</u>	<u>End Users</u>	<u>A&D Firms</u>
5	Pricing discounts	X	X(1)	
6	Product quality		X	X
9	Order cycle consistency	X		X
24	Ease of set-up	X	X	
29	*Product interchangeability	X(1)	X	X
46	Qty. discount structure	X		X(1)
54	Mfr. education	X(1)	X	
56	Mfr. training programs	X(1)	X(1)	
60	*Parts standardization	X(1)	X	X(1)
69	Mfr. sponsored seminars	X(1)	X(1)	
70	Ability to select carrier	X(1)		X(1)

*Influenced all three groups

(1) Represents variables with large standard deviation (>1.4) importance scores

6. Of 113 possible variables, 51 predicted ideal/preferred share of business for at least one of the three respondent groups. Of these, only ten were used by more than one respondent group. These are displayed in Table 13:

TABLE 13
MARKETING SERVICES INFLUENCING MULTIPLE RESPONDENT GROUPS
HYPOTHESIS H_{01B}

<u>Importance Rank</u>	<u>Variable</u>	<u>Dlrs</u>	<u>End Users</u>	<u>A&D Firms</u>
11	Committing to ship date		X	X
24	Set-up ease	X	X	
36	Gen'l terms & conditions	X	X	
39	Product innovativeness		X	X
42	Energy/wire mgmt.	X(1)		X
69	*Mfr. sponsored seminars	X(1)	X(1)	X(1)
70	Ability to select carrier	X(1)	X(1)	
71	No. of sales calls		X	X
76	Obsolete part availability	X(1)	X(1)	
99	Access to mfr. assbly/whang	X(1)		X(1)

*Influenced all three groups

(1) Represents variables with large standard deviation
(> 1.4) importance scores

7. The following number of variables appeared in both current and ideal/preferred market share regressions:

Dealers	15 (out of 100 possible)
End users	4 (out of 93 possible)
A&D firms	7 (out of 87 possible)

Based on the foregoing facts, it is possible to reject hypotheses H_{01A} and H_{01B}. That is, performance with respect to the marketing services offered by manufacturers did contribute significantly to share of business. However, it is was uncertain which of the four marketing mix components contributed the most to this relationship between marketing performance and share of

business. To answer this question, the results of testing hypothesis H_{02} are examined next.

Hypothesis H_{02}

H_{02A} : The marketing mix components (product, price, promotion and physical distribution/customer service) contribute equally to the share of business currently received by vendors (manufacturers) from dealers, end users, and key decision influencers.

H_{02B} : The marketing mix components (product, price, promotion and physical distribution/customer service) contribute equally to the share of their business that dealers, end users and key decision influencers would prefer to allocate to vendors (manufacturers).

To test these two hypotheses, the variables from Part C (evaluations of vendor performance) were condensed into a reduced set of factors that would explain the underlying structure of the entire package of marketing services offered in the office systems and furniture industry. This was accomplished by using R technique factor analyses with orthogonal (varimax) rotation. The exact procedures utilized, as well as a description of the computation of the scale (score) for each factor, were described previously in Chapter 3.

Levy encountered difficulty in deriving reliable and interpretable factors in his research. He eventually succeeded by using oblique (direct oblimin) rotation [Levy, 1978, p. 144-145]. He also discarded those variables with the smallest coefficient of variance, (standard deviation divided by the mean score) because of the relatively high attribute/respondent ratio (71 attributes and 108 respondents). Thus, he selected only 30

variables for factor analyzing [1978, p. 136-137]. Generally, the 41 variables discarded by Levy had either high mean scores with small standard deviations, or relatively low mean scores with small standard deviations. As pointed out during the analysis of the preceding hypothesis, both variables that ranked high and comparatively low in importance, as well as those with both small and large standard deviations, emerged in the regressions to determine their ability to predict market share. Thus, in testing the second hypothesis of this research, it would have been unwise to delete any of the variables a-priori from the development of overall marketing mix factors. By using a two-stage factor development process described previously in Chapter 3, this research did not suffer from the high attribute/respondent ratio that plagued Levy.

As a result of this data reduction process, ten, eleven and ten functionally oriented factors were developed for each respondent group (dealers, end users, and A&D firms), respectively. Each of the four marketing mix components were represented by two or three factors. Scales developed from each of these factors were in turn used as data input into subsequent multiple regression analyses. These factors are compared by respondent group and marketing mix category in Table 14:

TABLE 14
COMPARISON OF MARKETING FACTORS BY MARKETING MIX COMPONENT AND
RESPONDENT GROUP

HYPOTHESIS H₀₂

	<u>Dealers</u>	<u>End Users</u>	<u>A&D Firms</u>
<u>Price</u>			
Dating/discount terms	X		X
General terms of sale	X		
Discount structure		X	X
Comprehensive pricing		X	X
<u>Promotion</u>			
Personal selling	X	X	X
Sales training/assistance	X	X	X
Promotional assistance	X		
<u>Product</u>			
Product flexibility	X	X	X
New product development	X	X	X
Product breadth/quality		X	
<u>Physical Distribution/Customer Service</u>			
Lead/cycle time	X	X	X
Shipping/delivery flexibility	X		
Order completeness	X	X	X
P.D. information capability		X	X
Transportation services		X	
	—	—	—
Totals	10	11	10
	—	—	—

The results of these factors were quite stable and consistent across the three respondent groups. This significantly facilitated the analysis of the second hypothesis. The criterion chosen for assigning variables to each factor was a factor loading of .40 or greater. In addition, none of the Part C variables were assigned to more than one factor during the a-priori factor development process.

The factors (scales) used to test hypothesis H_{02} are further defined and described, with respect to their specific, assigned variables, in Appendices H (dealers), I (end users) and J (A&D firms). The factors derived in this analysis appeared to represent a "function-oriented" view of the marketing interface between manufacturers and dealers, and users and key influencers (A&D firms) in the office systems and furniture industry. This finding of function orientation adds to the factors developed by LaLonde and Levy [1977], Lalonde and Zinszer [1976] and Levy [1978]. They also supported rather specific, definitive functions which have been described in the literature beginning with early academicians in the marketing discipline [Butler, 1911; Cherington, 1920; Converse, 1921; Shaw, 1915; and Weld, 1917].

Many of the variables included in each factor transcended the three stages of the customer service transaction (pre, transaction, and post) that were proposed by LaLonde and Zinszer [1976, p. 281]. In addition the variables included in this research encompassed all of the marketing services available to customers in the selection, retention and evaluation of vendors (manufacturers), and were not restricted to physical distribution/customer services. Thus, the framework proposed by LaLonde and Zinszer did not appear appropriate to this study. The results of this research did indicate on the other hand, that: an underlying, function oriented marketing structure existed for this set of variables; they represented all of the four components of the marketing mix; and, they approximated

classical marketing functions proposed in the early literature, more so than did factors developed from other customer service empirical research [La Londe and Zinszer; Levy, 1978].

The scales developed for these function oriented factors were regressed against both current and ideal/preferred share of business for all three respondent groups, similar to the methodology used in testing hypothesis H_{01} . Stepwise multiple regression of the ten, eleven and ten factor scales were used as independent variables for the dealers, end users and A&D firm respondent groups, respectively. A minimum F ratio of 3.84 was specified in order to retain only those factors in the regression that were significant ($p < .05$). The results of these six regressions are summarized in Table 15.

Table 16 examines these findings in greater depth by itemizing the specific factors that proved to be significant in predicting marketing share for each respondent group. The following conclusions are important, both from a research standpoint, as well as a managerial perspective:

TABLE 15
SUMMARY OF MULTIPLE REGRESSIONS
HYPOTHESIS H₀₂

	CURRENT MARKET <u>SHARE</u>	PREFERRED MARKET <u>SHARE</u>
<u>DEALERS</u>		
No. of factors		
Maximum available	10	10
Significant (p < .05)	4	3
Adjusted R ²	.62490	.55579
Overall F ratio	435.1492	435.6611
Overall significance	.000	.000
<u>END USERS</u>		
No. of factors		
Maximum available	11	11
Significant (p < .05)	3	4
Adjusted R ²	.64543	.52001
Overall F ratio	429.6571	192.2367
Overall significance	.000	.000
<u>A&D FIRMS</u>		
No. of factors		
Maximum available	10	10
Significant (p < .05)	4	2
Adjusted R ²	.61003	.59002
Overall F ratio	189.6407	348.0586
Overall significance	.000	.000

TABLE 16
RELATIVE IMPACT OF THE MARKETING MIX COMPONENTS
ON CURRENT AND PREFERRED MARKET SHARE BY RESPONDENT GROUP

CURRENT MARKET SHARE					IDEAL/PREFERRED MARKET SHARE						
	Scale No.	Mktg. Mix	Description	Beta Weight	Adjusted R ²		Scale No.	Mktg. Mix	Description	Beta Weight	Adjusted R ²
Dealers	3	Promo	Personal Selling	-.13681)			4	Promo	Dealer Training/ Education	-.28038)	
	4	Promo	Dealer Training/ Education	.31416)	.62490		6	Product	Product Flexibility	.37974)	.55579
	6	Product	Product Flexibility	.39996)			8	P.D.	Lead/Cycle Time	.13531)	
	8	P.D.	Lead/Cycle Time	.26250)							
End Users	5	Product	Product Flexibility	.45168)			1	Price	Discount Structure	.12054)	
	7	Product	Product Breadth/ Quality	.57013)	.64543		5	Product	Product Flexibility	.45496)	
							7	Product	Product Breadth/ Quality	.40834)	.52001
	8	P.D.	Lead/Cycle Time	-.19991)			9	P.D.	P.D. Information System	-.24030)	
A&D Firms	1	Price	Comprehensive Pricing	.21359)			5	Promo	Contract Bidding Assistance	.40826)	
	5	Promo	Contract Bidding Assistance	.55907)			6	Product	Product Development	.37317)	.59002
	7	Product	Product Flexibility	.23370)	.61003						
	10	P.D.	Customer Service Responsiveness	-.19136)							

Note 1: The specific variables included in each category of marketing services are itemized in Appendices H, I & J.

Note 2: Only scales with an "F Ratio" greater than 3.84 are included in each analysis---so that scales with significance levels greater than .05 are excluded from consideration.

Note 3: Vendor performance evaluations (Part C Variables) were used to develop the factors/scales enumerated in Appendices H, I, & J.

1. The adjusted R^2 for all six regressions, although not quite as high as those resulting from the H_{01} analyses, were nevertheless still large enough to rely on the predictive power of each model.
2. Generally, three or four factors emerged in each respondent group, for both current and preferred share of business. This indicates that concentrating on only one element of the marketing mix (such as product or price) would be dangerous, if a firm's objective was to gain market share.
3. Price did not explain current or preferred share of business at the dealer level of the channel.
4. Promotion did not explain share of business in the end user level of the channel.
5. Product and physical distribution factors showed up in virtually all combinations (current and preferred share of business at the three channel levels).
6. The Beta weight for the product factor(s) in each analysis were consistently larger than those for the other marketing mix factors. This was not unexpected, since the industry is in the growth stage of the product life cycle (average growth approximates 20 percent per year). Product innovation and new product introductions occur frequently in the industry.
7. The product factor labeled "product flexibility" showed up in five of the six regressions.
8. Physical distribution/customer service was represented in five of the six regressions, by two distinct factors:
 - a. Lead/cycle time -- dealers (current share and preferred); end users (current).
 - b. System flexibility and information -- end users (preferred); A&D firms (current).

In all, twenty factors were used to explain share of business in the six different analyses performed. Of these, four displayed negative beta weights, as follows:

<u>CHANNEL LEVEL</u>	<u>CURR/PFD SHARE</u>	<u>FACTOR DESCRIPTION</u>	<u>BETA WEIGHT</u>
Dealer	Current	Promo (Personal selling)	-.13681
End Users	Current	P.D. (Lead/Cycle time)	-.19991
	Preferred	P.D. (Information Systems)	-.24030
A & D	Current	P.D. (Service Responsiveness)	-.19136

The variables comprising each of these factors (as itemized in Appendices H, I, and J) were examined in order to explain these apparent inconsistencies. The first negative factor (Personal Selling) contained four variables. All but one were ranked extremely low in importance (4.6 on a scale of 1 to 7). However, manufacturers were perceived by dealers to be performing at levels higher than their related importance means (5.4 to 5.8 in most cases). This would indicate that a negative relationship had developed because manufacturers may have been providing levels of service greater than those desired by dealers.

The second negative factor (Lead/Cycle Time) consisted of four variables, three of which were rated as extremely important by end users (5.8 to 6.5). None of the manufacturers were perceived by end users to be performing at higher than normal levels. In fact, performance ratings ranged between 3.7 and 5.4 for all four variables, which were less than each applicable mean importance score. This would indicate one of two situations: 1)

poor performance by a manufacturer with respect to lead time will contribute to increased share of business; or, 2) certain dominant manufacturers may have been performing extremely well on another key factor that also contributed to share of business and thus achieved high shares in spite of their poor performance on lead times. This last explanation is more probable, since two "product" factors possessed very large beta weights, and the three largest manufacturers, who accounted for approximately 60 to 70% of the business, were all performing at levels significantly higher than the mean importance scores for the applicable variables.

The third factor (P.D. Information Systems) contained six variables. All but one were ranked in the average importance range (4.9 to 5.7) by end users and exhibited comparatively small standard deviations. End user evaluations of manufacturers' performance all ranged below normal (3.8 to 5.0). Again, this would indicate that certain large manufacturers may have been performing extremely well on other key factors in spite of poor performances on "Information System" variables. Examination of the two factors with the largest beta weights, "Product Flexibility" and "Product Breadth and Quality" disclosed this to be true. Thus, the same situation appeared to be occurring as was the case with "Lead/Cycle Time".

The last negative factor (Customer Service Responsiveness) consisted of three variables. All were ranked low to average in importance (4.7 to 5.6), while A & D firms' evaluations of manufacturers' performance ranged between 3.9 to 4.8 for all

three variables. These results indicated that some obscure variable other than the most obvious and/or frequently used criteria contributed to share of business in this level of the channel, and caused firms to gain share, even though their performance on "responsiveness" was abnormal. Again, this situation was possible, since two or three manufacturers achieved a majority of the share of business allocated by A & D firms.

Based on the preceding findings and the data displayed in Table 16, Hypotheses H_{02A} and H_{02B} were both rejected. The four components of the marketing mix did not contribute equally to the share of business allocated to vendors (manufacturers) by dealers, and users, and A&D firms. Both product and physical distribution/customer service factors consistently contributed more to the share of business in the regression analyses. Price and promotion factors were inconsistent in their ability to predict share for each of the respondent groups.

HYPOTHESIS H₀₃

H_{03A}: Unique groups of intermediaries (dealers), and customers (end users) cannot be identified on the basis of their ratings of the importance of the marketing services provided by vendors (manufacturers).

H_{03B}: There are no statistically significant differences in demographic (respondent characteristics and classification) data reported by each market segment group identified in H_{03A}.

The objective of these two hypotheses was to determine if managerially useful market segments could be identified on the basis of the importance of the marketing services offered by manufacturers to each level of the marketing channel. Ward's

Minimum Variance Clustering Algorithm [Wishart] was used to test Hypothesis H_{03A} . Discriminant Analysis [Nie, et al., pp. 434-467] was used to test Hypothesis H_{03B} .

Hypothesis H_{03A} (Clustering Process)

The objective of the clustering procedures was to group each set of respondents (dealers and end users) so that they exhibited: 1) similar response patterns to the Part A importance scores of the marketing services provided by manufacturers within groups; and, 2) different response patterns between the groups. Ward's algorithm accomplishes this by: determining the F ratio of each variable for within group variance (the smaller the F ratio, the better); and, computing the t value of each variable in the group being clustered and the entire population surveyed (the larger the t value, the better).

A reduced set of variables for the clustering routine were selected from the original full set of PART A marketing services for both dealer (100 variables) and end user (93 variables) respondent groups. The goal of segmentation is to differentiate customers. Therefore, those variables that displayed little variance in their rankings of importance by respondents were eliminated from the clustering process. This data reduction was accomplished by factor analyzing each set of respondent group Part A variable importance ratings in two stages. First, a reduced set was derived from the a-priori factor analysis of the four components of the marketing mix that were developed during the testing of Hypothesis H_{02} . To these were added those

variables which were significant in predicting market share in Hypothesis H_{01} , but which did not appear in the first stage, a-priori-4P's factor analysis. A second factor analysis of the a-priori-4P's factor analysis/ regression set of variables was then performed to arrive at a final, reduced set of variables for input into the clustering algorithm. There were several advantages to developing the variables in this manner: 1) it eliminated the problem of too few respondents to variables encountered by Levy [1978, p. 154]; the two stages of factoring minimized the occurrence of negative eigen-values, which can occur when a large number of variables are analyzed simultaneously; it provided a logical sequence to guarantee that all components of the marketing mix were considered and recognized; and, it ensured that those factors which displayed maximum variance were consistent with the variables that had been used previously to predict market share. As a result of this procedure, 28 variables were selected out of the original 100 for the dealer clustering algorithm, and 30 out of the original 93 for end users. These variables are summarized in Table 17:

TABLE 17
VARIABLES USED IN CLUSTERING ALGORITHMS

HYPOTHESIS H_{03A}

Variable Number	Variable Description	<u>Respondent Groups</u>	
		<u>Dealer</u>	<u>End User</u>
1	Realistic pricing policy		X
2	Ability to educate re productivity		X
3	Overall quality re price	X	
4A	Promised lead time-contracts	X	X
4B	Promised lead time quick ship	X	X
8	Mfr. pays freight on returns		X
9	Ability to meet promised delivery	X	X
10	No. of new products annually	X	
11	Mfr. reps. avail. for sales mtgs.	X	
12	Extended dating/payment terms		X
14	Order cycle consistency	X	
17	Cash discount for early payment	X	X
18	Assistance re carrier claims	X	X
23	Willingness to accept returns	X	
30	Ability to backorder "quick ships"	X	
32	Mfr. sponsored seminars		X
38	Flexible credit policies		X
39	Accuracy in filling orders		X
41	Ability to supply quick ship product	X	
42	No. of sales calls per year	X	X
46	Product innovations	X	
47	Timely response from sales reps.	X	X
49A	Order completeness - contracts	X	X
49B	Order completeness - quick ship	X	X
53A	Qty. discount structure - contract		X
53B	Qty. discount structure - quick ship		X
54	Accuracy in committing to ship date est.	X	
55	Policy re returns from end users	X	
60	Availability of "mock-ups"		X
65	Frequent new product introductions	X	X
69	Availability of new product		X
70	Mfr. reps. available for dealer mtgs.	X	
72	Ability to meet specific service needs		X
73	Advance info. on new products		X
74	Training programs re facility mgmt.	X	
75	Palletized and unitized loads	X	
79	Availability of order status info.	X	
80	Quality of packaging	X	
82	Financial counseling/assistance	X	
92	Financing of mock-ups	X	
94	Special pricing discounts - contracts		X
97	Inventory mgmt. counseling	X	
101	Assistance by mfr. in selling customers		X
104	Overall demeanor of sales reps.		X

107	Availability of sales reps to needs		X
110A	Bid quotes that include freight		X
110B	Bid quotes that include installation		X
110C	Bid quotes that incl. paymt. discount		X
	TOTALS	28	30

If clusters don't change over a range of classifications (for example, from 8 to 3 maximum cluster parameters the same cluster solution is replicated) -- then there is an indication that a global optimum has been reached. Another way to validate the groupings of the clusters is to check both the "F ratio" and "t" value of the significant variables for groups (clusters) identified at the start (for example 8 clusters) -- with those identified in the final iteration (for example 3 clusters) [Wishart, p. 45]. Using these comments as guides, clusters were identified for dealer and end user respondent groups. The breakdown of respondents into market segments on the basis of Part A importance scores is summarized in Table 18.

TABLE 18
SUMMARY OF MARKET CLUSTERS
HYPOTHESIS H_{03A}

	<u>Number of Respondents In Segment</u>
<u>Dealers</u> (263 Total Respondents)	
1. Financial counseling and assistance	102
2. Nothing is overly important, but a few are unimportant	22

3.	Order cycle consistency	27
4.	Personal selling services	31
5.	Quick ship services & order completeness	55

End Users (177 Total Respondents)

1.	Financial services	47
2.	Discounts and mock-up displays	77
3.	Education/training assistance	29

The description and characteristics of these segments (clusters) are described, as follows. They are based on the data displayed in Tables 19 and 20, which follow this description.

INTERMEDIARIES (DEALERS)

Group 1 Did not consider consistent order cycle time and high order completeness percentage as important as other dealers in the selection of vendors. However, they did require financial counseling and assistance. Specifically, this group:

1. Desired financial arrangements and assistance--financing arrangements for mock-ups--and inventory management counseling and assistance.
2. Did not view order cycle consistency (small variability in promised versus actual delivery) as important.
3. Did not consider high order completeness percentages for both contract and quick ship orders as important criteria.

Group 2 With the exception of accurately predicting estimated ship dates on orders, this group did not consider any single marketing services to be significantly more important than others. In fact, it considered certain personal selling and transportation services to be relatively unimportant (compared to the overall rankings of other dealers). As such, they:

1. Did not require the participation of manufacturer's sales representatives when making

sales calls or preparing contract bids to customers.

2. Did not require the availability of manufacturer's representatives for dealer sales meetings.
3. Were not concerned with the manufacturer's policy with respect to returns from their customers.
4. Did not require palletized or unitized loads.
5. But, they did expect manufacturers to accurately forecast and meet promised delivery data.

Group 3
(27)

This cluster of dealers was motivated almost solely by consistent order cycle performance and other customer service activities. For instance, the following services were very important to this group:

1. The ability of the manufacturer to meet its promised delivery date (on-time shipments).
2. Order cycle consistency (small variability in promised versus actual delivery).
3. Accuracy in forecasting and committing to estimated shipping dates on contract orders.
4. Availability of open order status information.
5. The willingness of manufacturers to accept returns by dealers of product damaged and/or shipped in error.
6. Timely response to requests for assistance from manufacturer's representatives.

Note: Financing arrangements on "mock-ups" and inventory management counseling assistance were not considered important by this group.

Group 4
(31)

This sector was primarily influenced in their selection of vendors by the personal selling capabilities of the manufacturer. They also were not concerned with which products were included and supplied under "quick ship" programs, nor did they desire palletized or unitized loads. However, they did desire:

1. The availability of manufacturer representatives to participate in: customer sales calls and project bids--and in dealer sales meetings.
2. Formal training programs by manufacturers in the area of facility management.

3. Financial counseling and assistance--as well as financing arrangements for "mock-ups."

Group 5
(55)

This final category of dealers required superior performance on "quick ship" orders plus certain highly specialized services. The following variables were extremely important to this group:

1. The length of promised lead times--and order completeness percentages on "quick ship" orders.
2. Order completeness percentages on contract orders.
3. Palletized and unitized loads where possible.
4. Financing arrangements for "mock-ups."

CUSTOMERS (END USERS)

Group 1
(47)

Viewed financial aspects of the purchase as more important than other customers. The financial aspects considered most important by this segment were:

1. Flexible credit policies and services should be available from the manufacturer or its dealers (this was most important to this group).
2. Cash discounts for early or pre-payment--as well as quantity discounts for both contract and "quick ship" orders were also desired.
3. Bid quotes should be all inclusive (that is, they should include freight, installation and discounts for early or pre-payment).

Group 2
(77)

This segment required discounts for both "quick ship" and contract orders, but was not concerned with credit services or policies. The following services were most important to this segment:

1. The availability of display modules and/or mock-ups from either the manufacturer or dealer.
2. Quantity discounts structure for "quick ship" and contract/project quote purchases, as well as special pricing discounts on all contract orders.

Group 3
(29)

This group was concerned with the functionality and productivity enhancement opportunities of the product. It also required special credit services from the manufacturer, but was not as concerned with quantity or price discounts as were most customers. As such, they:

1. Wanted the manufacturer or dealer to educate them with respect to the productivity and functional advantages of systems product.
2. Required assistance from the manufacturer in selling the advantages of its specific product versus competition's.
3. Desired manufacturer and/or dealer sponsored seminars.
4. Favored frequent introductions of new products by manufacturers.

TABLE 19
COMPARISON OF PART A IMPORTANCE SCORES FOR DEALER MARKET SEGMENTS

VAR. NO.	DESCRIPTION	CLUSTER 1		CLUSTER 2		CLUSTER 3		CLUSTER 4		CLUSTER 5	
		OVERALL MEAN	MEAN STANDARD DEVIATION	MEAN STANDARD DEVIATION	MEAN STANDARD DEVIATION	MEAN STANDARD DEVIATION	MEAN STANDARD DEVIATION	MEAN STANDARD DEVIATION	MEAN STANDARD DEVIATION	MEAN STANDARD DEVIATION	
48	Promised lead time - quick ship order	6.107 1.188								6.31 1.297	.74 .187
9	Ability of mfr to meet promised delivery date	6.433 1.302				6.52 1.440	.70 .130				
11	Availability of mfr reps re sales calls/bids	4.651 .916		3.41 1.718	1.68 .304			5.45 1.038	1.34 .244		
14	Order cycle consistency (low variance)	6.004 1.213				6.07 1.345	.78 .174				
23	Mfrs willingness to accept returns from dlrs.	5.517 1.096				5.67 1.250	1.00 .192				
41	Ability to l.d./supply product re quick ship	5.642 1.129						5.39 1.022	1.05 .163		
47	Timely response to requests for assistance	6.023 1.210				6.04 1.337	.76 .171				
49A	Order completeness % - contract orders	6.019 1.178	5.97 1.081	1.00 .199						6.20 1.269	.826 .156
49B	Order completeness % - quick ship orders	5.939 1.167	5.92 1.073	1.08 .204						6.20 1.269	.78 .144
54	Accuracy in forecasting esti- mated ship dates	6.012 1.199		5.59 1.313	1.05 .231	5.81 1.282	.96 .171				
55	Mfrs policy on returns from customers	5.008 .956		3.41 1.564	2.21 .272						

Table 19 - continued

VAR. NO.	DESCRIPTION	CLUSTER 1		CLUSTER 2		CLUSTER 3		CLUSTER 4		CLUSTER 5	
		OVERALL MEAN	MEAN	STANDARD DEVIATION	MEAN	STANDARD DEVIATION	MEAN	STANDARD DEVIATION	MEAN	STANDARD DEVIATION	MEAN
70	Availability of mgr reps for dir sales meetings	4.765 .902		4.368 * .633	2.23 .331			5.65 † 1.070	1.08 .172		
74	Formal training programs re facility mgmt	5.116 .967				5.81 † 1.100	1.11 .171				
75	Palletized/unitized loads	4.390 .744	5.02 † * .942	1.17 .169	3.68 * .446	2.81 .327	3.87 † * .347	3.12 .305	4.31 † .867	1.53 .270	
79	Availability of open order status information	5.803 1.153				5.89 † 1.304	1.01 .227				
82	Financial counseling and assistance	4.012 .717	4.59 † .852	1.48 .240			4.81 † * .908	1.45 .249	3.47 † .601	1.78 .257	
92	Financing arrangements for "mock-ups"	4.564 .907	4.93 † .916	1.49 .223		3.33 † * .381	2.95 .299	5.10 † .963	1.16 .190	4.64 † .939	1.46 .267
97	Inventory management counseling/assistance	3.761 .609	4.42 † * .816	1.44 .239		2.48 † * .400	2.19 .259				
TOTAL VARIABLES SIGNIFICANT			7	5	8	7	6				
MORE IMPORTANT THAN NORM			4	1	6	5	5				
LESS IMPORTANT THAN NORM			3	4	2	2	1				
TOTAL RESPONDENTS		263	102	22	27	31	55				
DESCRIPTION OF SEGMENT			Financial counseling & assistance	Nothing is overly important	Order cycle consistency	Personal selling services	Quick ship & order completeness				

NOTE: Upper number consists of the raw score, on a 1 to 7 scale.
Lower number represents normalized value.

KEY: † Mean (average) score of cluster members greater than mean score for all respondents.
‡ Mean (average) score of cluster members less than mean score for all respondents.
* Indicates mean score of cluster significantly greater or less than overall mean.

TABLE 20
COMPARISON OF PART A - IMPORTANCE SCORES FOR END USER MARKET SEGMENTS

VAR. NO.	DESCRIPTION	OVERALL MEAN	CLUSTER 1		CLUSTER 2		CLUSTER 3	
			MEAN	STANDARD DEVIATION	MEAN	STANDARD DEVIATION	MEAN	STANDARD DEVIATION
2	Ability of mfr/dlr to educate re productivity	5.205 1.026					4.79 1.172	4.18 .213
12	Credit services available from mfr/dlr	2.673 .467	4.47 1.680	1.53 .305	4.60 1.255	.85 .197	4.93 1.800	4.44 .287
17	Additional cash discounts for early payment	4.388 .803	4.96 1.969	1.27 .247				
26	Assistance from mfr in selling advantages of product	4.669 .865					4.10 1.032	4.21 .212
27	Display modules provided by mfr/dlr	4.465 .846			4.88 1.947	1.08 .233		
32	Mfr/dlr sponsored seminars	3.688 .697	3.04 1.589	1.16 .202			4.52 1.911	4.35 .247
38	Flexibility credit policies re special situations	3.597 .595	4.50 1.860	1.35 .294	4.91 1.474	1.45 .326	4.28 1.858	4.49 .263
53A	Quantity discount structure - contract quotes	5.467 1.016	5.81 1.140	.92 .189	5.97 1.161	.92 .181	4.29 1.832	4.46 .303
53B	Quantity discount structure - quick ship	5.289 .977	5.77 1.130	.94 .186	5.62 1.091	1.10 .207	4.25 1.823	4.38 .275
63	Special pricing discounts on contract sales	5.548 1.024			5.72 1.125	1.08 .247	4.41 1.816	4.53 .330
65	Frequent new product introductions	3.615 .665						
81A	Bid quotes that include freight	5.581 1.068	6.02 1.174	.94 .124			4.00 1.807	4.28 .229

Table 20 (continued)

VAR. NO.	DESCRIPTION	OVERALL MEAN	CLUSTER 1		CLUSTER 2		CLUSTER 3	
			MEAN	STANDARD DEVIATION	MEAN	STANDARD DEVIATION	MEAN	STANDARD DEVIATION
81B	Bid quotes that include installation	5.617 1.044	↑ 5.00 ↑ 1.172	.93 .143				
81C	Bid quotes that include discounts for early payment	5.267 .988	↑ 5.81 ↑ 1.129	1.23 .190				
TOTAL VARIABLES								
	MORE IMPORTANT THAN NORM		9		6		9	
	LESS IMPORTANT THAN NORM		8		4		6	
			1		2		3	
TOTAL RESPONDENTS								
		177	47		77		29	
DESCRIPTION OF SEGMENT								
			Financial Services		Discounts & Mock-up displays		Education by manufacturer	

NOTE: Upper number consists of the raw score on a 1 to 7 scale.
Lower number represents normalized value.

KEY: ↑ Mean (average) score of cluster members greater than mean score for all respondents
↓ Mean (average) score of cluster members less than mean score for all respondents.
* Indicates mean score of cluster significantly greater or less than overall mean.

Hypothesis H_{03B} (Discriminant Analysis)

Each segment developed by the clustering procedures outlined in Hypothesis H_{03A} were submitted to discriminant analyses [Nie, et al., pp. 434-467]. These clusters served as dependent variables. They were discriminated against the demographic (characteristics and classification) information from Part D of each respondent group's questionnaire. The goal was to determine if membership in a cluster (market segment) could be differentiated on the basis of demographic data. Discriminant analysis classifies objects from a set of independent variables into one of two or more mutually exclusive and exhaustive categories. To distinguish between the groups, a collection of discriminating variables are selected that are expected to differentiate the groups. Usually, no single variable will perfectly differentiate the groups. Therefore, by taking several variables and mathematically combining them, one would hope to find a single dimension on which the groups will cluster. Discriminant analysis attempts to do this by forming one or more linear combinations of the discriminating variables, hereafter referred to as "discriminant functions".

Two hundred thirty seven of the 263 dealer respondents were assigned to one of five segments by the clustering algorithm. These were used to build the discriminant function with 33 demographic variables contained in Part D of the questionnaire. Of these, 15 percent or 36 cases were withheld as a holdout sample to judge the adequacy of the classification functions in predicting group membership in the population. Eleven variables

exhibited partial multivariate F ratios greater than 1.0 and significance levels less than .10. Standardized discriminant coefficients were computed for each variable, in order to assist in the interpretation of the variables which significantly discriminated among the groups. Standardized discriminant coefficients are derived by multiplying the unstandardized classification function coefficient by the population standard deviation for each factor. These measurements serve several purposes: 1) they represent the relative contribution of the variable to the functions (factors) derived by the discriminant process; 2) they are analogous to the interpretation of beta weights in multiple regression; 3) as in factor analysis, they can be used to "name" the functions derived; 4) each coefficient represents the effect of the variable on the probability of classification in the group corresponding to the particular discriminant function; and, 5) they are more sensitive measures of the group characteristics than a similar table of means, since they take into account the correlations among the variables [Nie, et al., p. 443; and Levy, 1978, p. 164].

Three discriminant functions were derived with significant eigenvalues and canonical correlations. These were in turn compared to the eleven possible discriminating variables, by computing the standardized canonical discriminant function coefficient for each variable within each of the three functions. As a result of this iterative process, eight variables were selected which best discriminated among the five market segments. These are presented in Table 21, along with their partial F

ratio, significance level and standardized discriminant function coefficient.

TABLE 21
DISCRIMINATING DEMOGRAPHIC VARIABLES ON
DEALER MARKET SEGMENTS

HYPOTHESIS H_{03B}

Variable	Partial F	Signif. Level	Significant Standardized Coefficients		
			Function 1	Function 2	Function 3
1. Avg 5 yr. growth rate	1.370	.031		.412	
2. % inventory to total assets	2.320	.075	.557	-.485	
3. Avg turnover rate	1.468	.017			-.382
4. No. of ongoing accounts	2.096	.108			.797
5. No. of fulltime sales people	2.221	.044		.566	
6. Vendors added-last 5 years	2.285	.023	.565		
7. % of business - major accounts	1.208	.025		.423	
8. % of purchases via "quick ship"	1.175	.020			.313

Based on the above results, it was possible to label each of the discriminating functions, as follows:

- 1 - Profit and vendor change orientation
- 2 - Concern for number of major, on-going accounts
- 3 - Importance of Inventory

Using these data, it was possible to describe all of the five segments. This discrimination is described in Table 22. In addition to the eight discriminating variables identified by the discriminant analysis, one additional variable was identified by

means of a chi square analysis. When respondents were assigned to one of six geographic areas, based on their zip codes, segments three and four showed meaningful differences in their assigned membership ($p < .05$). These distinctions have been added to the bottom of Table 22.

TABLE 22
IDENTIFICATION OF DEALER MARKET SEGMENT
BASED ON SELECTED DEMOGRAPHIC DATA

	MEAN (AVERAGE) VALUE					
	All Respondents	Segment 1	Segment 2	Segment 3	Segment 4	Segment 5
Number of respondents	263	102	22	27	31	55
Annual sales volume	\$6,820,000	\$6,528,000	\$7,345,000	\$6,056,000	\$3,516,000	\$8,565,000
Average rate of growth, last 5 years	25.7%	17.9%	35.0%	23.6%	10.9%	12.6%
Typical after tax profit percent	5.1	3.1%	2.7%	5.4%	3.9%	2.6%
Annualized inventory turnovers--systems product	12.8	3.4	2.4	3.4	8.6	5.8
Approximate space devoted to warehouse storage (square feet)	19,600	17,400	13,600	24,000	9,000	22,000
Number of on-going and repetitive customer accounts served on a regular basis	333	251	692	160	167	293
Number of vendors added--last 5 years	13.8	10.4	11.3	15.3	8.0	7.0
Percent of total office systems business represented by major, on-going accounts	44.0%	32.6%	39.8%	29.5%	36.2%	36.6%
Percent of products purchased from major vendor via a "quick ship" order program	34.2%	26.8%	30.5%	28.8%	29.9%	34.2%
Percent of dealers located in:						
Northeast	18.4%			29.6%		
Southeast	20.3					
Midwest	25.7			40.7	45.2%	
Plains & Rocky Mountains	9.6			3.7	3.2	
Southwest	11.5					
West Coast	14.6			3.7	3.2	

We now turn to the power of the discriminant analyses to predict membership in the correct group (market segment). The bases for this test were derived from: 1) Morrison [1969, p. 158] and Press, 1972, pp. 381-382]. Morrison stated that the probability of a case (individual) being classified correctly (the proportional chance criterion) was:

$$C_{\text{pro}} = \sum_{i=1}^n \left(\frac{n_i}{N} \right)^2$$

where: N = total population in sample
 n_i = observations in each group

The maximum chance criterion can also be computed. It represents the maximum percentage that can be expected to occur. It represents the largest proportion computed in C_{pro} , or:

$$C_{\text{max}} = \max \left(\frac{n_i}{N} \right)^2$$

The actual percentage correctly classified is computed and compared to C_{pro} and C_{max} . If the percent correctly classified exceeds C_{pro} , then it is necessary to determine whether the discriminator is really useful. Press [1972, pp. 381-383] recommended the use of a confusion matrix to compare the similarities among populations. The results of this matrix can be tested as to its discriminatory power by a chi-square measurement, as follows:

$$\chi^2 = \frac{(n - e)^2}{e} + \frac{(\bar{n} - \bar{e})^2}{\bar{e}}$$

where: n = number of correct classifications
 $\bar{n}$ = number of incorrect classifications
 e = expected no. of correct classifications ($C_{pro} \times N$)
 $\bar{e}$ = expected no. of incorrect classifications

Tables 23 and 24 display the confusion matrices for the total population, less holdout -- and the 15 percent holdout sample. Both of these tests predicted (classified) membership at significantly high levels ($p. < .001$).

TABLE 23
CONFUSION MATRIX OF TOTAL RESPONDENTS, LESS HOLDOUT
IN DISCRIMINANT ANALYSIS FOR DEALERS
ON SIGNIFICANT DEMOGRAPHIC VARIABLES

		CLASSIFIED					
		1	2	3	4	5	
ACTUAL	Group 1	77	10	2	2	1	92
	2	36	11	0	0	0	47
	3	19	3	3	0	0	25
	4	15	1	0	5	0	21
	5	13	1	0	0	2	16
		160	26	5	7	3	201
Percent correctly classified					48.8%		
C _{max}					45.8%		
C _{pro}					29.7%		
x ² (Significant at .001)					34.9		

TABLE 24

CONFUSION MATRIX FOR HOLDOUT SAMPLE
IN DISCRIMINANT ANALYSIS FOR DEALERS
ON SIGNIFICANT DEMOGRAPHIC VARIABLES

		CLASSIFIED					
		1	2	3	4	5	
ACTUAL	Group 1	9	0	0	1	0	10
	2	0	6	0	0	0	6
	3	0	0	6	0	0	6
	4	0	0	0	5	1	6
	5	0	0	0	0	8	8
		9	6	6	6	9	36

Percent correctly classified 94.4%

$C_{\max}$ 27.7%

C_{pro} 21.1%

χ^2 (Significant at .001) 117.3

The discriminant methodology used to determine demographic characteristics for dealers was also applied to the three market segments developed for end users. One hundred fifty three of the 177 end user respondents were assigned to one of the three market segments by the clustering procedure. These were used to build the discriminant function with twenty-three demographic variables from Part D of the questionnaire. Fifteen percent, or 23 cases were withheld as a holdout sample. Eleven variables exhibited partial multivariate F ratios greater than 1.0 and significance levels less than .004.

Two discriminant functions were derived with significant eigenvalues and canonical correlations. These were in turn compared to the eleven possible discriminating variables, by computing the standardized canonical discriminant function coefficient for each variable within each of the two functions. As a result, seven variables were determined to discriminate effectively among the three market segments. These are presented in Table 25:

TABLE 25

**DISCRIMINATING DEMOGRAPHIC VARIABLES ON
END USER MARKET SEGMENTS**

HYPOTHESIS H_{03B}

<u>Variable</u>	<u>Partial F</u>	<u>Signif. Level</u>	<u>Significant Standardized Coefficients</u>	
			<u>Function 1</u>	<u>Function 2</u>
1. Annual \$ purchases	.965	.002		
2. Avg. discount % rec'd. last contract	4.744	.002	.649	
% of purchases by:				
3. Large, one time contracts	1.564	.002		-.792
4. Major, on-going	2.072	.001		.956
5. Small, on-going	1.502	.001	-.339	
6. % of contract orders given to mfrs.	1.698	.000	-.387	
7. % of quick ship orders given to dlrs.	3.759	.000		.903

Based on the above results, it was possible to label each of the discriminating functions, as follows:

1. Manufacturer and discount oriented
2. Dealer dependent and contract versus on-going concerns

Using these data, it was possible to describe all of the three segments. This discrimination is described in Table 26:

TABLE 26

IDENTIFICATION OF END USER MARKET SEGMENTS
BASED ON SELECTED DEMOGRAPHIC DATA

	MEAN (AVERAGE) VALUE			
	All Respondents	Segment 1	Segment 2	Segment 3
Number of Respondents	177	47	77	29
Avg. annual purchases of office systems and furniture	\$1,806,000	\$778,000	\$2,052,000	\$454,000
Avg. discount received on last major contract	33.4%	26.9%	39.4%	28.2%
Percent of systems purchases represented by:				
Large, one-time contracts	36.0%	44.7%	31.8%	32.7%
Major, on-going purchases	17.4	23.0	17.7	7.9
Small, on-going purchase	13.6	19.6	10.3	12.7
Percent of annual contract/project orders submitted to:				
Manufacturers	21.0%	8.2%	27.9%	23.4%
Dealers	57.0	64.2	58.0	42.9
Percent of annual "quick ship" orders submitted to:				
Manufacturers	12.7%	3.4%	17.0%	16.3%
Dealers	53.6	61.9	56.0	34.1

Tables 27 and 28 display the confusion matrices for the total population, less holdout -- and the 15 percent holdout sample. Both of these tests predicted (classified) membership at significantly high levels ($p < .001$).

TABLE 27

CONFUSION MATRIX OF TOTAL RESPONDENTS, LESS HOLDOUT
IN DISCRIMINANT ANALYSIS FOR END USERS
ON SIGNIFICANT DEMOGRAPHIC VARIABLES

		CLASSIFIED			
		1	2	3	
ACTUAL	Group 1	17	23	0	40
	2	8	58	1	67
	3	8	15	0	23
		33	96	1	130

Percent correctly classified 57.7%

$C_{\max}$ 51.5%

C_{pro} 39.1%

χ^2 (Significant at .001) 18.8

TABLE 28

CONFUSION MATRIX FOR HOLDOUT SAMPLE
IN DISCRIMINANT ANALYSIS FOR END USERS
ON SIGNIFICANT DEMOGRAPHIC VARIABLES

		CLASSIFIED			
		1	2	3	
ACTUAL	Group 1	7	0	0	7
	2	0	9	1	10
	3	1	0	5	6
		8	9	6	23
Percent correctly classified					91.3%
$C_{\max}$					43.5%
C_{pro}					35.0%
χ^2 (significant at .001)					32.1

Conclusions from H₀₃

Based on the results of the procedures employed to determine whether managerially useful market segments could be developed, Hypotheses H_{03A} and H_{03B} were both rejected.

Hypothesis H_{03A} projected it would not be possible to distinguish market segments based on respondents' perceived importance of the marketing services offered by manufacturers. The clustering procedure was able to identify five dealer and three end user groups.

Hypothesis H_{03B} proposed that the market segments developed by the clustering algorithm could not be further identified and described managerially using demographic data. Discriminant analysis was able to distinguish selected demographic values for each of these market segments (for example, average growth rate and profits, number of accounts served, annual purchases of office systems product, geographic area, etc.), and to identify those groups which differed substantially from all other channel members. However, none of the largest dealers (in terms of annual sales/revenue) were included in any of the dealer market segments. This indicated that there were numerous small groups of large volume dealers that required varying combinations of marketing services. In other words, to successfully service these accounts would require specially tailored marketing strategies. Conversely, average and/or small dealers could be grouped into broadly defined categories based on the marketing services provided by manufacturers, and could be managerially described using a relatively small set of demographic data.

The discriminant analyses and holdout sample both performed at statistically significant levels. The results of the proportional chance criterion analyses (C_{pro}) for the holdout sample should be kept in perspective. The holdout samples for both dealers and end users were relatively small. Also, the dealer discriminant analyses tended to place market segments two through five in the first, and largest, segment group.

On the other hand, the demographic variables selected as significant discriminators were clearly understandable and intuitively sensible, from a managerial standpoint. This was particularly true for the end user respondent group, in which these variables clearly identified major differences among the market segments.

CHAPTER 6

SUMMARY AND CONCLUSIONS

The purpose of Chapter 6 is to summarize the research findings and provide major conclusions of the study. The initial section of the chapter reviews both the purposes of the study and the research design employed. The second section summarizes the data base used. Next, the research hypotheses and findings are discussed. Then, conclusions are presented and implications for both academicians and practitioners are explored. The chapter concludes with some suggestions for future research.

SUMMARY OF RESEARCH PURPOSE AND DESIGN

The purpose of the research was fourfold: 1) to test a methodological framework with the ability to predict relative industry share of business by manufacturers based on the perceived effectiveness of manufacturers' marketing services; 2) to determine the relative contribution of each of the four marketing mix components to overall share of business; 3) to accurately identify and describe market segments based on the unique customer service and other marketing services requirements of each of the different echelons that comprised a marketing channel; and, 4) to identify customer service standards and levels and recommend appropriate integrative strategies in a multi-echelon channel, using a methodology that could be utilized in the future by management.

Past empirical research dealing with customer service focused on multiple industries [Cunningham and Roberts, 1974; LaLonde and Zinszer, 1976; Perreault, 1973; Simon, 1965] -- or a

single industry [Gilmour, 1977; LaLonde and Levy, 1977; Levy, 1978; Tucker, 1980; Willett and Stephenson, 1968]. With the exception of LaLonde and Levy [1977] and Tucker [1980] these studies did not examine more than a single level/echelon in the marketing channel, and none included key decision influencers in their analyses. In addition, no empirical studies to date extended the findings for a unique industry to the firm specific level, where actual conclusions with respect to alternative marketing strategies must eventually be tested. This approach enables a researcher to: identify and accurately describe all of the variables used in the decision process; identify salient (determinant) variables; and, obtain conclusions that are both generalizable and managerially useful.

In order to accomplish the research objectives and avoid the problems encountered in past non-industry specific research, the study concentrated on one industry and emphasized investigations at the firm level. The literature pertaining to logistics strategies, customer service, the relationship of logistics to marketing, industrial buying behavior and market share models were reviewed. From this search, a methodology was developed to achieve the stated objectives of the research. It consisted of the following;

1. In-depth interviews were conducted with twenty-six dealers, end users and key decision influencers in the office systems and furniture industry. This enabled the researcher to identify the major marketing services used by customers to select, retain and evaluate the performance of vendors.
2. Questionnaires were developed from the in-depth interviews and mailed to dealers, end

users and key decision influencers in the industry. Separate questionnaires were designed for each of the three respondent groups.

3. In addition to identifying the key marketing services used by customers, the questionnaires also obtained customer service standards expected of manufacturers, ratings by customers of up to four manufacturers with respect to their perceived performance on the marketing services, and key demographic information.
4. Evaluations of customer perceptions with respect to perceived performance of vendors were compared to customers' expected service levels and to the performance of the participating firm in order to determine salient variables.
5. Results of the questionnaires were analyzed to identify: differences in importance rankings and perceived vendor performance among the three channel levels investigated; the marketing services variables that, if changed, offered the best opportunity for increased market share; and managerially useful market segments.

SUMMARY OF DATA BASE USED

Each questionnaire contained four parts: (A) importance rankings on approximately 100 marketing services variables; B) expected customer service performance and/or standards; C) evaluations of vendors' performance on the same marketing services examined in Part A; and, D) respondent characteristics and classification (demographic) information. Separate questionnaires were sent to each of three respondent groups. A total of 562 completed surveys were received: 263 from dealers; 177 from end users; and 122 from key decision influencers in the channel (A&D firms). This represented response rates of 35%, 18% and 15%, respectively. End user and A&D firm response rates were

close to expected rates. Because of the length and complexity of each questionnaire, sufficient sample sizes were created that would provide an adequate data base with a 15 to 20 percent response rate. Dealer response rates were higher than anticipated because special efforts were made to increase respondent participation of the group, such as pre survey and follow-up telephone calls to representative dealers.

Contrary to results from prior customer service studies, the number of responses was sufficiently large to perform the desired multi-variate statistical analyses on both an industry-wide and channel wide basis.

REVIEW OF RESEARCH FINDINGS

This section presents the findings related to each of the three major hypotheses posited, as well as the findings related to the other analyses performed as part of the methodology used in the study.

Findings: Research Hypotheses

- H₀₁ There is no significant relationship between the level of share of business of manufacturers (both currently allocated by customers and ideal/preferred allocations of customers) --- and evaluations by intermediaries (dealers), and users (customers) and key decision influences of manufacturers' performance with respect to the variables used to select and retain vendors.

Multiple regressions were performed on both current and ideal/preferred relative share of business of the fifteen major vendors in the industry. The independent variables consisted of each Part A importance score for the various marketing services

multiplied by the perceived performance of individual manufacturers as evaluated by respondents. This model was able to successfully predict market share. Significant R squares were achieved for all six analyses (current and preferred share for the three respondent groups). The research concluded that performance with respect to marketing services offered by manufacturers does lead to market share. Therefore, this hypothesis was rejected from all the perspectives examined.

H₀₂ The marketing mix components of product, price, promotion and physical distribution/customer service contribute equally to the levels of share of business that dealers, end users and key decision influencers currently allocate and would prefer to allocate to manufacturers.

Ten scales were created from the evaluation of vendor performance by customers. These scales were developed by factor analyzing the 99, 88 and 82 marketing services evaluated in Part C of the dealer, end user and A&D firm questionnaires, respectively. Each marketing mix was represented by two or three scales consisting of mean scores (customer evaluations of vendor performance) of the Part C variables that best characterized each scale. The scales were used as independent variables in multiple regressions of both current and preferred share of business for all three respondent groups.

The results of the regressions indicated that both product and physical distribution/customer service factors contributed to the shares of business in all of the cases examined. As expected, product factors exhibited larger beta weights. The most frequent factors were "product flexibility" and "order

cycle/lead time". Both price and promotion influences occurred less frequently. In fact, promotion factors failed to influence either end user current or preferred share, and price played no role in predicting dealer share allocations. Therefore, Hypothesis H_{02} was generally rejected for both current and preferred market share allocations. The only exception was current market share allocated by A&D firms, in which all four components of the marketing mix were present.

H_{03A} Unique groups of dealers and end users cannot be identified on the basis of their importance ratings of the marketing services provided by manufacturers.

Ward's Minimum Variance hierarchical clustering algorithm was used to determine market segments for both dealers and end users. The bases used to group respondents were the importance scores on selected marketing services variables from Part A of each respondent group's questionnaire. Using factor analysis the full set of variables were reduced from 100 to 28 for dealers and from 93 to 30 for end users. This was done in order to delete insignificant services and to emphasize those services for which the greatest variance in perceived importance existed among the respondents.

Five dealer and three end user market segments were identified by the clustering algorithm. They displayed distinct differences in the variables which they perceived as important or unimportant. The five dealer segments were identified as follows:

1. Financial counseling and assistance

2. Nothing is overly important, but a few are unimportant
3. Order cycle consistency
4. Personal selling services
5. "Quick" ship services and order completeness

The end user segments identified by the study emphasized the following marketing service needs:

1. Financial (credit and payment) terms
2. Discounts and "mock-up" displays
3. Education/training assistance by manufacturer

Based on the results of the clustering process, Hypothesis 3A was rejected because it was possible to segment customers on the basis of their perceived importance of the marketing services provided by manufacturers.

H_{03B}: There are no statistically significant differences in demographics exhibited by each market segment group identified in H_{03A}.

Discriminant analysis was used to differentiate market segments on the basis of their demographic characteristics -- so that managerially useful customer groups could be identified. The discriminating procedure was able to predict overall membership in the various market segments at levels which were statistically significant ($p < .001$). This was accomplished by using eight demographic variables for dealers and seven variables for end users. When the results were validated by means of a holdout sample, the prediction levels were statistically significant at $p < .001$ for both dealers and end users. The variables which differentiated market segments were understandable and managerially useful.

For dealers, the variables were:

1. Average growth rate, last 5 years.
2. Typical after tax profit percent.
3. Inventory turnovers of systems product.
4. Space devoted to warehouse storage.
5. Number of on-going, repetitive customer accounts.
6. Number of vendors added, last 5 years.
7. Percent of business done with major, on-going accounts.
8. Percent of purchases ordered via a "quick ship" program.

For end users, the variable were:

1. Annual dollar purchases of office systems product.
2. Average discount percent received - last major contract.
3. Percent of purchases represented by:
 - a. Large, one-time contracts.
 - b. Major, on-going purchases (Blanket orders).
 - c. Small, on-going purchases.
4. Percent of annual contract/project orders submitted to manufacturers directly.
5. Percent of annual "quick ship" orders submitted to dealers.

Based on these facts, H_{03B} was rejected for both dealers and end users. That is, it was possible to distinguish market segments on the basis of their demographic characteristics.

Findings: Other Analyses Performed

Analysis of the four parts of the questionnaires for each respondent group and between/among respondent groups disclosed that:

1. It is a mistake to use variables developed in past research because: they may be applicable only to a specific industry, or channel level; they may not have been accurately constructed/defined; and, important/determinant variables may be overlooked.
2. In-depth pre-tests are necessary to construct accurate, meaningful questionnaires.
3. The quantity and type of variables derived from this study indicated that the process used by dealers, end users and A&D firms was both complex and not subject to a simple strategy in which only one of the marketing mix components (product, price, promotion/advertising, physical distribution/customer service) could be emphasized.
4. It was apparent from the analyses which were performed, that separate bundles of marketing services must be developed to successfully satisfy dealers, as opposed to end users and/or A&D firms. In other words each level in the channel was looking for distinctly different services from manufacturers. This increases the complexity of the marketing planner's job.
5. Dealers, end users and A&D firms perceived that no single manufacturer was providing superior service on 26, 29 and 36 of the marketing services, respectively. Nine of the sixteen variables rated as most important by each respondent group fell into this category. Five of these variables represented physical distribution/ customer service which lends credence to the contention that this area offers real opportunities to gain share of business.
6. Overall, the findings indicated that customers (including dealers) could be encouraged to switch brands if someone were to increase performance in these presently unserved areas.

CONCLUSIONS AND IMPLICATIONS

The implications of the research for academicians and practitioners are presented in this section.

Impact of Marketing Services on Market Share

The results of this study illustrate that share of business was a function of both the number and quality of marketing services provided by manufacturers to all levels in the marketing channel. These results are impressive, when one considers that a manufacturer's success can be influenced by the following:

1. The quality and skills of both manufacturer and dealer management personnel.
2. The number, size and location of a manufacturer's dealer network.
3. The degree to which competitors elect to segment markets and develop strategies for a few segments or all segments.
4. External environmental factors that can differ significantly by geographic market area (for example: industries served, economic climate, and the role of key decision influencers.
5. The issues of power, conflict and co-operation that typically exist in a marketing channel between a manufacturer and its intermediaries (dealers).

The study indicated that a linear, additive model as opposed to other, more complex models proposed in the literature, performed very satisfactorily and produced reliable results.

Comprehensiveness of Variables Used

Empirical studies have usually viewed customer service too broadly or very narrowly in the over all context of the marketing

environment. That is, they have either included non physical distribution/customer service attributes under the guise of "customer service," or have ignored the role and influence of other functional areas of marketing. This research avoided past deficiencies by employing the following concepts in an empirical setting: 1) customer service represents the output of the physical distribution system; 2) customer service must be explored in conjunction with, and compared to, services related to the other components of the marketing mix; 3) trade-offs exist between/among the various marketing services provided by manufacturers to customers; 4) it is important to examine multiple levels in a marketing channel, including those who influence the buying decision; 5) the research should examine both industry wide and firm specific data in order to identify meaningful marketing strategies; and, 6) wherever possible, the data collected on each marketing service variable should include importance ratings, evaluation of specific vendors' performance and required standards/levels of performance. Including all of the variables considered when making the decision to buy allows management to establish customer service objectives, while simultaneously giving full consideration to both overall marketing strategies and explicit customer needs.

The Role of Physical Distribution in Marketing

Since most firms have limited marketing resources, managers must apportion their resources in a manner that will maximize overall marketing efficiency and effectiveness. Too often, past studies and the marketing literature have virtually ignored the

importance of physical distribution in achieving overall customer satisfaction and share of business. This research addressed this issue by showing that physical distribution/customer service is an integral and necessary component of the marketing mix, and that it offers a significant opportunity for firms to gain a differential advantage in the market place. The study facilitated a broadened view of marketing by showing for the industry studied:

1. Which components of the marketing mix contributed most to the share of business allocated to manufacturers by customers.
2. The importance of customer service with respect to the other components of the marketing mix.
3. How much, and what type of customer service was required to develop an effective, overall marketing strategy.
4. That managerially useful market segments could be constructed on the basis of customers' marketing services requirements.

Construction of Variables in Research

During the course of the pre-test phase of the research significant changes were made to the set of variables originally constructed for the questionnaires. Approximately 45% of the variables used in the dealer questionnaire came from prior research. Forty percent of the variables used in both the end user and A & D firm questionnaires were derived from past studies. Therefore, 55% to 60% of the variables used in this research were derived from other sources, such as in-depth interviews and prior business experiences of the researcher and his chairman. Many of the variables added involved both industry

specific and generic, non physical distribution services. As a result, 99, 88 and 82 variables were examined for the three channel levels researched, respectively. Of these, 72 variables were common to all three channel levels. The largest previous list of variables numbered 71 [Levy, 1978]. The present study also disclosed that the construction of both channel and industry specific variables through exhaustive pre-test interviews will prevent non-uniformity of interpretation, vagueness, and inconsistent responses which have plagued prior empirical studies.

In addition, the quality and contributions of the pre-test phase of the study insured that all meaningful variables were identified. Therefore, if the study were to be replicated in other industries, another exhaustive series of pre-test interviews would be preferable to merely duplicating the variables used by this research.

Finally, sufficiently comprehensive questions should be included so that extensive analyses can be performed on respondents' demographic characteristics and expected customer service standards and/or requirements. The study was able to achieve its objectives because a sufficiently large data base was available for the analyses. The length of the questionnaire did not result in unacceptably low response rates.

Determinance Versus Importance

Importance ratings and evaluations of vendors' performance were obtained for all of the marketing services variables used to select, retain and evaluate vendors in the industry studied. The

methodology reduced the likelihood of omitting determinant and/or salient variables during the analysis phase of the research. Prior studies have frequently emphasized the importance ratings of the variables researched, which assume that the variables rated most important determine the share of business given to each vender. Unfortunately, this logic ignores the following facts:

1. All of an industry's major suppliers may be performing at "threshold" levels or approximately equal, which makes it difficult to distinguish between suppliers.
2. Variables where significant variances in vendor performance occur may be better predictors of market share than the variables described in 1, above.
3. A variable may be rated as extremely important by customers, but no single, or very few suppliers, are providing satisfactory levels of service. These offer opportunities to provide differential service in the market place.
4. A variable could be rated low in importance with a low variance in response. In addition no single supplier provides adequate service levels. Therefore, customers do not recognize the advantages of superior service. If one vendor improved performance it could lead to gains in share of business in the future.

In addition to concentrating on importance scores, several past research efforts have deleted variables from data analyses such as multiple regressions, discriminant analysis and clustering algorithms. This was usually done in order to avoid a poor attribute/respondent ratio and was accomplished by arbitrarily dropping those variables with the smallest variance in mean responses (also usually the most important) -- or by

omitting the lowest ranked variables, regardless of their variance. As pointed out in the preceding discussion this decision could very well cause "salient" or "determinant" variables to be omitted from analyses critical to the success of the study. The research obtained importance and performance evaluations on all variables. Variables were deleted only on the basis of established data reduction techniques, such as factor analysis. Therefore, the study was able to identify all of the variables for which continued or improved service will or could lead to differential advantage and added share of business.

Validation of Methodology

The methodology used in the study recognized and included all of the variables considered when making the decision to buy. In addition, it recognized the impact of channel member interactions on both customer service requirements and marketing strategies. Previous empirical research was not able to establish the importance of customer service within a channel or across the different channel levels when analyzing customer service in conjunction with the other marketing services available to channel members.

Some of the components of the research methodology used in this study have been used in prior research. This research integrated these ingredients with other necessary procedures, such as an internal audit of a selected manufacturer's current performance levels and an evaluation of customer perceptions at the firm specific level. The overall methodology proved to be very effective in achieving the goals of the study as originally

developed. It was also constructed so as to be transferable to other firms in other industries. By conducting this research in additional industries the results of this study can be generalized. Thus, the methodology provides managers with a definitive and practical operating procedure to use as the occasion may require.

SUGGESTIONS FOR FUTURE RESEARCH

The study succeeded in testing several significant hypotheses and in implementing a methodology for integrating customer service strategies with other marketing strategies. As such, it dealt with customer service, prediction of share of business, and market segmentation from both theoretical and managerial perspectives. However, there appear to be extensions and refinements of this research that need to be pursued in the future.

1. Certainly, the methodologies and hypotheses tested by this research should be replicated in other industries. The industry selected for this research, office systems and furniture, manufactures and sells products that are in the growth stage of the product life cycle. It would be meaningful to determine if customer service is more or less important in other industries, and/or at varying stages of the product life cycle.
2. Past studies have proposed that a list of customer service variables could be generalized into a common set of service attributes. In order to test this, the variables from past research could easily be extracted from this study, to determine if similar results would have occurred if fewer variables had been used.
3. The issue of "saliency" and/or "determinancy" in the selection, retention and evaluation of vendor performance should be pursued further. The research has indicated that important

variables did not necessarily lead to increased market share and were not meaningful in segmenting customer markets.

4. The determinant variables derived from this study need to be pursued further by follow-up research similar to that conducted by Levy [1978]. The objectives, once the key variables that lead to share of business have been identified, would be: to determine the relative levels of each that will provide a firm with the best overall marketing package; and, to identify the variables which offer the best opportunity to improve performance.
5. The methodology used to segment industrial markets should be re-examined. The basic premise that segments can be identified based on the marketing services needs of customers appears to be valid. From a marketing management viewpoint, this approach is intuitively appealing. Additional studies need to be performed to substantiate these findings.
6. Studies could be designed that recognize the impact of, and the need to integrate, customer service into overall marketing strategies. For example, how does customer service influence channel performance, power, conflict and satisfaction, compared to the other components of the marketing mix, such as promotion and price?
7. The marketing mix concept states that all of the marketing services offered by firms can be grouped into four primary categories: price, product, promotion and physical distribution. Based on the findings of this research, in which ten functionally oriented, underlying factors were identified, the marketing mix concept would appear to be too simplistic. Therefore, there is a need to re-investigate this concept to determine if a more managerially useful construct should be proposed.

CONCLUDING COMMENTS

In the future, firms cannot afford to concentrate on a few marketing services if they hope to survive in the market place. Successful firms will be those that allocate their overall budget among the marketing mix elements more effectively and efficiently than competitors. The methodology and findings developed by this research demonstrate that integrated marketing strategies can be developed which will enable a firm to gain market share and improve performance in the most critical areas of marketing. The research also recognizes and demonstrates that management should give full consideration to both overall marketing strategies and explicit customer needs and required customer service objectives, when establishing overall marketing strategies.

A P P E N D I C E S

A P P E N D I X A

Mail Questionnaire: Dealers

**Michigan State University
Survey of Marketing Services Used By Dealers
In the Office Systems & Furniture Industry**

MICHIGAN STATE UNIVERSITY **SURVEY OF MARKETING SERVICES USED BY DEALERS** **IN THE OFFICE SYSTEMS & FURNITURE INDUSTRY**

PART A: IMPORTANCE OF MARKETING SERVICES

INSTRUCTIONS: Listed on the following pages are various services that may be provided by manufacturers to their dealers in the office systems and furniture (i.e., wood, steel and seating) industry. Please circle, on a scale of 1 to 7, the number which best expresses the importance to your firm of each of the factors used to select and retain vendors. If a factor is not applicable, not used by your firm, or possesses very little weight in your evaluation of suppliers, please circle number 1 (not important). A rating of 7 (very important) should be reserved for those factors that both possess significant weight in your evaluation of suppliers, and also would cause you to reevaluate the amount of business done with the vendor in the event of inadequate performance.

Example:	Check (✓) If Not Used	IMPORTANCE						
		Not Important		Somewhat Important			Very Important	
		1	2	3	4	5	6	7
• Product quality.....	_____	1	2	3	4	5	6	7
• Average order cycle times (from order submission to delivery).....	_____	1	2	3	4	5	6	7

VARIABLES CONSIDERED	Check (✓) If Not Used	IMPORTANCE						
		Not Important		Somewhat Important			Very Important	
		1	2	3	4	5	6	7
1. Realistic, consistent pricing policy by manufacturer to dealers over an extended time frame.....	_____	1	2	3	4	5	6	7
2. Ability of manufacturer to educate and users on productivity and functional advantages to be gained from installation of equipment.....	_____	1	2	3	4	5	6	7
3. Overall manufacturing and design quality of product relative to the price range involved.....	_____	1	2	3	4	5	6	7
4. Length of promised order cycle (lead) times (from order submission to delivery)	_____							
-made to order product (contract orders).....	_____	1	2	3	4	5	6	7
-base line/in stock (quick ship) product.....	_____	1	2	3	4	5	6	7
5. Breadth of product line offerings	_____							
-major vendor source.....	_____	1	2	3	4	5	6	7
-other suppliers.....	_____	1	2	3	4	5	6	7
6. Access to a manufacturer's showroom/regional sales office in your immediate market area.....	_____	1	2	3	4	5	6	7
7. Long-term contractual relationship available from manufacturer.....	_____	1	2	3	4	5	6	7
8. Manufacturer absorbs cost of freight and handling on returns due to damaged product and/or shipping errors.....	_____	1	2	3	4	5	6	7
9. Ability of manufacturer to meet promised delivery date (on-time shipments).....	_____	1	2	3	4	5	6	7
10. Number of new products/product lines introduced annually by manufacturer.....	_____	1	2	3	4	5	6	7
11. Availability of manufacturer sales reps to participate in customer sales calls and project bids.....	_____	1	2	3	4	5	6	7
12. Extended dating and/or installment payment terms available.....	_____	1	2	3	4	5	6	7
13. Manufacturer's adherence to special shipping instructions (e.g., job site delivery, specific delivery time).....	_____	1	2	3	4	5	6	7
14. Order cycle consistency (small variability in promised vs. actual delivery, i.e., vendor consistently meets expected date).....	_____	1	2	3	4	5	6	7

	Check (✓) If Not Used	IMPORTANCE						
		Not Important		Somewhat Important			Very Important	
		1	2	3	4	5	6	7
15. Advance notice received from manufacturer on deletion of products	_____	1	2	3	4	5	6	7
16. Updated and current price data, specifications and promotion materials provided by manufacturer	_____	1	2	3	4	5	6	7
17. Additional cash discounts for early or prepayment	_____	1	2	3	4	5	6	7
18. Assistance from manufacturer in handling carrier loss and damage claims	_____	1	2	3	4	5	6	7
19. Maintenance of back-up inventory by manufacturer to support your on-going needs in a fast responsive manner	_____	1	2	3	4	5	6	7
20. Safety and fire protection oriented features of manufacturer's product	_____	1	2	3	4	5	6	7
21. Co-operative trade show participation and/or assistance from manufacturer	_____	1	2	3	4	5	6	7
22. Adequate discount payment period and/or options available	_____	1	2	3	4	5	6	7
23. Manufacturer's willingness to accept returns by dealers of product damaged and/or shipped in error	_____	1	2	3	4	5	6	7
24. No or low minimum order quantity requirements on base-line, in-stock (quick ship) orders	_____	1	2	3	4	5	6	7
25. Continuity (non-obsolescence) of system products/product lines over an extended time frame	_____	1	2	3	4	5	6	7
26. Coordination by manufacturer of new product availability with introductory advertising and promotion activities	_____	1	2	3	4	5	6	7
27. Direct mail material available from manufacturer	_____	1	2	3	4	5	6	7
28. Fees paid by manufacturer for reimbursement to dealer for local servicing of national/direct sales accounts	_____	1	2	3	4	5	6	7
29. Frequency of deliveries (ability of manufacturer to consolidate multiple and/or split shipments into one larger, less frequent shipment)	_____	1	2	3	4	5	6	7
30. Ability of manufacturer to automatically backorder base line/in stock items ordered under "quick ship" programs	_____	1	2	3	4	5	6	7
31. Energy and wire management solutions (the ability to adapt new and old product to meet electrical, communication and lighting needs)	_____	1	2	3	4	5	6	7
32. Manufacturer sponsored seminars	_____	1	2	3	4	5	6	7
33. Price range of product line offering (e.g., low, medium, high price levels) -major vendor source	_____	1	2	3	4	5	6	7
-other suppliers	_____	1	2	3	4	5	6	7
34. Fill rate on base line/in stock items (% of order included in initial shipment)	_____	1	2	3	4	5	6	7
35. Access to a manufacturer's assembly and/or warehousing area	_____	1	2	3	4	5	6	7
36. Ease, simplicity and time required to set-up work station modules	_____	1	2	3	4	5	6	7
37. Assistance available in organizing & conducting dealer held seminars	_____	1	2	3	4	5	6	7
38. Flexibility of credit policies to meet special situations	_____	1	2	3	4	5	6	7
39. Accuracy in filling orders (correct product is shipped)	_____	1	2	3	4	5	6	7
40. Advance notice on shipping delays	_____	1	2	3	4	5	6	7
41. Ability of manufacturer to identify and supply high volume product as part of "quick ship" program	_____	1	2	3	4	5	6	7

	Check (✓) If Not Used	IMPORTANCE						
		Not Important		Somewhat Important			Very Important	
		1	2	3	4	5	6	7
42. Number of sales calls per year from manufacturer's sales representatives	_____	1	2	3	4	5	6	7
43. Expedient recognition of claims, debits and credits (due to overcharges, shortages, adjustments, pricing errors, etc.)	_____	1	2	3	4	5	6	7
44. Freight pickup allowances for dealers wishing to pickup orders at the manufacturers' warehouses	_____	1	2	3	4	5	6	7
45. Free WATS line provided for entering orders with manufacturer	_____	1	2	3	4	5	6	7
46. Innovativeness of product (introductions of new, unique products)	_____	1	2	3	4	5	6	7
47. Timely response to requests for assistance from manufacturer's sales representative	_____	1	2	3	4	5	6	7
48. General terms and conditions of sale (e.g., quantity discounts, freight terms, payment terms & order procedures)	_____	1	2	3	4	5	6	7
49. Completeness of order (% of line items eventually shipped complete)	_____	1	2	3	4	5	6	7
-made to order product (contract orders)	_____	1	2	3	4	5	6	7
-base line/in stock (quick ship) product	_____	1	2	3	4	5	6	7
50. Prepaid shipment terms (paid by manufacturer) vs. collect (paid by you)	_____	1	2	3	4	5	6	7
51. Availability of active replacement parts stock from manufacturer	_____	1	2	3	4	5	6	7
52. Assistance from manufacturer's sales representatives in structuring orders to manufacturer	_____	1	2	3	4	5	6	7
53. Quantity discount structure	_____	1	2	3	4	5	6	7
54. Accuracy of manufacturer in forecasting and committing to estimated shipping dates on contract/project orders	_____	1	2	3	4	5	6	7
55. Manufacturer's policy on goods returned from customers to dealers	_____	1	2	3	4	5	6	7
56. Trade-in allowances on used materials/products	_____	1	2	3	4	5	6	7
57. Promptness in payments of fees by manufacturer for reimbursement to dealer for local servicing of national/direct sales accounts	_____	1	2	3	4	5	6	7
58. Availability of inventory status information for base line/in stock items, under "quick ship" programs	_____	1	2	3	4	5	6	7
59. Adequate identification/labeling of carton contents	_____	1	2	3	4	5	6	7
60. Availability of "mock-ups" on quick turnaround basis	_____	1	2	3	4	5	6	7
61. Parts standardization (minimum number of parts across multiple products and/or product lines)	_____	1	2	3	4	5	6	7
62. Manufacturer provided strategic market information (e.g., sales, market share) by product category, market area, etc.	_____	1	2	3	4	5	6	7
63. In-store advertising material provided by manufacturer	_____	1	2	3	4	5	6	7
64. Efficient and interactive order entry procedures (ability to provide input to manufacturer as order is being entered via phone)	_____	1	2	3	4	5	6	7
65. Frequent new product introductions (one or two times a year)	_____	1	2	3	4	5	6	7
66. Assistance provided by manufacturer in entertaining and/or closing key customer project/contract orders	_____	1	2	3	4	5	6	7
67. National media advertising on part of manufacturer	_____	1	2	3	4	5	6	7

	Check (✓) If Not Used	IMPORTANCE						
		Not Important		Somewhat Important			Very Important	
		1	2	3	4	5	6	7
68. Remote order transmission (computer-to-computer order entry)	_____	1	2	3	4	5	6	7
69. Adequate availability of (ability to order) newly introduced products	_____	1	2	3	4	5	6	7
70. Manufacturer salespeople available to participate in dealer sales meetings	_____	1	2	3	4	5	6	7
71. Co-operative advertising funds provided by manufacturer	_____	1	2	3	4	5	6	7
72. Ability of manufacturing source to meet specific and/or unique customer service and delivery needs of individual customers	_____	1	2	3	4	5	6	7
73. Advance information (literature, specs, prices, etc.) on new product introductions	_____	1	2	3	4	5	6	7
74. Formal training programs by manufacturer in the area of facility management (e.g., layout and design, installation, user installation, user orientation, systems repair and remodeling and/or modification)	_____	1	2	3	4	5	6	7
75. Palletized and unitized loads where possible for handling efficiency	_____	1	2	3	4	5	6	7
76. Overall aesthetics and finish of product	_____	1	2	3	4	5	6	7
77. Store layout planning assistance from manufacturer	_____	1	2	3	4	5	6	7
78. Sales incentive programs offered by manufacturer	_____	1	2	3	4	5	6	7
79. Availability of status information on open orders	_____	1	2	3	4	5	6	7
80. Quality of both main product & parts packaging (with respect to transportation and warehousing activities)	_____	1	2	3	4	5	6	7
81. Ability of manufacturer to inspect/diagnose problem areas and monitor product quality of installations	_____	1	2	3	4	5	6	7
82. Financial counseling and assistance provided by manufacturer (e.g. credit and financing arrangements)	_____	1	2	3	4	5	6	7
83. Action on complaints related to order servicing and shipping	_____	1	2	3	4	5	6	7
84. Floor plan layout and design services and/or assistance for customers available from manufacturer	_____	1	2	3	4	5	6	7
85. Dealer councils and/or advisory committees	_____	1	2	3	4	5	6	7
86. Prompt and comprehensive bid quotations	_____	1	2	3	4	5	6	7
87. Ability of manufacturer to change requested delivery date of made to order product (contract orders)	_____	1	2	3	4	5	6	7
88. Availability of obsolete replacement parts from manufacturer	_____	1	2	3	4	5	6	7
89. In-store dealer display packages provided by manufacturer at special pricing	_____	1	2	3	4	5	6	7
90. Competitiveness of price	_____	1	2	3	4	5	6	7
91. Ability to select delivering carriers	_____	1	2	3	4	5	6	7
92. Financing arrangements from manufacturer for "mech-ups"	_____	1	2	3	4	5	6	7
93. Aid from manufacturer in development of dealer promotional materials and strategies	_____	1	2	3	4	5	6	7
94. Special pricing discounts available on contract/project quotes	_____	1	2	3	4	5	6	7
95. Accurate and timely billing (invoicing)	_____	1	2	3	4	5	6	7

	Check (✓) If Not Used	IMPORTANCE						
		Not Important		Somewhat Important			Very Important	
		1	2	3	4	5	6	7
96. Flexibility/ease of interchangeability of products in component systems	_____	1	2	3	4	5	6	7
97. Inventory management counseling and assistance provided by manufacturer	_____	1	2	3	4	5	6	7
98. Adequate advance notice of price changes provided	_____	1	2	3	4	5	6	7
99. Ability to expedite and/or provide rush service on product orders	_____	1	2	3	4	5	6	7

PART B: EXPECTED CUSTOMER SERVICE PERFORMANCE &/OR STANDARDS

Please provide the following information with respect to the levels of customer service that you require and/or expect from your suppliers of office systems and furniture products.

1. What are the minimum number of sales calls to your facility/office that you require from manufacturers' sales representatives during a typical year?

major source _____ other major sources _____ smaller sources _____

2. How much advance notice do you expect (require) for price changes? _____ WEEKS

3. Please indicate the methods currently used to transmit orders to your major manufacturing source. Your answer should pertain to the number of orders submitted. (Distribute 100 points among the following alternatives)

"Quick Ship" Orders	Contract Orders	
_____	_____	U.S. mail
_____	_____	TWX and/or other communication terminal
_____	_____	Free inward telephone line (paid by manufacturer)
_____	_____	Other telephone communication (paid by you)
_____	_____	Hand delivered to manufacturer's sales rep
_____	_____	Other (specify) _____
100 pts.	100 pts.	TOTAL

4. Under normal conditions what is the total average order cycle (lead) time (in calendar days) that you expect/desire from a manufacturer? (from time order is placed to day received)

Made to order product (contract orders) _____ WEEKS Base line, in-stock product (quick ship orders) _____ DAYS

5. What is the range in order cycle (lead) time that you will normally accept? (maximum acceptable delay in days that you will allow beyond the promised delivery date)

Made to order product (contract orders) _____ WEEKS Base line, in stock product (quick ship orders) _____ DAYS

6. What is the minimum acceptable order completeness service level that you expect/desire from a manufacturer? (% of line items eventually shipped complete)

Office furniture and seating _____% Office systems product _____%

7. What is the minimum acceptable order fill rate service that you expect on base line, in-stock product ordered via "quick ship" programs? (% of order included in initial shipment): _____%

8. What order fill rate do you currently receive from your major manufacturing source on base line, in-stock product ordered under "quick ship" programs? (% of order included in initial shipment): _____%

9. How much advance notice would you prefer prior to the arrival of your orders?

a. Made to order product (contract orders) _____ DAYS/ _____ WEEKS

b. Base line, in-stock product (quick ship orders) _____ DAYS

10. In the event of delay in a project/contract by your customer, how close to the original requested ship date do you expect the manufacturer to be able to grant an extension in the original delivery date? _____ (WEEKS PRIOR TO THE SCHEDULED DATE)

11. Which of the following alternatives do you prefer in the event that your order cannot be filled by the committed and/or requested delivery date? (Circle Number of Single Most Preferred Choice in Each Column):

Backorder Affects Installation	Backorder Does Not Affect Installation
1	1
2	2
3	3

Backorder (hold until all product is available and ship complete)
 Cancel unavailable items and ship balance by committed date
 Split ship (ship quantities as they become available)

12. In the event you were to lose your major vendor as a supplier, what percent of your total revenue from office systems and furniture (steel, wood and seating) product do you believe you would lose (after replacing him with another vendor)? _____ %

13. If you receive a backorder or stockout notice on a base line, "quick ship" order, do you cancel your order and switch to another supplier? (Circle Number of Most Commonly Utilized Alternative in Each Column):

Major Vendors	Other Vendors
1	1
2	2
3	3

Yes, Always
 Yes, Sometimes
 If So, What % Of The Time?
 No, Never

14. If your made to order/contract order cannot be filled by a supplier within the time frame desired, do you cancel your order and switch to another supplier? (Circle Number of Most Commonly Utilized Alternative in Each Column):

Major Vendors	Other Vendors
1	1
2	2
3	3

Yes, Always
 Yes, Sometimes
 If So, What % Of The Time?
 No, Never

15. What terms of payment are offered by your various vendors in the office systems and furniture (i.e., steel, wood and seating) industry? (Please insert answers for your major vendors in the spaces provided.)

	Discount %	Number of days	Net No. of days
a. All Steel			
b. American Seating (Amasec)			
c. G.F.			
d. Hardwood House			
e. Harter			
f. Haworth			
g. Herman Miller			
h. Hon/Hiebert			
i. Kimball/Group Assoc			
j. Knoll			
k. Krueger			
l. Steelcase			
m. Stow Davis			
n. Suner/Hauserman			
o. Westinghouse			
OTHER: (Please Specify)			
p. _____			
q. _____			

16. Which of the following terms of payment would you prefer, if given your choice? (Rank order only those alternatives that appeal to you. Use a "ne" to indicate any choices that are not acceptable.)

Rank Order (1 = Highest)	
_____	2%, 10, net 30 days
_____	2%, payable in full in 30 days
_____	Discount tied to prime rate, net 30 days
_____	Fixed nominal discount (e.g., 1%) with extended time for full payment (e.g., 60-90 days)
_____	Flexible terms to match terms given to customers on projects/contracts
_____	Prepayment of order with a 5% discount (for smaller manufacturer sources)
_____	Other (please specify) _____

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MAJOR MANUFACTURERS (Not alphabetically)

Seller # = _____

Vender b = _____

Vender a _____

Vendor d = _____

VARIABLES CONSIDERED	Does Not Provide	PERCEIVED PERFORMANCE						
		Poor Performance		Satisfactory Performance			Excellent Performance	
		1	2	3	4	5	6	7
1. Realistic, consistent pricing policy by manufacturer to dealers over an extended time frame.....								
2. Ability of manufacturer to educate end users on productivity and functional advantages to be gained from installation of equipment								
3. Overall manufacturing and design quality of product relative to the price range involved								
4. Length of promised order cycle (lead) times (from order submission to delivery) -made to order product (contract orders) -base line/in stock (quick ship) product								
5. Breadth of product line offerings								
6. Access to a manufacturer's showroom/regional sales office in your immediate market area.....								
7. Long-term contractual relationship available from manufacturer								
8. Manufacturer absorbs cost of freight and handling on returns due to damaged product and/or shipping errors								
9. Ability of manufacturer to meet promised delivery date (on-time shipments).....								
10. Number of new products/product lines introduced annually by manufacturer								
11. Availability of manufacturer sales reps to participate in customer sales calls and project bids.....								
12. Extended dating and or installment payment terms available								
13. Manufacturer's adherence to special shipping instructions (e.g., job site delivery, specific delivery time)								
14. Order cycle consistency (small variability in promised vs. actual delivery, i.e., vendor consistently meets expected date).....								

Vendor a = _____	Vendor c = _____	Does Not Provide	PERCEIVED PERFORMANCE						
Vendor b = _____	Vendor d = _____		Poor Performance 1 2	Satisfactory Performance 3 4 5	Excellent Performance 6 7				

98. Adequate advance notice of price changes provided _____
99. Ability to expedite and/or provide rush service on product orders _____

PART D: DEALER CHARACTERISTICS AND CLASSIFICATION INFORMATION

This information is required in order to identify major market segments and to provide more meaningful analyses of the previous sections. Please use approximate figures in the event that exact data are not readily available.

1. What is your firm's approximate annual gross sales volume? \$ _____
2. What approximate percentage of gross sales for your firm's total business is represented by office systems and furniture (wood, steel and seating) product? % _____
3. How long has your firm been in the office systems business? (If 4 years or less, please skip questions 4-8) YEARS
4. What was the average rate of growth in gross sales for the company over the last five years? %
5. What was the after tax net profit as a percentage of sales for your firm last year? %
6. What is the typical after net tax profit as a percentage of sales that your firm earns in a normal business year? %
7. What percentage of your total assets are represented by inventory? %
8. What is your average annualized inventory turnover rate on office systems and furniture products (annual cost of sales divided by average inventory at cost)? (SYSTEMS PRODUCT) (FURNITURE)
9. What percentage of your total assets are represented by accounts receivable? %
10. What is the approximate space devoted to warehouse storage? (Include Owned, Leased and Public Warehouse Space) SQ. FT.
11. What is the approximate space devoted to sales and display activities? SQ. FT.
12. What is your average gross margin on office systems products? %
13. What is the approximate number of major on-going and repetitive customer accounts served by your firm that you service on a regular basis?
14. How many selling locations does your firm operate?
15. How many people do you normally employ in direct selling activities?
 _____ Full-time employees _____ Part-time employees _____ Reps or agents
16. How many people do you employ in indirect (support) sales activities?
 _____ Customer service/order entry activities _____ Customer maintenance/administrative activities
17. How many manufacturing sources (vendors) have you added and deleted during both the past twelve months and five years?

Last 12 Months	Last 5 years	
_____	_____	New Vendors added
_____	_____	Vendors deleted (dropped)
18. What percentage of your annual office systems and furniture business is determined and/or specified as to the manufacturing source (supplier) by:

Systems Product	Furniture	
_____ %	_____ %	Architectural (A & D) firms
_____ %	_____ %	Customers/end users (through competitive bid process, etc.)
_____ %	_____ %	Yourself (dealer)

19. What percentage of your total office systems and furniture (wood, steel and seating) business is represented by each of the following market segments? (Your Totals Should Add to 100%)

Systems Product	Furniture	
_____ %	_____ %	Large, one-time contracts, including special pricing projects and/or bids
_____ %	_____ %	Major, on-going accounts
_____ %	_____ %	Small, one-time jobs
_____ %	_____ %	Small, on-going accounts
_____ %	_____ %	OTHER: (Please Specify) _____
_____ %	_____ %	_____
100%	100%	TOTAL

20. What percent of office systems and furniture (steel, wood and seating) products that you purchase from your major vendor are ordered under a "quick ship" ordering program? _____ %

21. Listed below are the major vendors (manufacturers) of office systems and furniture (steel, wood and seating) product. Please indicate the percent that each currently represents of your annual sales, as well as the percent that you would prefer to give each vendor under ideal conditions in the future. (Your Totals Should Add to 100%)

	Current %	Ideal (Preferred) %
a. All Steel	_____	_____
b. American Seating (Amseco)	_____	_____
c. G.F.	_____	_____
d. Hardwood House	_____	_____
e. Harter	_____	_____
f. Haworth	_____	_____
g. Herman Miller	_____	_____
h. Hon/Hiebert	_____	_____
i. Kimball/Group Artec	_____	_____
j. Knoll	_____	_____
k. Krueger	_____	_____
l. Steelcase	_____	_____
m. Stow Davis	_____	_____
n. Suner/Hauserman	_____	_____
o. Westinghouse	_____	_____
OTHER: (Please Specify)	_____	_____
p. _____	_____	_____
q. _____	_____	_____
Miscellaneous Others	_____	_____
TOTALS	100%	100%

22. Please indicate your overall evaluation of each of the major manufacturers in the office systems and furniture (wood, steel and seating) industry for which you have sufficient information/knowledge to make an informed opinion.

	Insufficient Information To Evaluate	Very Unfavorable			Neutral Opinion		Very Favorable	
		1	2	3	4	5	6	7
a. All Steel	_____	1	2	3	4	5	6	7
b. American Seating (Amseco)	_____	1	2	3	4	5	6	7
c. G.F.	_____	1	2	3	4	5	6	7
d. Hardwood House	_____	1	2	3	4	5	6	7
e. Harter	_____	1	2	3	4	5	6	7
f. Haworth	_____	1	2	3	4	5	6	7
g. Herman Miller	_____	1	2	3	4	5	6	7
h. Hon/Hiebert	_____	1	2	3	4	5	6	7
i. Kimball/Group Artec	_____	1	2	3	4	5	6	7
j. Knoll	_____	1	2	3	4	5	6	7
k. Krueger	_____	1	2	3	4	5	6	7
l. Steelcase	_____	1	2	3	4	5	6	7
m. Stow Davis	_____	1	2	3	4	5	6	7
n. Suner/Hauserman	_____	1	2	3	4	5	6	7
o. Westinghouse	_____	1	2	3	4	5	6	7
OTHER: (Please Specify)	_____	1	2	3	4	5	6	7
p. _____	_____	1	2	3	4	5	6	7
q. _____	_____	1	2	3	4	5	6	7

23. What are the first two numbers of your zip code? _____

24. What is your position or title? _____

Thank you for your participation and cooperation in completing this survey. Your time and effort are sincerely appreciated. Please return the questionnaire in the envelope provided or mail to:

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A P P E N D I X B

Mail Questionnaire: End Users

**Michigan State University
Survey of Marketing Services Used By End Users
In the Office Systems & Furniture Industry**

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MICHIGAN STATE UNIVERSITY
SURVEY OF MARKETING SERVICES USED BY END USERS
OF OFFICE SYSTEMS & FURNITURE PRODUCTS

PART A: IMPORTANCE OF MARKETING SERVICES

INSTRUCTIONS: Listed on the following pages are various services that may be provided by manufacturers and/or dealers to end users of office systems and furniture (i.e., wood, steel and seating) product. Please circle, on a scale of 1 to 7, the number which best expresses the importance to your firm of each of the factors used to select and retain vendors. If a factor is not applicable, not used by your firm in the initial selection or retention process, or possesses very little weight in your evaluation of suppliers, please circle number 1 (not important). A rating of 7 (very important) should be reserved for those factors that both possess significant weight in your evaluation of suppliers, and also would cause you to re-evaluate the amount of business given to a manufacturer and/or dealer in future contract negotiations, in the event of inadequate performance.

Example:	Check (✓) If Not Used	IMPORTANCE						
		Not Important		Somewhat Important			Very Important	
		1	2	3	4	5	6	7
• Product quality.....	☐	1	2	3	4	5	6	7
• Average order cycle times (from order submission to delivery).....	☐	1	2	3	4	5	6	7

VARIABLES CONSIDERED	Check (✓) If Not Used	IMPORTANCE						
		Not Important		Somewhat Important			Very Important	
		1	2	3	4	5	6	7
1. Realistic, consistent pricing policy by dealers to customers over an extended time frame.....	☐	1	2	3	4	5	6	7
2. Ability of dealer and/or manufacturer to educate you on productivity and functional advantages to be gained from installation of equipment.....	☐	1	2	3	4	5	6	7
3. Overall manufacturing and design quality of product relative to the price range involved.....	☐	1	2	3	4	5	6	7
4. Length of promised order cycle (lead) times (from order submission to delivery) -made to order product (contract orders).....	☐	1	2	3	4	5	6	7
-base line/in stock (quick ship) product.....	☐	1	2	3	4	5	6	7
5. Breadth of product line offerings -major vendor source.....	☐	1	2	3	4	5	6	7
-other suppliers.....	☐	1	2	3	4	5	6	7
6. Access to a manufacturer's show room/regional sales office in your immediate market area.....	☐	1	2	3	4	5	6	7
7. Long-term contractual relationship available from dealer and/or manufacturer.....	☐	1	2	3	4	5	6	7
8. Manufacturer and/or dealer absorbs freight and handling on returns due to damaged product and/or shipping errors.....	☐	1	2	3	4	5	6	7
9. Ability of dealer and/or manufacturer to meet promised delivery date (on-time shipments).....	☐	1	2	3	4	5	6	7
10. Number of new products/product lines introduced annually by manufacturer.....	☐	1	2	3	4	5	6	7
11. Availability of manufacturer sales reps to participate in dealer contract/project bidding activities.....	☐	1	2	3	4	5	6	7
12. Credit line/services available from manufacturer and/or dealer (e.g., extended or installment payment terms).....	☐	1	2	3	4	5	6	7
13. Manufacturer and/or dealer's adherence to special shipping instructions (e.g., job site delivery, specific delivery time).....	☐	1	2	3	4	5	6	7
14. Order cycle consistency (small variability in promised vs. actual delivery i.e., dealer consistently meets expected date).....	☐	1	2	3	4	5	6	7

	Check (✓) If Not Used	IMPORTANCE						
		Not Important		Somewhat Important			Very Important	
		1	2	3	4	5	6	7
15. Advance notice received from manufacturer on deletions of products	_____	1	2	3	4	5	6	7
16. Updated and current price data, specifications and promotion materials provided by manufacturer	_____	1	2	3	4	5	6	7
17. Additional cash discounts for early or pre-payment	_____	1	2	3	4	5	6	7
18. Assistance from dealer and/or manufacturer in handling carrier loss and damage claims	_____	1	2	3	4	5	6	7
19. Maintenance of back-up inventory stock by the manufacturer and/or dealer to support your future, on-going needs after initial contract installation	_____	1	2	3	4	5	6	7
20. Safety and fire protection oriented features of manufacturer's product	_____	1	2	3	4	5	6	7
21. Ability to contact, discuss and observe actual installations with other users	_____	1	2	3	4	5	6	7
22. Adequate discount payment period and/or options available	_____	1	2	3	4	5	6	7
23. Manufacturer and/or dealer's willingness to accept returns of product damaged and/or shipped in error	_____	1	2	3	4	5	6	7
24. No or low minimum order quantity requirements on base-line, in-stock (quick ship) orders	_____	1	2	3	4	5	6	7
25. Continuity (non-obsolescence) of system products/product lines over an extended time frame	_____	1	2	3	4	5	6	7
26. Assistance provided by manufacturer in educating or selling customer on manufacturer's product	_____	1	2	3	4	5	6	7
27. Display modules and mock-ups provided by manufacturer and/or dealer	_____	1	2	3	4	5	6	7
28. Ability to negotiate further price reductions subsequent to initial bid quotations	_____	1	2	3	4	5	6	7
29. The presence of more than one dealer who sells the same major brand of product in your area	_____	1	2	3	4	5	6	7
30. Ability of dealer and/or manufacturer to backorder base line/in stock items ordered under "quick ship" programs (vs. having to resubmit out-of-stock items at a future date)	_____	1	2	3	4	5	6	7
31. Energy and wire management solutions (the ability to adapt new and old product to meet electrical, communication and lighting needs)	_____	1	2	3	4	5	6	7
32. Manufacturer and/or dealer sponsored seminars	_____	1	2	3	4	5	6	7
33. Price range of product line offering (e.g., low, medium, high price levels) -major vendor source	_____	1	2	3	4	5	6	7
-other suppliers	_____	1	2	3	4	5	6	7
34. Fill rate on base line/in stock items (% of order included in initial shipment) under "quick ship" programs	_____	1	2	3	4	5	6	7
35. Access to a manufacturer's assembly and/or warehousing facility in your immediate market area	_____	1	2	3	4	5	6	7
36. Ease, simplicity and time required to set-up work station modules	_____	1	2	3	4	5	6	7
37. Overall demeanor of sales representatives (responsiveness, promptness, personality, appearance and behavior)	_____	1	2	3	4	5	6	7
38. Flexibility of credit policies to meet special situations	_____	1	2	3	4	5	6	7
39. Accuracy in filling orders (correct product is shipped)	_____	1	2	3	4	5	6	7
40. Advance notice on shipping delays	_____	1	2	3	4	5	6	7

	Check (✓) If Not Used	IMPORTANCE						
		Not Important		Somewhat Important			Very Important	
		1	2	3	4	5	6	7
41. Ability of manufacturer and/or dealer to identify and supply high volume product as part of "quick ship" program	_____	1	2	3	4	5	6	7
42. Availability and responsiveness of manufacturer sales representatives to on-going needs (including personal sales calls)	_____	1	2	3	4	5	6	7
43. Expedient recognition of claims, debits, and credits (due to overcharges, shortages, adjustments, pricing errors, etc.)	_____	1	2	3	4	5	6	7
44. Freight pickup allowances for customers wishing to pickup orders at the dealer's warehouse	_____	1	2	3	4	5	6	7
45. Free WATS line provided for entering orders with dealer and/or manufacturer	_____	1	2	3	4	5	6	7
46. Innovativeness of product (introductions of new, unique products)	_____	1	2	3	4	5	6	7
47. Timely response to requests for assistance from dealer and/or manufacturer sales rep.	_____	1	2	3	4	5	6	7
48. General terms and conditions of sale provided by dealer and/or manufacturer (e.g., quantity discounts, freight terms, payment terms and order procedures)	_____	1	2	3	4	5	6	7
49. Completeness of order (% of line items eventually shipped complete)	_____	1	2	3	4	5	6	7
-made to order product (contract orders)	_____	1	2	3	4	5	6	7
-base line/in stock (quick ship) product	_____	1	2	3	4	5	6	7
50. Prepaid shipment terms (paid by dealer) -vs- collect (paid by you the user)	_____	1	2	3	4	5	6	7
51. Availability of active replacement parts stock from dealer and/or manufacturer	_____	1	2	3	4	5	6	7
52. Assistance from manufacturer and/or dealer sales reps in structuring orders and/or order submission procedures	_____	1	2	3	4	5	6	7
53. Quantity discount structure:	_____	1	2	3	4	5	6	7
-contract/project quotes	_____	1	2	3	4	5	6	7
-in-stock product under "quick ship" programs	_____	1	2	3	4	5	6	7
54. Accuracy of dealer and/or manufacturer in forecasting and committing to estimated shipping dates on contract/project orders	_____	1	2	3	4	5	6	7
55. Overall functional capability and flexibility of product to meet specific (customized) needs of your firm	_____	1	2	3	4	5	6	7
56. Trade-in allowances from manufacturer and/or dealer on used materials/products	_____	1	2	3	4	5	6	7
57. Prompt and comprehensive bid quotations	_____	1	2	3	4	5	6	7
58. Availability of inventory status information for base line/in stock items, under "quick ship" programs	_____	1	2	3	4	5	6	7
59. Adequate identification/labeling of carton contents	_____	1	2	3	4	5	6	7
60. Installation services supplied and/or supervised by manufacturer and/or dealer	_____	1	2	3	4	5	6	7
61. Parts standardization (minimum number of parts across multiple products and/or product lines)	_____	1	2	3	4	5	6	7
62. Formal training programs by the manufacturer and/or dealer in the area of facility management (e.g., layout and design, installation, user orientation, system repair and remodeling and/or modification)	_____	1	2	3	4	5	6	7
63. Special pricing discounts available on contract/project sales	_____	1	2	3	4	5	6	7
64. Efficient and interactive order entry procedures (ability to provide input to dealer as order is being entered via phone)	_____	1	2	3	4	5	6	7
65. Frequent new product introductions (one or two times a year)	_____	1	2	3	4	5	6	7

	Check (✓) If Not Used	IMPORTANCE						
		Not Important		Somewhat Important			Very Important	
		1	2	3	4	5	6	7
66. Flexibility/ease of inter-changeability of products in component systems.....	_____	1	2	3	4	5	6	7
67. National media advertising on part of manufacturer.....	_____	1	2	3	4	5	6	7
68. Ability of dealer to expedite and/or provide rush service on product orders.....	_____	1	2	3	4	5	6	7
69. Adequate availability of (ability to order) newly introduced products.....	_____	1	2	3	4	5	6	7
70. Advance information (literature, specs, prices, etc.) on new product introductions.....	_____	1	2	3	4	5	6	7
71. Floor plan layout and design services and/or assistance available from manufacturer or dealer.....	_____	1	2	3	4	5	6	7
72. Accurate and timely billing (invoicing).....	_____	1	2	3	4	5	6	7
73. Ability of dealer and/or manufacturer source to meet specific and/or unique customer service and delivery needs of individual customers.....	_____	1	2	3	4	5	6	7
74. Overall aesthetics and finish of the product.....	_____	1	2	3	4	5	6	7
75. Availability and responsiveness of dealer sales representatives to on-going needs (including personal sales calls).....	_____	1	2	3	4	5	6	7
76. Competitiveness of price from dealer and/or manufacturer.....	_____	1	2	3	4	5	6	7
77. Availability of status information on open orders from dealer and/or manufacturer.....	_____	1	2	3	4	5	6	7
78. Palletized and unitized loads where possible for handling efficiency.....	_____	1	2	3	4	5	6	7
79. Relevance and adaptability of new product introductions to specific needs and/or functions of your firm.....	_____	1	2	3	4	5	6	7
80. Ability to deal directly with manufacturer in developing and/or negotiating large contract/project bids.....	_____	1	2	3	4	5	6	7
81. Bid quotations that include following costs in contract/project price								
-freight.....	_____	1	2	3	4	5	6	7
-installation.....	_____	1	2	3	4	5	6	7
-additional discounts for early and/or pre-payment.....	_____	1	2	3	4	5	6	7
82. Ability of dealer and/or manufacturer to change requested delivery date of made to order product (contract orders).....	_____	1	2	3	4	5	6	7
83. Availability of obsolete replacement parts from dealer and/or manufacturer.....	_____	1	2	3	4	5	6	7
84. Ability of manufacturer and/or dealer to inspect/diagnose problem areas and monitor product quality after installation.....	_____	1	2	3	4	5	6	7
85. Adequate advance notice of price changes provided.....	_____	1	2	3	4	5	6	7
86. Action on complaints related to order servicing and shipping.....	_____	1	2	3	4	5	6	7
87. Quality of main product and parts packaging (with respect to transportation and warehousing activities).....	_____	1	2	3	4	5	6	7
88. Ability to select delivering carriers.....	_____	1	2	3	4	5	6	7

PART B: EXPECTED CUSTOMER SERVICE PERFORMANCE &/OR STANDARDS

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Please provide the following information with respect to the levels of customer service that you require and/or expect from your suppliers of office systems and furniture product.

1. What are the minimum number of sales calls and/or personal contacts that you require from dealers' sales representatives during a typical year?
 - a. major dealers _____
 - b. other sources _____
2. What are the minimum number of sales calls and/or personal contacts that you require from a manufacturers' sales representative during a typical year?
 - a. major sources _____
 - b. other sources _____
3. How much advance notice do you expect (require) for price changes? _____ WEEKS
4. What is the minimum dollar value of an order that you believe should qualify for a quantity discount on made to order (contract/project) product orders? \$ _____ (DOLLAR VALUE OF THE ORDER)
 - a. What is the typical discount percent (over and above the negotiated standard price of the contract) that you believe should be offered for a volume order? _____ % (REDUCTION FROM NORMAL PRICE)

5. Please indicate the methods normally used to transmit orders to your major dealer and/or manufacturer source. Your answer should pertain to the number of order submitted. (Distribute 100 points among the following alternatives)

"Quick Ship" Orders	Contract Orders	
_____	_____	U.S. mail to dealer and/or manufacturer
_____	_____	TWX and/or other communication terminal
_____	_____	Free inward telephone line (paid by dealer or manufacturer)
_____	_____	Other telephone communication (paid by you)
_____	_____	Hand delivered to dealer or manufacturer's sales representative
_____	_____	Other (specify) _____

6. Under normal conditions, how frequently does your firm expect to be able to submit orders to your major supplier? (Circle Number of Single Most Preferred Choice in Each Column):

"Quick Ship" Orders	Contract Orders	
1	1	As required/needed
2	2	Once a day
3	3	Several times a week
4	4	Once a week
5	5	Several times a month
6	6	Once a month
7	7	Other (please specify) _____

7. Under normal conditions what is the total average order cycle (lead) time in calendar days that you require from a dealer and/or manufacturer? (from time order is placed to day received)
 - a. Made to order product (contract orders) _____ WEEKS
 - b. Base line, in-stock product (quick ship orders) _____ DAYS/ _____ WEEKS
8. What is the range in order cycle (lead) time that you will normally accept? (Maximum acceptable delay in days that you will allow beyond the promised delivery date)

Made to order product (contract orders) _____ DAYS Base line, in-stock product (quick ship orders) _____ DAYS
9. What is the minimum acceptable order completeness service level that you expect/desire from a manufacturer? (% of line items eventually shipped complete)

Office furniture and seating _____ % Office systems product _____ %
10. What is the minimum acceptable order fill rate service that you expect on base line, in-stock product ordered via "quick ship" programs? (% of order included in initial shipment): _____ %

11. Once you have placed an order, how long does it take to receive notification from your major dealer and/or manufacturer sources as to the expected (promised) delivery date? (If None is Provided, answer "0".)

a. Made to order product (contract orders) _____ DAYS/ _____ WEEKS

b. Base line, in-stock product (quick ship orders) _____ DAYS

12. How much advance notice would you prefer prior to the arrival of your orders?

a. Made to order product (contract orders) _____ DAYS/ _____ WEEKS

b. Base line, in-stock product (quick ship orders) _____ DAYS

13. Which of the following alternatives do you prefer in the event that your order cannot be filled by the committed and/or requested delivery date? (Circle Number of Single Most Preferred Choice in Each Column):

Backorder Affects Installation	Backorder Does Not Affect Installation
--------------------------------------	--

1

2

3

1

2

3

Backorder (hold until all product is available and ship complete)

Cancel unavailable items and ship balance by committed date

Split ship (ship quantities as they become available)

14. In the event of a delay in a project/contract by you, how close to the original requested ship date do you normally expect the dealer and/or manufacturer to be able to grant an extension in the original delivery date? _____ (WEEKS PRIOR TO SCHEDULED DATE)

15. In the event of a delay in a project by you, what is a reasonable time frame that you believe the dealer and/or manufacturer should hold your contract/project order? (i.e., delay delivery to you) _____ WEEKS

16. How frequently do you submit "emergency" orders that require expedited service on office systems product? (frequency in days, weeks, months, etc.) _____

17. Do you add a penalty to contract projects for which delivery is delayed beyond a specified date by manufacturer and/or dealer?

_____ YES _____ NO

a. If so, what is the maximum time frame allowed before a penalty is assessed? _____ WEEKS

b. What is the normal penalty assessed for late delivery? _____ %

18. Which of the following terms of payment would you prefer, if given your choice? (Rank order only those alternatives that appeal to you. Use a "No" to indicate any choices that are not acceptable):

Rank Order
(1 = highest)

_____ 2%, 10, net 30 days
 _____ 2%, payable in full in 30 days
 _____ Discount tied to prime rate, net 30 days
 _____ Fixed nominal discount (e.g., 1%) with extended time for full payment (e.g., 60-90 days)
 _____ Additional discount if prepaid before delivery
 _____ Other (please specify) _____

PART C: EVALUATION OF MANUFACTURERS' PERFORMANCE

Please list below in the spaces labeled "Vendor a" through "Vendor d" the three or four major vendors (manufacturers) who account for the majority of your annual purchases of office systems and furniture (wood, steel and seating) product. Please then evaluate their performance with respect to each of the factors listed in this section by inserting the assigned letter of each vendor that you use in the appropriate space provided for each factor on a scale of 1 through 7. It is permissible to give multiple companies the same performance rating. Please indicate those manufacturers that do not provide you with a particular service by inserting their letters in the column titled "Does Not Provide".

MAJOR MANUFACTURERS (list alphabetically)

Vendor a = _____

Vendor b = _____

Vendor c = _____

Vendor d = _____

VARIABLES CONSIDERED	Does Not Provide	PERCEIVED PERFORMANCE						
		Poor Performance		Satisfactory Performance			Excellent Performance	
		1	2	3	4	5	6	7
1. Realistic, consistent pricing policy by dealers to customers over an extended time frame.....								
2. Ability of dealer and/or manufacturer to educate you on productivity and functional advantages to be gained from installation of equipment.....								
3. Overall manufacturing and design quality of product relative to the price range involved.....								
4. Length of promised order cycle (lead) times (from order submission to delivery) -made to order product (contract orders)..... -base line/in stock (quick ship) product.....								
5. Breadth of product line offerings								
6. Access to a manufacturer's show room/regional sales office in your immediate market area								
7. Long-term contractual relationship available from dealer and/or manufacturer.....								
8. Manufacturer and/or dealer absorbs freight and handling on returns due to damaged product and/or shipping errors.....								
9. Ability of dealer and/or manufacturer to meet promised delivery date (on-time shipments).....								
10. Number of new products/product lines introduced annually by manufacturer.....								
11. Availability of manufacturer sales reps to participate in dealer contract/project bidding activities.....								
12. Credit line/services available from manufacturer and/or dealer (e.g. extended or installment payment terms).....								
13. Manufacturer and/or dealer's adherence to special shipping instructions (e.g., job site delivery, specific delivery time).....								
14. Order cycle consistency (small variability in promised vs. actual delivery i.e., dealer consistently meets expected date).....								
15. Advance notice received from manufacturer on deletions of products								
16. Updated and current price data, specifications and promotion materials provided by manufacturer								
17. Additional cash discounts for early or pre-payment								
18. Assistance from dealer and/or manufacturer in handling carrier loss and damage claims.....								
19. Maintenance of back-up inventory stock by the manufacturer and/or dealer to support your future, on-going needs after initial contract installation.....								

Vendor a = _____ Vendor c = _____		Does Not Provide	PERCEIVED PERFORMANCE						
Vendor b = _____ Vendor d = _____			Poor Performance 1 2		Satisfactory Performance 3 4 5			Excellent Performance 6 7	
72.	Accurate and timely billing (invoicing).....	_____	_____	_____	_____	_____	_____	_____	_____
73.	Ability of dealer and/or manufacturer source to meet specific and/or unique customer service and delivery needs of individual customers.....	_____	_____	_____	_____	_____	_____	_____	_____
74.	Overall aesthetics and finish of the product.....	_____	_____	_____	_____	_____	_____	_____	_____
75.	Availability and responsiveness of dealer sales representatives to on-going needs (including personal sales calls).....	_____	_____	_____	_____	_____	_____	_____	_____
76.	Competitiveness of price from dealer and/or manufacturer.....	_____	_____	_____	_____	_____	_____	_____	_____
77.	Availability of status information on open orders from dealer and/or manufacturer.....	_____	_____	_____	_____	_____	_____	_____	_____
78.	Palletized and unitized loads where possible for handling efficiency.....	_____	_____	_____	_____	_____	_____	_____	_____
79.	Relevance and adaptability of new product introductions to specific needs and/or functions of your firm.....	_____	_____	_____	_____	_____	_____	_____	_____
80.	Ability to deal directly with manufacturer in developing and/or negotiating large contract/project bids.....	_____	_____	_____	_____	_____	_____	_____	_____
81.	Bid quotations that include following costs in contract/project price: -freight..... -installation..... -additional discounts for early and/or pre-payment.....	_____ _____ _____	_____ _____ _____	_____ _____ _____	_____ _____ _____	_____ _____ _____	_____ _____ _____	_____ _____ _____	_____ _____ _____
82.	Ability of dealer and/or manufacturer to change requested delivery date of made to order product (contract orders).....	_____	_____	_____	_____	_____	_____	_____	_____
83.	Availability of obsolete replacement parts from dealer and/or manufacturer.....	_____	_____	_____	_____	_____	_____	_____	_____
84.	Ability of manufacturer and/or dealer to inspect/diagnose problem areas and monitor product quality after installation.....	_____	_____	_____	_____	_____	_____	_____	_____
85.	Adequate advance notice of price changes provided.....	_____	_____	_____	_____	_____	_____	_____	_____
86.	Action on complaints related to order servicing and shipping.....	_____	_____	_____	_____	_____	_____	_____	_____
87.	Quality of main product and parts packaging (with respect to transportation and warehousing activities).....	_____	_____	_____	_____	_____	_____	_____	_____
88.	Ability to select delivering carriers.....	_____	_____	_____	_____	_____	_____	_____	_____

PART D: USER CHARACTERISTICS AND CLASSIFICATION INFORMATION

This information is required in order to identify major market segments and to provide more meaningful analyses of the previous sections. Please use approximate figures in the event that exact data are not readily available.

- What is your firm's approximate annual gross sales volume and/or revenue? \$ _____
- How many of your firm's employees regularly work at functions that require office systems and furniture, such as chairs, desks or other fixed work surfaces?
- What percentage of your total office systems and furniture (wood, steel and seating) purchases is represented by each of the following segments? (Your totals should add to 100%):

Systems Product	Furniture	
_____ %	_____ %	Large, one-time contracts including special projects
_____ %	_____ %	Major, on-going purchases on accounts (under blanket P.O.'s)
_____ %	_____ %	Long-term contractual agreement (blanket purchase order for more than one year)
_____ %	_____ %	Small, one-time jobs
_____ %	_____ %	Small, on-going purchases
- What are your approximate annual dollar purchases of office systems and furniture (wood, steel and seating) product? \$ _____

5. In contracting for office systems product on a negotiated/bid basis, whom do you normally select first? (Circle One Number Only)
 1 - The Manufacturer of the product 2 - The Dealer that will service your account 3 - An architectural design (A&D) firm

6. What percentage of your total annual order (dollar) volume for office systems product are submitted to the following sources? (Your totals should add to 100%)

Contract/Project Orders	"Quick Ship" Orders	
_____ %	_____ %	Manufacturers
_____ %	_____ %	Dealers
_____ %	_____ %	Architectural & Design (A&D) firms

7. Listed below are the major vendors (manufacturers) of office systems and furniture (wood, steel and seating) product. Please indicate the percent that each currently represents of your annual purchases, as well as the percent that you would prefer to give each vendor under ideal conditions in the future. (Your Totals Should Add to 100%):

	Current %	Ideal (Preferred) %
a. All Steel	_____	_____
b. American Seating (Amescol)	_____	_____
c. G.F.	_____	_____
d. Hardwood House	_____	_____
e. Harter	_____	_____
f. Haworth	_____	_____
g. Herman Miller	_____	_____
h. Hon/Miebert	_____	_____
i. Kimbel/Group Artec	_____	_____
j. Knoll	_____	_____
k. Krueger	_____	_____
l. Steelcase	_____	_____
m. Stow Davis	_____	_____
n. Sunar/Hauserman	_____	_____
o. Westinghouse	_____	_____
Miscellaneous others	_____	_____

8. What is the approximate discount from the published, full retail price that you were able to secure from the dealer and/or manufacturer during you last major contract/project bid negotiations? _____ % (REDUCTION FROM LIST PRICE)

9. Which of the following approaches does your firm normally use to select major vendors to supply office systems and furniture product: (Circle One Number in Each Column)

Major Contracts &/or Projects	Other Purchases	
1	1	Special "project" committee selected for each major acquisition
2	2	A standard, on-going group representing fixed functions within the firm
3	3	A single individual. Title _____
4	4	Outside architectural and design (A & D) firm
5	5	OTHER (Please Specify) _____

10. Please indicate with a check (✓) if individuals representing the following activities/functions in your company are involved in the decision to select vendors of office systems and furniture product under major contract/project acquisitions:

	Not Involved	Involved	Makes Final Decision
a. V.P. of _____	_____	_____	_____
b. V.P. of _____	_____	_____	_____
c. Purchasing director	_____	_____	_____
d. Purchasing agent	_____	_____	_____
e. Facility management-director	_____	_____	_____
f. Facility management-other	_____	_____	_____
g. Administration director	_____	_____	_____
h. Administration-other	_____	_____	_____
i. Architectural project administrator	_____	_____	_____
j. Design/construction administrator	_____	_____	_____
k. Accounting/finance	_____	_____	_____
l. Engineering functions	_____	_____	_____
m. Legal	_____	_____	_____
n. Top management (division GM/CEO)	_____	_____	_____
o. Board of directors	_____	_____	_____
Others (specify) _____	_____	_____	_____
Please indicate your role in this process	_____	_____	_____

11. How do you determine the source of your office systems and furniture needs for the following types of purchases? (Please Check One Or More Techniques For Each Type Of Purchase):

	Competitive Bidding	PRE-SELECTED OTHER THAN BY BIDDING	Preferred Dealer(s)	Preferred Manufacturer
a. Large, one-time contracts, including special projects	_____	_____	_____	_____
b. Major, on-going contracts	_____	_____	_____	_____
c. Small, one-time jobs	_____	_____	_____	_____
d. Small, on-going purchases	_____	_____	_____	_____

12. Please indicate your overall evaluation of each of the major manufacturers in the office systems and furniture (wood, steel and seating) industry for which you have sufficient information/knowledge to make an informed opinion.

	Insufficient Information To Evaluate	Very Unfavorable			Neutral Opinion			Very Favorable		
		1	2	3	4	5	6	7		
a. All Steel	_____	1	2	3	4	5	6	7		
b. American Seating (Amseco)	_____	1	2	3	4	5	6	7		
c. G.F.	_____	1	2	3	4	5	6	7		
d. Hardwood House	_____	1	2	3	4	5	6	7		
e. Harter	_____	1	2	3	4	5	6	7		
f. Haworth	_____	1	2	3	4	5	6	7		
g. Herman Miller	_____	1	2	3	4	5	6	7		
h. Hon/Hiebert	_____	1	2	3	4	5	6	7		
i. Kimball/Group Artec	_____	1	2	3	4	5	6	7		
j. Knoll	_____	1	2	3	4	5	6	7		
k. Krueger	_____	1	2	3	4	5	6	7		
l. Steelcase	_____	1	2	3	4	5	6	7		
m. Stow Davis	_____	1	2	3	4	5	6	7		
n. Suner/Hauserman	_____	1	2	3	4	5	6	7		
o. Westinghouse	_____	1	2	3	4	5	6	7		
OTHER (Please Specify)	_____	1	2	3	4	5	6	7		
p.	_____	1	2	3	4	5	6	7		
q.	_____	1	2	3	4	5	6	7		

13. Listed below are the major vendors (manufacturers) of office systems and furniture product. For those vendors from whom you have purchased product in the past three years, please indicate in the spaces provided if, given another opportunity, you would or would not purchase product from these same vendors again. (Please Check One Column Only For Each Vendor):

	Not Enough Experience To Evaluate	YES I Would Buy From Again	NO I Would Not Buy From Again
a. All Steel	_____	_____	_____
b. American Seating (Amseco)	_____	_____	_____
c. G.F.	_____	_____	_____
d. Hardwood House	_____	_____	_____
e. Harter	_____	_____	_____
f. Haworth	_____	_____	_____
g. Herman Miller	_____	_____	_____
h. Hon/Hiebert	_____	_____	_____
i. Kimball/Group Artec	_____	_____	_____
j. Knoll	_____	_____	_____
k. Krueger	_____	_____	_____
l. Steelcase	_____	_____	_____
m. Stow Davis	_____	_____	_____
n. Suner/Hauserman	_____	_____	_____
o. Westinghouse	_____	_____	_____
Others (specify)	_____	_____	_____

14. Which of the following categories best describes the major activity of your company? (Please Check Only One Activity):

_____ Manufacturer-consumer durables & packaged goods	_____ Agriculture and mining
_____ Manufacturer-industrial products	_____ Construction
_____ Manufacturer-process industries (chemicals, petroleum, etc.)	_____ Transportation
_____ Manufacturer-high technology (electronics, etc.)	_____ Communication
_____ Professional services (accounting, financial, legal, medical, etc.)	_____ Public utility
_____ Other services (amusement, hotels, restaurants, non-profit, social, etc.)	_____ Financial institutions
_____ Government (federal, state, local)	_____ Insurance
_____ Other (Please Specify)	_____ Wholesaler/retailer

15. What are the first two numbers of your zip code? _____

16. What is your position or title? _____

Thank you for your participation and cooperation in completing this survey. Your time and effort are sincerely appreciated. Please return the questionnaire in the envelope provided or mail to:

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A P P E N D I X C

Mail Questionnaire: A & D Firms

Michigan State University
Survey of Marketing Services Used By Architectural & Design Firms
In The Office Systems & Furniture Industry

MICHIGAN STATE UNIVERSITY
SURVEY OF MARKETING SERVICES USED BY ARCHITECTURAL & DESIGN FIRMS
IN THE OFFICE SYSTEMS & FURNITURE INDUSTRY

PART A: IMPORTANCE OF MARKETING SERVICES

INSTRUCTIONS: Listed on the following pages are various services that may be provided by manufacturers and/or dealers in the office systems and furniture (i.e., wood, steel and seating) industry. Please circle, on a scale of 1 to 7, the number which best expresses the importance to your firm of each of the factors used to select and retain vendors. If a factor is not applicable, not used by your firm in the initial selection or retention process, or possesses very little weight in your evaluation of suppliers, please circle number 1 (not important). A rating of 7 (very important) should be reserved for those factors that both possess significant weight in your evaluation of suppliers, and also would cause you to re-evaluate the amount of business given to manufacturer and/or dealer in future contract negotiations, in the event of inadequate performance.

Example:	Check (✓) If Not Used	IMPORTANCE						
		Not Important		Somewhat Important			Very Important	
		1	2	3	4	5	6	7
• Product quality.....	_____	1	2	3	4	5	6	7
• Average order cycle times (from order submission to delivery).....	_____	1	2	3	4	5	6	7

VARIABLES CONSIDERED	Check (✓) If Not Used	IMPORTANCE						
		Not Important		Somewhat Important			Very Important	
		1	2	3	4	5	6	7
1. Realistic, consistent pricing policy by dealers to customers over an extended time frame.....	_____	1	2	3	4	5	6	7
2. Ability of dealer and/or manufacturer to educate you on productivity and functional advantages to be gained from installation of equipment.....	_____	1	2	3	4	5	6	7
3. Overall manufacturing and design quality of product relative to the price range involved.....	_____	1	2	3	4	5	6	7
4. Length of promised order cycle (lead) times (from order submission to delivery)								
-made to order product (contract orders).....	_____	1	2	3	4	5	6	7
-base line/in stock (quick ship) product.....	_____	1	2	3	4	5	6	7
5. Breadth of product line offerings								
-major vendor source.....	_____	1	2	3	4	5	6	7
-other suppliers.....	_____	1	2	3	4	5	6	7
6. Access to a manufacturer's show room/regional sales office in your immediate market area.....	_____	1	2	3	4	5	6	7
7. Long-term contractual relationship available from dealer and/or manufacturer.....	_____	1	2	3	4	5	6	7
8. Manufacturer and/or dealer absorbs freight and handling on returns due to damaged product and/or shipping errors.....	_____	1	2	3	4	5	6	7
9. Ability of dealer and/or manufacturer to meet promised delivery date (on-time shipments).....	_____	1	2	3	4	5	6	7
10. Number of new products/product lines introduced annually by manufacturer.....	_____	1	2	3	4	5	6	7
11. Availability of manufacturer sales reps to participate in dealer contract/project bidding activities.....	_____	1	2	3	4	5	6	7
12. Credit line/services available from manufacturer and/or dealer (e.g., extended or installment payment terms).....	_____	1	2	3	4	5	6	7
13. Manufacturer and/or dealer's adherence to special shipping instructions (e.g., job site delivery, specific delivery time).....	_____	1	2	3	4	5	6	7
14. Order cycle consistency (small variability in promised vs. actual delivery i.e., dealer consistently meets expected date).....	_____	1	2	3	4	5	6	7

	Check (✓) If Not Used	IMPORTANCE						
		Not Important		Somewhat Important			Very Important	
		1	2	3	4	5	6	7
15. Advance notice received from manufacturer on deletions of products	_____	1	2	3	4	5	6	7
16. Updated and current price data, specifications and promotion materials provided by manufacturer	_____	1	2	3	4	5	6	7
17. Additional cash discounts for early or pre-payment	_____	1	2	3	4	5	6	7
18. Safety and fire protection oriented features of manufacturer's product	_____	1	2	3	4	5	6	7
19. Ability to contact, discuss and observe actual installations with user firms	_____	1	2	3	4	5	6	7
20. Adequate discount payment period and/or options available	_____	1	2	3	4	5	6	7
21. Manufacturer and/or dealer's willingness to accept returns of product damaged and/or shipped in error	_____	1	2	3	4	5	6	7
22. No or low minimum order quantity requirements on base-line, in stock (quick ship) orders	_____	1	2	3	4	5	6	7
23. Continuity (non-obsolescence) of system products/product lines over an extended time frame	_____	1	2	3	4	5	6	7
24. Assistance provided by manufacturer in educating or selling customer on manufacturer's product	_____	1	2	3	4	5	6	7
25. Display modules and mock-ups provided by manufacturer and/or dealer	_____	1	2	3	4	5	6	7
26. Ability to negotiate further price reductions subsequent to initial bid quotations	_____	1	2	3	4	5	6	7
27. The presence of more than one dealer who sells the same major brand of product in your area	_____	1	2	3	4	5	6	7
28. Ability of dealer and/or manufacturer to backorder base line/ in stock items ordered under "quick ship" programs (vs. having to resubmit out-of-stock items at a future date)	_____	1	2	3	4	5	6	7
29. Energy and wire management solutions (the ability to adapt new and old product to meet electrical, communication and lighting needs)	_____	1	2	3	4	5	6	7
30. Manufacturer and/or dealer sponsored seminars	_____	1	2	3	4	5	6	7
31. Price range of product line offering (e.g., low, medium, high price levels)	_____	1	2	3	4	5	6	7
-major vendor source	_____	1	2	3	4	5	6	7
-other suppliers	_____	1	2	3	4	5	6	7
32. Fill rate on base line/in stock items (% of order included in initial shipment) under "quick ship" programs	_____	1	2	3	4	5	6	7
33. Access to a manufacturer's assembly and/or warehousing facility in your immediate market area	_____	1	2	3	4	5	6	7
34. Ease, simplicity and time required to set-up work station modules	_____	1	2	3	4	5	6	7
35. Overall demeanor of sales representatives (responsiveness, promptness, personality, appearance and behavior)	_____	1	2	3	4	5	6	7
36. Flexibility of credit policies to meet special situations	_____	1	2	3	4	5	6	7
37. Accuracy in filling orders (correct product is shipped)	_____	1	2	3	4	5	6	7
38. Advance notice on shipping delays	_____	1	2	3	4	5	6	7
39. Ability of manufacturer and/or dealer to identify and supply high volume product as part of "quick ship" program	_____	1	2	3	4	5	6	7
40. Availability and responsiveness of manufacturer sales representatives to on-going needs (including personal sales calls)	_____	1	2	3	4	5	6	7

	Check (✓) If Not Used	IMPORTANCE									
		Not Important		Somewhat Important			Very Important				
		1	2	3	4	5	6	7			
41. Expedient recognition of claims, debits and credits (due to overcharges, shortages, adjustments, pricing errors, etc.)	_____	1	2	3	4	5	6	7			
42. Freight pickup allowances for customers wishing to pickup orders at the dealer's warehouse	_____	1	2	3	4	5	6	7			
43. Free WATS line provided for entering orders with dealer and/or manufacturer	_____	1	2	3	4	5	6	7			
44. Innovativeness of product (introductions of new, unique products)	_____	1	2	3	4	5	6	7			
45. Timely response to requests for assistance from dealer and/or manufacturer sales rep.	_____	1	2	3	4	5	6	7			
46. General terms and conditions of sale provided by dealer and/or manufacturer (e.g., quantity discounts, freight terms, payment terms and order procedures)	_____	1	2	3	4	5	6	7			
47. Completeness of order (% of line items eventually shipped complete) -made to order product (contract orders)	_____	1	2	3	4	5	6	7			
-base line/in stock (quick ship) product	_____	1	2	3	4	5	6	7			
48. Prepaid shipment terms (paid by dealer) -vs- collect (paid by the end user)	_____	1	2	3	4	5	6	7			
49. Availability of active replacement parts stock from dealer and/or manufacturer	_____	1	2	3	4	5	6	7			
50. Assistance from manufacturer and/or dealer sales reps in structuring orders and/or order submission procedures	_____	1	2	3	4	5	6	7			
51. Quantity discount structure: -contract/project quotes	_____	1	2	3	4	5	6	7			
-in-stock product under "quick ship" programs	_____	1	2	3	4	5	6	7			
52. Accuracy of dealer and/or manufacturer in forecasting and committing to estimated shipping dates on contract/project orders	_____	1	2	3	4	5	6	7			
53. Overall functional capability and flexibility of product to meet specific (customized) needs of your clients	_____	1	2	3	4	5	6	7			
54. Trade-in allowances from manufacturer and/or dealer on used materials/products	_____	1	2	3	4	5	6	7			
55. Prompt and comprehensive bid quotations	_____	1	2	3	4	5	6	7			
56. Availability of inventory status information for base line/in stock items, under "quick ship" programs	_____	1	2	3	4	5	6	7			
57. Adequate identification/labeling of carton contents	_____	1	2	3	4	5	6	7			
58. Installation services supplied and/or supervised by manufacturer and/or dealer	_____	1	2	3	4	5	6	7			
59. Parts standardization (minimum number of parts across multiple products and/or product lines)	_____	1	2	3	4	5	6	7			
60. Special pricing discounts available on contract/project orders	_____	1	2	3	4	5	6	7			
61. Efficient and interactive order entry procedures (ability to provide input to dealer as order is being entered via phone)	_____	1	2	3	4	5	6	7			
62. Frequent new product introductions (one or two times a year)	_____	1	2	3	4	5	6	7			
63. Flexibility/ease of inter-changeability of products in component systems	_____	1	2	3	4	5	6	7			
64. Ability of dealer to expedite and/or provide rush service on product orders	_____	1	2	3	4	5	6	7			
65. Adequate availability of (ability to order) newly introduced products	_____	1	2	3	4	5	6	7			

	Check (✓) If Not Used	IMPORTANCE						
		Not Important		Somewhat Important			Very Important	
		1	2	3	4	5	6	7
66. Advance information (literature, specs, prices, etc.) on new product introductions	_____	1	2	3	4	5	6	7
67. Accurate and timely billing (invoicing)	_____	1	2	3	4	5	6	7
68. Ability of dealer and/or manufacturer source to meet specific and/or unique customer service and delivery needs of individual clients	_____	1	2	3	4	5	6	7
69. Overall aesthetics and finish of the product	_____	1	2	3	4	5	6	7
70. Availability and responsiveness of dealer sales representatives to on-going needs (including personal sales calls)	_____	1	2	3	4	5	6	7
71. Competitiveness of price from dealer and/or manufacturer	_____	1	2	3	4	5	6	7
72. Availability of status information on open orders from dealer and/or manufacturer	_____	1	2	3	4	5	6	7
73. Palletized and unitized loads where possible for handling efficiency	_____	1	2	3	4	5	6	7
74. Relevance and adaptability of new product introductions to specific needs and/or functions of your clients	_____	1	2	3	4	5	6	7
75. Ability to deal directly with manufacturer in developing and/or negotiating large contract/project bids	_____	1	2	3	4	5	6	7
76. Bid quotations that include following costs in contract/project price	_____	1	2	3	4	5	6	7
-freight	_____	1	2	3	4	5	6	7
-installation	_____	1	2	3	4	5	6	7
-additional discounts for early and/or pre-payment	_____	1	2	3	4	5	6	7
77. Ability of dealer and/or manufacturer to change requested delivery date of made to order product (contract orders)	_____	1	2	3	4	5	6	7
78. Availability of obsolete replacement parts from dealer and/or manufacturer	_____	1	2	3	4	5	6	7
79. Adequate advance notice of price changes provided	_____	1	2	3	4	5	6	7
80. Action on complaints related to order servicing and shipping	_____	1	2	3	4	5	6	7
81. Quality of main product and parts packaging (with respect to transportation and warehousing activities)	_____	1	2	3	4	5	6	7
82. Ability to select delivering carriers	_____	1	2	3	4	5	6	7

PART B: EXPECTED CUSTOMER SERVICE PERFORMANCE &/OR STANDARDS

Please provide the following with respect to the levels of customer service that you require and/or expect from your suppliers of office systems and furniture product.

- What are the minimum number of sales calls and/or personal contacts that you require from dealers' sales representatives during a typical year?
major dealer _____ other dealers _____
- What are the minimum number of sales calls and/or personal contacts that you require from a manufacturers' sales representative during a typical year?
major source _____ other sources _____
- How much advance notice do you expect (require) for price changes? _____ WEEKS

4. Please indicate the methods normally used to transmit orders to your major dealer and/or manufacturer source. (Distribute 100 points among the following alternatives)

Quick Ship Orders	Contract Orders	
_____	_____	U.S. mail to dealer and/or manufacturer
_____	_____	TWX and/or other communication terminal
_____	_____	Free inward telephone line (paid by manufacturer and/or dealer)
_____	_____	Other telephone communication (paid by you)
_____	_____	Hand delivered to dealer or manufacturer's sales rep
_____	_____	Other (specify) _____

5. Under normal conditions what is the total average order cycle (lead) time in calendar days that you require from a dealer and/or manufacturer? (from time order is placed to day received)
- a. Made to order product (contract orders) _____ WEEKS
- b. Base line, in-stock product (quick ship orders) _____ DAYS/ _____ WEEKS
6. What is the range in order cycle (lead) time that you will normally accept? (maximum acceptable delay in days that you will allow beyond the promised delivery date)
- a. Made to order product (contract orders) _____ DAYS
- b. Base line, in-stock product (quick ship orders) _____ DAYS
7. What is the minimum acceptable order completeness service level that you expect/desire from a manufacturer? (% of line items eventually shipped complete)
- office furniture and seating _____% office systems product _____%
8. What is the minimum acceptable order fill rate service that you expect on base line, in-stock product ordered via "quick ship" programs? (% of order included in initial shipment) _____%
9. Once you have placed an order, how long does it take to receive notification from your major dealer and/or manufacturer sources as to the expected/promised delivery date? (If none is provided, answer "0")
- a. Made to order product (contract orders) _____ DAYS/ _____ WEEKS
- b. Base line, in-stock product (quick ship orders) _____ DAYS
10. How much advance notice would you prefer prior to the arrival of your orders?
- a. Made to order product (contract orders) _____ DAYS/ _____ WEEKS
- b. Base line, in-stock product (quick ship orders) _____ DAYS
11. Which of the following alternatives do you prefer in the event that your order cannot be filled by the committed and/or requested delivery date? (Circle Number of Single Most Preferred Choice in Each Column):

Backorder Affects Installation	Backorder Does Not Affect Installation	
1	1	Backorder (hold until all product is available and ship complete)
2	2	Cancel unavailable items and ship balance by committed date
3	3	Split ship (ship quantities as they become available)

12. In the event of a delay in a project/contract by you, how close to the original requested ship date do you normally expect the dealer and/or manufacturer to be able to grant an extension in the original delivery date? _____ (WEEKS PRIOR TO SCHEDULED DATE)
13. In the event of a delay in a project/contract by you, what is a reasonable time frame that you believe the dealer and/or manufacturer should hold your contract/project order? (i.e., delay delivery to you) _____ WEEKS
14. How frequently do you submit "emergency" orders that require expedited service on office systems product? (frequency in days, weeks, months, etc.) _____
15. Do you add a penalty to contract/projects for which delivery is delayed beyond a specified date by the manufacturer and/or dealer?
- _____ YES _____ NO
- a. If so, what is the maximum time frame allowed before a penalty is assessed? _____ WEEKS
- b. What is the normal penalty assessed for late delivery? _____ % OF THE CONTRACT VALUE

PART C: EVALUATION OF MANUFACTURERS' PERFORMANCE

Please list below in the spaces labeled "Vendor a" through "Vendor d" the three or four major vendors (manufacturers) who account for the majority of your annual specifications of office systems and furniture (wood, steel and seating) product. Please then evaluate their performance with respect to each of the factors listed in this section by inserting the assigned letter of each vendor that you use in the appropriate space provided for each factor on a scale of 1 through 7. It is permissible to give multiple companies the same performance rating. Please indicate those manufacturers that do not provide you with a particular service by inserting their letters in the column titled, "Does Not Provide."

MAJOR MANUFACTURERS (list alphabetically)

Vendedor : _____

Vender e = _____

Vendor b = _____

Vendor d = _____

Example:		PERCEIVED PERFORMANCE									
		Does Not Provide	Poor Performance		Satisfactory Performance			Excellent Performance			
			1	2	3	4	5	6	7		
1	Innovativeness of new product introductions	<u>b</u>				<u>a</u>	<u>c</u>		<u>d</u>		
2	Order cycle consistency -made to order	<u>-</u>		<u>d</u>		<u>b</u>	<u>a</u>		<u>c</u>		
	"quick ship" orders	<u>d</u>			<u>c</u>			<u>a</u>	<u>b</u>		
			1	2	3	4	5	6	7		

VARIABLES CONSIDERED	Does Not Provide ✓	PERCEIVED PERFORMANCE						
		Poor Performance		Satisfactory Performance			Excellent Performance	
		1	2	3	4	5	6	7
1. Realistic, consistent pricing policy by dealers to customers over an extended time frame								
2. Ability of dealer and/or manufacturer to educate you on productivity and functional advantages to be gained from installation of equipment.....								
3. Overall manufacturing and design quality of product relative to the price range involved								
4. Length of promised order cycle (lead) times (from order submission to delivery) -made to order product (contract orders)..... -base line/in stock (quick ship) product.....								
5. Breadth of product line offerings								
6. Access to a manufacturer's show room/regional sales office in your immediate market area								
7. Long-term contractual relationship available from dealer and/or manufacturer.....								
8. Manufacturer and/or dealer absorbs freight and handling on returns due to damaged product and/or shipping errors.....								
9. Ability of dealer and/or manufacturer to meet promised delivery date (on-time shipments).....								
10. Number of new products/product lines introduced annually by manufacturer.....								
11. Availability of manufacturer sales reps to participate in dealer contract/project bidding activities.....								
12. Credit line/services available from manufacturer and/or dealer (e.g., extended or installment payment terms).....								
13. Manufacturer and/or dealer's adherence to special shipping instructions (e.g., job site delivery, specific delivery time).....								
14. Order cycle consistency (small variability in promised vs. actual delivery i.e., dealer consistently meets expected date).....								

[illegible]

Vendor a = _____ Vendor c = _____		PERCEIVED PERFORMANCE							
Vendor b = _____ Vendor d = _____		Does Not Provide	Poor Performance		Satisfactory Performance			Excellent Performance	
			1	2	3	4	5	6	7
66.	Advance information (literature, specs, prices, etc.) on new product introductions	_____	_____	_____	_____	_____	_____	_____	_____
67.	Accurate and timely billing (invoicing)	_____	_____	_____	_____	_____	_____	_____	_____
68.	Ability of dealer and/or manufacturer source to meet specific and/or unique customer service and delivery needs of individual clients	_____	_____	_____	_____	_____	_____	_____	_____
69.	Overall aesthetics and finish of the product	_____	_____	_____	_____	_____	_____	_____	_____
70.	Availability and responsiveness of dealer sales representatives to on-going needs (including personal sales calls)	_____	_____	_____	_____	_____	_____	_____	_____
71.	Competitiveness of price from dealer and/or manufacturer	_____	_____	_____	_____	_____	_____	_____	_____
72.	Availability of status information on open orders from dealer and/or manufacturer	_____	_____	_____	_____	_____	_____	_____	_____
73.	Palletized and unitized loads where possible for handling efficiency	_____	_____	_____	_____	_____	_____	_____	_____
74.	Relevance and adaptability of new product introductions to specific needs and/or functions of your clients	_____	_____	_____	_____	_____	_____	_____	_____
75.	Ability to deal directly with manufacturer in developing and/or negotiating large contract/project bids	_____	_____	_____	_____	_____	_____	_____	_____
76.	Bid quotations that include following costs in contract/ project price	_____	_____	_____	_____	_____	_____	_____	_____
	-freight	_____	_____	_____	_____	_____	_____	_____	_____
	-installation	_____	_____	_____	_____	_____	_____	_____	_____
	-additional discounts for early and/or pre-payment	_____	_____	_____	_____	_____	_____	_____	_____
77.	Ability of dealer and/or manufacturer to change requested delivery date of made to order product (contract orders)	_____	_____	_____	_____	_____	_____	_____	_____
78.	Availability of obsolete replacement parts from dealer and/or manufacturer	_____	_____	_____	_____	_____	_____	_____	_____
79.	Adequate advance notice of price changes provided	_____	_____	_____	_____	_____	_____	_____	_____
80.	Action on complaints related to order servicing and shipping	_____	_____	_____	_____	_____	_____	_____	_____
81.	Quality of main product and parts packaging (with respect to transportation and warehousing activities)	_____	_____	_____	_____	_____	_____	_____	_____
82.	Ability to select delivering carriers	_____	_____	_____	_____	_____	_____	_____	_____

PART D: A&D FIRM CHARACTERISTICS AND CLASSIFICATION INFORMATION

This information is required in order to identify major market segments and to provide more meaningful analyses of the previous sections. Please use approximate figures in the event that exact data are not readily available.

- What is the total square feet of interior office space planned/designed by your firm during a normal year? SQ. FT.
- What percent of this annual square footage planned by you was designed for office systems (wood, steel and seating) product? %
- What is the approximate annual dollar value of office systems product specified by you for clients? \$
- What is the number of contracts/projects that you successfully specify in a normal business year?
- How many people do you normally employ in the following functional capacities?
 - Project directors.....
 - Senior designers.....
 - Junior designers.....
 - Other billable staff.....
 - Non-billable staff.....
- What is the approximate (average) discount from the published, full retail price that you successfully secured from dealers and/or manufacturers during the most recent six month negotiation period? % REDUCTION FROM LIST PRICE

7. What percentage of your total office systems and furniture (wood, steel and seating) specifications is represented by each of the following segments? (Your Totals Should Add to 100%)

Systems Product	Furniture	
_____ %	_____ %	Large, one-time contracts including special projects
_____ %	_____ %	Major, on-going purchases on accounts (under blanket P.O.'s)
_____ %	_____ %	Long-term contractual agreement (blanket purchase order for more than one year)
_____ %	_____ %	Small, one-time jobs
_____ %	_____ %	Small, on-going purchases

8. In contracting for office systems product on a negotiated bid basis, whom do you normally select first? (Circle One Number Only)

1—The Manufacturer of the product 2—The Dealer that will service the project

9. What percentage of the total annual dollar volume that your firm negotiates/specifies for office systems product are submitted to the following sources? (Your totals should add to 100%):

_____ Dealers
_____ Manufacturers

10. Listed below are the major vendors (manufacturers) of office systems and furniture (wood, steel and seating) product. Please indicate the percent that each currently represents of your annual specifications as well as the percent that you would prefer to give each vendor under ideal conditions in the future. (Your totals should add to 100%)

	Current %	Ideal (Preferred) %
a. All Steel	_____	_____
b. American Seating (Amseco)	_____	_____
c. G.F.	_____	_____
d. Hardwood House	_____	_____
e. Harter	_____	_____
f. Heworth	_____	_____
g. Herman Miller	_____	_____
h. Hon/Hibert	_____	_____
i. Kimball/Group Artec	_____	_____
j. Knoll	_____	_____
k. Krueger	_____	_____
l. Steelcase	_____	_____
m. Stow Davis	_____	_____
n. Suner/Hauserman	_____	_____
o. Westinghouse	_____	_____
Miscellaneous others	_____	_____

11. Listed below are the major vendors (manufacturers) of office systems and furniture product. For those vendors for whom you have specified product during the past three years, please indicate in the spaces provided if, given another opportunity, you would or would not specify product from these same vendors again. (Please check one column only for each vendor):

	Not Enough Experience To Evaluate	YES I Would Specify Again	NO I Would Not Specify Again
a. All Steel	_____	_____	_____
b. American Seating (Amseco)	_____	_____	_____
c. G.F.	_____	_____	_____
d. Hardwood House	_____	_____	_____
e. Harter	_____	_____	_____
f. Heworth	_____	_____	_____
g. Herman Miller	_____	_____	_____
h. Hon/Hibert	_____	_____	_____
i. Kimball/Group Artec	_____	_____	_____
j. Knoll	_____	_____	_____
k. Krueger	_____	_____	_____
l. Steelcase	_____	_____	_____
m. Stow Davis	_____	_____	_____
n. Suner/Hauserman	_____	_____	_____
o. Westinghouse	_____	_____	_____
Others (specify) _____	_____	_____	_____

12. How do you normally determine the source of your office system and furniture needs for the following types of contracts/projects? (Select one for each type of specification)

	Competitive Bidding	PRE-SELECTED OTHER THAN BY BIDDING Preferred Dealer(s)	Preferred Manufacturer
a. Large, one-time contracts, including special projects	_____	_____	_____
b. Major, on-going specifications	_____	_____	_____
c. Small, one-time jobs	_____	_____	_____
d. Small, on-going specifications	_____	_____	_____

13. In your estimation, what percent of the annual sales volume of the major dealers with whom you regularly do business is represented by contracts for office systems products that are specified by your firm? _____ %
14. What is the number of dealers with whom you regularly do business in the office systems industry? _____ DEALERS
15. Listed below are the various industries that frequently use office systems product. Please indicate the approximate percent of your firm's annual dollar volume which is specified for each of these segments. (Your totals should add up to 100%):
- _____ % Manufacturing-consumer durables & packaged goods
- _____ % Manufacturing-industrial products
- _____ % Manufacturing-process industries (chemicals, petroleum, etc.)
- _____ % Manufacturing-high technology (electronics, etc.)
- _____ % Agriculture and mining
- _____ % Construction
- _____ % Transportation
- _____ % Communication
- _____ % Public utilities
- _____ % Financial institutions
- _____ % Insurance
- _____ % Wholesale/retailing
- _____ % Professional services (accounting, financial, legal, medical, etc.)
- _____ % Other services (amusement, hotels, restaurants, non-profit, social, etc.)
- _____ % Governments (federal, state, local)
- _____ % Other (Please Specify) _____
- _____ % Other (Please Specify) _____

16. Please indicate your overall evaluation of each of the major manufacturers in the office systems and furniture (wood, steel and seating) industry, for which you have sufficient information/knowledge to make an informed opinion:

	Insufficient Information To Evaluate	Very Unfavorable			Neutral Opinion			Very Favorable	
		1	2	3	4	5	6	7	
a. All Steel		1	2	3	4	5	6	7	
b. American Seating (Amseco)		1	2	3	4	5	6	7	
c. G F		1	2	3	4	5	6	7	
d. Hardwood House		1	2	3	4	5	6	7	
e. Harter		1	2	3	4	5	6	7	
f. Haworth		1	2	3	4	5	6	7	
g. Herman Miller		1	2	3	4	5	6	7	
h. Hon/Hiebert		1	2	3	4	5	6	7	
i. Kimball/Group Artec		1	2	3	4	5	6	7	
j. Knoll		1	2	3	4	5	6	7	
k. Krueger		1	2	3	4	5	6	7	
l. Steelcase		1	2	3	4	5	6	7	
m. Stow Davis		1	2	3	4	5	6	7	
n. Suner/Hauserman		1	2	3	4	5	6	7	
o. Westinghouse		1	2	3	4	5	6	7	
OTHER (Please Specify)		1	2	3	4	5	6	7	
p. _____		1	2	3	4	5	6	7	
q. _____		1	2	3	4	5	6	7	

17. What are the first two numbers of your zip code? _____

18. What is your position or title? _____

Thank you for your participation and cooperation in completing this survey. Your time and effort are sincerely appreciated. Please return the questionnaire in the envelope provided or mail to:

DOUGLAS M. LAMBERT, Ph.D.
JAY U. STERLING, C.P.A.
Department of Marketing and Transportation
Graduate School of Business Administration
Michigan State University
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A P P E N D I X D

Section B
Expected Customer Service Standards

APPENDIX D

SECTION B - EXPECTED CUSTOMER SERVICE STANDARDS

Key: Figures shown in parentheses
indicate Number of Respondents

	DEALERS	END USERS	A&D FIRMS
	Mean Response	Mean Response	Mean Response
1. Minimum number of sales calls required in a year			
a. From manufacturers			
major sources	23	6	5
other sources	11	3	2
smaller sources	5		
b. From dealers			
major sources	--	20	7
other sources	--	6	2
2. Advance notice required for price changes (wks.)	5.5	7	6
3. Methods used to transmit orders to major sources			
a. Quick ship %			
U.S. Mail	39(185)	52(73)	45(49)
TWX and/or other communication terminal	18(35)	20(9)	27(11)
Free inward WATS line	39(162)	31(36)	31(23)
Other telephone communication	42(207)	53(90)	34(44)
Hand delivered to mfg/dealer sales rep	11(52)	34(69)	41(42)
Other	30(16)	12(7)	56(9)
b. Contract orders %			
U.S. Mail	72(223)	61(110)	54(73)
TWX and/or other communication terminal	20(25)	16(10)	15(10)
Free inward WATS line	20(131)	19(30)	23(29)
Other telephone communication	19(175)	37(88)	22(54)
Hand delivered to mfg/dealer sales rep	9(85)	34(82)	42(60)
Other	12(27)	39(10)	46(13)
4. Average order cycle time expected			
a. Contract orders (wks)	7.8	8.8	11.7
b. Quick ship orders (days)	10.8	14.7	21.0
5. Acceptable range in order cycle (Delay beyond promise date)			
a. Contract orders (wks)	4.8	2.4	2.0
b. Quick ship orders (days)	9.0	6.9	6.0
6. Minimum acceptable order completeness %			
a. Office furniture & seating	92.3	92.2	92.2
b. Systems product	95.5	93.6	93.4
c. Quick ship orders (% on initial shipment)	91.8	88.6	90.7
7. Order fill rate % currently received on quick ship orders	89.4	----	----
8. Advance notice preferred prior to arrival of orders			
a. Contract orders (days)	8.2	9.0	10.8
b. Quick ship orders (days)	2.9	3.4	3.7
9. Extension in delivery by manufacturer expected in the event of a project's delay (wks prior to scheduled date)	3.1	2.9	2.9
a. Expected length (wks) that order should be held by manufacturer in the event of a delay	---	4.4	3.6

Section B - cont. - 2

	DEALERS	END USERS	A&D FIRMS
	Mean Response	Mean Response	Mean Response
10. Average time expired before notification is received regarding promised delivery date			
a. Contract orders (days)	---	10.1	12.0
b. Quick ship orders (days)	---	3.6	4.4
12. Preferred action by manufacturer in the event order cannot be delivered as promised (%)			
a. Backorder affects installation			
Backorder (hold & ship complete)	54	32	26
Cancel B/O and ship balance on-time	7	11	11
Split ship produce as they become available	39	57	63
b. Backorder doesn't affect installation			
Backorder (hold & ship complete)	33	27	47
Cancel B/O and ship balance on-time	6	6	4
Split ship produce as they become available	61	67	49
13. Action taken when "quick ship" orders backordered or stocked out by manufacturer (%)			
a. Major vendors			
Always cancel	4	--	--
Cancel sometimes	57	--	--
(% Cancelled)	(25%)	--	--
Never cancel	39	--	--
b. Other vendors			
Always cancel	12	--	--
Cancel sometimes	80	--	--
(% Cancelled)	(40%)	--	--
Never cancel	8	--	--
14. Action taken when "contract" orders backordered or stocked out by manufacturer (%)			
a. Major vendors			
Always cancel	4	--	--
Cancel sometimes	56	--	--
(% Cancelled)	(26%)	--	--
Never cancel	40	--	--
b. Other vendors			
Always cancel	10	--	--
Cancel sometimes	76	--	--
(% Cancelled)	(37%)	--	--
Never cancel	14	--	--
15. Is a penalty added for late delivery of projects?			
a. Yes	--	11%	30%
b. No	--	87	68
c. Don't know	--	2	2
d. If yes, avg. time allowed before assessment (wks)	--	3.4	1.7
e. Normal penalty assessed (%)	--	14.0	46.9
16. Minimum contract/project order size that should qualify for a quantity discount (\$)	--	31,200	--
a. Typical discount % expected	--	24.0%	--

Section B - cont. - 3

	DEALERS	END USERS	A&D FIRMS
	Mean Response	Mean Response	Mean Response
17. Frequency encountered in submitting orders			
a. Quick ship/contract orders (%)			
As required	--	75/65	--
Once a day	--	2/3	--
Several times a week	--	7/10	--
Once a week	--	3/6	--
Several times a month	--	6/10	--
Once a month	--	6/4	--
Other	--	1/2	--
18. Preferred terms of payment (avg. rank score)			
a. 2%, 10, net 30 days	2.4	2.0	--
b. 2%, payable in full in 30 days	1.9	1.6	--
c. Discount tied to prime rate, net 30 days	4.5	3.3	--
d. Fixed nominal discount with extended time	3.2	2.7	--
e. Flexible terms to match those given to customers	3.2	--	--
f. Additional discount if prepaid before delivery	4.0	3.7	--
g. Other	1.8(17)	1.9(8)	--
19. Estimated revenue to be lost in the event major vendor lost as a supplier	26%	--	--

A P P E N D I X E

Variables Use To Select Vendors
Importance Rankings By Respondent Group:
 Dealers
 End Users
 Architectural Design Firms

APPENDIX E
VARIABLES USED TO SELECT VENDORS

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- * DEALERS
- * END USERS
- * ARCHITECTURAL DESIGN FIRMS (A&D Firms)

NOTE: Mean (average score) based on a scale of 1 (Not Important) through 7 (Very Important).

RANK	VAR. NO. DEALER QUEST.	VARIABLE NUMBER AND VARIABLE CONSIDERED	IMPORTANCE SCORE					
			DEALERS		END USERS		A&D FIRMS	
			Mean	Std Dev	Mean	Std Dev	Mean	Std Dev
1		9. Ability of manufacturer to meet promised delivery date (on-time) shipments	6.4	.8	6.4	.8	6.4	.8
2		39. Accuracy in filling orders (correct product is shipped)	6.4	.8	6.3	.8	6.4	.8
3		90. <u>Competitiveness</u> of price	6.3	1.0	6.1	1.0	5.7	1.1
4		40. Advance notice on shipping delays	6.1	.9	6.0	1.0	6.1	.9
5		94. Special pricing discounts available on contract/project quotes	6.1	1.1	5.5	1.4	5.0	1.6
6		3. Overall manufacturing and design quality of product relative to the price range involved	6.0	.9	6.2	.9	6.5	.8
7		16. Updated and current price data, specifications, and promotion materials provided by manufacturer..	6.0	.9	5.1	1.2	5.9	1.1
8		47. <u>Timely</u> response to requests for assistance from manufacturer's sales representative	6.0	.9	6.1	.9	6.2	.8
9		14. Order cycle consistency (small variability in promised vs. actual delivery, i.e., vendor consistently meets expected date)	6.0	.9	5.9	1.1	6.0	1.1
10		4b. Length of <u>promised</u> order cycle (lead) times (from order submission to delivery) - base line/in-stock (quick ship) product	6.0	1.0	5.8	1.2	5.8	1.3
11		54. Accuracy of manufacturer in forecasting and committing to estimated shipping dates on contract/project orders	6.0	1.0	5.9	1.0	6.1	.9
12		49. Completeness of order (% of line items eventually shipped complete) - made to order product (contract orders)	6.0	1.0	5.8	1.1	5.8	1.1
13		99. Ability to expedite and/or provide rush service on product orders	5.9	1.0	5.7	.9	5.5	1.2
14		98. Adequate advance notice of price change provided	5.9	1.1	5.5	1.2	5.3	1.3
15		49b. Completeness of order (% of line items eventually shipped complete) - base line/in-stock (quick ship) product	5.9	1.1	5.8	1.1	5.8	1.1
16		76. Overall aesthetics and finish of product	5.9	1.1	5.9	.9	6.6	.7

RANK	VARIABLE NUMBER AND VARIABLE CONSIDERED	DEALERS		END	USERS	AND FIRMS	
		Mean	Std Dev			Mean	Std Dev
17	79. Availability of status information on open orders	5.8	1.0	5.6	1.2	5.1	1.3
18	83. Action on complaints related to order servicing and shipping	5.8	1.1	6.0	1.0	6.0	1.1
19	1. Realistic, consistent pricing policy by manufacturer to dealers over an extended time frame	5.8	1.1	5.8	1.0	5.3	1.3
20	25. Continuity (non-obsolescence) of system products/product lines over an extended time frame	5.8	1.1	5.9	1.0	5.9	1.1
21	13. Manufacturer's adherence to special shipping instructions (e.g., job site delivery, specific delivery time)	5.8	1.2	5.6	1.3	5.8	1.2
22	4a. Length of promised order cycle (lead) times (from order submission to delivery) - made to order product (contract orders)	5.7	1.1	5.5	1.2	5.7	1.4
23	59. Adequate identification/labeling of carton contents	5.7	1.1	5.2	1.5	5.0	1.4
24	36. Ease, simplicity and time required to set-up work station modules	5.7	1.2	5.6	1.3	5.5	1.2
25	41. Ability of manufacturer to identify and supply high volume product as part of "quick ship" program	5.6	1.1	5.2	1.3	4.9	1.3
26	58. Availability of inventory status information for base line-in-stock items, under "quick ship" programs..	5.6	1.1	5.2	1.2	4.7	1.6
27	51. Availability of active parts stock from manufacturer	5.6	1.2	5.7	1.0	5.6	1.1
28	8. Manufacturer absorbs cost of freight and handling on returns due to damaged product and/or shipping errors	5.6	1.3	5.6	1.4	5.9	1.2
29	96. Flexibility/ease of interchangeability of products in component systems	5.6	1.4	5.6	1.2	5.5	1.2
30	80. Quality of both main product and parts packaging (with respect to transportation and warehousing activities)	5.5	1.2	5.2	1.3	5.2	1.3
31	23. Manufacturer's willingness to accept returns by dealers of product damaged and/or shipped in error	5.5	1.3	5.9	1.0	6.0	1.1
32	5a. Breadth of product line offerings - major vendor source	5.5	1.1	4.8	1.3	4.7	1.4
33	19. Maintenance of back-up inventory by manufacturer to support your on-going needs in a fast responsive time	5.5	1.2	5.2	1.4		
34	86. Prompt and comprehensive bid quotations	5.5	1.4	5.6	1.2	5.9	1.0

RANK	VARIABLE NUMBER AND VARIABLE CONSIDERED	DEALERS		END USERS		AND FIRMS	
		Mean	Std Dev	Mean	Std Dev	Mean	Std Dev
35	43. Expedient recognition of claims, debits and credits (due to overcharges, shortages, adjustments, pricing errors, etc.)	5.4	1.1	5.3	1.2	5.3	1.5
36	48. General terms and conditions of sale (e.g., quantity discounts, freight terms, payment terms and order procedures)	5.4	1.2	5.3	1.3	4.9	1.5
37	15. Advance notice received from manufacturer on deletion of products ...	5.4	1.4	4.9	1.4	5.2	1.5
38	28. Fees paid by manufacturer for reimbursement to dealer for local servicing of national/direct sales accounts	5.4	1.5				
39	46. Innovativeness of product (introductions of <u>new</u> , unique products) ..	5.3	1.2	4.6	1.3	5.1	1.3
40	95. Accurate and timely billing (invoicing)	5.3	1.3	4.9	1.3	4.8	1.5
41	34. Fill rate on base line/in-stock items (% of order included in <u>initial</u> shipment)	5.3	1.4	5.0	1.4	4.5	1.5
42	31. Energy and wire management solutions (the ability to adapt new and old product to meet electrical, communication and lighting needs)	5.3	1.4	5.3	1.4	5.6	1.3
43	45. Free WATS line provided for entering orders with manufacturer ..	5.3	1.5	3.5	1.7	3.8	1.9
44	50. Prepaid shipment terms (paid by manufacturer) vs. collect (paid by you)	5.3	1.6	5.0	1.7	4.6	1.7
45	72. Ability of manufacturing source to meet specific and/or unique customer service and delivery needs of individual customers	5.2	1.2	5.5	1.1	5.6	.9
46	53a. Quantity discount structure - contract/project quotes	5.2	1.3	5.5	1.3	5.0	1.5
47	17. Additional cash discounts for early or prepayment	5.1	1.4	4.4	1.6	3.6	1.6
48	57. Promptness in payments of fees by manufacturer for reimbursement to dealer for local servicing of national/direct sales accounts	5.1	1.5				
49	87. Ability of manufacturer to change requested delivery date of made to order product (contract orders)	5.0	1.3	4.9	1.2	5.0	1.5
50	33a. Price range of product line offering (e.g., low, medium, high price levels) - major vendor source	5.0	1.3	4.8	1.4	4.5	1.5
51	26. Coordination by manufacturer of new product availability with introductory advertising and promotion activities	5.0	1.3				

RANK	VARIABLE NUMBER AND VARIABLE CONSIDERED	DEALERS		END USERS		AND FIRMS	
		Mean	Std Dev	Mean	Std Dev	Mean	Std Dev
52	22. Adequate discount payment period and/or options available	5.0	1.4	4.5	1.6	4.0	1.6
53	24. No or low minimum order quantity requirements on baseline, in-stock (quick ship) orders	5.0	1.5	5.1	1.3	5.1	1.5
54	2. Ability of manufacturer to educate end users on productivity and functional advantages to be gained from installation of equipment	5.0	1.5	5.2	1.3	5.1	1.4
55	38. Flexibility of credit policies to meet special situations	5.0	1.6	3.6	1.6	4.2	1.8
56	74. Formal training programs by manufacturer in the area of facility management (e.g., layout and design, installation, user orientation, systems repair and remodeling and/or modification)	5.0	1.6	4.5	1.5		
57	73. Advance information (literature, specs, prices, etc.) on new product introductions	4.9	1.3	4.4	1.3	4.7	1.4
58	55. Manufacturer's policy on goods returned from customers to dealers..	4.9	1.4				
59	64. Efficient and interactive order entry procedures (ability to provide input to manufacturer as order is being entered via phone) ..	4.9	1.4	4.7	1.3	4.4	1.6
60	61. Parts standardization (minimum number of parts across multiple products and/or product lines)	4.9	1.4	5.3	1.2	5.2	1.4
61	7. Long-term contractual relationship available from manufacturer	4.9	1.6	4.8	1.5	4.2	1.7
62	69. Adequate availability (ability to order) of newly introduced products	4.8	1.3	4.7	1.3	5.1	1.2
63	30. Ability of manufacturer to automatically back-order base line/in-stock items ordered under "quick ship" programs	4.8	1.4	5.0	1.3	4.9	1.3
64	67. National media advertising on part of manufacturer	4.8	1.4	2.7	1.4		
65	81. Ability of manufacturer to inspect/diagnose problem areas and monitor product quality of installations ...	4.8	1.4	5.4	1.1		
66	37. Assistance available in organizing and conducting dealer held seminars	4.7	1.4				
67	18. Assistance from manufacturer in handling carrier loss and damage claims	4.7	1.5	5.2	1.4		
68	70. Manufacturer salespeople available to participate in dealer sales meetings	4.7	1.6				

RANK	VARIABLE NUMBER AND VARIABLE CONSIDERED	DEALERS		END Mean	USERS Std Dev	AND Mean	FIRMS Std Dev
		Mean	Std Dev				
69	32. Manufacturer sponsored seminars	4.6	1.4	3.0	1.4	4.0	1.6
70	91. Ability to select delivering carriers	4.6	1.5	3.1	1.7	3.4	1.7
71	42. Number of sales calls per year from manufacturer's sales representatives	4.6	1.5	5.0	1.2	5.3	1.3
72	29. Frequency of deliveries (ability to manufacturer to consolidate multiple and/or split shipments into one larger, less frequent shipment	4.6	1.5				
73	11. Availability of manufacturer's sales reps to participate in customer sales calls and project bids	4.6	1.6	4.5	1.4	4.5	1.8
74	60. Availability of "mock-ups" on quick turnaround basis	4.6	1.6	4.5	1.4	5.0	1.3
75	66. Assistance provided by manufac- turer in entertaining and/or closing key customer project/ contract orders	4.6	1.6				
76	88. Availability of obsolete replace- ment parts from manufacturer	4.5	1.4	5.0	1.4	4.9	1.3
77	10. Number of new products/product lines introduced annually by manufacturer	4.4	1.2	3.7	1.3	3.7	1.4
78	71. Co-operative advertising funds provided by manufacturer	4.4	1.6				
79	62. Manufacturer provided strategic market information (e.g., sales, market share) by product category, market area, etc.	4.3	1.6				
80	92. Financing arrangements from manu- facturer for "mock-ups"	4.3	1.7				
81	89. In-store dealer display packages provided by manufacturer at special pricing	4.3	1.9				
82	20. Safety and fire protection oriented features of manufacturer's product..	4.2	1.5	5.3	1.4	5.1	1.3
83	52. Assistance from manufacturer's sales representatives in struc- turing orders to manufacturer	4.2	1.5	5.0	1.2	5.0	1.5
84	12. Extended dating and/or install- ment payment terms available	4.2	1.7	2.7	1.6	3.6	1.8
85	75. Palletized and unitized loads where possible for handling efficiency	4.1	1.7	4.2	1.6	3.6	1.6
86	65. Frequent new product introductions (one or two times a year)	4.0	1.4	3.6	1.5	1.6	1.5
87	27. Direct mail material available from manufacturer	4.0	1.5				

RANK	VARIABLE NUMBER AND VARIABLE CONSIDERED	DEALERS		END Mean	USERS Std Dev	AND Mean	FIRMS Std Dev
		Mean	Dev				
88	78. Sales incentive programs offered by manufacturer	4.0	1.6				
89	93. Aid from manufacturer in development of dealer promotional materials and strategies	4.0	1.6				
90	63. In-store advertising material provided by manufacturer	3.9	1.7				
91	85. Dealer councils and/or advisory committees	3.9	1.7				
92	82. Financial counseling and assistance provided by manufacturer (e.g., credit and financing arrangements)	3.9	1.8				
93	21. Co-operative trade show participation and/or assistance from manufacturer	3.8	1.5				
94	6. Access to a manufacturer's showroom/regional sales office in your immediate market area	3.6	1.7	3.8	1.4	4.8	1.6
95	84. Floor plan layout and design services and/or assistance for customers available from manufacturer	3.4	1.6	4.3	1.7		
96	97. Inventory management counseling and assistance provided by manufacturer	3.4	1.6				
97	44. Freight pick-up allowances for dealers wishing to pick up orders at the manufacturers' warehouses ...	3.4	1.9	3.1	1.6	3.3	1.7
98	68. Remote order transmission (computer-to-computer order entry)..	3.3	1.7				
99	35. Access to a manufacturer's assembly and/or warehousing area	3.1	1.6	3.4	1.6	3.1	1.5
100	56. Trade-in allowances on used materials/products	3.1	1.7	3.6	1.6	3.2	1.7
101	77. Store layout planning assistance from manufacturer	2.9	1.6				
102	104. Overall demeanor of sales representatives (responsiveness, promptness, personality, appearance and behavior)			5.7	1.2	6.0	1.1
103	107. Availability and responsiveness of dealer sales representatives to ongoing needs (including personal sales calls)			5.6	1.1	5.3	1.6
104	105. Overall functional capability and flexibility of product to meet specific (customized) needs of your firm			5.6	1.1	5.8	.9
105	110. Bid quotations that include the following costs in contract/project price:						
	- freight			5.6	1.4	5.7	1.3
	- installation			5.6	1.4	5.6	1.4
	- additional discounts for early and/or prepayment			5.2	1.6	5.1	1.6

RANK	VARIABLE NUMBER AND VARIABLE CONSIDERED	DEALERS		END Mean	USERS Std Dev	AND Mean	FIRMS Std Dev
		Mean	Dev				
106	106. Installation services supplied and/or supervised by manufacturer and/or dealer			5.5	1.3	5.3	1.4
107	53b. Quantity discount structure - in-stock/quick ship product			5.3	1.3	4.6	1.6
108	109. Ability to deal directly with manufacturer in developing and/or negotiating large contracts/project bids			5.1	1.7	5.3	1.7
109	102. Ability to negotiate further price reductions subsequent to initial bid quotations			5.0	1.6	4.3	1.7
110	108. Relevance and adaptability of new product introductions to specific needs and/or functions of your firm			4.8	1.3	5.0	1.2
111	103. The presence of more than one dealer who sells the same major brand of products in your area			4.8	1.7	4.7	1.8
112	101. Assistance provided by manufacturer in educating or selling customer on manufacturer's product			4.7	1.3	4.8	1.4
113	100. Ability to contact, discuss and observe actual installations with other users			4.4	1.2	5.1	1.3

A P P E N D I X F

**Variables Used To Select Vendors (Part A) and
Evaluate Performance (Part C)
Major Differences Between Respondent Groups**

APPENDIX P
VARIABLES USED TO SELECT VENDORS (PART A) AND
EVALUATE PERFORMANCE (PART C)
MAJOR DIFFERENCES BETWEEN RESPONDENT GROUPS

Rank	Dealer Variable Number	Variable Description	Part A (Selection)				Part C (Evaluation)			
			Importance			AUD	Rankings			AUD
			Dealers	Users	Firms		Dealers	Users	Firms	
1	9.	Ability of manufacturer to meet promised delivery date (on-time) shipments	--	--	--		Med	Low	Low	
3	90.	Competitiveness of price	V High	V High	High		--	--	--	
5	94.	Special pricing discounts available on contract/project quotes	V High	Med	Low		--	--	--	
6	3.	Overall manufacturing and design quality of product relative to the price range involved	High	High	V High		V High	High	High	
7	16.	Updated and current price data, specifications, and promotion materials provided by manufacturer	V High	Med	High		High	Low	Med	
9	14.	Order cycle consistency (small variability in promised vs. actual delivery, i.e., vendor consistently meets expected date)	V High	High	High		Med	Med	Low	
10	4b.	Length of promised order cycle (lead times (from order submission to delivery)	V High	High	High		High	Low	Low	
11	54.	Accuracy of manufacturer in forecasting and committing to estimated shipping dates on contract/project orders	--	--	--		Med	Low	Low	
12	49	Completeness of order (S of line items eventually shipped complete) - made to order product (contract orders)	V High	High	High		--	--	--	

Variables Used to Select Vendors.... 2

Rank	Dealer Variable Number	Variable Description	Part A (Selection)			Part C (Evaluation)		
			Dealers	Users	Firms	Dealers	Users	Firms
13	99.	Ability to expedite and/or provide rush service on product orders	High	High	Med	--	--	--
14	98.	Adequate advance notice of price change provided	High	Med	Med	Med	Low	Low
16	76.	Overall aesthetics and finish of product	High	High	V High	--	--	--
17	79.	Availability of status information on open orders	High	High	Med	Med	Low	Low
19	1.	Realistic, consistent pricing policy by manufacturer to dealers over an extended time frame	High	High	Med	V High	High	Med
21	13.	Manufacturer's adherence to special shipping instructions (e.g., job site delivery, specific delivery time)	V High	High	High	--	--	--
22	4a.	Length of promised order cycle (lead) times (from order submission to delivery) - made to order product (contract orders)	High	Med	High	Med	Low	Low
23	59.	Adequate identification/labeling of carton contents	High	Med	Low	High	Med	Med
24	36.	Ease, simplicity and time required to set-up work station modules	--	--	--	Med	Med	Low
25	41.	Ability of manufacturer to identify and supply high volume product as part of "quick ship" program	High	Med	Low	Med	Low	Low
26	58.	Availability of inventory status information for base line-in-stock items, under "quick ship" programs	High	Med	Low	High	Low	Med

Variables Used to Select Vendors... 3

Rank	Dealer Variable Number	Variable Description	Part A (Selection)			Part C (Evaluation)		
			Dealers	End Users	Med Firms	Dealers	End Users	Med Firms
27	51.	Availability of active parts stock from manufacturer	--	--	--	Med	Low	Low
28	8	Manufacturer absorbs cost of freight and handling on returns due to damaged product and/or shipping errors	Med	Med	High	--	--	--
30	80.	Quality of both main product and parts packaging (with respect to transportation and warehousing activities)	High	Med	Med	--	--	--
31	23.	Manufacturer's willingness to accept returns by dealers of product damaged and/or shipped in error	Med	High	High	Low	Med	Med
32	5a	Breadth of product line offerings—major vendors	High	Low	Low	High	Med	Med
34	86.	Prompt and comprehensive bid quotations	--	--	--	Low	Med	Med
36	48.	General terms and conditions of sale (e.g., quantity discounts, freight terms, payment terms and order procedures)	Med	Med	Low	Med	Med	Low
37	15.	Advance notice received from manufacturer on deletion of products	Med	Low	Med	Med	Low	Low
39	46.	Innovativeness of product (introductions of new, unique products)	Med	Low	Med	--	--	--
40	95.	Accurate and timely billing (invoicing)	Med	Low	Low	High	Med	Med
41	34.	Fill rate on base line/in-stock items (% of order included in initial shipment)	Med	Low	Low	--	--	--

Variables Used to Select Vendors... 4

Rank	Dealer Variable Number	Variable Description	Part A (Selection)			Part C (Evaluation)		
			Dealers	Users	Firms	Dealers	Users	Firms
42	31.	Energy and wire management solutions (the ability to adapt new and old product to meet electrical, communication and lighting needs)	Med	Med	High	--	--	--
43	45.	Free WATS line provided for entering orders with manufacturer	Med	V Low	V Low	--	--	--
44	50.	Prepaid shipment terms (paid by manufacturer) vs. collect (paid by you)	Med	Med	Low	High	High	Med
46	53a.	Quantity discount structure - contract/project quotes	Med	Med	Low	--	--	--
47	17.	Additional cash discounts for early or prepayment	Med	Low	V Low	Med	Low	Low
49	87.	Ability of manufacturer to change requested delivery date of made to order product (contract orders)	--	--	--	V Low	Low	Low
50	33a.	Price range of product line offering (e.g., low, medium, high price levels) - major vendor source	Med	Low	Low	Med	Low	Low
52	22.	Adequate discount payment period and/or options available	Med	Low	V Low	--	--	--
53	24.	No or low minimum order quantity requirements on baseline, in-stock (quick ship) orders	--	--	--	High	High	Med
55	38.	Flexibility of credit policies to meet special situations	Med	V Low	Low	--	--	--
59	64.	Efficient and interactive order entry procedures (ability to provide input to manufacturer as order is being entered via phone)	Med	Low	Low	--	--	--

Variables Used to Select Vendors... 5

Rank	Dealer Variable Number	Variable Description	Part A (Selection)			Part C (Evaluation)		
			Dealers	Users	ADJ Firms	Dealers	Users	ADJ Firms
60	61.	Parts standardization (minimum number of parts across multiple products and/or product lines)	Low	Med	Med	--	--	--
61	7.	Long-term contractual relationship available from manufacturer	Med	Low	V Low	--	--	--
62	69.	Adequate availability (ability to order) of newly introduced products	Low	Low	Med	--	--	--
69	32.	Manufacturer sponsored seminars	Low	V Low	V Low	--	--	--
70	91.	Ability to select delivering carriers	Low	V Low	V Low	--	--	--
71	42.	Number of sales calls per year from manufacturer's sales representatives	Low	Med	Med	--	--	--
74	60.	Availability of "mock-ups" on quick turnaround basis	Low	Low	Med	Low	Med	High
76	88.	Availability of obsolete replacement parts from manufacturer	--	--	--	--	--	--
77	10.	Number of new products/product lines introduced annually by manufacturer	Low	V Low	V Low	Med	Low	Med
82	20.	Safety and fire protection oriented features of manufacturer's product	Low	Med	Med	High	Med	Med
83	52.	Assistance from manufacturer's sales representatives in structuring orders to manufacturer	Low	Med	Med	Low	Med	Med
84	12.	Extended dating and/or installment payment terms available	Low	V Low	V Low	V Low	Med	Low

Variables Used to Select Vendors... 6

Rank	Dealer Variable Number	Variable Description	Part A (Selection)			Part C (Evaluation)		
			Dealers	Users	Firms	Dealers	Users	Firms
			Importance			Rankings		
			End			End		
			AJD			AJD		
85	75.	Palletized and unitized loads where possible for handling efficiency	Low	Low	V Low	Med	Low	Low
94	6.	Access to a manufacturer's showroom/regional sales office in your immediate market area	V Low	V Low	Low	Med	Med	High
99	35.	Access to a manufacturer's assembly and/or warehousing area	--	--	--	Med	Low	V Low
TOTAL VARIABLES WITH DIFFERENCES			48/72			34/72		

NOTES:

1. All calculations are based on "normalized" variable mean scores ($p < .0001$).
2. The following general ranges of raw mean scores represent approximate categories used in this analysis:

Very Low	Low - 4.0
Low	4.1 - 4.8
Medium	4.9 - 5.4
High	5.5 - 5.9
Very High	6.0 +

A P P E N D I X G

Comparison of Variables Used in Regression:

Dealers

End Users

Architectural Design Firms

APPENDIX G
COMPARISON OF VARIABLES USED IN REGRESSION

- * DEALERS
- * END USERS
- * ARCHITECTURAL DESIGN FIRMS

Note: 1st Row of Data = Current Market Share
2nd Row of Data = Ideal/Preferred Market Share

MEAN SCORE RANK	VARIABLE NUMBER AND VARIABLE CONSIDERED	REGRESSION ON MARKET SHARE		
		DEALERS Beta Weight	END USERS Beta Weight	A&D FIRMS Beta Weight
1	9. Ability of manufacturer to meet promised delivery date (on-time) shipments	-- .2664		
2	39. Accuracy in filling orders (correct product is shipped)	-- -.1254		-.2521 --
3	90. <u>Competitiveness</u> of price			
4	40. Advance notice on shipping delays			
5	94. Special pricing discounts available on contract/project quotes	-.1243 -.1238	.1281 --	
6	3. Overall manufacturing and design <u>quality</u> of product relative to the price range involved		.2852 .1964	.1089 --
7	16. Updated and current price data, specifications, and promotion materials provided by manufacturer..			
8	47. <u>Timely</u> response to requests for assistance from manufacturer's sales representative	-.1032 --		
9	14. Order cycle consistency (small variability in promised vs. actual delivery, i.e., vendor consistently meets expected date)	.2547 --		.1776 .1592

MEAN SCORE RANK	VARIABLE NUMBER AND VARIABLE CONSIDERED	REGRESSION ON MARKET SHARE		
		DEALERS Beta Weight	END USERS Beta Weight	A&D FIRMS Beta Weight
10	4b. Length of <u>promised</u> order cycle (lead) times (from order submission to delivery) - base line/in-stock .. (quick ship) product		-- .2283	
11	54. Accuracy of manufacturer in fore- casting and committing to estimated shipping dates on contract/project orders		-- -.2755	-- -.1766
12	49a. Completeness of order (% of line items eventually shipped complete) - made to order product (contract orders)			-- -.1263
13	99. Ability to expedite and/or provide rush service on product orders	.0964 --		
14	98. Adequate advance notice of price change provided			-.1388 --
15	49b. Completeness of order (% of line items eventually shipped complete) - base line/in-stock (quick ship) product			
16	76. Overall aesthetics and finish of product			-.1941 --
17	79. Availability of status information on open orders			
18	83. Action on complaints related to order servicing and shipping			
19	1. Realistic, consistent pricing policy by manufacturer to dealers over an extended time frame			
20	25. Continuity (non-obsolescence) of system products/product lines over an extended time frame	.1275 .1432		
21	13. Manufacturer's adherence to special shipping instructions (e.g., job site delivery, specific delivery time)			.2259 .3461

MEAN SCORE RANK	VARIABLE NUMBER AND VARIABLE CONSIDERED	REGRESSION ON MARKET SHARE		
		DEALERS Beta Weight	END USERS Beta Weight	A&D FIRMS Beta Weight
22	4a. Length of <u>promised</u> order cycle (lead) times (from order submission to delivery) - made to order product (contract orders)			
23	59. Adequate identification/labeling of carton contents	-- -.1772		
24	36. Ease, simplicity and time required to set-up work station modules	.1857 .2155	.1845 .3409	
25	41. Ability of manufacturer to identify and supply high volume product as part of "quick ship" program	.0986 --		
26	58. Availability of inventory status information for base line-in-stock items, under "quick ship" programs..	-- .1553		
27	51. Availability of <u>active</u> parts stock from manufacturer	-- -.1279		
28	8. Manufacturer absorbs cost of freight and handling on returns due to damaged product and/or shipping errors			.0854 --
29	96. Flexibility/ease of interchange- ability of products in component systems	.1579 .1143	.1928 --	.1492 --
30	80. Quality of both main product and parts <u>packaging</u> (with respect to transportation and warehousing activities)			
31	23. Manufacturer's willingness to accept returns by dealers of product damaged and/or shipped in error		-- -.2793	
32	5a. Breadth of product line offerings - major vendor source			-- .1268

MEAN SCORE RANK	VARIABLE NUMBER AND VARIABLE CONSIDERED	REGRESSION ON MARKET SHARE		
		DEALERS Beta Weight	END USERS Beta Weight	A&D FIRMS Beta Weight
33	19. Maintenance of back-up inventory by manufacturer to support your on-going needs in a fast responsive time			
34	86. Prompt and comprehensive bid quotations			-.2763 --
35	43. Expedient recognition of claims, debits and credits (due to overcharges, shortages, adjustments, pricing errors, etc.)	.1290 --		
36	48. General terms and conditions of sale (e.g., quantity discounts, freight terms, payment terms and order procedures)	.1686 .2059	-- -.1338	
37	15. Advance notice received from manufacturer on deletion of products ...			
38	28. Fees paid by manufacturer for reimbursement to dealer for local servicing of national/direct sales accounts			
39	46. Innovativeness of product (introductions of <u>new</u> , unique products) ..		-- .1722	.2133 .2087
40	95. Accurate and timely billing (invoicing)		-- -.1326	
41	34. Fill rate on base line/in-stock items (% of order included in <u>initial</u> shipment)		-- .2798	
42	31. Energy and wire management solutions (the ability to adapt new and old product to meet electrical, communication and lighting needs)	-- -.1052		.2071 .1888
43	45. Free WATS line provided for entering orders with manufacturer ..			-- -.1404
44	50. Prepaid shipment terms (paid by manufacturer) vs. collect (paid by you)	.0869 --		

MEAN SCORE RANK	VARIABLE NUMBER AND VARIABLE CONSIDERED	REGRESSION ON MARKET SHARE		
		DEALERS Beta Weight	END USERS Beta Weight	A&D FIRMS Beta Weight
45	72. Ability of manufacturing source to meet specific and/or unique customer service and delivery needs of individual customers			
46	53. Quantity discount structure	.1101		.3631
	- contract/project quotes	.1020		--
	- in stock/quick ship orders			-.1426
47	17. Additional cash discounts for early or prepayment			--
48	57. Promptness in payments of fees by manufacturer for reimbursement to dealer for local servicing of national/direct sales accounts	-.0710		
		--		
49	87. Ability of manufacturer to change requested delivery date of made to order product (contract orders)	-.1343		
		-.0867		
50	33a. Price range of product line offering (e.g., low, medium, high price levels)			
	- major vendor source			
51	26. Coordination by manufacturer of new product availability with introductory advertising and promotion activities			
52	22. Adequate discount payment period and/or options available			
53	24. No or low minimum order quantity requirements on baseline, in-stock (quick ship) orders	-.1175	--	
		--	-.2250	
54	2. Ability of manufacturer to educate end users on productivity and functional advantages to be gained from installation of equipment	.1105	.1298	
		--	.2716	

APPENDIX G cont. - 6

MEAN SCORE RANK	VARIABLE NUMBER AND VARIABLE CONSIDERED	REGRESSION ON MARKET SHARE		
		DEALERS Beta Weight	END USERS Beta Weight	A&D FIRMS Beta Weight
55	38. Flexibility of credit policies to meet special situations	-.1101 -.1024		
56	74. Formal training programs by manufacturer in the area of facility management (e.g., layout and design, installation, user installation, user orientation, systems repair and remodeling and/or modification)	.1012 --	-.1201 --	
57	73. Advance information (literature, specs, prices, etc.) on new product introductions		-- -.1441	
58	55. Manufacturer's policy on goods returned from customers to dealers..	-- -.1170		
59	64. Efficient and interactive order entry procedures (ability to provide input to manufacturer as order is being entered via phone) ..			
60	61. Parts standardization (minimum number of parts across multiple products and/or product lines)	-.1418 --	.1381 --	-.2453 --
61	7. Long-term contractual relationship available from manufacturer			.1444 .0975
62	69. Adequate availability (ability to order) of newly introduced products	-.1446 -.1699		
63	30. Ability of manufacturer to automatically back-order base line/ in-stock items ordered under "quick ship" programs			
64	67. National media advertising on part of manufacturer		-- -.0819	
65	81. Ability of manufacturer to inspect/ diagnose problem areas and monitor product quality of installations ...			

MEAN SCORE RANK	VARIABLE NUMBER AND VARIABLE CONSIDERED	REGRESSION ON MARKET SHARE		
		DEALERS Beta Weight	END USERS Beta Weight	A&D FIRMS Beta Weight
66	37. Assistance available in organizing and conducting dealer held seminars			
67	18. Assistance from manufacturer in handling carrier loss and damage claims			
68	70. Manufacturer salespeople available to participate in dealer sales meetings	-.1270 --		
69	32. Manufacturer sponsored seminars	.1368 .1633	.1851 .1679	-- .1048
70	91. Ability to select delivering carriers	-.1484 -.2051	-- -.1513	-.0720 --
71	42. Number of sales calls per year from manufacturer's sales representatives		-- .2838	-- -.2647
72	29. Frequency of deliveries (ability to manufacturer to consolidate multiple and/or split shipments into one larger, less frequent shipment			
73	11. Availability of manufacturer's sales reps to participate in customer sales calls and project bids		-- -.1416	
74	60. Availability of "mock-ups" on quick turnaround basis	.0866 --		
75	66. Assistance provided by manufac- turer in entertaining and/or closing key customer project/ contract orders			
76	88. Availability of <u>obsolete</u> replace- ment parts from <u>manufacturer</u>	.0910 .1043	-- .1221	
77	10. Number of <u>new</u> products/product lines introduced annually by manufacturer			

MEAN SCORE RANK	VARIABLE NUMBER AND VARIABLE CONSIDERED	REGRESSION ON MARKET SHARE		
		DEALERS Beta Weight	END USERS Beta Weight	A&D FIRMS Beta Weight
78	71. Co-operative advertising funds provided by manufacturer	-.0500 -.0826		
79	62. Manufacturer provided strategic market information (e.g., sales, market share) by product category, market area, etc.			
80	92. Financing arrangements from manufacturer for "mock-ups"			
81	89. In-store dealer display packages provided by manufacturer at special pricing	-- .0870		
82	20. Safety and fire protection oriented features of manufacturer's product..			-.1641 -.2281
83	52. Assistance from manufacturer's sales representatives in structuring orders to manufacturer		-.2558 --	
84	12. Extended dating and/or installment payment terms available			
85	75. Palletized and unitized loads where possible for handling efficiency	.0621 .0554		
86	65. Frequent new product introductions (one or two times a year)			
87	27. Direct mail material available from manufacturer			
88	78. Sales incentive programs offered by manufacturer	-- .0958		
89	93. Aid from manufacturer in development of dealer promotional materials and strategies			
90	63. In-store advertising material provided by manufacturer	- .0636		

MEAN SCORE RANK	VARIABLE NUMBER AND VARIABLE CONSIDERED	REGRESSION ON MARKET SHARE		
		DEALERS Beta Weight	END USERS Beta Weight	A&D FIRMS Beta Weight
91	85. Dealer councils and/or advisory committees			
92	82. Financial counseling and assistance provided by manufacturer (e.g., credit and financing arrangements)	.1140 .0714		
93	21. Co-operative trade show participation and/or assistance from manufacturer	-- -.0892		
94	6. Access to a manufacturer's showroom/regional sales office in your immediate market area			.1705 --
95	84. Floor plan layout and design services and/or assistance for customers available from manufacturer		-- .1508	
96	97. Inventory management counseling and assistance provided by manufacturer			
97	44. Freight pick-up allowances for dealers wishing to pick up orders at the manufacturers' warehouses ...			
98	68. Remote order transmission (computer-to-computer order entry)..			
99	35. Access to a manufacturer's assembly and/or warehousing area	-- .0778		-- .1047
100	56. Trade-in allowances on used materials/products			
101	77. Store layout planning assistance from manufacturer			
102	104. Overall demeanor of sales representatives (responsiveness, promptness, personality, appearance and behavior)			.1797 .4138

MEAN SCORE RANK	VARIABLE NUMBER AND VARIABLE CONSIDERED	REGRESSION ON MARKET SHARE		
		DEALERS Beta Weight	END USERS Beta Weight	A&D FIRMS Beta Weight
103	107. Availability and responsiveness of dealer sales representatives to ongoing needs (including personal sales calls)			
104	105. Overall functional capability and flexibility of product to meet specific (customized) needs of your firm			
105	110. Bid quotations that include the following costs in contract/project price:			
	- freight		--	.1454
	- installation		.2830	--
	- additional discounts for early and/or prepayment			
106	106. Installation services supplied and/or supervised by manufacturer and/or dealer			.2627
107	53b. Quantity discount structure - in-stock/quick ship product			--
108	109. Ability to deal directly with manufacturer in developing and/or negotiating large contracts/project bids			
109	102. Ability to negotiate further price reductions subsequent to initial bid quotations			-.0910
110	108. Relevance and adaptability of new product introductions to specific needs and/or functions of your firm			--
111	103. The presence of more than one dealer who sells the same major brand of products in your area			

MEAN SCORE RANK	VARIABLE NUMBER AND VARIABLE CONSIDERED	REGRESSION ON MARKET SHARE		
		DEALERS Beta Weight	END USERS Beta Weight	A&D FIRMS Beta Weight
112	101. Assistance provided by manufacturer in educating or selling customer on manufacturer's product		-- -.1365	
113	100. Ability to contact, discuss and observe actual installations with other users			
		CURR/PFD	CURR/PFD	CURR/PFD
	TOTALS	28 / 27	9 / 21	22 / 14
	Product	8 7	4 6	8 4
	Price	6 4	1 3	8 2
	Promotion	7 7	4 6	2 2
	P.D./Customer Service	7 9	-- 6	4 6
	TOTAL, ADJUSTED R ²			
	Current Market Share	.6797	.6566	.6940
	Ideal/Preferred Share	.6253	.6276	.6628

A P P E N D I X H

Part C Variables In Marketing Mix Scales For Dealers

APPENDIX H
PART C VARIABLES INCLUDED IN
MARKETING MIX SCALES FOR DEALERS

Scale No.	Mktg Mix Category	Variable No.	Description
1	PRICE	DATING/DISCOUNT TERMS (.6249 Reliability)	
		12	Extended dating and/or installment terms
		38	Flexibility of credit policies re special situations
		53	Quantity discount structure
2	PRICE	GENERAL TERMS OF SALE (.5986 Reliability)	
		28	Reimbursement by manufacturer to service national accounts
		48	General terms and conditions of sale
		98	Advance notice of price changes
3	PROMOTION	PERSONAL SELLING (.8372 Reliability)	
		11	Availability of manufacturer reps for sales calls/bid
		42	Number of sales calls per year by manufacturer sales rep
		47	Timely response by manufacturer to requests for assistance
		70	Availability of manufacturer reps for dealer sales meetings
4	PROMOTION	DEALER TRAINING/EDUCATION (.7341 Reliability)	
		74	Formal training programs regarding facility management
		82	Financial counseling and assistance
		85	Dealer councils and/or advisory committees

APPENDIX H cont. - 2

Scale No.	Mktg Mix Category	Variable No.	Description
5	PROMOTION	PROMOTIONAL ASSISTANCE (.7231 Reliability)	
		77	Store layout planning assistance
		78	Sales incentive programs
		93	Aid in development of promotional material
		97	Inventory management counseling and assistance
6	PRODUCT	PRODUCT FLEXIBILITY (.7908 Reliability)	
		25	Continuity of product lines over extended period
		36	Ease, simplicity, time required to set-up modules
		41	Ability to I.D. and supply product regarding "quick ship" program
		51	Availability of active replacement parts
		96	Flexibility/interchangeability of products
7	PRODUCT	PRODUCT DEVELOPMENT (.6948 Reliability)	
		10	Number of new products introduced annually
		46	Innovativeness of new product introductions
		65	Frequent new product introductions
8	P.D./C.S.	LEAD/CYCLE TIME (.8907 Reliability)	
		4a	Promised lead time - contract orders
		4b	Promised lead time - quick ship orders
		9	Ability to meet promised lead time
		14	Order cycle consistency (low variability)
		54	Accuracy in forecasting estimated ship date

APPENDIX H cont. - 3

Scale No.	Mktg Mix Category	Variable No.	Description
9	P.D./C.S.	SHIPPING/DELIVERY FLEXIBILITY (.6018 Reliability)	
		13	Adherence to special shipping instructions
		58	Availability of inventory status information
		72	Ability to meet specific C/S and delivery needs
10	P.D./C.S.	ORDER COMPLETENESS (.7382 Reliability)	
		39	Accuracy in filling orders
		49a	Order completeness % - contract orders
		49b	Order completeness % - quick ship orders

A P P E N D I X I

Part C Variables In Marketing Mix Scales For End Users

APPENDIX I
PART C VARIABLES IN MARKETING MIX SCALES
FOR END USERS

Scale No.	Mktg Mix Category	Variable No.	Description
1	PRICE	DISCOUNT STRUCTURE (.8386 Reliability)	
		53a	Quantity discount structure - contract orders
		53b	Quantity discount structure - quick ship orders
		63	Special pricing discounts - contract orders
2	PRICE	ALL INCLUSIVE BID QUOTES (.7981 Reliability)	
		81a	Bid quotes that include freight
		81b	Bid quotes that include installation
		81c	Bid quotes that include discounts for pre-payment
3	PROMOTION	PERSONAL SELLING (.7786 Reliability)	
		37	Overall demeanor of sales representatives
		42	Availability of manufacturer reps to on-going needs
		47	Timely response to requests to manufacturer/dealer reps
		52	Assistance from manufacturer/dealer reps regarding order submission
		75	Availability of dealer reps to on-going needs

APPENDIX I cont. - 2

Scale No.	Mktg Mix Category	Variable No.	Description
4	PROMOTION	SALES ASSISTANCE/TRAINING (.7681 Reliability)	
		2	Ability of manufacturer/dealer to educate regarding productivity
		21	Ability to observe actual installations
		26	Assistance from manufacturer in selling its product
		32	Manufacturer/dealer sponsored seminars
		62	Training programs by manufacturer/dealer regarding facility management
		67	National media advertising by manufacturer
5	PRODUCT	PRODUCT FLEXIBILITY (.7872 Reliability)	
		25	Continuity of product lines over extended period
		36	Ease, simplicity, time required to set up modules
		61	Parts standardization across multiple lines
		66	Flexibility/interchangeability of products
6	PRODUCT	PRODUCT DEVELOPMENT (.7578 Reliability)	
		10	Number of new products introduced annually
		46	Innovativeness of new product introductions
		65	Frequent new product introductions
7	PRODUCT	PRODUCT BREADTH/QUALITY (.6886 Reliability)	
		3	Overall manufacturing/design quality
		5	Breadth of product line offerings
		31	Energy and wire management solutions

APPENDIX I cont. - 3

Scale No.	Mktg Mix Category	Variable No.	Description
8	P.D./C.S.	LEAD/CYCLE TIME (.8480 Reliability)	
		4a	Promised lead time - contract orders
		4b	Promised lead time - quick ship orders
		9	Ability to meet promised lead time
		14	Order cycle consistency (low variability)
9	P.D./C.S.	P.D. INFORMATION SYSTEM CAPABILITY (.7948 Reliability)	
		19	Maintenance of back-up stock for contract fill-ins
		54	Accuracy in forecasting estimated ship date
		58	Availability of inventory status information regarding quick ship program
		68	Ability of dealer to expedite/rush orders
		73	Ability to meet specific C/S and delivery needs
		82	Ability to change requested delivery date
10	P.D./C.S.	TRANSPORTATION SERVICES (.7817 Reliability)	
		8	Freight on returns paid by dealer and/or manufacturer
		35	Access to a manufacturer's assembly/D.C. facility
		44	Freight pick-up allowance available
11	P.D./C.S.	ORDER COMPLETENESS (.8021 Reliability)	
		49a	Completeness of order - contract orders
		49b	Completeness of order - quick ship orders

A P P E N D I X J

Part C Variables In Marketing Mix Scales For Architectural & Design Firms

APPENDIX J
PART C VARIABLES INCLUDED IN MARKETING MIX SCALES
FOR ARCHITECTURAL & DESIGN FIRMS

Scale No.	Mktg Mix Category	Variable No.	Description
1	PRICE	COMPREHENSIVE PRICING (.96606 Reliability)	
		76a	Bid quotes that include freight
		76b	Bid quotes that include installation
		76c	Bid quotes that include discount for pre-payment
2	PRICE	CREDIT POLICIES/TERMS (.8214 Reliability)	
		7	Long-term contractual relationship available
		12	Credit line/extended payment terms available
		20	Adequate discount payment period available
		36	Flexibility of credit policies regarding special situations
3	PRICE	QUANTITY DISCOUNT STRUCTURE (.7764 Reliability)	
		51a	Quantity discount structure - contract orders
		51b	Quantity discount structure - quick ship orders
4	PROMOTION	PERSONAL SELLING (.7276 Reliability)	
		35	Overall demeanor of sales reps
		40	Availability of manufacturer reps to on-going needs
		45	Timely response from reps to requests for assistance
		50	Assistance from reps in structuring orders

APPENDIX J cont. - 2

Scale No.	Mktg Mix Category	Variable No.	Description
5	PROMOTION	CONTRACT BIDDING ASSISTANCE (.5977 Reliability)	
		2	Ability of reps to educate regarding productivity of product
		11	Availability of manufacturer to participate in bid activities
		19	Ability to observe actual installations
		24	Assistance of manufacturer in selling customer
6	PRODUCT	PRODUCT DEVELOPMENT (.7484 Reliability)	
		3	Overall manufacturing/design quality
		10	Number of new products introduced annually
		44	Innovativeness of new product introductions
		62	Frequent new product introductions
		69	Overall aesthetics/finish of product
7	PRODUCT	PRODUCT FLEXIBILITY (.6411 Reliability)	
		34	Ease, simplicity, time required to set up modules
		59	Parts standardization across multiple lines
		63	Flexibility/interchangeability of products
8	P.D./C.S.	LEAD/CYCLE TIME (.8506 Reliability)	
		4a	Promised lead time - contract orders
		4b	Promised lead time - quick ship orders
		9	Ability to meet promised lead time
		14	Order cycle consistency (low variability)

APPENDIX J cont. - 3

Scale No.	Mktg Mix Category	Variable No.	Description
9	P.D./C.S.	ORDER COMPLETENESS (.8841 Reliability)	
		47a	Completeness of order - contract orders
		47b	Completeness of order - quick ship orders
10	P.D./C.S.	CUSTOMER SERVICE RESPONSIVENESS (.7769 Reliability)	
		56	Availability of inventory status information
		57	Adequate identification/labeling of cartons
		68	Ability to meet specific C/S and delivery needs

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