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A COMPARATIVE STUDY OF SYSTEMS SELLING

BY INDUSTRIAL DISTRIBUTORS

DISSERTATION

Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate
School of The Ohio State University

By

William John Hannaford, B.A., M.B.A.

***

The Ohio State University
1974

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Finally, I am most indebted to my devoted wife, Jody, for her numerous sacrifices, her moral support and constant encouragement which made possible the completion of this study.
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In the marketing of both consumer and industrial products, channels of distribution have been traditionally viewed as loose coalitions of independent business firms, each of which has operated autonomously in the performance of a well-defined set of marketing functions. More recently, especially in the consumer goods trade, channels of distribution have tended to evolve into operating systems which are centrally coordinated and programmed to achieve a variety of systemic economies. In McCammon's terms, these vertical marketing systems may be classified as follows:

**Corporate Systems**, or those combining successive stages of production and distribution under a single ownership. Examples: Sears, Sherwin-Williams Company.

**Contractual Systems**, or those consisting of independent firms at different channel levels who coordinate their activities on a contractual basis to achieve systemic economies. Examples: franchising, wholesaler-sponsored voluntary groups, and retailer cooperatives.

**Administered Systems**, or those involving joint ventures in the coordinated marketing of goods and services, in which control of the channel is won by the exercise of leadership or power, usually by a single, dominant channel member.¹

The existence and growth of these forms of vertical marketing systems in the distribution of consumer goods has been observed and described by McCammon, Weiss, Bucklin, Ridgeway, and others. Moreover,

several recent conceptual and empirical studies have been conducted at The Ohio State University in which the common theme has been to study channels of distribution as vertically organized behavior systems. In these studies, the behavioral variables of power, competition, and conflict have emerged as central units of analysis. Beier\(^2\) utilized a conceptual framework to accomplish an initial study of the power literature as drawn from several relevant disciplines; and Rosenberg\(^3\) undertook a case study of the causes, levels, and consequences of conflict in a high-stake distribution channel for consumer durable goods. Additionally, El-Ansary\(^4\) provided a conceptual and empirical study of power measurement in the distribution channel, in which a measurement methodology was devised and tested. Finally, Schulz\(^5\) has completed the initial laboratory study of these channel variables, by examining the relationships between payoffs and conflict generated by the use of different power base messages in the context of a Prisoner's Dilemma game.

While a research tradition examining channel systems for consumer goods has not yet matured, the above studies have made a begin-


\(^3\)Larry J. Rosenberg, "An Empirical Examination of the Causes, Level, and Consequences of Conflict in a High Stake Distribution Channel" (Ph.D. dissertation, The Ohio State University, 1969).


\(^5\)Robert Adolph Schulz, Jr., "A Laboratory Study of Power Base-Conflict Relationships--As Applicable to Distribution Channels" (Ph.D. dissertation, The Ohio State University, 1971).
ning. Such is not the case for the industrial goods channel, where integrated attempts at channel management and control are much more recent and somewhat obscure, both to practitioners and academicians. Evolving for the most part over the past decade, a variety of forms of vertical marketing systems have emerged in the area of industrial distribution that have become known collectively as "Systems Selling." The use of a single name for a number of differing alternatives has contributed to the existing confusion, resulting sometimes in the misapplication of a technique which could have potential benefits for industrial wholesaler-distributors.

The Problem

Statement of the Problem

The problem for this study was to explore the concept of Systems Selling, and to assess its viability and potential success as a method for structuring channel relationships between wholesalers of industrial maintenance, repair, and operating (MRO) supplies, and their customers.

Purposes of the Study

The purposes of this study were:

1) To estimate the extent of Systems Selling by industrial distributors in terms of:
   a) the percentage of vendors which use some kind of System.
   b) the kinds of Systems that are most frequently adopted.

2) To determine how the dominant types of Systems are structured and implemented by different kinds of industrial distributors.

3) To determine the importance of Systems Selling to the vendor, in terms of its contributions to sales, profits, return on investment, and other operating performance criteria.
4) To determine what it takes to make a System's operation satisfactory, what it is that constitutes success, and whether one particular variety is more satisfactory than another.

5) To clarify the kinds of related benefits and problems that different vendors face with Systems Selling.

These purposes were grounded in the belief that further exploration of this evidently confusing area is a distinct necessity. As mentioned, a multiplicity of system types exist; but not all are equally acceptable to all firms, nor do they operate in precisely the same manner. If we can distinguish between the major types, discover how they perform, and uncover what it takes to make them successful, then we will have broadened considerably the knowledge level in Systems Selling today.

Justification for the Research

Over a long period of time, much has been made of the so-called "plight of the wholesaler." Several writers have questioned the reasons for the existence of this institution, claiming that his services cost too much, or that his functions are being shifted either forward or backward, among other things. In practically every case, the prophecy is of doom, yet statistics continue to show increased numbers of wholesalers, at least in the field of industrial distribution.6

6Based upon "1971 Census of Industrial Distributors," Industrial Distribution, April 1971, p. 31. For the purposes of this research, an industrial distributor is defined as a full-function wholesaler who handles supplies, equipment, machinery, and/or parts for manufacturing establishments, mines, oil wells, public utilities, and similar types of customers. Included in this definition are general-line, limited-line, and specialty-line establishments.
Still, these forecasts are not without some truth. While the numbers of establishments may be increasing, the rate of growth is not particularly impressive. Specifically, the 1971 Census of Industrial Distributors taken by Industrial Distribution reveals that:

1) The absolute number of general-line houses is declining.
2) The industry is dominated by small, independent merchants.
3) Only the specialist distributors showed an increase in numbers.

In addition, there are four categories of specialists that are declining in absolute numbers. Interestingly, all four could qualify as distributors of MRO products:

1) Automotive equipment.
2) Electronic parts.
3) Industrial rubber products.
4) Oilfield, mine, and utility supplies.

Other statistics lend credibility to the belief that distributors are in a weak competitive position. Selected data from the past six surveys of distributor operations are presented in Table 1.

While the figures are not necessarily conclusive, the erratic trends in most of the measures indicate that this is an unstable industry at best, and certainly one that is not growth oriented. Continually escalating operating expenses, high inventories, and declining stock turnover have traditionally eroded profitability, despite sales gains. Even in the excellent business year of 1972, the national average for distributor profitability (after taxes) was but 4.2 percent of sales, and this was
### TABLE 1

**BASIC OPERATING MEASURES FOR INDUSTRIAL DISTRIBUTORS**

(NATIONAL AVERAGES, ALL PRODUCT LINES)

<table>
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<tr>
<td><strong>Sales (percent change over previous year)</strong></td>
<td>+2.7</td>
<td>+6.0</td>
<td>+7.0</td>
<td>-1.0</td>
<td>+3.0</td>
<td>+13.0</td>
</tr>
<tr>
<td><strong>Gross Margin (percent)</strong></td>
<td>25.0</td>
<td>25.0</td>
<td>24.0</td>
<td>26.0</td>
<td>25.0</td>
<td>27.0</td>
</tr>
<tr>
<td><strong>Operating Expenses (percent increase over previous year)</strong></td>
<td>N.A.</td>
<td>+5.0</td>
<td>+10.0</td>
<td>+3.0</td>
<td>+5.0</td>
<td>+11.0</td>
</tr>
<tr>
<td><strong>Inventories (percent increase over previous year)</strong></td>
<td>+6.0</td>
<td>+5.0</td>
<td>+7.0</td>
<td>+2.0</td>
<td>+2.0</td>
<td>+5.0</td>
</tr>
<tr>
<td><strong>Stock Turn (times)</strong></td>
<td>5.2</td>
<td>4.7</td>
<td>5.0</td>
<td>4.6</td>
<td>4.3</td>
<td>3.4</td>
</tr>
<tr>
<td><strong>Sales Force (percent increase over previous year)</strong></td>
<td>+13.0</td>
<td>+7.0</td>
<td>+7.0</td>
<td>+3.0</td>
<td>+3.0</td>
<td>+6.0</td>
</tr>
<tr>
<td><strong>Sales per Salesman (percent change over previous year)</strong></td>
<td>-7.0</td>
<td>-1.0</td>
<td>+2.0</td>
<td>-4.0</td>
<td>N.C.</td>
<td>+7.0</td>
</tr>
</tbody>
</table>


Still other selected data point out some overall weaknesses. Three critical ratios affecting wholesalers, as applied to seven kinds of industrial distributors, are shown in Table 2. The picture emerging

---

# TABLE 2

SELECTED RATIOS FOR WHOLESALERS

<table>
<thead>
<tr>
<th>Distributor Types</th>
<th>Net Profit (after taxes) on Net Sales</th>
<th>Net Sales to Inventory</th>
<th>Inventory to Net Working Capital</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical Parts and Supplies</td>
<td>1.10 1.57 1.27 1.27 1.63</td>
<td>7.0 7.3 7.6 7.5 7.4</td>
<td>86.7 88.9 89.5 82.4 83.3</td>
</tr>
<tr>
<td>Hardware</td>
<td>1.29 1.91 1.20 1.39 1.76</td>
<td>4.9 4.5 4.7 4.5 4.9</td>
<td>87.3 92.0 94.7 93.5 97.1</td>
</tr>
<tr>
<td>Industrial Machinery and Equipment</td>
<td>1.71 2.13 1.26 1.34 2.03</td>
<td>7.2 6.6 6.3 6.3 6.6</td>
<td>82.3 85.8 89.8 89.0 92.1</td>
</tr>
<tr>
<td>Lumber and Construction Materials</td>
<td>1.69 1.53 1.20 1.62 1.85</td>
<td>8.2 7.0 6.9 7.7 8.0</td>
<td>71.7 88.7 80.0 83.1 83.7</td>
</tr>
<tr>
<td>Paints and Varnishes</td>
<td>1.51 1.99 1.30 1.03 2.55</td>
<td>5.3 5.8 6.0 6.8 6.4</td>
<td>69.4 77.5 84.5 81.0 69.4</td>
</tr>
<tr>
<td>Paper and Its Products</td>
<td>1.01 1.60 1.21 1.19 1.23</td>
<td>7.6 7.5 8.1 9.5 8.1</td>
<td>83.2 81.9 80.5 75.1 83.2</td>
</tr>
<tr>
<td>Plumbing and Heating Equipment and Supplies</td>
<td>1.58 1.91 1.62 1.68 1.77</td>
<td>5.8 6.3 5.6 6.0 6.0</td>
<td>79.5 78.9 85.2 83.3 82.5</td>
</tr>
</tbody>
</table>

here, while not complete, is still indicative of a larger overall trend. Paper-thin profit margins, stable inventory turnover, and escalating inventories seem to reaffirm the general picture that emerged from Table 1. While hard, indisputable claims cannot be made to justify the industry's weak position, it must be admitted that its performance has been, at best, marginal.

The apparently weak position of the industrial distributor indicates the importance of discovering and implementing new strategies for survival and profitability in the marketplace. It may be possible that the adoption of Systems Selling programs will enable distributors to enjoy a more profitable and competitive position. Consequently, all research that provides information that may facilitate the adoption of these programs (if proven to be beneficial) is vital to industrial distribution. In view of the fact that no other empirical research of this type has been attempted, this study of the current impact and operations of Systems Selling vendors provides information that may help strengthen the position of today's industrial distributor.

A second justification relates to the stream of channel systems research undertaken in recent years at The Ohio State University. As has been earlier noted, these studies have focused upon the behavioral variables of power, competition, and conflict in and among organizations in a channel setting. This study broadens that research base by examining an operational form of systems cooperation. And while being related to these prior efforts, the focus upon a contractually integrated channel system represents a newer, broader effort. Moreover, the industrial focus of the research adds a new, significant dimension to
the currently existing body of knowledge in the field of channel systems.

Finally, research into the operations, performance, and impact of Systems Contracting is desirable per se. To the extent that channel coalitions and vertical forms of quasi-integration become more viable marketing developments, research into their functioning can produce insights of an operational nature from the point of view of both management and society.

In summary, this research is justified on the basis that it:

1) Provides for the substantive empirical analysis of the impact and trends in Systems Selling, thereby potentially aiding innovation-prone distributors.

2) Broadens the existing boundaries of channel systems knowledge by establishing a link between prior research efforts and a newer contractually integrated industrial focus.

3) Establishes new insights into interorganizational channel relationships per se.

Study Procedure

The procedure used in this study has included the following:

1) A review of secondary literature sources to provide a background to the study of Systems Selling, including that done by industrial distributors, manufacturers, or other types of industrial vendors.

2) The development of an extended conceptualization of Systems Contracting as a Systems Selling technique used by industrial distributors, based upon and integrating the above sources.

3) Twenty telephone interviews and six personal visitations with distributors currently using different kinds of Systems Selling, to supplement and clarify the information in the literature and prepare for more intensive primary research.

---

4) A survey of 1,255 industrial distributors dealing in general industrial supplies, pipe, valves, and fittings, bearings, fasteners, and electrical items to solicit expressions of Systems Selling usage, operating characteristics, performance, attitudes, and capabilities, and benefits and problems associated with the technique.

Forty percent of those surveyed responded, and the information so obtained is used to describe and assess the extent and operations of Systems Selling as pertains to the stated purposes of this study.

Limitations to the Study

In order to limit the magnitude of the research task, this first empirical effort was an exploratory study, focusing upon trends, indications, and estimates. The "measurements" of performance collected in the survey cannot be construed to be absolute, definitive truths because they are but estimates as recalled by distributor personnel. These estimates of trends are entirely consistent with the exploratory nature of this study. Likewise, cause and effect relationships are studied; and causal variables are indicated. But to conclusively prove causation was beyond the limits of this initial exploratory study.

A mail questionnaire was used to gather the primary data for this research. While useful from a cost and coverage standpoint, the rate of response achieved by this method was lower than might have been expected by using more personal data gathering techniques. Moreover, to the extent that this vehicle is more subject to ambiguities, errors, or biases than others, this must also be considered a limitation.

Only Systems Sellers were studied in this research. Hence, it was not possible to use Systems purchasers' views as a point of
reference against which to balance the emotionalism and subjectivity of distributor responses. However, examination of vendor attitudes made it possible to detect these biases.

The Systems Selling techniques studied in this research are applicable to a wide variety of distributor types, in terms of the suitability of the product line. But to keep the research manageable in scope, certain kinds of vendors were eliminated from the population sampled. This enabled the research to focus on the kinds of distributors shown by the preliminary studies to be most likely to be engaged in Systems Selling.

In view of the exploratory nature of the study and potential weaknesses in the data, the research findings were mainly analyzed using table display relationships, basic statistical tests of significance, and percentage comparisons. More powerful methods of analysis, though potentially applicable, were judged premature for this study.

A final limitation concerns the response from the sample. Because it could not be known in advance whether a vendor was a Systems Seller, the inquiry had to be made in the questionnaire. And while the questionnaires were sent to trade groups whose members were quite commonly practicing the technique, it was inevitable that not all respondents were so engaged. Thus, to some extent, not all of the realized responses were fully usable as pertains to the stated purposes of this study.
CHAPTER II

BACKGROUND TO THE STUDY

The term Systems Selling has experienced very loose usage, both by industrial wholesaler-distributors and other types of industrial vendors. There is no way of knowing with certainty precisely what is meant when a vendor claims to be using Systems Selling, because distributors give different meanings to the term.

To clarify the perspective of this research, the primary and secondary findings are preceded by a discussion of Systems Selling techniques among different kinds of vendors. This discussion includes an analysis of the broad meaning of the term, a brief description of the major forms of Systems Selling currently in use, and an in-depth analysis of Systems Selling as pursued by industrial distributors. Completing the background will be an extended conceptualization of an advanced form of Systems Selling as developed by the researcher.

The background is based upon material found in secondary literature sources, most of which is unsophisticated and fragmented. What follows is an attempt to integrate and explain meaningfully that which is known of the state of the art.

The Nature of Systems Selling

Coordinated Efforts in Industrial Marketing

In contrast to the Corporate, Contractual, and Administered systems that have come to characterize the trend toward vertical
integration in consumer goods distribution channels, the innovation of centrally coordinated systems for the marketing of industrial products must be considered a rather recent development. Industrial market systems, like their consumer counterparts, are centrally planned and coordinated to achieve a variety of economies for participating channel members, these economies translating into cost savings for buyers and greater revenues for sellers. A single name—Systems Selling—has come to broadly represent the entire scope of such efforts toward vertical integration, but the variety of channel agents and the necessity for differing approaches has considerably muddied the meaning of this term. At the same time, a lack of knowledge has spread the basic confusion to the point where any meaningful analysis is impossible without first clarifying the nature of the concept.

Irrespective of the nature of the vendor or the specific structure of a given offering, one philosophical commonality exists for all Systems Selling: Systems Selling ideally is a total marketing plan involving a set of interdependent product, service, and human components that are designed to interact in a systemic way to serve the needs of a customer. Reality sometimes falls short of the ideal, however, and it is common to see vendors who claim to be selling systems that lack the knowledge or resources to achieve the philosophical intent of the pure approach. Nevertheless, the following definitions offered in the literature provide some general elaboration on the thrust of Systems Selling:

1) It is marketing based on the consideration of a customer or prospect's needs, together with a proposal of a
solution for his problems. 1

2) Systems Selling involves combinations of products and services designed to perform a complete function for the customer, which means a dimming of the traditional role of many suppliers as mere vendors of off-the-shelf items and a concomitant growth in their ambitions to act as project contractors who move in and solve problems. 2

3) The concept implies the meshing of external resources (in the form of the supplier's service capabilities) with the customer's internal operations, so that in combination they may work together to solve problems that involve the use of the seller's products. 3

The common thread running through each of the above is that of a new approach taken by more progressive industrial vendors: the supplying of a contractually-based total system of products and/or services, oriented to the solution of the customer's problems. Contrasted to the more traditional approach emphasizing the mere selling of often unrelated products, the customer-orientation of Systems Selling necessarily involves closer cooperation between vendor and customer, and the growth of a mutually beneficial trust as whole families of ideas, products, and services are developed and implemented.

Systems Selling: Current Alternatives

Although Systems Selling is a generic name that is often applied to a variety of differing concepts of selling by differing channel


2 Ibid., p. 51.

institutions, a careful analysis of the available literature points up some rather distinct trends, each of which is suited to a differing set of customer circumstances and supplier characteristics. Business Management has identified these trends as Product Systems, Service Systems, and Systems Contracting. The following discussion uses this basic framework, but the focus of the description is the channel entity offering the system, in addition to its operating characteristics.  

Systems Selling by Manufacturers

Systems Selling began with manufacturers, and perhaps the broadest applications of the technique are still concentrated here. At least two approaches can be identified: Product Systems and Service Systems. Product Systems are complete packages of both products and services that are designed and built to perform a custom-tailored function for a client. Historically, this "total systems approach" began in the World War II era, when the Defense Department began awarding contracts to companies with the capability to design, engineer, build, install, and service a complete package (System) of major capital goods and consumptible products and/or services.

True Product Systems consist of capital goods, consumptible items, and supportive services, all acting as integral components, marketed by a single vendor as a total system capable of filling some specific customer need. An early proponent of the concept was IBM, whose data processing systems utilized IBM hardware (capital goods),

punched card or other software (consumptibles), and teams of systems analysts (service) to implement custom EDP installations for customers. Another example is Carborundum, which has designed a series of machinery lines for hot grinding and cutoff of steel. These capital goods use Carborundum abrasives and grinding wheels (consumptibles) in the process. The System solves a long-standing problem in the steel industry by eliminating several costly steps in the steelmaking process.

Not all Systems Selling by manufacturers is necessarily so complete. Some Service Systems are primarily oriented toward providing a service to customers. To the extent that this service emphasizes the use of the manufacturer's products as a solution to problems, that vendor is marketing a system. The distinction is that capital goods are not sold, and the service element is paramount. An excellent example is International Minerals and Chemical Corporation, which offers farmers a computerized farm management service, designed to make more profit for the farmer through the proper and balanced use of IMC's fertilizer products.

Systems Selling by Manufacturers: Current Appraisal

The present status of Systems Selling, in terms of the nature and extent of its adoption by various kinds of industrial suppliers, is extremely difficult to assess. Existing census data make no provision for its inclusion, and no industry studies are available which attest to its current impact. The available literature, however, is replete with many examples of firms which are adopting Systems Selling as a marketing innovation. Still, it is evident that hard data are needed
to verify what several writers are calling "an inevitable trend" and "the coming revolution."

If it can be assumed that Systems Selling is making an impact of major magnitude on industrial suppliers, then there must be reasons for it. Generally, it appears that intensifying competition has caused suppliers to search out new ways to market their goods; hence the accent on selling whole packages of products and services, with its promise of more sales, fuller use of capacity, and greater turnover. Moreover, small industrial suppliers, having been caught in the competitive squeeze, are realizing that they can no longer afford to think in terms of individual components alone. On the buying side, rising costs and mediocre service accompanying traditional forms of distribution have led industrial buyers to search for greater value for every purchasing dollar. Further, Leenders points to rapid product obsolescence, which requires purchasing agents to obtain new products on short notice from reliable suppliers. This particular need is magnified by the problems of traditional suppliers: often they can't meet unusual requests, or they may be too distant, or provide service that is too slow. In sum, the primary stimuli for this trend emanate from both sellers and buyers: the former scrambling to remain competitive, the latter trying to cut costs and improve the level of supplier service.

5Murray, p. 51.

How successful have systems been in solving these problems? Again, no hard data are available, but numerous examples of success are documented in the literature. The advantages to Systems Sellers are typified by the following: 7

1) Enhanced firm prestige accrues with the development of a quality, guaranteed system.

2) Systems Selling boosts sales.

3) Systems spawn broader, related products and subsystems, which can be tied in to the overall system.

4) Contractual systems ensure repeat business--single vendors become customers' sole supply source in some cases.

5) Systems lead to overall improvement in customer relations: special, mutually beneficial, cooperative ties usually develop.

Buyers of systems usually realize lower total costs, as this is the point of Systems Selling. Reductions come about as manufacturing or processing problems are solved or eliminated, and as functions usually performed by the buyer (which could include anything from fabricating subassemblies to market forecasting) are now assumed by the system or systems vendor. Moreover, since the sale of a total system can be likened to a long-term marriage between buyer and seller, the older in-house administrative costs associated with purchasing tend to be reduced, since purchasing people have more time, less paperwork, and the assurance of adequate products and service. 8

7 Murray, p. 97.

Systems Selling by Industrial Distributors.

Systems Selling by distributors is unlike that done by manufacturers because wholesalers do no manufacturing of capital goods. Instead of complete, custom-tailored installations, distributors offer systems that solve problems relating to the materials acquisition and retention cycles of customers. In short, distributors offer purchasing systems, which may best be described as complete packages combining supplies items with more or less extensive arrays of supportive, compatible services. These systems are designed to implement the obvious advantages of the industrial wholesaler: his stocking capability and his ability to offer various kinds of customer service.

The use of the inclusive term "Systems Selling" has also brought real confusion to the concept as it is used by distributors. Several kinds of purchasing systems ("Systems Selling") are discussed in the literature, but not all of these are true to the spirit of pure Systems Selling as discussed earlier, in terms of total solutions to customer problems. All purchasing systems are designed to solve some problems; it appears that it is the extent to which a system can guarantee fixed levels of performance that differentiates a system from its similar but yet different (in degree) counterparts.

The specific problem toward which the various purchasing systems are directed is the high cost facing buyers in the acquisition and possession of low value, repetitive use, maintenance, repair, and operating (MRO) items. Purchasing systems evolved in response to buyers' needs for approaches that would reduce the paperwork costs involved in placing the many small orders for these items from numerous sources, as well
as the costs involved in owning and storing MRO inventories, and the further opportunity costs incurred as purchasing agents spent the bulk of their time executing orders for low value items.

Because there are numerous purchasing systems currently being offered by industrial distributors that differ mainly in degree, precise differentiation is difficult. However, all purchasing systems may be thought of as lying on a continuum. The technique commonly known as Blanket Ordering occupies one end of this continuum, with the Systems Contracting technique at the other. In between are spaced a variety of hybrid techniques, combining elements of both of the above. A discussion of some of the fundamental differences between the two approaches follows, based largely upon the available Purchasing literature.

The Blanket Order technique is designed to facilitate the purchase of a single item or class of items (e.g., "fasteners"), for which there is high usage and frequent deliveries, from one source. Blanket Orders involve contracts between supplier and customer, usually negotiated on a low bid basis for a fixed period of time, such as a year. Once the contract is drawn up, customer departments needing materials issue releases against the contract, usually through Purchasing. This release system saves time and money since it obviates the need for vendor selection and numerous purchase orders for supplies from different vendors. Still, the buyer must retain his basic responsibility for providing materials when needed and controlling the dollars spent.

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This means that the buyer's central stores inventory is not changed; all the Blanket Order does is specify which vendor has the contract to be the buyer's sole source of MRO items for the time period involved. Thus Blanket Ordering, if it is a System at all, is certainly one of the least sophisticated approaches available. It imposes the barest minimum of standards and services on the vendor, with the typical result that customers demand the lowest possible prices in return for the volume of business granted the supplier. The concept of sole source buying does lower costs as paperwork, vendor analyses, and formal purchase orders are reduced. Typically, however, the distributor will suffer if the low prices deny him a fair profit, or if his paperwork or inventories become more cumbersome as a result of the contract.

At the other end of the spectrum is the technique known as Systems Contracting. This term is a copyright of the Carborundum Company, where the concept was developed in the early 1960's under the guidance of Ernest L. Anderson, Jr., who was Carborundum's Director of Purchasing at the time. Because the term is copyrighted, other names have been applied to essentially the same approach, the most common of which are Systems Purchasing, Stockless Purchasing, and Contract Purchasing. None of these, however, is quite as definitive as Systems Contracting in describing a total system that is aimed at eliminating the high cost of acquisition and possession of materials by an industrial user.\(^{11}\)

\(^{10}\)Ibid., p. 66.

A Systems Contract differs from the more conventional Blanket Order in a number of significant respects. First, most Systems Contracts require that the vendor maintain the financial and warehousing responsibility for contract inventories.\textsuperscript{12} Vendors must stock quantities of items sufficient for projected customer needs, thus substantially reducing the inventory position of the customer as the distributor tends to replace the warehousing formerly done by the buyer. Secondly, most Systems Contracts are for longer terms than typical Blanket Orders.\textsuperscript{13} While there usually is some sort of contractual agreement involved, it is not so legalistic and formal as most. As a result, Systems Contracts tend to be more or less "evergreen": though cancellable, they have no specific termination date.\textsuperscript{14} Third, Systems Contracts potentially cover a wider scope of products than the Blanket Order, which is restricted to a specific item or class of items.\textsuperscript{15} In fact, the scope of the contract need be limited only by the extent of the distributor's product line. A general-line industrial supply house could quite conceivably become the sole source for all MRO needs of a given customer, supplying everything from fasteners to light bulbs. Fourth, Systems Contracting permits authorized customer employees at the plant level (for example, tool crib supervisors) to requisition items directly from the supplier in a simple and effective manner.\textsuperscript{16}

\begin{itemize}
  \item[\textsuperscript{12}]Westing, Fine, and Zenz, p. 67.
  \item[\textsuperscript{13}]Ibid., p. 69.
  \item[\textsuperscript{14}]"Systems Contracting--One Route Through the Small Order Maze," \textit{Purchasing}, August 22, 1972, p. 56.
  \item[\textsuperscript{15}]Ibid.
  \item[\textsuperscript{16}]Anderson, p. 3.
\end{itemize}
purchase orders or releases are needed; in fact, Purchasing need not be at all involved except for general overseeing and control. Fifth, the direct requisitioning noted above is often (but not necessarily) considerably automated under a Systems Contract. Already simplified, requisitioning is even simpler if prepunched computer cards are available for contract items. Data-Phones can then speed orders to vendors, where computers (if available) can process and ship orders and do the necessary bookkeeping. Sixth, the distributor may provide more or improved services as part of the contract, such as 24-hour delivery, information packages on item usage, consultation and problem-solving services, and others that are designed to help reduce the buyer's total costs of acquisition and possession of MRO items.

Quite clearly, it is the scope of the agreement which differentiates the Systems Contract from the Blanket Order, and for that matter, from the "hybrid varieties" that lie somewhere in between. Systems Contracting is a total system of solutions to the problem of MRO materials acquisition and possession.

As a more complete "guaranteed performance system" or package, a Systems Contract can be differentiated from more conventional "systems" in at least two more ways. Because of the nature of the System, it is necessary that buyer and supplier work together very closely. Teams of analysts from the vendor often move in to set up the system and maintain its effectiveness once a customer is "on stream." As a result, a mutual trust and confidence develops between the parties as a result of the spirit of cooperation that must prevail if the System is

17Westing, Fine, and Zenz, p. 67.
to succeed. Moreover, the trust is maintained since the contract is
based upon mutual benefit: distributors need not cut prices under this
arrangement; to do so would be disastrous because the vendor is pro-
viding so many services to the customer. In fact, it is not unlikely
that item prices may even be higher than before. But the customer's
total costs may well be lower since the seller is able to provide a
variety of products and services in which he is a specialist, reducing
costs of possession for buyers at many points.

Systems Selling by industrial distributors is thus a more or
less complex proposition, depending upon the nature of the "System"
being offered. Generally, distributors cannot sell Product Systems
since their capability for manufacturing capital goods is limited or
nonexistent. Moreover, Service Systems, with their single area of
concentration (a management information service or some other customized
service) are potentially too narrow in scope for most distributors.
But Systems Contracting, with its joint emphasis upon consumptible
(repetitive-use) products and customer-oriented services is neatly tailored
to the specialized operations of the industrial distributor. Moreover,
Systems Contracting is true to the spirit of Systems Selling as a total
package of solutions to customer problems. Pragmatically, however, the
problem of nomenclature remains: vendors commonly use the term Systems
Selling to describe whatever approach they may be using, be it Blanket
Orders, Systems Contracts, or something combining elements of both.
Realizing this, this study has adopted a broad, inclusive definition of
Systems Selling, to be used as a focal point for the remainder of the
research:
Systems Selling by an industrial distributor refers to any form of cooperative contracting relationship between that vendor and his customer for the ordering and distribution of maintenance, repair, and operating (MRO) items, parts, or supplies. The definition provides for inclusion of the commonality basic to all "systems"—a sole source restocking feature. Using this definition as a base, the following section presents in more detail an extended conceptualization of Systems Selling (hereafter, this term will be used with reference to those purchasing systems offered by industrial distributors). The purpose of the section is to clarify conceptually the relationship between the range of Systems Selling arrangements currently available and to present a hypothetical (but realistic) description of a fully complete and operational Systems Contracting arrangement.

**Systems Contracting: An Extended Conceptualization**

This is a normative conceptualization of Systems Contracting, involving a distinct mix of specialized services furnished to a hypothetical industrial buyer. Traditionally, these services would not all be offered as a total package by a distributor. Under the Systems Contract, they are the necessary interacting components (or subsystems) which constitute the total System. While the number of service subsystems is maximized here, the mix is actually quite variable and depends in part upon the vendor's financial and operating capabilities in addition to the needs of his customer.

Each of the subsystems is designed to effect purchasing economies and solve acquisition problems for the customer by making extensive and proper use of the distributor's capabilities. The subsystems include:
1) Inventory Replenishment Subsystem
2) Control Subsystem
3) Communication Subsystem
4) Delivery Cycle Subsystem
5) Consultation Subsystem
6) Ancillary Services Subsystem

**Inventory Replenishment Subsystem**

The heart of all Systems Contracting is a procedure that
1) shifts the bulk of the customer's inventory of MRO items back to
the stocking distributor, and 2) provides for the semi-automatic
ordering of items by the customer on an as-needed basis. The pro­
cedure is designed to cut purchasing paperwork and costs, simplify
requisitioning, save time, free up space formerly used to store supplies,
and expedite rapid shipment of items. Typically, each seller has a pre­
ferred arrangement with his customers, but generally they fall into
two categories: manual and computerized.

**Manual Systems: An Example**

The original manual Systems Contracting arrangement was
developed and refined by the Carborundum Company under the direction
of E. L. Anderson and Ralph A. Bolton. The spirit of their approach
has been widely emulated elsewhere, making this system quite typical
of the relatively "pure" approaches now pursued by many distributors and
their customers.

Carborundum's pioneering system streamlined their purchases
of consumptibles by:
1) Eliminating purchase orders.

2) Eliminating stores inventory.

3) Simplifying the requisitioning process.

The set-up and functioning of the subsystem is as follows:\(^{18}\)

After the negotiating process in which the contractual relationship is established, an analysis is made by both parties to determine:

1) The general categories of materials needed.

2) The specific items within each category.

3) The varieties of each item.

4) The brands desired.

These items are then listed in a catalogue, designed to expedite the replacement of the older series of purchase orders. When material is needed, the requisitioner places the order for the catalogued material directly with the vendor; not with the stores department, since this function has been largely shifted to the vendor, and not through Purchasing, because a major purpose of the System is to free up Purchasing Department personnel time from these frequent repetitive orders. Usually, the order will be placed when the bin inventory reaches the reorder point, and will be facilitated by a simplified requisition form. The form, of course, has sufficient copies for the requisitioner, the vendor, and accounting or control.

The form itself is mailed to the vendor under the Carborundum System, but it can be delivered by a variety of alternative means, such as telephone, telex, or simply leaving it with the vendor's salesman or delivery man, should they make frequent customer calls. Under the

\(^{18}\)Based on Bolton, pp. 28-30.
manual system, the method of delivering requisitions is a minor part of the Inventory Replenishment Subsystem.

Once the form reaches the distributor, the vendor then picks the material, sending it to the buyer along with the original requisition (the vendor keeps a copy), which serves as the packing list. Bolton stresses that no other paperwork is needed: no other purchase orders, materials requisitions, expediting letters, acknowledgments of purchase orders, receiving reports, or individual vouchers. In sum, reordering is accomplished by dropping a pre-addressed post card (which doubles as a requisition) into the mailbox. Purchase orders and in-plant stores, extra paperwork, and some wage/administrative costs are eliminated.

Computerized Systems

These differ from manual systems in that the requisitioning procedure is considerably more automated, with orders expedited by the vendor's computer capability. Ideally, fully automated requisitioning begins by installing a Bell System Data-Phone data transmitter on the buyer's premises. This device enables punched cards (of which there is one for each item under contract) containing the order quantities and identification information to be reproduced exactly by the distributor's Data Phone. These cards are then processed by the computer, which provides for the necessary bookkeeping, plus warehousing, packing, and shipping instructions.

Combining an automated communications device (the Data-Phone) with the vendor's computer preserves all of the advantages of the manual system, and it adds yet others: requisitioning is simpler,
much faster, and less error-prone; orders can be executed more rapidly; and a degree of purchasing control is insured that manual processing cannot match.

Under both of these systems, the reordering of needed supplies is semi-automatic and is performed when the predetermined reorder point is reached. Both systems provide for the concentration of certain (or even all, in some cases) MRO purchases with the vendor providing the system. The sole source relationship is affirmed by contract, and a principal feature is the shifting of the stores inventory function back to the vendor. For these reasons, Bolton's concept of "Systems Contracting" is referred to frequently in the trade as "stockless purchasing" or "contract buying," but these are simply less complete forms of Systems Selling. While the provision of the restocking service is the minimum requirement needed for an arrangement to be classified as Systems Selling, this conceptualization is normative. It goes much further than the minimum requirement, providing still other services. To facilitate this extended offering, however, it is assumed in the following discussion that a distributor has a computerized subsystem of inventory replenishment.

Control Subsystem

As indicated earlier, implicit in nearly every Systems Contract is a control feature. This is true whether the system is manual or computerized; but since this function is so unique to Systems Contracting, it has been designated as a separate subsystem to further differentiate the total system from conventional distribution.

Under both manual and computerized systems, the control feature emerges as a spinoff from the simplified ordering. For example,
Carborundum's control system includes the following.  

1. Limited pre-priced catalogue information. Of all the catalogues of MRO materials to be issued by the seller to the buyer's various departments, only three contain item prices: those sent to Purchasing, Accounting, and Auditing. The reasons for this feature are twofold:

   a. These are the only departments which need to know prices.
   b. Should prices change at a later date, the possibility that the new prices may be overlooked is eliminated.

   The major import of this is that requisitions reach the vendor unpriced. He then prices the original and his copy, returning the former with the shipment of good—it serves, as noted, as the packing list. The upshot is that errors are substantially reduced as pricing by the requisitioner is eliminated. The same control is achieved if the Data-Phone is used as the requisitioning interface. Prices may be prepunched on the buyer's card, relieving the requisitioner of this error-prone task.

2. Control Order Numbers. Every purchase requisition, obviously, has an order number. This is not unique, except with Systems Contracting the number means something other than the form's printing sequence. Under a Systems Contract, the vendor assigns the order number to the requisition in numerical sequence as the orders are received. If the vendor were to assign, say, No. 492 to a requisition, this tells everyone associated with the contract that this is the 492nd order received by the vendor for that accounting period. Thus Purchasing or Accounting can immediately know the total number of

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Ibid.
transactions received to date by any vendor.

3. Sufficient Approval. Under a Systems Contract, requisitions for materials must usually be approved by someone in a responsible capacity, such as a supervisor. This person is a major control point and usually is known to both Accounting and the vendor. His function is to ensure that the ordered materials are needed in the quantity specified.

4. Receiving Verification. Orders filled by the vendor are verified at three points: Receiving, Accounting, and by the Ordering Department. Since Accounting gets the packing list (original requisition), it can verify that prices are correct. This also eliminates paperwork and the possibility of duplicate payments being made.

Under a computerized system, the control features are similar, the buyer's punched cards serving as the basis against which orders received may be verified. If the order is correct, the cards can be sent to the appropriate places: the Ordering Department, Purchasing, and Accounting.

The major impact of the Control Subsystem lies with the fact that, in most cases, much of the control function is the vendor's responsibility since it is built into his System, even though the buyer is the beneficiary. For the latter, the advantages include adequate control coupled with greater efficiency. These reasons make the Control Subsystem a selling point for the total system.

Communication Subsystem

This conceptualization assumes a total Systems Contracting offer, including computerized reordering. The use of the vendor's computer does not end here; in fact, this is only the beginning of the potential
benefits that a vendor can offer buyers under a Systems Contract.

Most distributors using computers soon become aware that their machines turn out data that can be of great usefulness to their customers--especially if the latter are small or have no data processing equipment of their own. Those vendors selling Systems Contracts can offer this information as part of a total package; as a Communications Subsystem that is included as a service feature as part of the Contract. Frequently, this is one of the most important services provided.

Perhaps the most sophisticated use of the Communications Subsystem concept is that offered by Office Supply Order Systems of Newark, N.J. As part of their total contract offering, OSOS offers a communications package consisting of five computer reports, as follows:

1. Composite Report. This report lists all the items used by the customer company, broken down by regularly used and special order items. Also included are item costs, usage history, year-to-date usage, inventory balance, etc. In sum, it is a composite of the buyer's supplies expenses.

2. and 3. Reorder Reports. Actually two separate reports, these are linked to the Inventory Replenishment Subsystem. Essentially, they tell the customer what items he should order to replenish his stock, and when to do so. The OSOS system, in other words, is less "automatic" than some in the reordering aspect, permitting the customer to evaluate his monthly stock position before making the decision to reorder. The Reorder Reports thus serve a reminding

and advising function, hence increasing customer service while avoiding some of the rigidities of truly automatic systems. But the unique advantage of the OSOS system lies in its double reporting:

a. Report One concerns only items handled by OSOS.

b. Report Two gives the customer a list of needed merchandise not handled by OSOS.

Hence, this yields information on all of the buyer's repetitive purchases, not just those supplied by OSOS.

4. Departmental Item Analysis Report. This report lists each department serviced by the vendor, showing every item consumed during the month, as well as the price, quantities, extended values and totals. This report is of great usefulness to department managers, who use it to follow budgets, keep track of purchases, and regulate supplies usage.

5. Departmental Summary Report. This report, to be used by Accounting, shows only the dollar amounts charged against each department so that Accounting can charge costs back to each department using one simple form, rather than compiling totals from several requisitions. In short, it provides further efficiency and control for the total system.

The point to be made is that vendors offering computerized Systems Contracting are in a position to provide a Communications Subsystem that gives buyers a mass of information that they may never have had before. Moreover, even if buyers did compute these figures, the vendor's Communications Subsystem now assumes that chore, saving the customer time and money.
Delivery Cycle Subsystem

Because under a Systems Contract the buyer's stores function is shifted back to the vendor, immediacy of delivery of needed items is imperative. Hence, most vendors operate on a 24-hour delivery schedule, which is about par for requisitioning from a company storeroom. Moreover, 24-hour delivery is a major improvement on most industrial deliveries; in fact, excessively slow deliveries is a major complaint voiced by industrial buyers.

The unusual aspect of the Delivery Subsystem is that on-time delivery is contractually guaranteed. Frequently, this necessitates that the vendor utilize his own truck(s). This provides advantages not possible when using outside truckers:

1) Since only one or perhaps two vendors will supply the bulk of a company's needs, excessive numbers of trucks from numerous suppliers will be eliminated from the delivery area.

2) Delivery can be more precisely scheduled.

3) The vendor can deliver emergency items immediately as needed. Obviously, the Delivery Cycle Subsystem represents a major new service to the buyer, while making the vendor more competitive.

Consultation Subsystem

The conceptualization as described thus far depicts a form of intra-channel cooperation between two firms. If, as Mallen suggests, the cooperating firms view the channel as simple extensions of their own internal organizations, then the goal will be to maximize cooperation.

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21Bolton, p. 30.


23Bruce Mallen, "Conflict and Cooperation in Marketing Channels,"
This is the implied purpose of all Systems Selling. From this goal stem the various subsystems (methods of cooperation) offered. But how does a Systems Contractor initially project his organization to buyers? How is the cooperative spirit maintained, once projected?

The model presupposes still another service area, a Consultation Subsystem, whose purpose it is to project and maintain the entity. It is based upon the fact that large suppliers can act as management consultants to their customers, dispensing advice in many areas of the business. For Systems Contracting, the Consultation Subsystem involves:

1) Selling the system by concentrating on solutions to customer problems, and

2) Maintaining the system after the initial sale.

**Selling the System**

A basic prerequisite of any form of Systems Selling is management's adoption of a problem-solving approach toward customers' needs. The traditional product orientation must be dropped, with management focusing on its competence, reputation, and ability as a provider of complete systemic solutions to customer problems. The greatest impact from this fundamental change in business philosophy is typically felt by the vendor's sales force. Field salesmen usually cannot shift directly from product sales to systems sales—the differences are too many.26

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24 Ibid., p. 81.  
25 Murray, p. 98.  

As a result, many companies have opted for special training programs for sales personnel, along with a reorganization of the selling approach. Because of the problem-solving emphasis, the "new salesman" must concentrate on building long-term relationships with his contractual buyers. He will typically be a team member, rarely if ever closing sales alone. Initial sales will depend upon his ability to prepare proposals, estimate time and costs, negotiate contracts, and keep expenses down, as well as to tailor systems solutions to the problems of materials acquisition and possession. In addition, the systems salesman must be something of a psychologist, with the ability to handle the heavy resistance and fear that is inevitably voiced by customer employees as major changes in business practices are proposed.

The precise sales approach taken to gain new Systems customers usually involves aggressive and sophisticated team selling of the features and benefits of the system. The complexity of the offer, the various subsystems, the proposed changes in established routines, and the focus on total cost improvement through the provision of problem-oriented services requires an ongoing selling effort, perhaps weeks of presentations at different company levels. The Systems Seller must perceive his role as an educator as well as a salesman, a consultant as well as a vendor. The nature of the system requires that this be so.

Recognition of a vendor's capability here has, in the eyes of some, created a seller's market for this service. "The customer comes to you. He regards you as a consultant, not a vendor, which opens up new doors. The decision to buy is often made before the salesman knows
anything about the customer's needs." The problem-solving capability itself makes the system more viable.

System Maintenance

Once a Systems Contract is in effect, the vendor's sales force maintains the arrangement through follow-up calls. But instead of taking new orders, the salespeople focus upon strengthening the customer-vendor relationship. The advantages of the harmonious relationship are many, not the least of which is a continuation of the consulting relationship already established. For example, salesmen usually have better acceptance upon customers' premises. They can be free to talk to tool designers, shop personnel, secretaries—anyone using the vendor's products. They can help people select the correct grade or quantity of material, should those or similar questions arise. Moreover, they can act as trouble-shooters for unexpected problems, thus helping to perpetuate the relationship by making service even better.

In short, the Consultation Subsystem provides for a new focus for management and the sales force, in order to build and maintain Systems Contracts through the provision of better service.

Ancillary Services Subsystem

A final type of service offering, more normative than descriptive in character, is anticipatory of ancillary services that could occur as spinoffs from the other subsystems. Perhaps the greatest potential

\[27\textit{Ibid.}\]

\[28\textit{"How Systems Selling is Revolutionizing Marketing," p. 86.}\]
for related services exists with reference to the Communications Subsystem. Since the existence of a vendor-owned data processing system is presumed, it is not at all unlikely that the supplier's computer could be put to still further use. Stern and Craig have prophesied several possible applications using wholesaler-based computers as vital links in interorganizational data systems. In addition to inventory management, the vendor can help small customers with accounts receivable, payroll, billing, and sales forecasting and reports.

While the potential of services ancillary to the Communication Subsystem is undoubtedly great, it is felt that some of the other Subsystems can also contribute related services. For example, the Consultation Subsystems could offer a greater overall advisory service for small customers—going beyond the initial problems of inventory management to include broader strategic considerations.

In sum, Ancillary Services at present can be viewed as a repository for all current and potential side benefits that accrue to the system.

Summary

In summary, Systems Contracting is a middle form of Systems Selling, a distributor-based version emphasizing a complete array of services in addition to products. A normative conceptualization of Systems Contracting has been developed, based upon the following assumptions:

1) Systems Selling by industrial distributors can be viewed as a continuum, ranging from the minimal service Blanket Order System to the total service Systems Contract.

2) There is a variable mix of service outputs, or subsystems, that a Systems Seller can offer.

3) While the minimum requirement for qualifying as a Systems Seller is the provision of an Inventory Replenishment Subsystem, the variable mix of service outputs can be expanded to embrace any or all of the following:
   a. Control Subsystem
   b. Communications Subsystem
   c. Delivery Cycle Subsystem
   d. Consultation Subsystems
   e. Ancillary Services Subsystem

4) The effect of these Subsystems is to lower the customer's long-run costs of MRO supplies acquisition and possession, by:
   a. Improving and streamlining the reordering process;
   b. Reducing the customer's item inventories;
   c. Providing for more efficient space utilization;
   d. Reducing the volume of paperwork;
   e. Simplifying the tasks of the Purchasing Department;
   f. Providing better communication of needed information;
   g. Insuring an adequate level of control;
   h. Improving delivery and related ancillary services;
   i. Improving the vendor-customer relationship.

Conclusions

Systems Selling as done by distributors did not originate with these vendors, but with their customers. The impetus for the development of the concept grew out of the purchasing problems facing the large industrial buyer: the repeated need for large amounts of consumable maintenance and repair supplies, the escalating costs involved in buying and carrying supplies inventories, mediocre to poor levels of service traditionally characteristic of distributors, and the waste and inefficiency surrounding the time spent in purchasing supplies. Early proponents of the concept were purchasing people and much of the literature
on the subject appears in purchasing periodicals.

A conceptual background has been provided in order to integrate meaningfully the literature on Systems Selling. This literature contains material on the nature or philosophy of the Systems Selling approach, plus some examples of specific techniques followed by firms acknowledged as being leaders in this field. Although this literature can provide an adequate understanding of the general nature of Systems Selling, it is particularly deficient in several respects.

First, most discussions of the subject appear in trade periodicals oriented toward practitioners. These articles tend to be "newsy," much more descriptive than explanatory, and difficult to follow at times because they assume that a practitioner has some prior knowledge of the technique. As noted, most available articles are found in the Purchasing literature, which tends to ignore the viewpoints of the industrial distributor.

Secondly, the variety of approaches in Systems Selling results in a body of literature that is not only vague, but often unrelated. The general confusion surrounding the concept has contributed to this, and the literature provides little in the way of clarification. Also many of the meaningful works on the subject are now outdated (e.g., Anderson, Bolton, and to some extent, Beever).

Finally, the literature provides for no statistical documentation or measurement of any aspect of the Systems Selling approach. Consequently, a major purpose of this study is to partially eliminate these deficiencies. The conceptual portion just presented provides an integrated, explanatory viewpoint, based upon the available literature, that is both rational and clear. The research to be discussed in the
next chapter provides the statistical documentation that is lacking in the literature, in addition to further explaining and refining the Systems Selling technique as it is approached by industrial distributors.
CHAPTER III

RESEARCH DESIGN AND METHODOLOGY

The development of Systems Selling in industrial marketing as explained in the literature is documented in Chapter II of this study. Summaries of the dominant trends in the evolution of Systems were presented, as was the researcher's conceptual explanation and rationale for System development. However, both the literature and the integrated conceptual analyses have certain limitations. The literature is relatively unsophisticated, providing little in the way of meaningful explanation. The conceptual integration of the literature was an attempt to remedy this problem, but even this has certain shortcomings: it is based upon the available literature, and it provides no statistical documentation for the concepts explored. Additionally the conceptualization tends to be quite normative in character, making it difficult to ascertain how realistic the concepts may be in practice.

Preliminary Interviews

Given the difficulties as acknowledged above, it was determined that further investigations were necessary, preliminary to the specification of the final primary research design. Accordingly, a number of industrial distributors were interviewed in order to:

1) provide a better conceptual understanding of Systems Selling;
2) define the precise areas to be studied in the primary research;
3) aid in the formulation of the research design.

A brief description of the nature of the preliminary interviews and a summary of the results follow.

Structure of Preliminary Interviews

A total of 20 long-distance telephone interviews were completed with a variety of kinds of industrial distributors. By consulting with cooperating trade association secretaries and independent distributors, a listing of 30 vendors was compiled, consisting of the following:

A. General-Line Industrial Houses: Full-line, full-function wholesalers dealing in a complete line of MRO items, from janitorial supplies to fasteners, including gloves, rubber goods, paint, electrical items, grinding wheels, tools, and hardware. The listing contained nine such houses.

B. Limited-Line Industrial Supply Houses: Commonly typified in the trade as "mill supply houses," these are full-function wholesalers whose lines are somewhat more limited, dealing in steel, tools, abrasives, grinding wheels, cutting tools, and other similar products. Seven of the 30 were included in this category.

C. Specialist Distributors: The remaining 14 vendors were specialists in the following areas:

1. Bearings 2
2. Fasteners 7
3. Electrical/Electronic 4
4. Plumbing 1

Total 14

Ultimately, five general-line houses, five limited-line houses, and ten specialists were contacted. Listed alphabetically, the firms
responding were:

I. General-Line Houses

1. Bingham, Inc., Cleveland Ohio
2. Bostwick-Braun Co., Toledo, Ohio
3. The Geo. Worthington Co., Cleveland, Ohio
4. Manufacturer's Supply Co., Grand Rapids, Michigan
5. Jennison Hardware Co., Bay City, Michigan

II. Limited-Line Houses

1. Alro Steel Corporation, Jackson, Michigan
2. Hayes Tools, Incorporated, Dayton, Ohio
3. Mills Supplies Corporation, Lansing, Michigan
4. Scallan Supply Company, Cincinnati, Ohio
5. Siferd-Hossellman Company, Lima, Ohio

III. Specialists

1. All-Phase Electric Supply Company, Benton Harbor, Michigan
2. A. P. Englehart Co. (Plumbing), Flint, Michigan
3. Bamal Corporation (Fasteners), Farmington, Michigan
4. Cadillac Electric Supply Co., Oak Park, Michigan
5. Capitol Sales, Inc. (Fasteners), Columbus, Ohio
6. The Fastener House, Inc., Cleveland, Ohio
7. Madison Electric Co., Detroit, Michigan
8. Summit Electric Supply, Akron, Ohio
9. Thruway Fasteners, Buffalo, New York

Originally, the research design specified that the vendors to be interviewed would be preselected and categorized as Systems "users," "former users," and "non-users," in order to obtain a broadly based set of opinions. Some notion of the above firms' degree of involvement with Systems Selling was available prior to the interviews, based upon information gained from trade association secretaries and distributors in the Northwestern Ohio area. However, the prior perception of a vendor's involvement was frequently a misconception, usually because the distributors originally thought to be non-users or former users were actually still involved. Instead, an alternative form of vendor classi-
fication evolved as the interviews progressed, based upon the distributors' "degree of satisfaction" with the Systems concept. A categorization of the twenty firms is presented in Table 3.

**TABLE 3**

CLASSIFICATION OF INTERVIEWED VENDORS

<table>
<thead>
<tr>
<th>Width of Line</th>
<th>Users (14)</th>
<th>Non-Users (6)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Relatively Satisfied</td>
<td>Relatively Dissatisfied</td>
</tr>
<tr>
<td>General</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Limited</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Specialist</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>9</td>
<td>5</td>
</tr>
</tbody>
</table>

It is evident that more than twice as many distributors are involved with some form of Systems Selling than those who are not. Rather than admit defeat and totally abandon the concept, many distributors apparently try to stay with it, carrying a disgruntled and dissatisfied opinion. Only one of the 20 contacted admitted to total abandonment; and this was attributed to a change in managerial philosophy following a recent merger. This firm is classified in the above table as the limited-line, non-user, opinion negative.

The interviews were relatively non-structured, although an outline of topics was followed. Probing was done where possible, and therefore the depth of the interviews varied with the respondent's
willingness and/or ability to discuss a given topic. All interviews were tape recorded for permanent records. They varied in length from about five minutes (only one was this brief) to over one hour, with the average discussion lasting about 20 to 25 minutes. Asked of all respondents were questions relating to:

1. Line(s) of business.
2. Effect of size as a variable in Systems Selling.
3. Market area or sales territory.
5. Actual or perceived benefits to the vendor.
6. Actual or perceived problems faced by the vendor.

Non-users frequently could not give information beyond the above points, but users were naturally questioned about:

1. Their length of experience and perceived degree of sophistication with Systems Selling.
2. Their approach to or "philosophy" of Systems Selling.
3. Techniques used in selling the concept to buyers.
4. Services rendered to customers.
5. Effects on other areas of distributor operations.
6. Related miscellaneous questions.

Summary of Interview Results

1. The true extent to which industrial distributors are actively using the Systems Selling concept is obscured by a lack of definitional agreement with regard to the nature of the approaches being used.

2. Vendors who do claim to be active Systems Sellers show a marked tendency toward being either quite satisfied or quite dissatisfied. Little evidence of vendors taking a middle position was indicated in the interviews.

3. Despite the lack of definitional agreement among distributors, all of the Systems had the commonality of a simplified, more-or-less automated, sole source inventory ordering-requisitioning technique for MRO supplies. As such, all of the approaches studied are based fundamentally upon the principle of blanket ordering.

4. Despite the existence of a common conceptual basis or principle, the interviews indicated that the particular way in which the
System is structured and implemented varies greatly between different vendors. Predominant, however, are two approaches which shall be called Blanket Ordering and Systems Contracting.

5. It appears from the interviews that the two predominant approaches differ mainly in terms of their scope, philosophy, extent of services rendered, and price-cost orientations.

6. The vendor's choice of his approach appears to vary with his experience, attitude, internal capabilities, line of goods, size, and other factors.

7. Preliminary evidence indicates that the more satisfied vendors are those who have achieved the necessary mix of ingredients that gives them the Systems Contracting capability.

8. Systems Selling problems primarily involve misdirected selling or negotiating processes, the need to maintain established contracts, and countering buyer hostility. Competitive problems center around price cutting by other distributors.

9. Benefits to the vendor appear to be of two types: satisfaction stemming from the cooperative, mutual trust between buyer and seller, and improved performance, measured by:

   a. increased sales volume.
   b. improved account profitability.
   c. faster stock turnover.
   d. improved return on investment.
   e. more new accounts, new markets.
   f. reduced expenses in some cases.

Implications From Interviews

As stated, the purpose of the twenty interviews was to provide a better conceptual understanding of Systems Selling, from which to derive a more precise focus and design for the primary research. The results of the interviews were therefore particularly useful, as they:

1) Gave further substantiation to the nature of Systems Selling, in terms of the structural differences between the major approaches as described in Chapter II;

2) Identified a series of operating performance measures useful for evaluating the financial results of a given Systems operation;

3) Pointed to the existence of significant attitudinal differences as between vendors engaged in Systems Selling;
4) Indicated the possible impact of differences in the extent of vendor sophistication upon the success of a Systems Selling venture; and

5) Alluded to a number of benefits and problems that seem to be quite typical of Systems Selling and, therefore, worthy of further exploration.

On the whole, the interviews served to add clarity and substance to the knowledge gained from the literature. Nevertheless, the interview data must not be interpreted to be definitive or conclusive. Instead, the primary and most useful function of the interviews was to further define the several areas of inquiry studied in the primary research. They led to the development of a number of specific research questions which became the focus for the study. The remainder of this Chapter is therefore devoted to the presentation of these questions, plus a discussion of the design and methodology used in the accomplishment of the research task.

**Nature of the Primary Research**

This study was primarily oriented toward an exploration of observed differences between the various types of Systems Selling distributors. Special emphasis was also given to assessing the extent of Systems Selling by industrial distributors, as it pertained to the stated purposes of this study. Such an assessment was consonant with the exploratory nature of the research; and it was necessitated by the fact that the relative importance and impact of Systems Selling as an industrial marketing technique had not been determined.

**Research Questions**

In view of the purposes of the study and the emphasis to be
accorded toward System differences, several specific research questions were developed to provide a more precise focus. The use of the question format was preferred to the development of hypotheses because of the exploratory nature of the research. The formulation of testable hypotheses premised upon trends which had not been explored was deemed inconsistent with the fact-finding nature of this study.

The research questions were designed to provide a basis for the data collection. For the most part, their foundations lay in the preliminary parts of this study as discussed above and in Chapter II. The questions addressed were:

1) To what extent is Systems Selling, in its various forms, currently being used by different kinds of industrial distributors?
2) What are the basic structural differences among the more popular types of Systems in use?
3) How do the basic types of Systems Selling differ with respect to operating performance? What measures seem to be most valid for assessing System performance?
4) What is the relationship between the type of Systems offering and the attitude of vendor management? Do certain varieties of Systems lead to greater levels of satisfaction than others?
5) What is the relationship between a vendor's total Systems capability and the type of System offered?
6) What factors are associated with relatively high levels of operating success and attitudinal satisfaction with Systems Selling?
7) What are the major benefits and problems involved in implementing and maintaining a Systems Selling arrangement?

Question one was directed toward the first and most basic research objective of this study: the determination of the current impact being made by Systems Selling. Question two then considered the factors that constitute the differences in structure between the major types
of systems: the scope and coverage of the contract, required vendor performance in serving customers, separate services rendered, the requisitioning procedure, the nature of the negotiations, and the role of price in the System. This question served a dual purpose. First, it addressed the second overall objective of this study, which is the investigation of basic differences in System types. And second, the factors which differentiate Systems were used to develop profile scores. These profiles, described specifically later in this Chapter, facilitated the classification of each responding vendor into groups or categories that approximated the known concepts of Systems Contracting, Blanket Ordering, or Mixed Systems (Mixed Systems combine elements of both of the other two types). This process enabled us to know which type of System a vendor was actually using, regardless of what was claimed. In other words, profiling solved the nomenclature problem by determining whether a vendor was a Systems Contractor, a Blanket Order vendor, or the direction toward which he was leaning. Once so classified, the Systems comparisons which formed the basis of the remainder of the research were undertaken.

One such comparison (or set of comparisons) was addressed in question three: that of differences in operating performance as between System types. Directed toward the third basic objective of this study, this question focused on gross sales and profits, return on investment, operating expenses, and other factors considered (but not proven) to be measures of operating performance. Similarly, question four explored the relationship of vendor satisfaction (as measured by managerial attitudes) and the structure of the System offering. Question
five considered the relationship of total capabilities and System type, capabilities being defined in terms of distributor size, experience, product line, services offered, Systems personnel, computer capability, and other factors.

The research questions to this point focused almost wholly upon structural differences between System types and the effects of these differences upon operating performance, attitudes, and capabilities. Given these differences, it was necessary to isolate those variables which were associated with operating success and attitudinal satisfaction, in order to satisfy the fourth stated objective of this study and research question six as well. Possible cause-and-effect relationships were uncovered by cross-classifying variables determined by the preliminary research to be likely correlates of operating success and attitudinal satisfaction, most prominently the various System types and vendor capabilities. In a sense, then, questions three, four, five, and six each provide related insights which together led to the determination of those factors that are necessary to achieve success and satisfaction in Systems Selling. Finally, question seven applied to the final purpose of this research, that of clarifying the benefits and problems faced by different Systems vendors.

The Primary Research Methodology

Overview of the Research Design

The specific research undertaken involved a descriptive, exploratory study of industrial distributors currently offering Systems Selling arrangements to their customers. The study was descriptive in the
sense that the research questions focused upon the description of System differences, a task necessitated by the confusing multiplicity of available Systems names, as well as the paucity of existing descriptive research and meaningful literature. Similarly, the study was exploratory in its thrust, concentrating upon new ideas and relationships shown by the preliminary studies to be tentatively related, but which had never been subject to empirical analysis. This first effort concentrated upon perceptions of System structural differences, estimates of performance, and indications of attitudinal satisfaction. As such, this study dealt with exploratory data; any inherent weakness in these data which precluded the use of sophisticated statistical analysis must be accepted as a limitation to the study, as stated in Chapter I.

The collection of data was accomplished through a mail survey of the top management of 1,255 industrial distributors dealing in five broad product lines. The vendors were randomly sampled from six trade association rosters. The survey was accomplished through a questionnaire (see Appendix A) which was carefully constructed and pretested to obtain the following kinds of information:

1) Systems structural data--profile scores of responding vendors were developed in order to classify each distributor's Systems technique as a broad approximation of Systems Contracting or Blanket Ordering.

2) Performance data--a matrix included in the questionnaire was used to get some indication of historical trends in System operating performance. Six measures were utilized, with summary scores being derived for each.

3) Attitudinal data--the Semantic Differential was used to measure managerial attitudes toward Systems and to assess relative levels of satisfaction. As before, summary attitude scores were also calculated.
4) Systems capability data—a series of questions were asked that indicated a distributor's overall Systems capability: his experience, width of product line, computer capability, Systems personnel, and others. Again, a total capability score was calculated for purposes of comparison.

5) Miscellaneous data on benefits and problems associated with the different approaches were collected.

Development of the Questionnaire and Usage of the Data Collected

The vehicle used to collect the data for this study was a mail questionnaire, consisting broadly of five parts. The first part was designed to determine the extent to which the respondent was involved with Systems Selling and to provide some insight as to the specific kind of approach taken. Since the primary focus of the research was upon Systems vendors only, a conditional instruction was inserted at this point, directing the nonsystems vendors to turn to the classification questions at the end of the questionnaire.

The remaining four parts of the questionnaire were then directed toward collecting the basic kinds of data described in the research questions: data on System structure or type, System performance, managerial attitudes (including a section on advantages and disadvantages), and vendor capabilities (classification data). The majority of the questions were of the dichotomous or multiple-choice variety, in order that the length of the questionnaire (six pages) would be partially offset by the ease with which the questions could be answered. Some of these questions (those covering advantages, disadvantages, services, product lines, and customers) provided for more than one response; these responses have been totalled for analysis. Finally, the parts
dealing with performance estimates and managerial attitudes used ordinal scaling techniques to collect data.

Profile Scores

The focus of the research questions for this study was the comparison of alternative Systems Selling approaches. Broadly, two basic types of comparisons were called for. First, it was necessary to distinguish between the more pervasive kinds of Systems themselves—in terms of basic differences in their structure or thrust. Both the literature and the preliminary research suggested a variety of differences between Systems Contracting and Blanket Ordering, the major alternatives in the Systems Selling continuum. But the confusion in nomenclature made reliance upon a respondent's claim as to his particular approach somewhat suspect at best. Thus, it was necessary at the outset to develop some alternative means for accurately classifying the type of Systems approach actually used by the respondent. Once so classified, Systems were compared in terms of their relative performance, managerial attitudes, and capabilities.

System classifications were made on the basis of profiles that were developed as vendors answered the second part of the questionnaire. The questions in this part were expressly designed to be indicative of the approach a vendor had actually taken, irrespective of what was claimed. The development of such questions was based upon the available literature, personal letters received by the researcher, conversations with purchasing managers, and the twenty preliminary interviews. From these sources, the basic differences between Blanket Ordering and
Systems Contracting, in their "pure" forms, were isolated and are presented in Table 4. Using Table 4, twenty questions were developed that were designed to measure the degree to which a vendor approximated the "pure" Systems Contracting or Blanket Order prototypes. This was done by assigning point values to the alternative responses to the various questions. For each question there was a response that closely paralleled the appropriate characteristic of Systems Contracting as outlined in Table 4, as well as a response that paralleled the characteristic of Blanket Ordering. Vendors choosing the Systems Contracting response were awarded an item score of 3; those choosing the Blanket Order response were given a score of 1. Some questions had yet a third response indicative of a middle position (typically "both" or "other"); such responses were worth a score of 2. Raw profile scores for this "Systems test" were then derived by summing the point values achieved on each of the twenty questions. These scores were ranked in descending order, the result being an ordinal scale that quite accurately approximated the specific kind of Systems Selling a given vendor was doing. For purposes of analysis, the overall raw score ranking was grouped by median breaks into quartiles and thirds. The categorization scheme using thirds was devised initially, since there were three basic units of analysis: Systems Contracting, Mixed Systems, and Blanket Ordering. A high response rate

1 These questions were thoroughly pretested for wording clarity, reliability, and content validity. A more complete discussion of this pretest follows later in this chapter.

2 The validity and reliability of the summated profile scores as measures of System type is discussed and supported statistically later in this chapter, in the Method of Analysis.
<table>
<thead>
<tr>
<th>Characteristics of Systems Contracting</th>
<th>Characteristics of Blanket Ordering</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Product lines covered can encompass the distributor's entire range of MRO items.</td>
<td>Precise and specific single products are specifically named in the contract.</td>
</tr>
<tr>
<td>2. No specific termination date is necessarily required; contract is subject only to periodic review.</td>
<td>Six-month to one-year specified termination date.</td>
</tr>
<tr>
<td>3. Vendors guarantees specific standards of performance:</td>
<td></td>
</tr>
<tr>
<td>a. sufficient stocking of contract items</td>
<td>a. vendor does not assume customer's stores function</td>
</tr>
<tr>
<td>b. 95% item availability</td>
<td>b. 95% availability not guaranteed</td>
</tr>
<tr>
<td>c. guaranteed 48-hour delivery or better</td>
<td>c. delivery times not a factor: customer has storeroom</td>
</tr>
<tr>
<td>d. adherence to contract prices for fixed periods.</td>
<td>d. contract is open end; allows for price fluctuations.</td>
</tr>
<tr>
<td>4. Users of MRO items requisition stocks directly from Systems vendor. Purchasing department is not involved.</td>
<td>Blanket Order releases do not go directly to vendor, but must first be approved by Purchasing Department.</td>
</tr>
<tr>
<td>5. One billing transaction (invoice) sent monthly or semi-monthly, covers all requisitions for that time period.</td>
<td>Each requisition/delivery requires a separate invoicing procedure. No summary tally sheets for a period's orders.</td>
</tr>
<tr>
<td>6. All items under contract are listed in supplier's &quot;catalogue&quot; (or tab report, printed list, card file) showing item descriptions, stock numbers, order quantities.</td>
<td>No catalogue of several items is needed; each contract is for a single, specific item or narrowly defined class of items.</td>
</tr>
<tr>
<td>Characteristics of Systems Contracting</td>
<td>Characteristics of Blanket Ordering</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>-------------------------------------</td>
</tr>
<tr>
<td>7. Separate services can be provided as part of the contract, including: a. information packages on item usage b. consultation or technical seminars to educate users.</td>
<td>No separate services offered as part of the contract.</td>
</tr>
<tr>
<td>8. Negotiations are most often vendor-initiated, and center upon the buyer's top financial, accounting, or purchasing department.</td>
<td>Negotiations are frequently customer-initiated, and consist of an invitation to bid on a year's contract. Negotiations center around purchasing agents.</td>
</tr>
<tr>
<td>9. Program is sold on the basis of improving customer's total cost of procurement. Price is secondary consideration, and is frequently not the lowest bid.</td>
<td>Purchasing agents insist upon price as the focal point. Total cost of procurement is not the basis of the contract, even if vendor would like it to be so.</td>
</tr>
<tr>
<td>10. The cooperative relationship is characterized by a spirit of faith, trust, and harmony. Parties liken it to a marriage or true partnership.</td>
<td>The relationship is characterized by a short-term feeling of caution and distrust. Suspicion replaces faith and trust.</td>
</tr>
</tbody>
</table>
later made it apparent that the ranked scores could also be divided into equal quartiles for greater precision without any loss in group stability.

Those vendors whose raw scores placed them in the top quartile (third) most closely approximated the "pure" Systems Contracting prototype as originally developed; those in the bottom quartile (third) came closest to the Blanket Order prototype. Those in the middle quartiles (third) were considered Mixed Systems combining elements of both types; but in the case of the quartiles, it was inferred that the vendors in quartile 2 were heavily oriented toward Systems Contracting, those in quartile 3 toward Blanket Ordering.

Performance Scores

Having devised a means for comparing the most popular kinds of Systems, the differences in performance, vendor attitudes, and capabilities were analyzed. Performance data in this study were gathered via the use of a matrix, designed to scale recent historical performance (or growth) for a variety of different measures. Figure 1 provides a depiction of this matrix. The matrix provided for the scaling of performance in both Systems and non-Systems accounts. The inclusion of non-Systems accounts was necessary to account for "normal" growth incurred by the bulk of a vendor's accounts, as well as for comparative purposes.

The time frame specified in the questionnaire instructions was variable. It was determined in the interviews and agreed upon by the researcher and his committee that any vendor with less than two years Systems experience should not be asked to fill in the performance matrix,
### PERFORMANCE MATRIX

**Historical Growth Trends in Industrial Accounts**

<table>
<thead>
<tr>
<th>PERFORMANCE MEASURES</th>
<th>PERCENT CHANGE: SYSTEMS ACCOUNTS</th>
<th>PERCENT CHANGE: NONSYSTEMS ACCOUNTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Increases</td>
<td>Decreases</td>
</tr>
<tr>
<td></td>
<td>50%+</td>
<td>20-49%</td>
</tr>
<tr>
<td></td>
<td>50%+</td>
<td>20-49%</td>
</tr>
</tbody>
</table>

Fig. 1. Performance Matrix: Historical Growth Trends in Industrial Accounts
since the initial two year start-up experience is certain to be colored by misleading performance as difficulties are worked out. A filter statement preceded the matrix, directing only those respondents with two years or more Systems experience to continue. Moreover, respondents were then directed not to consider their first two years with Systems when completing the matrix, again to minimize the biasing effect of the start-up period, in addition to providing the needed base for evaluating systems growth in percentages.

Measures of performance specified by the matrix included gross sales, gross margins, stock turnover, return-on-investment, account expenses, and the number of new accounts. Each measure was followed by a seven-point scale, ranging from a 50%+ increase to a 50%+ decrease. A total raw "performance score" for each vendor was calculated by allocating points to the seven categories as follows:

\[
\begin{align*}
50\%+ \text{ increase} &= 18 \text{ points} \\
20-49\% \text{ increase} &= 15 \text{ points} \\
1-19\% \text{ increase} &= 12 \text{ points} \\
\text{No change} &= 9 \text{ points} \\
1-19\% \text{ decrease} &= 6 \text{ points} \\
20-49\% \text{ decrease} &= 3 \text{ points} \\
50\%+ \text{ decrease} &= 0 \text{ points}
\end{align*}
\]

The exception was the account expenses measure, which was scored in reverse, using the above values.

The raw scores were then determined by summing the vendor's six individual performance scores, resulting in a maximum of 108 or a minimum of 0. These raw performance scores were then ranked from highest to lowest, and again broken by medians into quartiles and thirds for data analysis.

**Attitude Scores**

Data from ten individual semantic differential scales were sum-
marized to yield a raw "attitude score" for each vendor. Each scale contained seven segments, with each segment assigned a score value ranging from 7 for the most favorable location to 1 for the least favorable. These values were then summed for the ten pairs of opposites in the scale to yield a total attitude score for each vendor. As in the previous raw scores discussed earlier, the total score obtained in this manner assumes that all important factors having a bearing on the score were included, and that all were of relatively equal weight. (The truth of this assumption was verified, again, in the preliminary research interviews.)

With a maximum score of 70 and a minimum of 10, the scores were again ranked and broken into quartiles and thirds by medians.

**Systems Capability Scores**

Systems capability scores were calculated by the same method as used for the development of the profile scores. Using the variables of length of time on Systems, Systems personnel, services rendered, computer capability, requisitioning automation, size (in gross sales), and width of the product line, points were allocated to each question's various responses. These point values were then summed to yield raw capability scores, with the highest values corresponding to the greatest capability or level of sophistication. The capability rankings were then broken by medians into quartile and third groupings for purposes of analysis.

The logic of calculating raw scores for Systems profiles, performance, attitudes, and capabilities can be traced directly to the Research Questions. The raw profile score had two objectives: 1) addres-
sing question two concerning differences among System types and 2) defining a vendor's classification for comparison purposes. Given this means of Systems classification, the performance scores were cross-tabulated with the profiles in order to address question three, which dealt with differences in performance by System type. Similarly, the attitude scores were analyzed with the profiles and performance scores in order to satisfy question four. Finally, raw capability scores were studied in conjunction with the other scores in order to answer questions five and six. In short, the interwoven system of relationships between variables, suggested by the research questions, required that scores of this type of constructed. They served a useful function in providing overall comparisons to augment the analysis of their individual component variables, and they simplified the scope of the study as well.

Collection of Data

The collection of data for this study, accomplished through the vehicle of the mail questionnaire, involved a series of steps. These included the specification and selection of the sample, a pretest, the main mailing, and a follow-up mailing.

Sampling Considerations

Definition of the universe

The first step in any sampling procedure must be the specification of the universe. Boyd and Westfall note that the definition of the universe, in any particular case, is determined solely by the research objectives of the particular study.\(^3\) Overall, the purpose of this research

was to get some indication of the extent of usage, structural types, the importance, indicators of success, and benefits and problems involved with Systems Selling by industrial distributors. At the outset, this posed two questions with respect to defining the universe.

1) What was meant by the term "industrial distributor?"

2) Were some types of industrial distributors more (or less) suited to Systems Selling than others?

While much confusion exists with regard to exact and precise definitions of industrial distribution, 4 most available data on the subject define an industrial distributor as one who handles supplies, equipment, machinery, and parts for manufacturing establishments, mines, oil wells, public utilities, and similar types of customers. 5 Since the definition of an industrial distributor depends in large part upon the lines of goods handled, these warranted further analysis. Robert D. Buzzell, in Value Added by Industrial Distributors and Their Productivity, defines industrial supplies, machinery, and equipment as follows:

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Industrial supplies are goods used in the operation of a business which do not ordinarily become parts of physical products, and which are consumed and replaced in a relatively short period of time. . . . Equipment items are products used in the operating of a business, which do not ordinarily become parts of physical products; which are durable, but are generally not regarded as part of fixed plant and are generally not used for machining raw materials or semi-manufactured materials. . . . The term "machinery" is used here to designate mechanical devices used in the operation of a business for machining raw or semi-manufactured materials into finished products. 6

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5Ibid.

6Robert D. Buzzell, Value Added by Industrial Distributors and Their Productivity, Bureau of Business Research Monograph No. 96 (Columbus, Ohio: The Ohio State University, 1959), pp. 22-23.
Additionally, parts have been defined in Beckman, Davidson, and Talarzyk as "manufactured articles which can be installed as a component of another product without further change in form." Examples of the above classification include:

1) Supplies: Abrasives, cutting tools, hand tools, stationery, light bulbs, writing instruments, cleaning fluids, etc.

2) Equipment: Material-handling equipment, transmission equipment (gears, chains, pulleys, V-belts), pumps and compressors.

3) Machinery: Machine tools, such as drills, presses, saws, etc.

4) Parts: Automotive repair parts, bearings, fasteners, and electrical items.

While the definition used makes no mention of different types of distributors, some differentiations do exist which do not really alter the import of the definition. The fact is that distribution is becoming increasingly specialized, and we very frequently find distributors who do not fit the general-line mold; that is, they are not distributors of all four of the above-mentioned product lines. Rather, they are truly specialty-line distributors dealing exclusively in, say, one of these classifications, such as parts (bearings, fasteners, automotive) or equipment. The fact that these specialists are equally entitled to bear the name "industrial distributor" is succinctly stated by Beckman, Engle, and Buzzell:

Thus, various definitions [of industrial distribution] advanced by the large, general-line distributors exclude specialty-line distributors. . . . These attempts to restrict distribution to a particular type of wholesaler are ultimately doomed to failure since any quantitative criteria established are bound to be arbitrary

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and possibly illegal. . . . and since no such definition can stand in the way of dynamic changes in the makeup of the wholesaling structure.8

Hence, whether or not a vendor is an industrial distributor depends on the nature of the product line(s) handled, rather than on the number of such lines. It is agreed in both trade and academic circles that specialty-line, limited-line, and general-line vendors can all potentially by classified as industrial distributors.

Nonetheless, different types of true distributors can and do exist with respect to the nature of product lines carried. The question for sampling, then, was to determine whether or not, on the basis of the nature of lines carried, some types of vendors were more or less suited to Systems Selling than others. The available evidence, in fact, did indicate that vendors carrying mainly supplies and/or parts were better suited to this technique than distributors handling heavy machinery and/or equipment. The reasons for this are discussed below.

As originally conceived, "Blanket Ordering" and "Systems Contracting" were designed to apply to maintenance, repair, and operating supplies because of the low value of these items (in relation to the cost of their purchase) and their reorder frequency. These "MRO" items can be more completely defined as follows:

Repair, maintenance, and replacement items. Here we find items which are needed repeatedly or recurrently in order to maintain the operating efficiency of the business. They are typically of low unit cost and would not include major machine installations or other such items more properly classified under capital investment. Examples: paint, plumbing materials, and a wide variety of repair parts.

8Beckman, Engle, and Buzzell, p. 157.
Operating supplies. Consumable items used in the operation of the business enterprise. Examples: adding machine tape, cutting oil, fasteners, insecticides, fuels, office supplies, small tools, sacks, wrapping materials.\(^9\)

Systems Selling is, of course, primarily centered around these MRO items; but recent expansion into parts (other than for repair purposes only) and semi-finished goods is documented by Bolton.\(^10\) Typical of items so classified that can be sold under a Systems Contract are lumber, chemicals, metals, bearings, gauges, transistors, vacuum tubes, and glass. It is interesting to note that it is in this latter area (parts) that the specialty-line vendors have recently gained substantial ground, with the general-line vendors dominating in the area of industrial MRO supplies.

Returning now to the question of a distributor's suitability to the Systems Selling concept, it was obvious at first that the concept was best suited to large, general-line industrial supply houses simply because their product lines more closely matched the definition of MRO items. The concept did, in fact, begin with Blanket Orders placed with such vendors. Systems Contracting's evolution also started with the industrial supply house simply because such vendors could provide nearly all of a given industrial customer's MRO needs, which was an essential feature of Systems Contracting as opposed to Blanket Ordering. Still, there are many varieties of repair items and supplies that general-line houses may not sell or for which they cannot provide the needed depth of inventory. Examples of such items are fasteners, bearings, electrical


supplies, janitorial supplies, fuels, and office supplies. These and other specialty-line items that qualify as MRO products have been successfully sold under systems arrangements by innovative specialist distributors.

In summary, it appeared that the major criterion for a distributor's suitability for the Systems Selling concept was that he deal in one or more lines of MRO product(s). Thus, for sampling purposes, the nature of the line(s) was more important than the number. However, Systems Selling as defined is not suited to heavy equipment or machinery, but rather to MRO parts and supplies only. The question, then, was to determine the range of MRO products that could be sold in this manner and then isolate the kinds of distributors who dealt in these products. The sum total of these vendors thus comprised the universe.

Bolton has compiled a listing of products applicable to Systems Contracting and Blanket Ordering. These are mostly MRO products, but the existence of some parts should be noted. The listing follows:

1. Automotive supplies and repair parts
2. Bearings, pillow blocks, bushings
3. Electrical supplies
4. Fasteners
5. General hardware (abrasives, hand tools, cutting tools)
6. Laboratory equipment and supplies
7. Lubricants
8. Lumber
9. Maintenance and housekeeping supplies
10. Metals (steel, aluminum, and bronze)
11. Office supplies and equipment
12. Paint and related supplies
13. Paper
14. Plumbing and heating supplies
15. Printed materials (advertising, forms, boxes)

Ibid.
16. Rubber materials (hose, belting)
17. Safety supplies (gloves, goggles, glasses, shoes)
18. Transmission equipment (gears, chains, pulleys, V-belts)
19. Welding supplies

Assuming that this list is about as complete as possible, the next task in specifying the universe was to isolate the vendors who sell these items. By enlisting the aid of the National Association of Wholesalers, the following trade associations were identified as having members dealing in the above product lines:

<table>
<thead>
<tr>
<th>Association</th>
<th>Lines Carried (see listing)</th>
</tr>
</thead>
<tbody>
<tr>
<td>* 1. American Machine Tool Distributors Assn.</td>
<td>5</td>
</tr>
<tr>
<td>* 2. American Supply Assn.</td>
<td>14</td>
</tr>
<tr>
<td>* 3. American Surgical Trade Assn.</td>
<td>6</td>
</tr>
<tr>
<td>* 4. Automotive Service Industry Assn.</td>
<td>1</td>
</tr>
<tr>
<td>* 5. International Sanitary Supply Assn.</td>
<td>9</td>
</tr>
<tr>
<td>* 6. National Assn. of Writing Instrument Distributors</td>
<td>11</td>
</tr>
<tr>
<td>* 7. National Building Materials Distributors Assn.</td>
<td>8</td>
</tr>
<tr>
<td>* 8. National Builders Hardware Assn.</td>
<td>8</td>
</tr>
<tr>
<td>12. Power Transmission Distributors Assn.</td>
<td>18</td>
</tr>
<tr>
<td>13. Safety Equipment Distributors Assn.</td>
<td>17</td>
</tr>
<tr>
<td>14. Wholesale Stationers Assn.</td>
<td>11, 15</td>
</tr>
<tr>
<td>15. National Office Products Assn.</td>
<td>11</td>
</tr>
<tr>
<td>16. Paint and Allied Products Distributors Assn.</td>
<td>12</td>
</tr>
<tr>
<td>*17. Bearing Specialists Assn.</td>
<td>2</td>
</tr>
<tr>
<td>*18. National Assn. of Electrical Distributors</td>
<td>3</td>
</tr>
<tr>
<td>*19. National Electronics Distributors Assn.</td>
<td>3</td>
</tr>
<tr>
<td>*20. National Fastener Distributors Assn.</td>
<td>4</td>
</tr>
<tr>
<td>*21. National Industrial Distributors Assn.</td>
<td>5, 7, 16</td>
</tr>
<tr>
<td>*22. Southern Industrial Distributors Assn.</td>
<td>5, 7, 16</td>
</tr>
<tr>
<td>*23. North American Wholesale Lumber Distributors Assn.</td>
<td>8</td>
</tr>
<tr>
<td>*24. Steel Service Center Institute</td>
<td>10</td>
</tr>
</tbody>
</table>

Every product line in Bolton's listing is represented by one or more of the above groups. While it must be admitted that not every distributor dealing in the above product lines will be a member of his respective trade association, it should be recognized that the totality of the
memberships of these groups represents a reasonable approximation of the universe of MRO vendors, all of which are potentially Systems Selling vendors. Given this broad definition of the universe, requests were made to the above trade associations for copies of their membership rosters, to be used in compiling the mailing list. Those groups preceded by an asterisk (*) complied and sent their latest rosters. The others did not, with the result that the population available for sampling was restricted from the outset.

Since it was not possible to sample the entire broadly defined universe in unrestricted fashion, further restrictions on the population were specified in order to keep the survey manageable in scope and relevant in coverage. In terms of coverage, there is much evidence that Systems Selling is not so widely practiced in some lines of trade as it is in others. Further, there are some distributors whose traditional mode of operation and functions performed lead them to adopt varieties of Systems Selling that are substantially different from the norm. For example, Steel Service Centers do considerable amounts of metal processing in addition to the normal stocking function. This activity results in great differences in the way such Centers handle MRO sales, enough so that the President of the Steel Service Center Institute declined to participate in the survey when it was determined that the questionnaire was not sufficiently adapted to the operating characteristics of SSCI members.

Another problem which required a tighter definition of the population was the non-industrial nature of some members in associations whose basic thrust was mixed. For example, the Automotive Service
Industry Association is made up of thousands of distributors that sell to industrial users, retail auto parts stores, and gasoline service stations. Some ASIA members mix their business among these three customer types; others concentrate on perhaps one area. But there is no way of determining from the ASIA membership directory which automotive wholesalers sell mainly in the industrial market; and, consequently, a sampling of this association was felt to be wasteful and inefficient.

Because of these problems, it was determined that the population to be sampled in this study be defined as consisting of six trade associations (as discussed in the next section), the members of which were known through secondary investigations to be among the most active and most likely Systems vendors. This required that some associations (for which lists were available) be eliminated, but the resulting population was both large enough and sufficiently homogeneous (with respect to mode of operation) to facilitate the collection of accurate and consistent data.

Sample design

The sample design for this study involved a disproportionate stratified random sample. The basis for the stratification of the sample was by trade association classification, since lists of association members were readily available and because the members of any given association were similar vendors dealing in like product lines. The nature of the product line, as discussed earlier, was the most available variable that was known to be correlated with the presence (or absence) of Systems Selling. Boyd and Westfall note that "... a
reasonable approach is to create strata on the basis of variables for which information is available, that are believed to be highly correlated with the principal survey characteristics of interest.\textsuperscript{12}

Accordingly, the sample for this study contained six strata, along a single line of classification (trade associations). The six associations comprising the revised population were carefully chosen, based upon experience in researching secondary data, the twenty telephone interviews, personal visitations with vendors, and conversations with purchasing managers and trade association personnel. The associations included:

1. National Industrial Distributors' Association
2. Southern Industrial Distributors' Association
3. National Association of Electrical Distributors
4. American Supply Association
5. Bearing Specialists' Association
6. National Fastener Distributors' Association

Together, these associations are comprised of nearly 4,000 main house and branch members dealing in the following product lines:

1. General hardware and supplies (NIDA, SIDA)
2. Electrical supplies (NAED)
3. Plumbing supplies, pipe, valves, fittings (ASA)
4. Bearings (BSA)
5. Fasteners (NFDA)

All of these product lines are ideally suited to Systems Selling. Further, these associations provided a balanced mix of general-line, limited-line, and specialty-line houses, which was analytically convenient.

Sample size

One of the advantages of using stratified random sampling is that

\textsuperscript{12}Boyd and Westfall, pp. 394-395.
it is more reliable and efficient than unrestricted random sampling. Consequently, a smaller sample size was acceptable. In using a mail questionnaire, however, the problem of nonresponse bias made it necessary to impose fixed reliability requirements since it was known that not all sampled vendors would respond and not all respondents would be Systems Sellers. Since the need for fixed reliability requirements ruled out the use of optimally allocated or proportional stratified random samples, it was acceptable to assume simple random sampling for the selection of the sample size. On this point, Boyd and Westfall note:

Therefore, the sample size necessary assuming simple random sampling may be a useful "upper limit" to that required with more efficient sampling methods, such as optimally or proportionally allocated stratified sampling.\(^{13}\)

In other words, if the sample size chosen assumes simple random sampling, then the size is more than adequate for a stratified random sample.

Selecting the sample size began with a specification of fixed reliability requirements. This study had as its focus the proportion of Systems Sellers in the preselected "universe" of industrial distributors. The preliminary research interviews indicated that the great majority of vendors do pursue some Systems Selling strategy. A conservative estimate, therefore, placed their number in the population at about 60 percent. In order to state with 95 percent confidence that the sample proportion would be within \(\pm 5\) percentage points of the true proportion, the following substitution in the standard error formula for a proportion was applied:

\(^{13}\)Ibid., p. 400.
1) \( n = \text{sample size} \)

2) \[ \frac{.05}{1.96} = \sqrt{\frac{0.6(0.4)}{n}} \]

3) \[ \left( \frac{.05}{1.96} \right)^2 = \frac{0.24}{n} \]

4) \( n = 369 \)

Thus, a sample of 369 was deemed sufficient for the fixed reliability requirements, assuming 100 percent questionnaire response. Since this was out of the question, the figure was revised to reflect the projected level of nonresponse.

Given the degree of vendor interest in this topic, plus the follow-up work (to be discussed shortly), it was felt that a response rate to the questionnaire could realistically approach thirty percent. Using this figure, the revised sample size was calculated:

5) \( n = \text{sample size} \)

6) \( .30n = 369 \)

7) \( n = 1230 \)

This sample size was felt to be nearly the maximum affordable under the budget and also sufficient statistically. In using the above procedure to arrive at the revised sample size, it was assumed that 1) the proportion of Systems Sellers within the six trade associations would be approximately equal, and 2) the rate of response from each association would be about the same (30 percent). The first assumption was ultimately proven false, and it must therefore be considered a limitation to the study. Still, it is not considered to be a liability of sufficient magnitude as to alter or in any way impair the conclusions derived from
Allocation of sample among trade associations

Proportional allocation of the total sample among the trade associations was ruled out because of distinct variations in the size of their memberships. Concentrating only on main house members (excluding branches), the association memberships ranged from 50 to 525 members. It was felt that a true proportional allocation would understate the influence of Systems Selling among the smaller associations, so a disproportionate sample was selected instead. The method began by comparing the approximate total memberships of the six trade groups:

<table>
<thead>
<tr>
<th>Association</th>
<th>Approximate Memberships (Main House Members)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. ASA</td>
<td>350</td>
</tr>
<tr>
<td>2. BSA</td>
<td>90</td>
</tr>
<tr>
<td>3. NAED</td>
<td>500</td>
</tr>
<tr>
<td>4. NFDA</td>
<td>50</td>
</tr>
<tr>
<td>5. NIDA</td>
<td>525</td>
</tr>
<tr>
<td>6. SIDA</td>
<td>215</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,730</strong></td>
</tr>
</tbody>
</table>

Because three of these associations had less than 300 members, it was decided to take a total census of these groups in order to get adequate representation in the survey. This census of BSA, NFDA, and SIDA groups accounted for 355 vendors. Since a sample size of ±1230 was specified, it was decided that 300 vendors from each of the remaining groups would be surveyed. Using a table of random numbers, samples were drawn from these associations, resulting in the following total random sampling pattern:
<table>
<thead>
<tr>
<th>Association</th>
<th>Number Sampled</th>
<th>Percent of Approximate Membership</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. ASA</td>
<td>300</td>
<td>85.7</td>
</tr>
<tr>
<td>2. BSA</td>
<td>90</td>
<td>100.0</td>
</tr>
<tr>
<td>3. NAED</td>
<td>300</td>
<td>60.0</td>
</tr>
<tr>
<td>4. NFDA</td>
<td>50</td>
<td>100.0</td>
</tr>
<tr>
<td>5. NIDA</td>
<td>300</td>
<td>57.1</td>
</tr>
<tr>
<td>6. SIDA</td>
<td>215</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Total 1,255 (72.5% of total)

It may appear that general-line industrial supply houses were overstated in this sample since both NIDA and SIDA were heavily sampled. This was not so. Because Systems Selling had its origin in this area of distribution, and because of its continued strength here, a heavier concentration was justified. Moreover, the NIDA Executive Secretary would not agree to provide a letter of introduction to accompany the questionnaire. It was anticipated that this would hinder the response from the NIDA members vis-a-vis the other groups, whose secretaries did provide assistance. Therefore, to get approximately equal geographic representation from general-line houses, the NIDA members were sampled more heavily.

In a similar fashion, it was decided that the ASA and NAED groups should have a heavy emphasis. Both associations have some (unknown) number of members who are primarily oriented to the retail or construction trades. In order to provide a buffer for those respondents who do little or no industrial selling, the sample was justified in containing larger numbers of ASA and NAED members. But in the final analysis, the choice of proportional or disproportionate methods is not so important as the magnitude of bias and loss in precision associated with the method. If this magnitude is small, either method
Since the sample selected (1255) was 72.5 percent of the total population of main house members, the magnitude of bias and loss in precision due to sampling considerations seemed small indeed.

Conclusions for sampling

For this survey, the broadly based universe of MRO vendors was restricted to a limited population consisting of the main house members of six trade associations. The sample design specified a disproportionate, stratified, randomly selected sample. Stratification was on the basis of the trade associations (each of whose members deal in like product lines), and disproportionateness accrued from the variation in association size. Randomness was assured through the use of a table of random numbers in the selection of the sample from the various sub-populations (strata).

The Pretest

Prior to the actual mailing of the questionnaire, a pretest was conducted with 15 distributors representing all of the associations to be sampled. Each vendor was mailed a preliminary questionnaire and asked to comment on any areas of ambiguity or general difficulty, including errors. Of the 15 in the pretest, 10 were contacted either in person or by telephone for brief interviews to discuss vendor reactions. The remaining five, who were unavailable for personal contact, returned their questionnaire by mail with comments. Criticism and advice was also received from the association secretaries whose trade groups were

to participate in the survey.

The results of the pretest were quite favorable, with most comments relating to question and/or response wording. Clarifications in structure were made for brevity and simplicity. Not one pretest respondent indicated any major difficulty with the Performance Matrix, although some felt it was a bit cumbersome and occasionally difficult to remember figures. None, however, suggested any workable revision; and all agreed that the intent of the matrix was clear and readily understood. It was accordingly decided to retain the matrix in its basic form.

The Mailing and Follow-Up

Prior to the mailing proper, the association secretaries were personally contacted and requested to provide letters of endorsement. Of the six associations, four secretaries willingly cooperated and provided letters, plus stationery and envelopes for duplication and mailing. Since two secretaries refused, another letter was drafted and signed by the researcher's committee members, and included with questionnaires not otherwise accompanied by an association endorsement. All of these letters stressed the importance of the research and the need for cooperation, with the hope of substantially increasing the rate of response to the survey. Included with each letter and questionnaire was a postage paid business reply envelope, addressed to Bowling Green State University in care of the researcher. All questionnaires were hand-stamped and sent by first-class mail.

It was decided that a period of two weeks would be allowed to elapse before a final judgment was made concerning the nature of the
follow-up. Toward the end of that period, two factors were obvious: First, the response was much better than expected, already approaching 25 percent; and second, there was some evidence of difficulty with the performance matrix, in that approximately 12 percent of the otherwise usable replies had left this portion either blank or but partially complete.

Given these two considerations, it was decided that a follow-up mailing would be made, accompanied by yet another cover letter (stressing the importance of the matrix). Approximately 350 questionnaires remained from the original printing; these were sent with the new cover letter to the smallest trade associations (to ensure the most complete response possible) and to the other associations having the greatest percentage of nonrespondents. When these were exhausted, preprinted postcards were sent to the remainder of the nonrespondents, the cards bearing essentially the same message as the cover letter. The postcards at six cents each were felt to be an acceptable reminder, in view of the fact that each full follow-up questionnaire cost 16 cents and the response at the time of the follow-up was already quite high. The final rate of response to the questionnaire was just slightly better than 40 percent, reflecting the success of the follow-up techniques and the general interest in the survey as a whole. The precise breakdown of the responses will be presented in the following chapter.

The Method of Analysis

As an exploratory study, the analytical objective of this research was to observe trends, draw inferences, and, where applicable,
determine the existence of an association between sets of relevant variables. Much of the data gathered by the questionnaire was organized into ordinal scales; for example, the System profile, performance, attitude, and capability scores. Further, these summated scores were grouped using median breaks into quartiles and thirds for ease of analysis.

It is worthwhile at this point to justify the use of summated measures of System type, operating performance, vendor attitudes, and System capability as the major units of analysis in this research. The sheer length of the questionnaire and the volume of data it generated made the use of summary scores in analysis attractive as a means for studying the issues posed by the research questions. But it is appropriate to assess the validity and reliability of such measures before the analysis is discussed. With respect to the issue of validity, Nunnally observes:

... one should ensure validity by the plan and procedures of construction. ... if it is agreed by most potential users of the test, or at least by persons in positions of responsibility, that the plan was sound and well carried out, the test has a high degree of content validity.\textsuperscript{15}

Since the summated scores were derived from the various sections in the questionnaire, validity is justified to the extent that the questionnaire itself is valid. That it is reasonably so is an assumption premised upon the extensive secondary research which served as the foundation for its construction. Moreover, the pretest, involving potential users, provided even greater substantiation of validity, as almost no changes

were suggested. In other words, it is a reasonable assumption that the summated scores do, in fact, measure what they purport to measure.

Reliability is a related question upon which validity, in part, depends. The question is one of the acceptability of summated scores as measures, even though the components of those scores are assumed to be valid. If a summated score can be shown to be both valid and reliable, then that score may be appropriately used as a measure of the trait in question.

Nunnally recommends the statistic coefficient alpha as the basic estimate of reliability of any particular sample of test items.\(^16\) Basically a measure of internal consistency among such items, it is a useful index of the effectiveness of any given testing instrument.\(^17\) Consequently, it was decided to use coefficient alpha to determine if the summated statements in a particular section were sufficiently intercorrelated to be a usable measure. In terms of standards, Nunnally again states:

> In the early stages of research on ... hypothesized measures of a construct ... reliabilities of .60 or .50 will suffice. For basic research, it can be argued that increasing reliability beyond .80 is often wasteful.\(^18\)

It was therefore decided that a particular summated measure would be used in the data analysis precedent to any other measures if that summated measure had a coefficient alpha equal to or greater than 0.70. As will be pointed out in the following sections, the major summated measures of Systems type, performance, and attitude each exceed the 0.70 level and,

\(^16\)Ibid., p. 213.  \(^17\)Ibid., p. 217.  \(^18\)Ibid., p. 226.
as such, formed the basis for analysis in lieu of considering separately the component questions comprising these measures.

With respect to statistical analysis, the data for this research were subjected, where appropriate, to nonparametric methods that were both applicable to ordinal data and available in computer program format. This study used the Statistical Package for the Social Sciences (SPSS) for data analysis.19

The bulk of the analysis appears as contingency tables which cross-tabulate related variables and serve to highlight major trends. The Chi square statistic was computed for every table and is referred to where relevant. It should be recognized, however, that the large number of respondents (347), coupled with tables frequently containing 8 cells or more very often resulted in large values of Chi square that were statistically significant at a probability level of less than 0.001. Therefore, in addition to the Chi square analysis, the data in each table were further analyzed using percentage comparisons, in order that the issue of managerial significance could be assessed. The presentation of each table is followed by a brief discussion of the trends it highlights. This procedure is believed to be clearer than one which separates entirely the presentation of results from the interpretation of those results.

Other statistical measures of association are presented where applicable. The bivariate contingency tables lend themselves readily to the computation of the Contingency Coefficient where the data are

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nominally scaled. For ordinal data, the Kendall rank correlation coefficient (tau) was used where required.

In an illustrative example of more sophisticated statistical techniques, multiple discriminant analysis was used to determine which of the ten semantic differential scales best distinguish between good versus poor performance. The example reflects the fact that much of the data could be analyzed using more powerful procedures than those noted above. However, the general use of such techniques was felt to be premature and somewhat inconsistent with the purposes of this study. As the initial exploratory research in Systems Selling, the data collected are less precise than data from more controlled designs. Hence, more powerful methods were seen as potentially complicating the results.

Some of the more powerful nonparametric tests were not available. For example, the Extension of the Median test or the Kruskal-Wallis one way analysis of variance statistic may have been used, but programs incorporating these routines were not available at the Bowling Green data processing installation.

In the final analysis, the use of table display relationships incorporating basic statistics and percentage comparisons did lead to meaningful insights of a managerial nature that sufficiently answered the research questions. Hence it was decided that more powerful or sophisticated statistical techniques would best be left to future studies that would serve as logical extensions of the present effort. Despite the limitations on the statistical analysis of the data, the inferences and measurements drawn are believed to be both valid and
appropriate within the framework of the limitations to this exploratory study of Systems Selling.

Given the research design and methodology as elaborated in this chapter, the results of the study can now be presented. Chapter IV discusses the rate and usability of responses, plus information on the extent of Systems Selling and the differences between the predominating approaches, in response to research questions one and two. In Chapter V, the findings from Chapter IV are used to compare differences in System performance, attitudes, and capabilities, as pertains to research questions three through six. Finally, a discussion of benefits and problems will conclude the data analysis, in response to question seven.
CHAPTER IV

ANALYSIS AND INTERPRETATION OF THE DATA: I

The Rate and Usability of the Responses

As explained in the preceding chapter, 1255 questionnaires were mailed to top executives of wholesale distribution firms engaged in 5 separate lines of trade. Overall, 507 questionnaires were returned, (a response rate of slightly better than 40 percent) but not all of these were fully usable. The exact breakdown of response was as follows:

<table>
<thead>
<tr>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>No response</td>
<td>748</td>
</tr>
<tr>
<td>Partially usable responses</td>
<td>293</td>
</tr>
<tr>
<td>Fully usable responses</td>
<td>214</td>
</tr>
<tr>
<td>Total Questionnaires sent</td>
<td>1,255</td>
</tr>
</tbody>
</table>

Mail questionnaires typically suffer from lower response rates than telephone or personal interviews. However, the survey's rate of slightly better than 40 percent was considered quite high, especially considering the length and complexity of the questionnaire and the fact that respondents were businessmen.

It is quite likely that some portion of the nonresponse is attributable to lack of experience with Systems Selling, or the inapplicability of the concept to a particular vendor's line of trade. In terms of the question of lack of experience, 5.5 percent of the respondents claimed not to have heard of the Systems Selling idea. While these
vendors took the time to return the questionnaire, it is possible that other nonusers, after a quick perusal, would simply discard it. Similarly, some vendors were not industrially oriented in their sales, precluding the use of the Systems concept as part of their operations. Great care was taken to define the population to exclude such vendors, but it was inevitable that some distributors, notably in electrical and plumbing lines, would be oriented primarily toward the construction or retail trades. Eight questionnaires were returned with explanations of this sort, typified by the following excerpt: "We are returning your questionnaire as we have no industrial division and do no Systems Selling of the type which you are studying."

There is an apparent sensitivity among industrial distributors on the topic of Systems Selling. Several respondents declined to complete the questionnaires, notably in the area of recent operating performance; others declined to be interviewed personally. While the extent and cause of this sensitivity is not known with certainty, it could be a contributing factor to the nonresponse encountered in this study. And finally, some nonresponse was due to distributors who had either moved, leaving no forwarding address, or who had ceased business operations entirely.

It is acknowledged that there may be some differences between responding Systems Sellers and those not responding. But in view of 1) the relatively high initial rate of response, 2) the probable explanations of nonresponse cited above, 3) the difficulty in gaining cooperation from sensitive vendors, and 4) the fact that one follow-up questionnaire mailing was already made, it was decided that no further
post-study investigations of nonrespondents would be undertaken. To the extent that really significant differences do, in fact, exist, they can only be regarded as a limitation to the results obtained in this study.

Of greater importance than the nonrespondents is the number of vendors returning partially usable questionnaires. The number of such responses was 293, broken down as follows:

1. Respondent does no Systems Selling 160
2. Respondent did not complete Performance Matrix
   a. Less than two years with Systems 38
   b. No Nonsystems figures provided 22
   c. Neither Systems or Nonsystems data provided 59
3. Miscellaneous portions not completed 14

Total 293

The stated purpose of this research is to study vendors engaged in Systems Selling. While those not so engaged may offer some tangential insights that may broaden the general findings of the study, the bulk of this research concentrates upon Systems Sellers only. In view of this focus, a conditional statement was inserted in the questionnaire following the initial question, directing the nonusers to the last group of classification questions. Of the 293 partially usable responses, fully 160 (54.6 percent) were attributable to vendors who were not Systems Sellers.

Of the remaining 133 partially usable responses, 38 were accounted for by vendors who had less than two years experience with Systems. Such vendors were instructed, again through a conditional statement, to omit completing the Performance Matrix in the questionnaire, because it was felt that a minimum of two years time is necessary to fully adapt distributor operations to the Systems concept. Inclusion of data reflecting this two year startup period was therefore considered to be a factor of
potential bias. This omission, then, is an acceptable and planned part of the research.

Ninety-five other respondents failed to complete portions of the questionnaire, even though instructed to do so. Twenty-two of the 95 did not complete the nonsystems portion of the Performance Matrix, after having fully completed the portion dealing with Systems accounts. Most gave no explanation for this omission. Four vendors, however, included comments on their returns. Three claimed that they simply did not know the percentage changes requested, and the fourth indicated that no figures were available that showed percentage changes over time, at least for nonsystems accounts.

The lack of readily available data on recent trends in performance was more strongly echoed by several of the 59 vendors who completed neither part of the Performance Matrix. Ten vendors in this group included comments on their returns, claiming that the information was either not calculated or simply unavailable. Not one vendor indicated that the matrix format was complicated, however, only that such information was not available.

Some of this non-availability can probably be attributed to a misunderstanding of the intent of the question on the part of the respondent. Even though estimates were expressly called for, it is possible that some executives construed the question to be a request for exact, recorded data which would have meant several hours of analyzing historical records. Or it could be possible that such records were not kept, nor figures calculated, although this seems quite unlikely.

Perhaps the best explanation is that there is a degree of
sensitivity surrounding the Systems Selling concept. This sensitivity stems from at least two sources, both of which were uncovered in the preliminary interviews. First, vendors who have had a negative experience, or one of relative dissatisfaction with Systems Selling, are reluctant to make public their records of financial or operating performance. Concurrently, some vendors have had so much success that they are naturally guarded about divulging the evidence or sources of their results. It is perhaps this sensitivity toward Systems Selling that precluded 14 other vendors from completing miscellaneous portions of the questionnaire as well.

Whatever the true motivation behind these partially completed returns, the impression should not be given that they significantly damage the research findings. Since for the most part only some Performance data are missing, these returns were judged to be still quite usable with respect to the data on Systems profiles, attitudes, capabilities, advantages and disadvantages. To have discarded them completely on the basis of one incomplete section would have been eminently wasteful. Moreover, the 22 who provided no nonsystems data did fill in the Systems portion of the matrix, bringing to 242 the number of responses whose Systems performance was estimated in addition to each of the other areas. This figure proved to be quite large enough, by itself, to make the interpretation of the Performance data meaningful.

In all, 347 responses of the 507 returned were deemed useful for purposes of analysis. Some of these did not have performance (or other) data, but their unavailability must be accepted as a limitation to the exploratory nature of the study as pointed out in Chapter I.
Certainly the deficit is a manageable one, and it does not impair the generalizations and inferences which follow throughout the remainder of this analysis.

The remainder of this chapter is devoted to a discussion of the first two research questions, in terms of the data directly applicable to such questions. Question one involves the extent to which Systems Selling is currently being used by industrial distributors. Of concern here as well are the inferences made as to why nonusers choose not to be involved; accordingly the analysis which follows makes use of the available but limited data provided by nonusers in response to the Systems Selling questionnaire. Question two involves an assessment of the basic structural differences between the predominant forms of Systems. These differences are discussed in terms of their overall relationship to the Systems profiles.

The Extent and Impact of Systems Selling Differences Between Users and Nonusers

Of the 507 responses to the questionnaire 68.4 percent claimed to be currently using one or more Systems Selling approaches, while 31.6 percent indicated they did not. (For the remainder of this discussion, these respondents will be referred to as users and nonusers, respectively.) The relatively high proportion of users to nonusers suggests that (1) the willingness to respond to the questionnaire is indicative of a generally positive experience with Systems Selling, and/or (2) buyer demands for Systems plus the numerous available approaches have led the majority to conclude that it is an easily adopted, competitive,
and at least potentially profitable technique.

In order to further differentiate and clarify the data obtained on the extent and impact of Systems Selling, users and nonusers were crosstabulated by trade association, gross sales, width of product line, and customer types. From these analyses, inferences are drawn as to why some vendors pursue Systems Selling, where others do not. Analysis by trade association membership is useful for two reasons: (1) it gives a broad impression of the groups which tend to be most actively involved, and (2) the associations themselves are excellent surrogate indicators of product lines, in terms of both the nature and scope of such lines. As such, the associations represent the best way of grouping the vendors, several of which have overlapping lines. The trade association memberships of Systems users and nonusers are shown in Table 5.

### Table 5

TRADE ASSOCIATION MEMBERSHIPS OF SYSTEMS USERS AND NONUSERS

<table>
<thead>
<tr>
<th>Association</th>
<th>Users Number</th>
<th>Users Percent</th>
<th>Nonusers Number</th>
<th>Nonusers Percent</th>
<th>Total Number</th>
<th>Total Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIDA</td>
<td>63</td>
<td>69.2</td>
<td>28</td>
<td>30.8</td>
<td>91</td>
<td>100.0</td>
</tr>
<tr>
<td>NIDA</td>
<td>106</td>
<td>79.1</td>
<td>28</td>
<td>20.9</td>
<td>134</td>
<td>100.0</td>
</tr>
<tr>
<td>ASA</td>
<td>49</td>
<td>54.4</td>
<td>41</td>
<td>45.6</td>
<td>90</td>
<td>100.0</td>
</tr>
<tr>
<td>NFDA</td>
<td>23</td>
<td>69.7</td>
<td>10</td>
<td>30.3</td>
<td>33</td>
<td>100.0</td>
</tr>
<tr>
<td>BSA</td>
<td>34</td>
<td>87.2</td>
<td>5</td>
<td>12.8</td>
<td>39</td>
<td>100.0</td>
</tr>
<tr>
<td>NAED</td>
<td>72</td>
<td>60.0</td>
<td>48</td>
<td>40.0</td>
<td>120</td>
<td>100.0</td>
</tr>
<tr>
<td>Totals</td>
<td>347</td>
<td>68.4</td>
<td>160</td>
<td>31.6</td>
<td>507</td>
<td>100.0</td>
</tr>
</tbody>
</table>

It will be recalled that the Associations represented are as follows:
Association | Width and Nature of Product Line(s)

SIDA, NIDA: Southern and National Industrial Distributors Associations, respectively | General and limited lines of hardware, mill, mine and operating supplies

ASA: American Supply Association | Plumbing supplies, pipe, valves, fittings, heating and cooling equipment

NFDA: National Fastener Distributors Association | Fastener specialists

BSA: Bearing Specialists Association | Bearing specialists

NAED: National Association of Electrical Distributors | Specialists in electrical supplies

Some interesting trends can be seen in the Table. Overall, the 68.4 percent usage rate is somewhat higher (by 8.4 percent) than the rate initially expected when calculating sample size. But more important is the extent to which the members of each association appear to be using Systems Selling. Bearing specialists are the most heavily involved, with 87.2 percent of these respondents claiming to be users. On the other hand, the ASA group (plumbing, pipe, valves, and fittings) is least active with 54.4 percent claiming usage. With one exception, all of the other groups at least equalled the average, the NIDA members accounting for a high 79.1 percent usage rate. Electrical distributors, on the other hand, claimed but 60 percent usage of Systems.

It is difficult to conclude much from this table alone. If anything, it may be that some lines lend themselves better to Systems Selling than do others. Alternatively, it could be that there is a longer tradition of Systems Selling among some groups, or in some geographic locales. In the following tables an attempt is made to show
some further explanatory trends while making use of the (limited) data provided by nonusers.

TABLE 6
GROSS SALES OF SYSTEMS USERS AND NONUSERS

<table>
<thead>
<tr>
<th>1972 Gross Sales in millions of dollars</th>
<th>Users</th>
<th>Nonusers</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Percent</td>
<td>Number</td>
</tr>
<tr>
<td>10 or more</td>
<td>45</td>
<td>93.8</td>
<td>3</td>
</tr>
<tr>
<td>5 - 9.9</td>
<td>70</td>
<td>77.8</td>
<td>20</td>
</tr>
<tr>
<td>1.5 - 4.9</td>
<td>180</td>
<td>68.2</td>
<td>84</td>
</tr>
<tr>
<td>under 1.5</td>
<td>52</td>
<td>56.5</td>
<td>40</td>
</tr>
<tr>
<td>Totals</td>
<td>347</td>
<td>70.2</td>
<td>147</td>
</tr>
</tbody>
</table>

Chi square = 23.9573 (d.f. = 3), p = 0.0000

A strong relationship between Systems usage and gross sales volume is shown in Table 6. Usage is highest (93.8 percent) for vendors with sales of $10 million or greater, thereafter declining at a relatively constant rate. For the smallest distributors (those under $1.5 million in sales), the usage rate is but 56.5 percent of the number in that category. The observed differences are highly significant statistically, thus indicating that the size and usage of Systems Selling are indeed related.

Systems Selling also appears to be related to the width of the product line, although the relationship is not so strong as that described above. The number of lines carried by Systems users and nonusers is presented in Table 7.
TABLE 7
NUMBER OF LINES CARRIED BY SYSTEMS USERS AND NONUSERS

<table>
<thead>
<tr>
<th>Number of Lines Carried</th>
<th>Users Number</th>
<th>Users Percent</th>
<th>Nonusers Number</th>
<th>Nonusers Percent</th>
<th>Total Number</th>
<th>Total Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-3 (specialists)</td>
<td>118</td>
<td>62.1</td>
<td>72</td>
<td>37.9</td>
<td>190</td>
<td>100.0</td>
</tr>
<tr>
<td>4-9 (limited-line)</td>
<td>122</td>
<td>71.3</td>
<td>49</td>
<td>28.7</td>
<td>171</td>
<td>100.0</td>
</tr>
<tr>
<td>10-22 (general-line)</td>
<td>107</td>
<td>73.3</td>
<td>39</td>
<td>26.7</td>
<td>146</td>
<td>100.0</td>
</tr>
<tr>
<td>Totals</td>
<td>347</td>
<td>68.4</td>
<td>160</td>
<td>31.6</td>
<td>507</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Chi square = 5.786, (d.f. = 2), p = 0.0554

Although there are fewer absolute numbers of general-line distributors than specialists, the percentage of users among the general-line vendors (73.3 percent) exceeds the percentage of specialist users (62.1 percent). These differences are significant at a probability level of 0.0554. It might be inferred from this that Systems Selling is better suited to distributors with wide lines, but at least one other explanation is possible. Systems Selling began with general-line vendors because they had the capability of serving a wider range of customer needs for MRO supplies. It is still well-entrenched here, and its adoption by specialists has been more recent by comparison. As the techniques become more familiar to specialists, there is a good probability that its adoption may increase.

A final consideration which provides insight as to why some distributors practice Systems Selling while others do not is the nature of the customer. It is well known that the concept is directed to
establishments that are heavy users of industrial supplies, such as mills, mines, manufacturers, utilities, and airlines. Thus it is logical to expect that distributors serving such customers would be Systems Sellers. On the other hand, vendors oriented primarily toward construction industries or the retail trades sell their lines either as original equipment (for manufacturing) or for resale. The operating supplies orientation of Systems Selling is therefore less applicable to such vendors. Respondents were asked to indicate their major customer types, in order to determine whether such types were related to Systems Selling usage. It was found that more nonusers than users claimed the construction and retail trades as major customers. The differences are summarized in Table 8.

**TABLE 8**

MAJOR CUSTOMERS OF SYSTEMS USERS AND NONUSERS

<table>
<thead>
<tr>
<th>Major Customers</th>
<th>Percentage of Respondents Claiming Such Customers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Users</td>
</tr>
<tr>
<td>Construction Industries</td>
<td>59.7</td>
</tr>
<tr>
<td>Wholesale and Retail Trades</td>
<td>17.9</td>
</tr>
<tr>
<td>Manufacturing Establishments</td>
<td>97.1</td>
</tr>
<tr>
<td>Public Utilities</td>
<td>59.4</td>
</tr>
<tr>
<td>Transportation Companies</td>
<td>21.0</td>
</tr>
<tr>
<td>Mining and Extractive Industries</td>
<td>26.5</td>
</tr>
<tr>
<td>Institutional Markets</td>
<td>28.0</td>
</tr>
<tr>
<td>Agricultural Producers/Processors</td>
<td>14.4</td>
</tr>
<tr>
<td>Government Purchasing Units</td>
<td>33.7</td>
</tr>
</tbody>
</table>

It may be inferred that a major factor contributing to the nonuse of Systems Selling is that certain distributors find the concept unsuitable
to the customers who comprise the bulk of their sales. Certainly Systems Selling was not intended for distributors servicing non-industrial customers, and the data in Table 8 tend to bear this out.

Finally, data on the extent of Systems Selling by trade association membership are provided in Table 9.

### TABLE 9

**EXTENT OF SYSTEMS SELLING BY TRADE ASSOCIATION MEMBERSHIP**
(Expressed as a Percentage of the Base Number Responding)

<table>
<thead>
<tr>
<th>Extent of Systems Selling</th>
<th>Trade Association</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SIDA (91)</td>
</tr>
<tr>
<td>Have one or more Systems</td>
<td>69.2</td>
</tr>
<tr>
<td>Did have, but no longer have Systems</td>
<td>0.0</td>
</tr>
<tr>
<td>No System at present, but considering installing one</td>
<td>2.2</td>
</tr>
<tr>
<td>No System, but not considering installing one</td>
<td>26.4</td>
</tr>
<tr>
<td>Have not heard of this idea</td>
<td>2.2</td>
</tr>
<tr>
<td>Totals</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Most significantly, this table reveals two things about Systems Selling:

(1) Only 1 percent of the 507 respondents have discontinued using the Systems approach, and (2) a substantial number (22.5 percent of all respondents) have no intention of installing a System. This seems to indicate that
there is a wide divergence of opinion about the technique, or perhaps that most nonusers feel that it is not applicable to their lines, their customers, or their operations. However, the proportion of users to nonusers indicates that it is possible to attain some satisfaction with this concept of selling.

It is unfortunate that nonusers provided no further information under the design for this study, but further inferences as to the nonuse of the Systems technique are derived as the analysis of the responses from Systems users continues. The correlates of successful operations and satisfaction with Systems can be inferred to be but partially present (if present at all) in the nonsystems vendors.

The Impact of Systems Selling Upon Users

The contribution made to sales and the types of approaches being used must be considered in determining the impact of Systems Selling upon participating vendors. In terms of sales, it is apparent from Tables 10 and 11 that Systems accounts, while comprising for the most part a small proportion of total accounts, generate a substantial amount of sales.

Clearly, Systems Selling potentially can have a major impact upon operations, but it appears that relatively few vendors have maximized the sales potential of the technique. Again it may be inferred that the newness of the technique is a contributing factor.

Further analysis of the impact made by Systems Selling is possible by considering the types of approaches which distributors claim to be using. In Table 12, six systems approaches are cross-tabulated
by the six trade associations.

TABLE 10

SYSTEMS ACCOUNTS AS A PERCENTAGE OF TOTAL INDUSTRIAL ACCOUNTS

<table>
<thead>
<tr>
<th>Less than 5%</th>
<th>5-9%</th>
<th>10-14%</th>
<th>15-19%</th>
<th>20-29%</th>
<th>30% or more</th>
<th>Total Responding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>213</td>
<td>55</td>
<td>42</td>
<td>12</td>
<td>9</td>
<td>15</td>
</tr>
<tr>
<td>Percent of total</td>
<td>61.6</td>
<td>15.9</td>
<td>12.1</td>
<td>3.5</td>
<td>2.6</td>
<td>4.3</td>
</tr>
</tbody>
</table>

TABLE 11

PERCENT TOTAL OF SALES CONTRIBUTED BY SYSTEMS ACCOUNTS

<table>
<thead>
<tr>
<th>Less than 10%</th>
<th>10-19%</th>
<th>20-29%</th>
<th>30-39%</th>
<th>40-49%</th>
<th>50% or more</th>
<th>Total Responding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>128</td>
<td>109</td>
<td>52</td>
<td>29</td>
<td>9</td>
<td>13</td>
</tr>
<tr>
<td>Percent of total</td>
<td>37.6</td>
<td>32.1</td>
<td>15.3</td>
<td>8.5</td>
<td>2.6</td>
<td>3.8</td>
</tr>
</tbody>
</table>

It is important to recognize that these are claimed approaches. To the extent that confusion exists as to the meaning of these names it is possible that a distributor is actually engaged in a form of Systems Selling different from that which is claimed. As such, Table 12 should be viewed as not being definitive, but rather indicative of trends in approaches being used.

The greatest impact appears to be that made by Blanket Ordering
<table>
<thead>
<tr>
<th>Type of System Claimed</th>
<th>Trade Association</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SIDA (106)</td>
</tr>
<tr>
<td>Systems Contracting</td>
<td>12.7</td>
</tr>
<tr>
<td>Systems Purchasing</td>
<td>7.9</td>
</tr>
<tr>
<td>Contract Buying</td>
<td>15.9</td>
</tr>
<tr>
<td>Stockless Purchasing</td>
<td>4.8</td>
</tr>
<tr>
<td>Blanket Ordering</td>
<td>46.0</td>
</tr>
<tr>
<td>Blanket Contracting</td>
<td>7.9</td>
</tr>
<tr>
<td>Other</td>
<td>4.8</td>
</tr>
<tr>
<td>Totals</td>
<td>100.0</td>
</tr>
</tbody>
</table>

and Blanket Contracting (these terms are generally acknowledged to be synonyms and will hereafter be used interchangeably). This can logically be expected, since such contracts are more familiar, widely applicable to different product lines, and less sophisticated than Systems Contracts. Still, however, fully 26.8 percent of all users claim to be using Systems Contracting or Systems Purchasing (again, these are synonymous), and 23 percent are involved with other varieties that are quite probably mixed or hybrid Systems. But it is difficult to make further inferences regarding the type of System used because of the problem of nomenclature. In order to continue this assessment of the impact of Systems Selling, profiles have been developed based upon several structural characteristics.
uncovered through the secondary research. Since these profiles provide the major focus for the remainder of the data analysis, a recapitulation of their derivation and validity follows.

The Structure of Systems Selling Alternatives

Raw Profile Scores and Profile Quartiles

The raw profile scores were obtained by summing the individual point values for the responses a vendor had checked in answering the 20-question test of Systems approach contained within the questionnaire. Each "Systems Contracting" response had a value of 3, and each "Blanket Ordering" response was worth 1. Hence, raw scores ranging from 60 to 20 were possible. The actual range was 58 to 23 (mean = 45.539, median = 45.905), which is indicative of a wide variation in Systems approach, since high raw scores yield good approximations of Systems Contracting, while low scores indicate close likenesses of Blanket Ordering.

The raw profile scores were then ranked in descending order and grouped into quartiles (and thirds) for the remainder of the analysis. The grouping was done by medians so that nearly equal numbers resulted for each quartile. The fact that these groups are not perfectly equal is due to three factors: (1) There was an odd number of total responses (347); (2) occasionally a respondent would not answer a question; and (3) an attempt was made to break ties near the median points if not more than two respondents would be affected.

The procedure for the analysis of the profiles involves the discussion of a series of contingency tables in which the responses to the component questions (comprising the Systems test) are cross-tabulated
against the four quartiles. This method of analysis is meaningful for two reasons. Since the first and fourth quartiles can be interpreted to be valid approximations of Systems Contracting and Blanket Ordering, a discussion which focuses on these quartiles in terms of the several structural components will highlight the true differences between the major approaches to Systems Selling. Such exploration is precisely the intent of research question two. Second, the analysis points out which component questions in the Systems profile test are the strongest (or weakest) submeasures of overall Systems type. For example, a particular question is judged as a weak measure if those respondents who checked the Systems Contracting response are about equally distributed throughout the four quartiles. Such a measure is weak because it is expected that those checking this response would lie predominantly in the top two quartiles. Some indication is thus provided as to whether the supposed differences between Systems are real, which is useful in the construction of improved measures for future research.

Analysis of Profile Quartiles: The Structural Differences between Alternative Systems

Respondents were asked a total of 20 questions pertaining to the following predetermined characteristics:

(1) The number of products or items specified by the contract;
(2) The term of the contract;
(3) The requisitioning procedure;
(4) The nature of contract negotiations;
(5) The performance required of the vendor as a sole source supplier;
(6) The extent to which the vendor renders separate services;
(7) The emphasis accorded to item prices under the contract;

(8) The trust generated by the relationship.

These characteristics had been shown through the secondary research to be areas of primary differences between Systems approaches. In the following analysis, the Chi square statistic was computed for each table, and in every case the observed sample differences were significant at a level of $p < .001$. This tends to substantiate the earlier contention that the quartile approximations of type are generally valid and usable measures.

The Number of Products Specified by the Contract

It will be recalled that a major difference between Systems Contracting and Blanket Ordering as described in Chapter II of this study is related to the scope of the contract in terms of the diversity of items to be included. Blanket Ordering classically is oriented toward one or two items (or classes of items) that are specifically named and described. Systems Contracts are more general, covering a host of items. In theory, the latter are limited only by the supplier's width of product line, as the intent of such Systems is much more complete (in terms of coverage) than Blanket Orders. They could include all the MRO items stocked by the participating vendor.

In order to determine whether these supposed differences were real, vendors were asked whether their Systems Selling contracts are drawn up to include but one or two named items or rather a multitude of different products. A provision for those vendors having contracts of both types was included. A summary of the responses, cross-tabulated by profile quartiles is presented in Table 13.
TABLE 13

SCOPE OF CONTRACT

<table>
<thead>
<tr>
<th>Scope of the Contract</th>
<th>Profile Quartiles</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td>No. %</td>
<td>No. %</td>
<td>No. %</td>
<td>No. %</td>
<td>No. %</td>
<td>No. %</td>
<td></td>
</tr>
<tr>
<td>Contracts name</td>
<td>1 or 2 different products</td>
<td>4 5.8</td>
<td>11 5.9</td>
<td>24 34.8</td>
<td>30 43.5</td>
<td>69 100.0</td>
</tr>
<tr>
<td>A multitude of different products are included</td>
<td>81 31.3</td>
<td>72 27.8</td>
<td>58 22.4</td>
<td>48 18.5</td>
<td>259 100.0</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>1 5.3</td>
<td>5 26.3</td>
<td>5 26.3</td>
<td>8 42.1</td>
<td>19 100.0</td>
<td></td>
</tr>
<tr>
<td>Totals</td>
<td>86 24.8</td>
<td>88 25.4</td>
<td>87 25.1</td>
<td>86 24.8</td>
<td>347 100.0</td>
<td></td>
</tr>
</tbody>
</table>

The most surprising statistic in this table is the frequency of responses indicating a multitude of different products (the response expected mainly of Systems Contractors). Apparently, the question of the scope of the contract is not as much of a differentiating factor as originally supposed. Part of this may be attributable to what appears to be the changing character of the Blanket Order. Post-survey discussions with several vendors have indicated that the original concept of the single item Blanket Order has been broadened to embrace more than one or two items, but still not so many items as a Systems Contract. For example, one fastener distributor has a Blanket Order with the state of Ohio for the provision of six distinctly different types of fasteners—leading him to conclude that his contract covered a multitude of products. So to some extent, the question as worded was perhaps too restrictive in its available responses, thereby forcing many vendors who are predominately
Blanket Order sellers to check a misleading response.

Nevertheless, of the 69 who did indicate that their contracts covered only one or two items, 30 (43.5 percent) fell in the fourth (Blanket Order) quartile, and 24 (34.8 percent) were in the third quartile, indicating an overall Blanket Order orientation. Only 4 (5.8 percent) were in the first (Systems Contracting) quartile, while 81 of the 86 in the first quartile claimed a multitude of different products. Moreover, the broad trends in rows one and two do add some substance to the notion that more Systems Contractors than Blanket Contractors include a multitude of products within the scope of their Systems agreements.

To further clarify the issue of the scope of the contract, another question was asked that related to the provision of special catalogues containing detailed listings of the items under contract. Such catalogues are expected to be an integral part of a Systems Contract, again because a multitude of items are typically covered which must be described and recorded. Under a Blanket Order, a catalogue usually is not necessary, because the number of covered items is not so extensive as to merit a separately bound listing. Thus, an examination of the existence of catalogues should clarify somewhat the surprising results depicted in Table 13. The responses to the question of special catalogues, again cross-tabulated by profile quartiles, are presented in Table 14.
TABLE 14

PROVISION OF SYSTEMS CATALOGUES

<table>
<thead>
<tr>
<th>Are Customers Furnished With Special Catalogues?</th>
<th>Profile Quartiles</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>-------</td>
<td>------</td>
</tr>
<tr>
<td>Yes, usually</td>
<td>80</td>
</tr>
<tr>
<td>Usually not</td>
<td>6</td>
</tr>
<tr>
<td>Totals</td>
<td>86</td>
</tr>
</tbody>
</table>

Examining Table 14 by columns points up an interesting fact: fully 93 percent of the vendors in the first (Systems Contracting) quartile provide their customers with catalogues, but only 25.6 percent of those in quartile 4 do so. This tends to indicate that the 74.4 percent in quartile 4 who do not provide catalogues feel no need to go to the expense, quite probably because the multitude of items supposedly included (from Table 13) under their contracts is not really very extensive at all. In short, it does seem likely that the Blanket Contracts of today are more extensive in the scope of items covered than their predecessors, but not so complete as their Systems Contract counterparts.

However, the general trend toward providing catalogues (and therefore including greater numbers of items under the agreement) can be seen by examining quartiles two and three, in addition to the row totals. It appears from Table 14 that an increasing number of vendors are desirous of becoming sole source suppliers for MRO products. At least the trend toward broadening the scope of the contracts seems well substantiated.
The Term of the Contract

Another factor which differentiates the pure forms of Systems Contracting and Blanket Contracting is the term of the contract. Blanket Contracts generally are for a specific time period, but Systems Contracts may often be rather informal, the result being an "evergreen" arrangement subject to periodic reviews. The general validity of this fact is apparent in Table 15.

**TABLE 15**

**TERM OF THE CONTRACT**

<table>
<thead>
<tr>
<th>Term of Contract</th>
<th>Profile Quartiles</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td><strong>Specific Termination Dates</strong></td>
<td>25</td>
<td>29.1</td>
<td>47</td>
<td>53.4</td>
<td>59</td>
<td>67.8</td>
<td>71</td>
<td>82.6</td>
<td>202</td>
<td>58.2</td>
<td></td>
</tr>
<tr>
<td>&quot;Evergreen&quot; Contracts</td>
<td>49</td>
<td>57.0</td>
<td>26</td>
<td>29.5</td>
<td>10</td>
<td>11.5</td>
<td>7</td>
<td>8.1</td>
<td>92</td>
<td>26.5</td>
<td></td>
</tr>
<tr>
<td>Both Types are used</td>
<td>12</td>
<td>14.0</td>
<td>15</td>
<td>17.0</td>
<td>18</td>
<td>20.7</td>
<td>8</td>
<td>9.3</td>
<td>53</td>
<td>15.3</td>
<td></td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td>86</td>
<td>100.0</td>
<td>88</td>
<td>100.0</td>
<td>87</td>
<td>100.0</td>
<td>86</td>
<td>100.0</td>
<td>347</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Generally, the majority of those vendors who claim to enjoy "evergreen" contracts fail in the top two quartiles, as expected. On the other hand, those vendors whose contracts have specific termination dates are more widely spread throughout the four quartiles, although the incidence of such contracts increases toward the fourth quartile. Post-survey conversations with distributors again offer a tentative explanation: dramatically escalating costs (to the distributor) and short supplies in recent
years have made annual or semi-annual reviews (accomplished via termination) a necessary hedge against getting caught with the excessive losses that can arise when bound to a fixed price but a variable buying cost. It is probably the current instability of prices and supplies that accounts for the fact that only 57 percent (still the vast majority) of those in quartile 1 claim to have "evergreen" contracts. On the other hand, fully 82.6 percent of those in the fourth quartile have specific termination dates, which is expected of Blanket Contractors. It may be concluded that current business conditions have weakened somewhat the ability or willingness of Systems Contractors to offer "evergreen" contracts.

The Requisitioning Procedure

Yet another basic difference between Systems Contracting and Blanket Ordering has to do with the way in which items under contract are to be requisitioned by the customer. All purchasing systems endeavor to cut the costs of buying MRO items by simplifying the requisitioning procedure, but it is Systems Contracting that effects the greatest simplicity. In the pure sense, a Systems Contract enables the using department to requisition items directly from the vendor. Since the formal purchasing cycle is circumvented, great savings occur as the burden of purchasing paperwork is relieved. Blanket Contracts, however, do not typically follow the procedure of user requisitioning; instead, the customer's purchasing department issues releases against the contract. Since vendor analysis, evaluation, and selection are eliminated (at least for the contract's duration), some savings in paperwork do occur. But the necessity of purchasing's involvement precludes the simplicity of
the requisitioning procedure enjoyed by Systems Contract customers. The requisitioning procedures of the 347 respondents are summarized in Table 16.

**TABLE 16**

**THE REQUISITIONING PROCEDURE**

<table>
<thead>
<tr>
<th>Requisitioning Procedure</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>Plant-level Employees can requisition</td>
<td>52</td>
<td>60.5</td>
<td>37</td>
<td>42.0</td>
<td>21</td>
</tr>
<tr>
<td>Requisitions must be approved by purchasing</td>
<td>10</td>
<td>11.6</td>
<td>20</td>
<td>22.7</td>
<td>43</td>
</tr>
<tr>
<td>Both ways exist</td>
<td>24</td>
<td>27.9</td>
<td>31</td>
<td>35.2</td>
<td>23</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>86</td>
<td>100.0</td>
<td>88</td>
<td>100.0</td>
<td>87</td>
</tr>
</tbody>
</table>

Again, the expected trends are evident in this Table. Employee requisitioning falls off rapidly as the fourth quartile is approached, in favor of requisitioning via Purchasing. The percentages in the first and fourth quartiles are nearly equal: 60.5 percent of those in quartile 1 utilize direct requisitioning; 61.6 percent of those in quartile 4 claim that requisitions must first be approved by Purchasing. It is interesting to note that 97 vendors (28 percent overall) claim that both procedures are used. This is most probably a reflection of the fact that buyer companies (especially their Purchasing people) frequently wish to maintain a distinct measure of control over their acquisition procedures. In
short, it is often a near impossibility for a vendor to convince a large
customer to drop completely the established Purchasing procedure, hence
the existence of compromise situations as evidenced in Table 16.

The Nature of Negotiations

Of substantial importance in differentiating between Blanket Orders and Systems Contracts is the nature of negotiating or selling
the System to prospective customers. The preliminary interviews dis­
covered wide variability in the overall approaches taken, predominantly
because Systems Contracts go so much further in providing total solutions
to customer problems than do Blanket Orders. Verification of such dif­
fferences in negotiations is provided through the following analysis of
5 key areas probed in the questionnaire.

One such area concerns the initiation of negotiations. Typically,
Blanket Order contracts originate with large customers who are interested
in effecting economies. The distributor will usually bid on the con­
tract, because frequently they represent substantial volume, and in
reality the small-to-medium size distributor cannot ignore the wishes
of major customers. Yet the interviews indicated that many vendors would
just as soon not sell under Blanket Contracts, were they to be given
a choice. Too many of them have not had satisfactory results with
the arrangement.

On the other hand, vendors using Systems Contracting usually
prefer to actively sell the concept to customers, rather than waiting
to be approached. In the first place, such contracts are far more
extensive than Blanket Orders, often requiring changes in established
purchasing practice. The complications involved are considerably more than with Blanket Ordering, and they require months of educating, convincing and explaining. Clearly, Systems Contracts must be sold to buyers, and the selling orientation is acknowledged by the bulk of successful Systems Contractors. This approach contrasts greatly with the attitude of reluctant agreement so frequently voiced by Blanket Order vendors. The differences in the approaches taken are highlighted in Table 17.

Table 17

INITIATION OF NEGOTIATIONS

<table>
<thead>
<tr>
<th>Initiator of Negotiations</th>
<th>Profile Quartiles</th>
<th>No.</th>
<th>%</th>
<th>No.</th>
<th>%</th>
<th>No.</th>
<th>%</th>
<th>No.</th>
<th>%</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td>2</td>
<td></td>
<td>3</td>
<td></td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distributor initiates negotiations</td>
<td></td>
<td>69</td>
<td>80.2</td>
<td>39</td>
<td>44.3</td>
<td>32</td>
<td>36.8</td>
<td>11</td>
<td>12.8</td>
<td>151</td>
<td>43.5</td>
</tr>
<tr>
<td>Customers approach distributor</td>
<td></td>
<td>4</td>
<td>4.7</td>
<td>20</td>
<td>22.7</td>
<td>27</td>
<td>21.0</td>
<td>55</td>
<td>64.0</td>
<td>106</td>
<td>30.5</td>
</tr>
<tr>
<td>No preference for initiation</td>
<td></td>
<td>13</td>
<td>15.1</td>
<td>29</td>
<td>33.0</td>
<td>28</td>
<td>32.2</td>
<td>20</td>
<td>23.3</td>
<td>90</td>
<td>25.9</td>
</tr>
<tr>
<td>Totals</td>
<td></td>
<td>86</td>
<td>100.0</td>
<td>88</td>
<td>100.0</td>
<td>87</td>
<td>100.0</td>
<td>86</td>
<td>100.0</td>
<td>347</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Again, the trends are as expected. In quartile 1 (Systems Contracting), 80.2 percent of the respondents prefer to initiate negotiations. Moving toward the lower quartiles, this percentage drops steadily, until in quartile 4 only 12.8 percent prefer to do so, with 64.0 percent preferring to wait for customers to make the approach. Also, of the 90 vendors with no preference, the majority fell as expected into the middle quartiles, again indicating that they possess Mixed Systems.
Because of the extensive and somewhat complicated nature of Systems Contracting, vendors offering such an approach usually prefer to negotiate with top management: usually corporate heads of Purchasing, Accounting, or Finance. Since resistance can be expected from lower-echelon employees (especially middle-management buyers or purchasing agents), it does make sense to sell the program at the top corporate level, where the efficiencies and cost savings can be fully comprehended. Yet with Blanket Ordering there is a distinct tendency to negotiate with middle-level purchasing agents who insist upon a price orientation in the contract dealings. These trends are reflected in Table 18.

**TABLE 18**

**LEVEL OF CONTRACT NEGOTIATIONS**

<table>
<thead>
<tr>
<th>Level of Contract Negotiations</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>Negotiate at top level of customer management</td>
<td>48</td>
<td>55.8</td>
<td>31</td>
<td>35.2</td>
<td>14</td>
</tr>
<tr>
<td>Negotiate at middle level of management</td>
<td>37</td>
<td>43.0</td>
<td>56</td>
<td>63.6</td>
<td>67</td>
</tr>
<tr>
<td>Negotiate at lower level of management</td>
<td>1</td>
<td>1.2</td>
<td>1</td>
<td>1.1</td>
<td>6</td>
</tr>
<tr>
<td>Totals</td>
<td>86</td>
<td>100.0</td>
<td>88</td>
<td>100.0</td>
<td>87</td>
</tr>
</tbody>
</table>

The results show that a vast majority of Blanket Orders are negotiated at the middle level. Moreover, 11 such Blanket Order vendors even indicated negotiations with lower level personnel. Alternatively, the
majority (55.8 percent) of Systems Contractors in quartile 1 manage
to sell their approaches at the top level, but a surprising number
(43 percent) negotiate instead at the middle level. Vendors in such a
position point out that it can be exceedingly difficult to get beyond
middle-level purchasing agents, because this is the traditional point
of negotiation, and because purchasing people have domains to protect.
Nevertheless, the trends in Table 18 are quite clear, and they do indi­
cate the differing approaches taken when selling the System.

Related to the question of the level at which negotiations are
conducted is the matter of distributor representation in such business.
In the case of the typical Systems Contractor, the top management
orientation of the program requires, quite frequently, the involvement
of the distributor's top people as well. Conversely, the lower-level
Blanket Order often does not. A question was accordingly asked of the
respondents that dealt with the issue of vendor representation. The
responses are presented in Table 19.

Again, the results in Table 19 are as expected, with top
management representation much more common in the case of Systems
Contracting than in Blanket Ordering. However, it is interesting to
note that even in quartile 4, close to 35 percent of the 86 respondents
indicated the involvement of top management. Moreover, another 25.6
percent (in quartile 4) checked the "other" response and explained
that both line salesmen and management were jointly involved. This may
be due to the fact that Blanket Orders are becoming increasingly
sophisticated and therefore somewhat advanced for the line salesman's
abilities, or it may be that Blanket Contractors with somewhat negative
experience in this area are shifting to a more sophisticated or impressive sales approach in order to win some concessions. This by itself is a step in the correct direction, but it must be coupled with negotiations at the proper level (top management) if it is to ultimately prove successful.

**TABLE 19**

**VENDOR REPRESENTATION IN NEGOTIATIONS**

<table>
<thead>
<tr>
<th>Vendor's Representative in Negotiations</th>
<th>Profile Quartiles</th>
<th></th>
<th></th>
<th></th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. %</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Line Salesman represents</td>
<td>3 3.5</td>
<td>14</td>
<td>15.9</td>
<td>26</td>
<td>34</td>
</tr>
<tr>
<td>Top Management represents</td>
<td>70 81.4</td>
<td>54</td>
<td>61.4</td>
<td>46</td>
<td>52.9</td>
</tr>
<tr>
<td>Other (usually both of the above)</td>
<td>13 15.1</td>
<td>20</td>
<td>22.7</td>
<td>15</td>
<td>17.2</td>
</tr>
<tr>
<td>Totals</td>
<td>86 100.0</td>
<td>88</td>
<td>100.0</td>
<td>87</td>
<td>100.0</td>
</tr>
</tbody>
</table>

One of the reasons why Systems Contracting is a technique sold by top distributor management to top customer management is that such programs are typically quite thorough approaches that are aimed at reducing the customer's total costs in purchasing MRO items. Unlike Blanket Orders, which may offer just a simplified reordering procedure, Systems Contracting attempts to cut costs in the areas of storage, communications, delivery, and materials usage, in addition to providing a simplified reordering procedure. The fact that a total cost orientation is not necessarily a part of the typical Blanket Contract is evident
from Table 20.

**TABLE 20**

**SALES PREMISE OF SYSTEMS CONCEPT**

<table>
<thead>
<tr>
<th>Is System Sold on the Premise of a Total Cost Reduction in MRO</th>
<th>Profile Quartiles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchases?</td>
<td>1</td>
</tr>
<tr>
<td>No. %</td>
<td>No. %</td>
</tr>
<tr>
<td>Yes, usually</td>
<td>86</td>
</tr>
<tr>
<td>Usually not</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>86</td>
</tr>
</tbody>
</table>

A final question in the area of negotiations dealt with the relative amount of flexibility the vendor offered in structuring his Systems arrangement with customers. It was determined from the interviews that some Systems Contractors had developed time-proven, successful procedures which they attempted to sell, while most Blanket Contractors preferred to remain quite flexible in setting up a System. The responses are presented in Table 21.

Most Systems Contractors (59.3 percent of quartile 1) prefer to sell a proven approach, while most Blanket Contractors prefer to be quite flexible. Still, nearly two-thirds of all vendors overall preferred to be flexible, probably because they lack the channel power or influence to sway large customers away from existing purchasing procedures. Moreover, it certainly makes good marketing sense to be adaptive to the customer's wishes; this surely must be a factor in explaining this flexibility.
TABLE 21

FLEXIBILITY IN SYSTEMS STRUCTURE

<table>
<thead>
<tr>
<th>Philosophy of Systems</th>
<th>Profile Quartiles</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selling Leads Vendor to:</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>Sell a proven Systems concept</td>
<td>51</td>
<td>59.3</td>
<td>30</td>
<td>34.1</td>
<td>25</td>
<td>28.7</td>
</tr>
<tr>
<td>Be flexible and adapt to customer needs</td>
<td>35</td>
<td>40.7</td>
<td>58</td>
<td>65.9</td>
<td>62</td>
<td>71.3</td>
</tr>
<tr>
<td>Total</td>
<td>86</td>
<td>100.0</td>
<td>88</td>
<td>100.0</td>
<td>87</td>
<td>100.0</td>
</tr>
</tbody>
</table>

In concluding the analysis of that portion of the questionnaire dealing with the nature of the negotiations, it is quite clear that the overall approach taken by Systems Contractors varies significantly from that of Blanket Contractors. Generally, there appears to be a more aggressive, selling-oriented posture, directed toward corporate levels and emphasizing a proven System. Little of this was found to be true of Blanket Ordering. In addition to the tentative explanations already proposed for this difference, it may be strongly conjectured that the aggressive sales orientation of Systems Contracting is also due to the fact that extensive services are offered under the contract, all of which require careful explanation. Some of these services are typically required of the vendor; these are the topics of the next section.

Performance Levels Required of the Vendor

A typical Systems Contract requires that the vendor carry adequate inventories of contract items in his warehouse, guaranteeing
their availability and immediate delivery when ordered. This effectively shifts the customer's stores function backward in the channel to the vendor, who is a specialist in such a task. In turn, the customer eliminates unnecessary storage, waste, and pilferage costs while being assured of fresh MRO supplies as needed. Questions pertaining to such considerations were asked of the vendors; their responses are presented below in Tables 22 through 25.

**TABLE 22**

**VENDOR STOCKING**

<table>
<thead>
<tr>
<th>Are Customer's Items Stocked on Vendor's Premises?</th>
<th>Profile Quartiles</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>Yes, usually</td>
<td>85</td>
<td>98.8</td>
<td>85</td>
<td>97.7</td>
<td>84</td>
<td>96.6</td>
</tr>
<tr>
<td>Usually not</td>
<td>1</td>
<td>1.2</td>
<td>2</td>
<td>2.3</td>
<td>3</td>
<td>3.4</td>
</tr>
<tr>
<td>Totals</td>
<td>86</td>
<td>100.0</td>
<td>87</td>
<td>100.0</td>
<td>87</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Tables 22 and 23 are both addressed to the same fundamental question, and yet one basic difference is apparent. It can be seen from Table 22 that nearly all Systems Sellers provide the vendor stocking service, even though 18.6 percent of those in quartile 4 do not. Yet at the same time, Table 23 shows that only 55.3 percent in quartile 4 think of their warehouse as an extension of their customers' stores department, versus 97.7 percent in quartile 1. This implies that while Blanket Contractors do some stocking of MRO items for customers, their stocking program is not so extensive as that offered by Systems Contractors.
In short, Systems Contractors carry more inventory for customers, and because of this they must be more responsive to customers' inventory needs. It is only when the stocking function is combined with true System responsiveness that the concept of being the customer's warehousing extension becomes viable. That Systems Contractors do provide the needed responsiveness is shown in Tables 24 and 25.

### TABLE 23

PERCEPTION OF WAREHOUSE AS EXTENSION OF CUSTOMER'S STORES DEPARTMENT

| Is warehouse thought of as an extension of customers' stores department? | Profile Quartiles |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | Total |
| Yes, usually | 84 | 97.7 | 78 | 89.7 | 66 | 76.7 | 47 | 55.3 | 275 | 79.9 |
| Usually not | | | 2 | 2.3 | 9 | 10.3 | 20 | 23.3 | 38 | 44.7 | 69 | 20.1 |
| Totals | 86 | 100.0 | 87 | 100.0 | 86 | 100.0 | 85 | 100.0 | 344 | 100.0 |

### TABLE 24

GUARANTEED ITEM AVAILABILITY

| Is 95% item availability guaranteed? | Profile Quartiles |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | Total |
| Yes, usually | 79 | 92.9 | 44 | 57.2 | 42 | 48.3 | 17 | 14.8 | 182 | 52.9 |
| Usually not | 6 | 7.1 | 42 | 48.8 | 45 | 51.7 | 69 | 80.2 | 162 | 47.1 |
| Totals | 85 | 100.0 | 86 | 100.0 | 87 | 100.0 | 86 | 100.0 | 344 | 100.0 |
TABLE 25
GUARANTEED DELIVERY

<table>
<thead>
<tr>
<th>Is 48 hour delivery guaranteed?</th>
<th>Profile Quartiles</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 No. %</td>
</tr>
<tr>
<td>Yes, usually</td>
<td>84 97.7</td>
</tr>
<tr>
<td>Usually not</td>
<td>2 2.3</td>
</tr>
<tr>
<td>Totals</td>
<td>86 100.0</td>
</tr>
</tbody>
</table>

Blanket Ordering appears to be far less responsive than Systems Contracting in terms of item availability and delivery. The responsiveness can be less for Blanket Contracts primarily because a greater safety stock is typically stored at the customer's warehouse, the result being that the economies enjoyed by customers are usually less than those accruing to customers of distributors offering Systems Contracts. In the final analysis it can be concluded that a major difference between the two forms of Systems Selling is the level of performance required by the Contract, and Systems Contracting appears to be in a better position overall to meet such obligations.

The Extent of Separate Services Rendered

Frequently a Systems Seller will go beyond those areas of required performance and offer still other services to the customer. These may be requested, and the seller's ability to comply is both a selling point for him and a source of further economies to the buyer. One such service is the provision of consultation or seminars...
by the vendor, in order that existing uses and new applications of his products might be explained to customers. This kind of activity can help the vendor add more items to the contract and build goodwill that has the effect of strengthening the Systems relationship. A question was accordingly asked that related to the provision of such services. The responses are presented in Table 26.

**TABLE 26**

**PROVISION OF CONSULTATION OR TECHNICAL SEMINARS**

<table>
<thead>
<tr>
<th>Are consultation and/or technical seminars provided?</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>Yes, usually</td>
<td>82</td>
<td>95.3</td>
<td>70</td>
<td>79.5</td>
<td>65</td>
</tr>
<tr>
<td>Usually not</td>
<td>4</td>
<td>4.7</td>
<td>18</td>
<td>20.5</td>
<td>22</td>
</tr>
<tr>
<td>Totals</td>
<td>86</td>
<td>100.0</td>
<td>88</td>
<td>100.0</td>
<td>87</td>
</tr>
</tbody>
</table>

While the vast majority of Systems vendors do provide this service, 25.1 percent do not. Of those who do not, the majority reside in the third and fourth quartiles, indicating again that Blanket Contracting tends to minimize the number of extra features provided by Contract. Yet overall it can be inferred that a service orientation predominates in Systems Selling, which is precisely what one would expect, given the traditional role of the full-function wholesaler when coupled with the Systems concept.

Another service that is highly valued by customers is the provision of information on MRO item usage. Such data can easily be
generated by the vendor's computer, and frequently it can be broken down by item, department, or requisitioner. Such a service gives customers a mass of data that they may never have had before, and it appeals strongly to customers who need or desire more control over their purchases. The responses to a question asked of vendors concerning the provision of this service are presented in Table 27.

TABLE 27

PROVISION OF INFORMATION PACKAGES

<table>
<thead>
<tr>
<th>Do you provide</th>
<th>Profile Quartiles</th>
<th></th>
<th></th>
<th></th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>information</td>
<td>1 No. %</td>
<td>2 No. %</td>
<td>3 No. %</td>
<td>4 No. %</td>
<td>No. %</td>
</tr>
<tr>
<td>packages?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes, usually</td>
<td>83 96.5</td>
<td>71 82.6</td>
<td>54 65.5</td>
<td>49 57.6</td>
<td>257 75.1</td>
</tr>
<tr>
<td>Usually not</td>
<td>3 3.5</td>
<td>15 17.4</td>
<td>31 36.5</td>
<td>36 42.4</td>
<td>85 24.9</td>
</tr>
<tr>
<td>Totals</td>
<td>86 100.0</td>
<td>86 100.0</td>
<td>85 100.0</td>
<td>85 100.0</td>
<td>342 100.0</td>
</tr>
</tbody>
</table>

As was the case in Table 26, this Table shows the great majority (75.1 percent of all Systems Sellers do provide information packages to customers. Again, however, there is a noticeable tendency for those in quartile 4 to be less active in this area as compared to those in quartile 1. This, too, is to be expected of the minimum service Blanket Order arrangement.

A final question asked in the area of separate services was concerned with the billing procedure. Under a pure Systems Contract, the invoices for a given time period are accumulated and totalled on a tally sheet, with one bill covering all purchases for the time period.
This procedure eliminates the excessive paperwork and multiple payments for small amounts usually associated with the traditional procedure, resulting in a savings of time and money for both vendor and customer as the billing cycle is simplified. To determine the extent to which this is done, a question was asked and the responses are presented in Table 28.

**TABLE 28**

**PROVISION OF SINGLE BILLING PER TIME PERIOD**

<table>
<thead>
<tr>
<th>Is single invoice sent at end of time period?</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>Yes, usually</td>
<td>70</td>
<td>81.4</td>
<td>55</td>
<td>63.2</td>
<td>37</td>
</tr>
<tr>
<td>Usually not</td>
<td>16</td>
<td>18.6</td>
<td>32</td>
<td>36.8</td>
<td>50</td>
</tr>
<tr>
<td>Totals</td>
<td>86</td>
<td>100.0</td>
<td>87</td>
<td>100.0</td>
<td>87</td>
</tr>
</tbody>
</table>

The trend toward providing the service of a single billing is much more pronounced among the Systems Contractors. Again, this is to be expected, since the concept of Systems Contracting is designed to create economies and efficiencies in as many areas as possible, even though such economies may be relatively minor.

**The Emphasis Accrued to Item Prices**

Overall, there is a definite indication that Systems Sellers as a whole are providing much in the way of separate services that are ancillary to the main offering. Still, Systems Contractors again seem to be more dominant in this area, which is to be expected given
the broader scope of such arrangements vis-à-vis the more restricted orientation of the Blanket Contract. An extensive array of services, either required or separate and voluntary, will certainly result in economies for customers. Vendors providing such services, on the other hand, are faced with added costs as customers are serviced more extensively, frequently, and efficiently. It is therefore logical to expect that Systems Contracting vendors would not be oriented toward price cutting, because to do so while providing numerous services would seriously erode profitability to the point where the System as conceived could no longer function.

With respect to Blanket Ordering, on the other hand, the emphasis on cutthroat pricing is likely to be greater, for several reasons. First, the levels of service provided are almost always less than under a Systems Contract, making lower prices more feasible. Second, the orientation of negotiations toward middle-echelon purchasing agents, who are evaluated on dollars saved in buying, is widespread. Third, the purchasing agent orientation and the practice of bidding for contracts have resulted in a hotly competitive pricing attitude that has become a fixture within the sphere of Blanket Contracting. Two tables are presented below which highlight these trends, based on pricing questions asked of respondents.

Three facts are apparent in Table 29. First, there is a slight but noticeable trend toward quoting lower prices on the part of Blanket Contractors. Second, there is a somewhat stronger trend toward quoting higher prices on the part of Systems Contractors. Third, the majority of Systems vendors (83 percent) claim to stay competitive in their pricing.
### TABLE 29
**CONTRACT PRICES**

<table>
<thead>
<tr>
<th>Vendor's Item Price Policy</th>
<th>Profile Quartiles</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. %</td>
<td>No. %</td>
<td>No. %</td>
<td>No. %</td>
<td>No. %</td>
<td>Total No. %</td>
</tr>
<tr>
<td>Quote lower item prices than competitors</td>
<td>0</td>
<td>0.0</td>
<td>4</td>
<td>4.5</td>
<td>4</td>
<td>4.6</td>
</tr>
<tr>
<td>Stay competitive in price</td>
<td>63</td>
<td>73.3</td>
<td>75</td>
<td>85.2</td>
<td>78</td>
<td>89.7</td>
</tr>
<tr>
<td>Quote higher prices than competitor</td>
<td>23</td>
<td>26.7</td>
<td>9</td>
<td>10.2</td>
<td>5</td>
<td>5.7</td>
</tr>
<tr>
<td>Totals</td>
<td>86</td>
<td>100.0</td>
<td>88</td>
<td>100.0</td>
<td>87</td>
<td>100.0</td>
</tr>
</tbody>
</table>

### TABLE 30
**ROLE OF PRICE IN SECURING SUCCESSFUL CONTRACTS**

<table>
<thead>
<tr>
<th>Is price the key element in securing contracts?</th>
<th>Profile Quartiles</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. %</td>
<td>No. %</td>
<td>No. %</td>
<td>No. %</td>
<td>No. %</td>
<td>Total No. %</td>
</tr>
<tr>
<td>Yes, usually</td>
<td>6</td>
<td>5.4</td>
<td>18</td>
<td>16.1</td>
<td>32</td>
<td>28.6</td>
</tr>
<tr>
<td>Usually not</td>
<td>80</td>
<td>34.3</td>
<td>69</td>
<td>29.6</td>
<td>54</td>
<td>23.2</td>
</tr>
<tr>
<td>Totals</td>
<td>86</td>
<td>24.9</td>
<td>87</td>
<td>25.2</td>
<td>86</td>
<td>24.9</td>
</tr>
</tbody>
</table>

The first two observations from Table 29 are as expected, albeit of lesser import in terms of numbers. But it is hard to reconcile the number of vendors who claim to price competitively with the data in Table 30. In this latter table, 112 vendors considered price as the key variable...
in obtaining contracts, indicative of a strong price orientation. Moreover, of the 112, 78.6 percent resided in quartiles 3 and 4, indicating that the price orientation is especially heavy among Blanket Contractors. From these data, it may be conjectured that the 83 percent claiming (in Table 29) to stay competitive may be overstated, i.e. it is possible that a continuing price war among Blanket Contractors could be waged under the guise of competitive pricing. The logic is simple. When bids for a year's Blanket Contract are opened, there can be only one winner for a class of items. Those who have overbid recognize that next year's bid must be lower, if they are to meet the competition and win the contract. Such bidding thus fosters an intense form of price competition that is difficult to break out of. Even though the long-run trend in prices may be rising, this intensive and continuing competitive bidding has the short-term effect of creating a downward or dampening effect on prices.

The Trust Generated by the Relationship

The price orientation of the Blanket Contract can be a destructive force between vendor and customer as the distributor gets forced into contracts that he cannot easily live with. The mutual trust and faith upon which Systems Contracts are built is not always present in the Blanket Order situation. The responses to a question on the nature of the vendor-customer relationship are presented in Table 31.

One hundred percent of those in quartile 1 (Table 31) feel that their relations with customers are based on faith and trust, as compared to 77.9 percent in quartile 4. Generally, it is interesting to note that 91.6 percent of the Systems vendors overall thought of their
customer relations in a positive light. This is indicative of a growing understanding between channel entities that will facilitate even greater cooperation in the future.

TABLE 31
THE VENDOR-CUSTOMER RELATIONSHIP

<table>
<thead>
<tr>
<th>Is the relationship one of cooperation, faith and trust?</th>
<th>Profile Quartiles</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>Yes, usually</td>
<td>86</td>
<td>100.0</td>
<td>86</td>
<td>97.7</td>
<td>79</td>
</tr>
<tr>
<td>Usually not</td>
<td>0</td>
<td>0.0</td>
<td>2</td>
<td>2.3</td>
<td>8</td>
</tr>
<tr>
<td>Totals</td>
<td>86</td>
<td>100.0</td>
<td>88</td>
<td>100.0</td>
<td>87</td>
</tr>
</tbody>
</table>

Conclusion to Profile Analysis

In response to research question two, the purpose of the preceding analysis has been to describe the overall differences between the major alternatives in Systems Selling. To facilitate the analysis, a twenty item test of Systems approach was administered in the questionnaire, based upon the structural characteristics uncovered in the secondary research. By summing the item scores on the test, each respondent attained a total score that gave a reliable and valid measure of his Systems Selling technique. Vendors were then grouped into four Systems Selling classifications or quartiles, each of which represents a reasonable approximation of the major available alternatives.

By comparing the first (Systems Contracting) and fourth (Blanket Contracting) quartile groupings, significant differences were found to
exist, as was the expectation, for many of the submeasures. Additionally, a major finding from the analysis is the impact being made by truly Mixed Systems, that is, those combining elements of the extreme approaches. That significant numbers of vendors do blend aspects of both Systems Contracting and Blanket Ordering is attested to by the relatively high measures of central tendency for the raw profile scores (mean = 45.539, median = 45.905, mode = 47), given the range of 23 to 58. Moreover, the frequency distributions in the tables point to this as well. While the discussion has centered on comparing Systems Contracting and Blanket Ordering, the impact of the Mixed System cannot be ignored and is herewith recognized.

Of the 20 questions in the test, a certain number were less discriminatory than others in predicting differences between Systems Contracting and Blanket Ordering. A review of Tables 22, 29, and 31 show in each case a very high concentration about one of the responses. While some information is attainable from these tables, they are nevertheless probably the least representative of real differences between the approaches. Another characteristic, not discussed in the analysis but included in the test, can also be considered a marginal submeasure: the duration of adherence to the original contract price structure. Rapid inflation and short supplies have apparently enabled vendors to win some pricing concessions from customers, especially the ability to renew contract prices on occasion. Obviously a hedge against inflation, there is a marked trend toward incorporating escalator clauses in nearly all contracts, making it quite difficult to differentiate between approaches on the basis of adherence to original prices.
Even with these limitations, the composite profile quartiles developed for this analysis yield quite accurate approximations of Systems type. Despite an occasional non-discriminating question, there is a high level of internal consistency among the responses as shown by a coefficient alpha of 0.746. Given the fact that no prior measures of System type have been attempted, a perfect measure cannot be expected of this research. A reasonably representative measure can be expected, however, and the profile quartiles have been shown to be sufficiently valid. Therefore, these indicators are deemed acceptable within the framework of the limitations to this initial exploratory study of Systems Selling.

The profile quartiles so developed will henceforth be used as the basic unit of analysis for the further comparison of Systems performance, managerial attitudes, vendor capabilities, and advantages and disadvantages. Chapter V will therefore be addressed to these considerations as specified by research questions three through seven.
CHAPTER V

ANALYSIS AND INTERPRETATION OF THE DATA: II

The Relative Operating Performance of Systems Selling Alternatives

Raw Performance Scores

In response to research question three, indications or estimates of recent operating performance of Systems and nonsystems accounts were collected in the questionnaire through the use of the matrix described in Chapter III. The matrix specified six indicators as follows:

(1) Gross Sales
(2) Gross Margins
(3) Stock Turnover
(4) Return on Investment
(5) Account Expenses
(6) Number of New Accounts

Space was also left for respondents to add other measures of their choice. None did so, giving a good indication that the above measures were reasonably appropriate for estimating performance.

Each indicator was followed by a seven point scale. The scale values were labelled as follows:

<table>
<thead>
<tr>
<th>Increases</th>
<th>Decreases</th>
</tr>
</thead>
<tbody>
<tr>
<td>50%+</td>
<td>20-49%</td>
</tr>
<tr>
<td>1-19%</td>
<td>no change</td>
</tr>
<tr>
<td>1-19%</td>
<td>20-49%</td>
</tr>
<tr>
<td>50%+</td>
<td></td>
</tr>
</tbody>
</table>

The values to the left of the middle position denoted increases or growth, those at right indicated decreases or declines. Respondents
were directed to check the scale position which best represented the amount of growth or decline experienced by each indicator over the life of their Systems program, the first two years excluded. Since all measures were assumed to be equally important for the purposes of this study, it was again possible to assign point values to each scale position, in order that such points could be summed into raw performance scores. With the exception of the Account Expenses indicator, points were allocated in decreasing 3 point intervals from 18 (50%+ increase) to 0 (50%+ decrease). The Account Expenses indicator was scored in reverse.

Raw performance scores were then obtained by summing the point values for the six indicators, for a maximum possible score of 108 (6 x 18). The actual range of raw score values was 18 to 90, indicating wide variability in overall performance. Since a score of 9 was awarded to each "no change" response, a mean raw score of 6 x 9 = 54 was indicative of indifferent performance. For the group of 243 respondents, the actual mean score was 65.29, with a median equal to 65.23 and a mode of 66, indicating the generally favorable overall performance of Systems accounts.

As before, the summated raw scores were ranked in descending order and grouped into equal quartiles and thirds. The point of such grouping was to facilitate meaningful analysis of overall operating performance while avoiding the necessity of discussing several individual tables with repetitious results. Since the sum-
mated raw scores had a coefficient alpha value of .724, it was decided that the quartiles represented a simple, reliable, and valid way in which broad trends could be discussed without being obscured by a maze of data. Nevertheless, component measures of performance are considered where such analysis adds clarity or significance to the overall trends being described.

Results of the Analysis of Operating Performance

The six measures of Systems account performance were analyzed by crosstabulating the profile quartiles against each individual measure and the summated performance scores in quartile form. Broadly, significant differences in operating performance were found to occur between the four profile groupings. These differences are summarized in Table 32. In profile quartile 1 (row 1), 80.3 percent of the respondents rank in the top two performance quartiles. Conversely, in terms of profile quartile 4, 78.9 percent rank in the bottom two performance quartiles. The observed cell differences are highly significant statistically. Further, from a visual interpretation of the row trends, it appears that the overall performance of Systems Contracts is substantially better than that of Blanket Orders.

The individual measures which contributed most significantly to the overall differences noted above were gross sales, gross margins, and return on investment. In terms of gross sales, 70.2 percent of those in the top profile quartile claimed that Systems sales had increased by at least 20 percent. By contrast, only 22.8 percent of
those in the fourth profile quartile could make this claim. The increase in gross margins was not as dramatic, but still the Systems Contractors outperformed the Blanket Contractors. In an area traditionally quite stable, 61.2 percent of those in profile quartile 1 registered increases, with 19.4 percent achieving gains of better than 20 percent. Only 23.6 percent of those in the fourth profile quartile made any gains at all, and only 3.5 percent indicated that their margins had increased by more than 20 percent. In fact, fully 31.6 percent of those in the fourth profile quartile claimed that margins had decreased.

In view of the divergencies between Blanket Ordering and Systems contracting as noted above, it is no surprise to see major differences
in the trends in return on investment. Any increase in ROI is meaningful to industrial distributors, and it appears that Systems Contractors have benefited most. Fully 81.8 percent of those in the top profile quartile registered increases, with almost 23 percent showing gains of better than 20 percent. By contrast, only 36.3 percent of those in the fourth profile quartile showed any increases, with but 3.6 percent indicating ROI increases of better than 20 percent.

In every other performance category the Systems Contractors outperformed the Blanket Contractors, although the gains were not so dramatic. These trends in performance serve to substantiate what was concluded earlier about the nature of the two major Systems Selling alternatives. Overall, the wider scope of the Systems Contract coupled with the need to charge higher prices probably contributes to increasing sales, margins, and ROI. Stock turn will increase as long as sales increases are greater than the increase in inventories. Account expenses fall as billing procedures become standardized and less frequent. Finally, since reordering is automatic under a Systems Contract, there is less need for frequent repeat calls by commission-compensated salesmen. Increases in the number of new accounts also results, since Systems are more aggressively sold by the vendor. Further, buyers are often eager to take advantage of the benefits of the arrangement.

It is worthwhile to consider the comparative differences between the performance of Systems accounts and nonsystems accounts. Not only do the nonsystems accounts provide a meaningful indicator of normal growth, they also yield a natural comparative basis for which the efficacy of any particular Systems arrangement might be judged.
In Table 33 the mean performance scores for both Systems and nonsystems (regular) accounts are presented. The major groups compared are profile quartiles 1 and 4, and all six measures are considered.

Examining the grand mean scores for all respondents, it appears that nonsystems accounts performed slightly better than did Systems accounts. One might therefore tentatively conclude that Systems Selling programs in general make but marginal contributions to the firm, with the distinct possibility that such programs may even have a negative effect on overall operating performance. It would seem from these data that the small gains to be had (if any) are hardly worth the extra effort and concessions required, and that vendors may be better off dealing with customers in the conventional way.

The performance of the vendors in profile quartile four would support this contention. Overall, their Systems accounts fared rather poorly in comparison to nonsystems accounts, the mean scores for the latter exceeding those of the former for each of the six measures. On the other hand, quite a different picture emerges upon examination of the mean scores of vendors falling into profile quartile one. In every case, the mean scores for the Systems accounts exceed those of the nonsystems group. These data not only tend to confirm the results described earlier, they also have much relevance for vendors considering entry into the arena of Systems Selling. In essence, it appears that Systems Contracting arrangements have the most to offer in the way of successful performance, especially with regard to increases in sales, gross margins received, and return on investment. Blanket Contracts, on the other hand, were unable even to equal the performance of
### TABLE 33

**MEAN PERFORMANCE SCORES: SYSTEMS AND NONSYSTEMS ACCOUNTS**

<table>
<thead>
<tr>
<th>Performance Measures</th>
<th>Overall Mean Scores (all respondents)</th>
<th>Mean Scores: Profile Quartile 1 respondents</th>
<th>Mean Scores: Profile Quartile 4 respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Systems Accounts</td>
<td>Nonsystems Accounts</td>
<td>Systems Accounts</td>
</tr>
<tr>
<td>ment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accounts</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
"regular" (nonsystems) accounts, being especially deficient in the areas of gross margins and return on investment.

Conclusion to Performance Analysis

All of this tends to substantiate what is known already about the two major forms of Systems Selling. It is logical to expect greater success in operating performance from Systems Contracts, because the very nature of the concept is designed to be profitable to both vendor and customer. It is significant that gross margins received under these contracts appear to be a great deal larger than those granted the Blanket Contractors, indicating that pricing does play a major role in negotiating the concept. In this vein, substance is lent to the notion that Blanket Contracts result in a downward competitive pressure on prices, while Systems Contracts do not. Such was the preliminary conclusion of the preceding chapter.

With respect to research question three, it does appear that a greater degree of success can be expected from Systems which closely approximate the Systems Contracting prototype. Major competitive gains can be made in the areas of sales, margins, ROI, and reductions in account expenses. Alternatively, the performance of those defined as Blanket Contractors cannot be expected to be so favorable, primarily because the nature of the approach is slanted in favor of the buyer rather than the seller. Vendors who are willing to acquiesce to customer price demands must ultimately suffer.

Because of the variability in the nature of the major approaches and their relative performance, it is not unusual that vendor attitudes show some marked differences. The results of the measurement of
managerial attitudes follows in response to research question four.

The Attitudes of Vendor Management

Raw Attitude Scores

Contained within the questionnaire were 10 seven-point semantic differential scales, designed to measure top management satisfaction with and commitment toward the Systems Selling concept. All scales were designed for this study, based upon analyses of the twenty preliminary interviews. Each of the scales referred to the particular Systems Selling program of the respondent, and included the following factors:

1. greatly beneficial to us - not at all beneficial to us
2. declining rapidly - growing rapidly
3. helped by customers' understanding - hurt by customers' lack of understanding
4. ideally suited to us - not suited to us at all
5. making us lose accounts - helping us gain accounts
6. intelligently designed - poorly designed
7. outdoing our competitors - not as good as our competitors
8. a meaningless part of our firm - a dynamic part of our firm
9. something we do not believe in - something we are totally committed to
10. totally satisfactory - totally unsatisfactory

The data obtained from these scales were converted into raw attitude scores using the following scoring system:

1. All 10 indications for each respondent were given a numerical value by assigning the least favorable position on the scale a value of 1, the next least favorable a value of 2, etc., the most favorable
value being assigned a 7.

2. The 10 values for each vendor were then summed to yield the overall raw attitude score for that vendor.

The justification of using summated scores from the semantic differential is that, like the other summated scores, they provide conceptual simplicity and brevity in the analysis of attitudinal data. The legitimacy of the summing concept is shown by Barclay and further substantiated for use in this study by a coefficient alpha of .93, indicating a very strong intercorrelation between the responses of any given vendor.

The theoretical range for such scores, given 10 scales with values from 1 to 7, is 10 to 70. In fact, the scores ranged from 11 to 70, indicating great variability in the overall attitudes toward Systems Selling. With 332 respondents, the distribution had a mean of 48.190, and a median of 47.90. Overall, it appears that Systems Selling is perceived in but a moderately favorable light, since a mean score of 40 can be interpreted to mean indifference.

Results of the Analysis of Attitudes

The raw attitude scores have been ranked in descending order and broken into equal thirds for purposes of analysis. Thirds were used instead of quartiles so that cell sizes could be generated that would permit a meaningful calculation of the Chi square statistic. The top third thus represents that group of vendors with the most favorable attitudes overall. A summary of the attitude thirds as

crosstabulated by profile quartiles is presented in Table 34.

TABLE 34
PROFILE QUARTILES BY ATTITUDE THIRDS

<table>
<thead>
<tr>
<th>Profile Quartiles</th>
<th>Attitude Thirds</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 %</td>
<td>2 %</td>
</tr>
<tr>
<td></td>
<td>No.</td>
<td>No.</td>
</tr>
<tr>
<td>1 (Systems Contracts)</td>
<td>62 56.4</td>
<td>17 15.3</td>
</tr>
<tr>
<td>2</td>
<td>30 27.3</td>
<td>34 30.6</td>
</tr>
<tr>
<td>3</td>
<td>17 15.5</td>
<td>31 27.9</td>
</tr>
<tr>
<td>4 (Blanket Orders)</td>
<td>1 0.9</td>
<td>29 26.1</td>
</tr>
<tr>
<td>Totals</td>
<td>110 100.0</td>
<td>111 100.0</td>
</tr>
</tbody>
</table>

Chi square = 119.2776 (d.f. = 6), p = 0.000.

As was the case for the performance scores, the attitude thirds indicate that substantial differences exist between Systems Contracting and Blanket Ordering. The top third is dominated (83.7 percent) by vendors falling into profile quartiles 1 and 2. Conversely, the lower attitude third obtains 76.4 percent of its members from the lower two profile quartiles. The observed differences are highly significant, and from a managerial perspective it does appear that distributors who most closely approximate the Systems Contracting prototype are substantially more satisfied with their approach than are vendors with other types of Systems.

Examination of the mean scores of the highest and lowest profile
quartiles points out the areas of greatest disparity. Figure 2 is an overall profile conception of the 10 item scales in terms of mean attitude scores. The least favorable positions are to the left and the most favorable are to the right, for ease in comparing the profile quartile mean scores. In the questionnaire, these positions were randomly interchanged.

Again it is readily obvious that those in profile quartile 1 (Systems Contractors) enjoy more positive attitudes in every case than do those in profile quartile 4 (Blanket Contractors). This quite possibly reflects the substantially better performance exhibited by those in quartile 1, as pointed out in the last section. In only two of the scales are the groups in relatively close agreement. With respect to growth, it appears as if Systems Selling programs have stabilized somewhat, as evidenced by a mean score of 4.704. The apparent slow rate of growth is probably due to the fact that most Systems are by now somewhat familiar to buyers and sellers, with most interested parties already involved. New growth is difficult to achieve with a concept that is either highly praised or strongly criticized. Further, it is evident from item 3 (mean = 4.617) that customers frequently do not understand the concept. This lack of understanding plus the scope and magnitude of Systems Contracts make them difficult to sell, and this in turn impedes new growth.

Aside from these two factors, there was little attitudinal agreement between the vendors in the two quartiles. The greatest differences of opinion were with respect to system benefit, suitability, design, and commitment. Systems Contracts apparently are more
profile 1

overall mean, profile 1 = 5.783
overall mean, profile 4 = 3.945
mean of all respondents = 4.841
number of respondents = 165

Fig. 2. Mean Attitude Scores of First and Fourth Profile Quartiles.
beneficial than Blanket Contracts, again reflecting differences in operating performance as noted earlier. The poor showing of Blanket Contractors quite naturally leads these vendors to conclude that such programs are unsuitable, poorly conceived, and hence of only marginal value to the firm. Part of the problem may be that Blanket Contracts are frequently buyer-initiated. Not being of the seller's own design, they can hardly be expected to be suitable to his operations, and deteriorating performance would certainly erode commitment. Quite the reverse is true of the typical Systems Contract, since the seller has in many cases designed the System, thereby avoiding many of the Blanket Contract's problems. The general truth of this is apparent from the entire 10 scale measure.

In response to research question four, it is concluded that 1) vendor attitudes toward the Systems Selling concept differ significantly between users of Systems Contracting and Blanket Ordering, and 2) the degree of satisfaction experienced by users of Systems Contracting is substantially greater than that experienced by users of Blanket Ordering.

Alternative Methods of Analysis: The Relationship Between Vendor Attitudes and Performance

In the preceding section some inferences about the relationship between attitude and performance have been offered, highlighted by table displays. Intuitively, it appears logical that attitudinal differences would stem from differences in performance, but the direction of causation cannot be known with certainty. It is equally likely that preconceived vendor attitudes are the independent variables
upon which resultant performance depends. Should there be negative predispositions toward the efficacy of a particular approach, the result may be a half-hearted effort which could undermine performance from the start.

In order to supplement prior discussions of performance and attitude, the following section is presented, using discriminant analysis to determine which of the ten semantic differential factors (attitudinal variables) distinguish best between "good" performance and "poor" performance. The section is intended to be an illustration of an alternative method of analysis, and it should not be considered as comprising a part of the main discussion of the findings as presented to this point. Its purpose is simply to show that much of the data could be analyzed using alternative statistical procedures.

The section contains two parts: a description of the discriminant analysis technique, followed by the presentation of the actual results of the analysis.

**The Technique of Discriminant Analysis**

Discriminant analysis attempts to predict a subject's group membership on the basis of a set of independent variables. In addition to this group classification task, the analysis can identify which of the variables discriminate well between groups. Green and Tull note that linear discriminant analysis is an appropriate predictor technique for analyzing associative data when the groups are nominally scaled and independent variables are interval-scaled. Specifically,

---

the objectives of discriminant analysis are as follows:

1. Testing whether significant differences exist among the average "score" profiles of two or more a priori defined groups.

2. Determining which variables account most for such inter-group differences in average profiles.

3. Finding linear combinations of the predictor (independent) variables that enable the analyst to represent the groups by maximizing among-group relative to within-group separation.

4. Establishing procedures for assigning new individuals whose profiles, but not group identity, are assumed to be from one of the a priori defined groups.

In the two-group case, the analysis begins by calculating a discriminant function that is a linear combination of the original score values of the independent variables. The function expresses the multivariate group profiles as single numbers, thus condensing the information about group separability into a set of points on a single axis (the discriminant function).

The general notation for the discriminant function is:

\[ Z_i = b_0 + b_1 X_{i1} + b_2 X_{i2} + \ldots + b_n X_{in} \]

where \( Z_i \) = the \( i \)th vendor's discriminant score, \( b_j \) = the discriminant coefficient for the \( j \)th variable, and \( X_{ji} \) = the \( i \)th vendor's value on the \( j \)th independent variable.\(^3\) The \( X_{ji} \) independent values in this research are the factor measurements on the attitude variables obtained from the 10 seven-point scales.

The classification procedure in this (two-group) case is as


\[^4\]Much of the following discussion is based upon Donald G. Morrison, "On the Interpretation of Discriminant Analysis," Journal of Marketing Research 6 (May, 1969):156-163.
follows:

a) if $Z_i > Z_{\text{critical}}$, classify vendor $i$ as belonging to Group I.

b) if $Z_i < Z_{\text{critical}}$, classify individual $i$ as belonging to Group II.

In such a case, $Z_{\text{critical}}$ is represented by a straight line. The same type of analysis can be generalized to the $n > 2$ case. When $n = 3$, the classification boundary is a two-dimensional plane in three-dimensional space; the classification boundary is generally an $n - 1$ dimensional hyperplane in $n$ space.

Discriminant analysis allows for an interpretation of the relative effect of each of the independent variables. Assuming that scale values are standardized, then if $b_j > b_k$, it can be concluded that variable $X_j$ is a better discriminator between Groups I and II than variable $X_k$. The more a variable affects $Z_i$, the better it discriminates.\(^5\)

Measures such as the Mahalanobis $D^2$ and Wilks Lambda can be used to test the statistical significance of differences between the groups. However, Morrison notes that these measures suffer the same drawbacks as all classical tests of hypotheses; that is, statistical significance can accrue between virtually identical sample means, given large enough sample sizes.\(^6\) Therefore, a more meaningful analysis of the discriminant function would be its ability to correctly classify vendors. A confusion matrix or classification table can be constructed as follows, to compare actual versus classified vendors:

\(^5\)Ibid., p. 159.  \(^6\)Ibid., p. 157.
Cell entry $n_{ij}$ is the number of individuals who are classified in quartile $j$ but are actually in quartile $i$. Therefore, the percentage correctly classified is $(n_{11} + n_{22})/n$. Assessment of the function's classificatory efficacy can then be provided by determining whether a significant difference exists between the actual percentage correctly classified and the percentage correctly classified by chance alone ($C_{pro}$). Using the confusion matrix, $C_{pro}$ can be calculated as follows:

$$C_{pro} = \frac{(n_{11} + n_{12})^2 + (n_{21} + n_{22})^2}{(n_{11} + n_{12} + n_{21} + n_{22})^2}$$

Frank, Massy, and Morrison, Morrison, and Aaker have all noted that an upward bias exists in many computer programs with respect to the confusion matrix. That is, when the analysis uses data on $n$ observations to calculate the set of discriminant coefficients, and then classifies these same $n$ observations with this function, there will tend to be more correct classifications than the discriminant

---


10 Aaker, p. 115.
function is capable of delivering. Normally a split-half procedure would be used to control this bias. Such a procedure splits the sample into two parts, one for analysis and the other for validation. Bias is reduced since the classification table is generated using a different subsample from that used to derive the set of discriminant coefficients. In the analysis that follows, the sample sizes within the two groups were considered to be somewhat small for a meaningful application of the split-sample technique. While some upward classification bias does therefore remain, it is not considered to be a major liability in terms of the purposes of the illustration.

Results of Discriminant Analysis of Attitudinal Variables

Given the assumed interval nature of the 10 semantic differential scales, a two-group discriminant analysis was performed in order to (1) predict which performance group (quartile 1 vs. quartile 4) a vendor belongs to, using the scores on the 10 scale factors as discriminating (independent) variables, and (2) assess which of the variables discriminate well between the performance quartiles. If, in fact, performance does depend on attitude, then there should be a commonality of attitude among vendors in a given performance group. If the discriminant function results in few misclassifications, then the performance quartiles can indeed be said to be dissimilar in terms of attitude. As indicated in Table 35, there are obvious differences in the mean ratings for each scale factor across the two groups.

\[\text{\textsuperscript{11}Ibid.}\]
TABLE 35
MEAN RATINGS ON TEN ATTITUDE SCALE FACTORS
FOR PERFORMANCE QUARTILES 1 AND 4

<table>
<thead>
<tr>
<th>Attitude Scale Factors</th>
<th>Performance Quartile 1</th>
<th>Performance Quartile 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Amount of benefit</td>
<td>6.180</td>
<td>3.583</td>
</tr>
<tr>
<td>2. Perceived growth</td>
<td>5.311</td>
<td>3.950</td>
</tr>
<tr>
<td>3. Helped by understanding</td>
<td>5.016</td>
<td>3.933</td>
</tr>
<tr>
<td>4. Suitability to vendor</td>
<td>5.836</td>
<td>3.750</td>
</tr>
<tr>
<td>5. Helping to gain accounts</td>
<td>5.934</td>
<td>4.050</td>
</tr>
<tr>
<td>6. Intelligently designed</td>
<td>5.819</td>
<td>3.550</td>
</tr>
<tr>
<td>7. Outdoing competitors</td>
<td>5.885</td>
<td>4.200</td>
</tr>
<tr>
<td>8. Dynamic part of firm</td>
<td>5.819</td>
<td>3.683</td>
</tr>
<tr>
<td>9. Degree of commitment</td>
<td>5.868</td>
<td>3.516</td>
</tr>
<tr>
<td>10. Degree of satisfaction</td>
<td>5.803</td>
<td>3.850</td>
</tr>
</tbody>
</table>

Given these two performance groups, the BMD07M stepwise discriminant analysis program was used to perform the analysis.\(^{12}\) This program computes a discriminant function in a stepwise fashion. Variables are entered singly on the basis of the significance of their contributions in accounting for among-group relative to within-group variation. The most discriminating variable is entered first and so on, until all discriminating variables that exceed certain control values are included. A variety of discriminant functions can be constructed based on few or all of the predictor variables.

Table 36 is a summary of the output for the two-group discriminant analysis using the 10 attitude scale factors as the predictor variables. The two groups resulted in a single function, which accounts for all of the discriminative power.

TABLE 36
SUMMARY OUTPUT FOR DISCRIMINANT ANALYSIS ON ATTITUDE SCALE FACTORS FOR PERFORMANCE QUARTILES 1 AND 4

<table>
<thead>
<tr>
<th>Factor</th>
<th>Discriminant Function-Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Amount of benefit</td>
<td>-0.4284</td>
</tr>
<tr>
<td>2. Perceived growth</td>
<td>-0.0277</td>
</tr>
<tr>
<td>3. Helped by understanding</td>
<td>0.1829</td>
</tr>
<tr>
<td>4. Suitability to vendor</td>
<td>0.1848</td>
</tr>
<tr>
<td>5. Helping gain accounts</td>
<td>-0.5345</td>
</tr>
<tr>
<td>6. Intelligently designed</td>
<td>-0.2879</td>
</tr>
<tr>
<td>7. Outdoing competition</td>
<td>0.0264</td>
</tr>
<tr>
<td>8. Dynamic part of firm</td>
<td>0.1630</td>
</tr>
<tr>
<td>9. Degree of commitment</td>
<td>-0.0865</td>
</tr>
<tr>
<td>10. Degree of satisfaction</td>
<td>-0.0792</td>
</tr>
</tbody>
</table>


The order in which the variables were entered and their associated $F$ ratios and $U$-statistics are shown in Table 37. The entry and exit of variables were controlled at the .01 and .005 levels of significance, respectively. All 10 variables were significant at these tolerance levels to be included in the function.

For this analysis, the significance of the discriminant function (Table 36) in differentiating between the two groups is best assessed in terms of its ability to correctly classify vendors on the basis of their attitude scores. The matrix in Table 38 presents the classification of vendors by the function.

The cell entries in Table 38 represent the number of subjects by their respective actual quartiles as they were classified by the discriminant function. The entries on the diagonal represent correctly
classified vendors. In this case, 87.6 percent of the vendors were correctly classified. A t test was applied to test the significance of the observed difference between the percentage correct and \( C_{pro} \). Given a \( t = 8.17 \) (d.f. = 120), it is determined that the percentage of vendors correctly classified is significantly different (\( p < .001 \)) from the chance probability of 50 percent.

**TABLE 37**

**OUTPUT OF STEPWISE DISCRIMINANT ANALYSIS**

<table>
<thead>
<tr>
<th>Step Number</th>
<th>Variable Entered</th>
<th>F value to Enter</th>
<th>Degrees of Freedom</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Amount of benefit</td>
<td>100.482</td>
<td>1;119</td>
</tr>
<tr>
<td>2</td>
<td>Helping to gain accounts</td>
<td>10.538</td>
<td>1;118</td>
</tr>
<tr>
<td>3</td>
<td>Intelligently designed</td>
<td>6.173</td>
<td>1;117</td>
</tr>
<tr>
<td>4</td>
<td>Helped by understanding</td>
<td>3.018</td>
<td>1;116</td>
</tr>
<tr>
<td>5</td>
<td>Suitability to vendor</td>
<td>1.565</td>
<td>1;115</td>
</tr>
<tr>
<td>6</td>
<td>Dynamic part of firm</td>
<td>0.489</td>
<td>1;114</td>
</tr>
<tr>
<td>7</td>
<td>Degree of commitment</td>
<td>0.448</td>
<td>1;113</td>
</tr>
<tr>
<td>8</td>
<td>Degree of satisfaction</td>
<td>0.164</td>
<td>1;112</td>
</tr>
<tr>
<td>9</td>
<td>Outdoing competitors</td>
<td>0.037</td>
<td>1;111</td>
</tr>
<tr>
<td>10</td>
<td>Perceived growth</td>
<td>0.040</td>
<td>1;110</td>
</tr>
</tbody>
</table>

*F value for entry = .01; for exit = .005.*

Table 39 is a normalized version of Table 38, in which the cell entries have been divided by the respective row totals. These entries represent the percentage distribution of vendor classifications. For example, 91.8 percent of the vendors actually in quartile 1 were correctly classified, with only 8.2 percent being misclassified into quartile 4.
TABLE 38
CLASSIFICATION OF VENDORS BY DISCRIMINANT ANALYSIS

<table>
<thead>
<tr>
<th>Classified</th>
<th>Quartile 1</th>
<th>Quartile 4</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actual</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quartile 1</td>
<td>56</td>
<td>5</td>
<td>61</td>
</tr>
<tr>
<td>Quartile 4</td>
<td>10</td>
<td>50</td>
<td>60</td>
</tr>
</tbody>
</table>

\[ C_{pro} = \text{proportion correctly classified by chance} = \frac{(a_{11} + a_{12})^2 + (a_{21} + a_{22})^2}{(a_{11} + a_{12} + a_{21} + a_{22})^2} = .50. \]

\[ \text{Percentage Correct} = \frac{a_{11} + a_{22}}{n} = .876 \]

\[ t = \sqrt{C_{pro} (1 - C_{pro})} = 8.17^* \]

\[ \sqrt{n} * \text{Significant at } p < .001. \]

TABLE 39
NORMALIZED CLASSIFICATION MATRIX OF VENDORS BY DISCRIMINANT ANALYSIS

<table>
<thead>
<tr>
<th>Classified</th>
<th>Quartile 1</th>
<th>Quartile 4</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actual</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quartile 1</td>
<td>.918</td>
<td>.082</td>
<td>100%</td>
</tr>
<tr>
<td>Quartile 4</td>
<td>.166</td>
<td>.833</td>
<td>100%</td>
</tr>
</tbody>
</table>

While some upward bias undoubtedly exists in Tables 38 and 39 (the program used all the observations to calculate the discriminant function and then classified these same vendors with the function), the small size of the sample precluded a meaningful split-sample
classification. While this bias is recognized, it is not considered to be detrimental to the illustrative results obtained in this example.

In order to gain greater appreciation of the relative importance of each attitude scale factor insofar as discrimination between "good" and "poor" performance is concerned, it is necessary to consider the scale factors individually. Since the absolute values of the discriminant function coefficients (Table 36) indicate the relative value of each scale factor in predicting performance, an ordering of these coefficients will show which factors have the greatest effect in the discrimination process. Normally these coefficients would be standardized before being compared for relative importance; in this case, the standard deviations of the 10 variables are roughly equal. The ordering from the absolute coefficient values is the same as would be obtained from standardized coefficients. Table 40 presents the ordered scale factors.

TABLE 40

ORDERED SCALE FACTORS AS A FUNCTION OF THE ABSOLUTE VALUE OF THE DISCRIMINANT COEFFICIENTS

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Helping to gain accounts</td>
</tr>
<tr>
<td>2.</td>
<td>Amount of benefit</td>
</tr>
<tr>
<td>3.</td>
<td>Intelligently designed</td>
</tr>
<tr>
<td>4.</td>
<td>Suitability to vendor</td>
</tr>
<tr>
<td>5.</td>
<td>Helped by understanding</td>
</tr>
<tr>
<td>6.</td>
<td>Dynamic part of firm</td>
</tr>
<tr>
<td>7.</td>
<td>Degree of commitment</td>
</tr>
<tr>
<td>8.</td>
<td>Degree of satisfaction</td>
</tr>
<tr>
<td>9.</td>
<td>Perceived growth</td>
</tr>
<tr>
<td>10.</td>
<td>Outdoing competitors</td>
</tr>
</tbody>
</table>
It appears that the three most discriminating factors are the extent to which the System helps the vendor gain accounts, the degree to which the System is perceived as beneficial, and the design of the System. The System's suitability to the vendor and the extent to which its functioning is helped by customer understanding are also important. Thereafter, the discriminatory power of the remaining predictor variables falls off rapidly.

To summarize, this illustrative example of discriminant analysis has accomplished two purposes: (1) the function derived has found those attitudinal characteristics which discriminate best between "good" and "poor" performance, and (2) the function has classified the known vendors in this sample quite well, as shown by the fact that the percentage correctly classified in the confusion matrix is significantly greater than the proportion correctly classified by chance alone. From this it can be concluded that performance quartiles 1 and 4 are indeed dissimilar in terms of vendor attitudes.

Conclusion

This illustrative example using discriminant analysis was presented in order to show the general applicability of more sophisticated techniques in the analysis of the data. Nonetheless, discriminant analysis is not used in the discussion of the remainder of the findings. In view of the purposes and the exploratory design of this study, the general use of sophisticated techniques was deemed to be premature. Instead, table display relationships incorporating percentage comparisons and basic statistics were judged to be more appropriate for assessing the managerial significance of the results. It was
therefore decided that more sophisticated methods of analysis should be reserved for future studies that would serve as logical and necessary extensions of the present effort.

**The Role of Vendor Capabilities**

This section attempts to clear up some of the confusion surrounding the necessary prerequisites for a successful Systems operation. In this context, it is relevant to determine whether the more successful approaches are premised upon certain differential advantages not equally shared by all distributors. In response to research question five, the following analysis therefore centers about a discussion of the relationship between measures of System type (profile quartiles and thirds) and measures of capability. A discussion of the direct correlates of high levels of success and satisfaction is then presented in response to research question six.

**Raw Capability Scores**

An overall measure of Systems capability was derived by summing the item scores for seven key variables. These variables were selected on the basis of a thorough analysis of the interview findings, and together they provide an approximation of a vendor's sophistication and capability as a Systems Seller. They included:

1. The number of years of Systems involvement.
2. The number of special Systems services.
3. The number of Systems specialists employed.
4. The extent of System computerization.
5. The extent of automated requisitioning.
6. Total gross sales (a measure of size).

7. The number of product lines carried.

Because of the nature of these questions, the responses varied from the dichotomous to multiple-response answers. More points were allocated for responses indicative of a more extensive or significant involvement, with one exception. In terms of the number of lines carried, the preliminary research showed it to be a liability where such lines were greater in number than those of a specialist, but fewer in number than those of a general-line house. Hence, the decision was made to allocate 3 points each to vendors with three lines or less (specialists) or 10 lines or more (general-line houses). Those with 4 to 9 lines (limited-line vendors) received 1 point for purposes of scoring this question.

Summing each respondent's item scores on the seven capability questions yielded total raw scores ranging from 8 to 30 (mean = 16.628, median = 15.643). After ranking the scores in descending order, the distribution was broken into equal quartiles and thirds for purposes of analysis. Therefore, the respondents whose scores place in the top (or highest) quartile or third possess the greatest degree of Systems capability.

For the majority of the remaining discussion, both the profile and capability thirds are used as the central units of analysis. This was due to the fact that cell sizes often proved to be too small when the data were presented in quartile form. Since both thirds and quartiles were derived from each of the distributions of ranked raw scores, it was logical to collapse tables in this manner where necessary.
Results of Capability Analysis

Generally it is to be expected that a relationship should exist between overall capabilities and System type, primarily because sophistication in Systems offering is logically premised upon extensive facilities and experience. The overall validity of this expectation is clearly evident in Table 41.

| TABLE 41 |
| PROFILE QUARTILES BY CAPABILITY THIRDS |

<table>
<thead>
<tr>
<th>Profile Quartiles</th>
<th>Capability Thirds</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>1 (Systems Contracts)</td>
<td>61</td>
<td>52.6</td>
<td>18</td>
<td>15.7</td>
<td>7</td>
</tr>
<tr>
<td>2</td>
<td>33</td>
<td>28.4</td>
<td>28</td>
<td>24.3</td>
<td>27</td>
</tr>
<tr>
<td>3</td>
<td>14</td>
<td>12.1</td>
<td>41</td>
<td>35.7</td>
<td>32</td>
</tr>
<tr>
<td>4 (Blanket Orders)</td>
<td>8</td>
<td>6.9</td>
<td>28</td>
<td>24.3</td>
<td>50</td>
</tr>
<tr>
<td>Total</td>
<td>116</td>
<td>100.0</td>
<td>115</td>
<td>100.0</td>
<td>116</td>
</tr>
</tbody>
</table>

Chi square = 101.1245 (d.f. = 6), p = 0.000.

Of those vendors possessing the greatest capabilities, 81 percent are Systems Contractors residing in profile quartiles 1 and 2. At the other extreme, 70.7 percent of those in the lower third are Blanket Contractors (profile quartiles 3 and 4). It can be inferred that Systems Contractors as a group possess significantly greater capabilities than Blanket Contractors, in both sophistication in Systems and as distributors in general. However, in two of the seven capability
submeasures the differences were not significant. The data are summarized in Tables 42 and 43.

**TABLE 42**

PROFILE THIRDS BY NUMBER OF YEARS WITH SYSTEMS

<table>
<thead>
<tr>
<th>Profile Thirds</th>
<th>Number of Years with Systems</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>More than 8</td>
<td>Between 5 &amp; 8</td>
</tr>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>1</td>
<td>32</td>
<td>34.0</td>
</tr>
<tr>
<td>2</td>
<td>32</td>
<td>34.0</td>
</tr>
<tr>
<td>3</td>
<td>30</td>
<td>31.9</td>
</tr>
<tr>
<td>Total</td>
<td>94</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Chi square = 1.3043 (d.f. = 6), p = .9714.

**TABLE 43**

PROFILE THIRDS BY WIDTH OF LINE

<table>
<thead>
<tr>
<th>Profile Thirds</th>
<th>Number of Product Lines</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1-3</td>
<td>4-9</td>
</tr>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>1</td>
<td>34</td>
<td>28.8</td>
</tr>
<tr>
<td>2</td>
<td>42</td>
<td>35.6</td>
</tr>
<tr>
<td>3</td>
<td>42</td>
<td>35.6</td>
</tr>
<tr>
<td>Total</td>
<td>118</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Chi square = 4.2555 (d.f. = 4), p = .3725.

It can be seen from Table 42 that experience in Systems Selling has no appreciable effect upon the type of System implemented. In other
words, the data suggest very little change in approach over time. This tends to refute the evolutionary concept originally presented in Chapter II. It suggests instead that once a distributor adopts a specific Systems Selling approach, it becomes difficult to supercede that approach with a newer technique involving a different structure and philosophy.

Another preconception concerning the role of the width of the distributor's line as a capability factor is refuted in Table 43. Originally it was supposed that general-line (more than 10 lines) and specialty-line (3 lines or less) vendors have significant advantages in Systems Selling over limited-line houses, because each have unique and viable differential advantages. General-line houses carry a full line of MRO products that are ideally suited to the full-range scope of the Systems Contract. Specialty-line distributors provide depth of inventory, backup engineering (in many cases) and more specialized technical expertise that together translate to mean high levels of service. Limited-line houses were thought to be caught in the middle. However, between the width of line and the choice of approach, no significant differences are evident. It can only be concluded from these data that the number of lines (or alternatively, whether the distributor is a general-line, limited-line, or specialty-line house) makes no significant difference with respect to the choice of Systems approach.

Other than these two factors, the remaining submeasures of capability each proved to be significantly related to System type. These can now be briefly discussed in turn.
The Number of Special Systems Services

Respondents were asked to indicate the special services provided to Systems customers, from a list including the following:

a. We carry a substantial portion of their inventories.
b. Plant employees can requisition directly from us.
c. We provide a means of control over their purchasing cycle.
d. We provide 48 hours delivery on most accounts.
e. We can make emergency deliveries any time.
f. We provide computer reports on item usage.
g. We provide consultation and problem-solving services.

A summary of the results is presented in Table 44.

TABLE 44
PROFILE THIRDS BY NUMBER OF SPECIAL SYSTEMS SERVICES

<table>
<thead>
<tr>
<th>Profile Thirds</th>
<th>0-1</th>
<th>2-3</th>
<th>4-5</th>
<th>6-7</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
<td>0.0</td>
<td>9</td>
<td>7.6</td>
<td>52</td>
</tr>
<tr>
<td></td>
<td>57</td>
<td>48.3</td>
<td></td>
<td></td>
<td>118</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>1.7</td>
<td>31</td>
<td>26.5</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td>14</td>
<td>12.0</td>
<td></td>
<td></td>
<td>117</td>
</tr>
<tr>
<td>3</td>
<td>16</td>
<td>14.3</td>
<td>53</td>
<td>47.3</td>
<td>38</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>4.5</td>
<td></td>
<td></td>
<td>112</td>
</tr>
<tr>
<td>Total</td>
<td>18</td>
<td>5.2</td>
<td>93</td>
<td>26.8</td>
<td>160</td>
</tr>
<tr>
<td></td>
<td>76</td>
<td>21.9</td>
<td></td>
<td></td>
<td>347</td>
</tr>
</tbody>
</table>

There is a noticeable trend in the top third to provide more services, with 92.4 percent offering at least four as compared to 71.8 percent (middle third) and 38.4 percent (lower third). Overall, however, 68 percent of the vendors offer at least 4 services, which substantiates the findings of the profile analysis that Systems Sellers as a group
are quite heavily service oriented, a positive factor for buyers of such approaches.

The Existence of a Special Staff of Systems Selling Personnel

Respondents were asked to indicate whether any of their employees were Systems Selling specialists. It is known that certain firms that are actively involved often prefer to create a team of Systems people to develop, present, and maintain the arrangement for customers. Logically, this kind of specialized effort is needed most where the supplier is taking the initiative in projecting a proven approach of his own design. Consequently it is expected that the vendors most closely approximating the Systems Contracting prototype would be most actively concerned with such special teams. The findings are presented in Table 45.

| PROFILE THIRDS BY EXISTENCE OF SPECIALIZED STAFF |
|---------------------------------|--------|--------|--------|--------|--------|--------|
| No. | %    | No. | %    | No. | %    | No. | %    | No. | %    | Total | %    |
| 1   | 13  | 11.0 | 36    | 30.5 | 13    | 11.0 | 56    | 47.5 | 118  | 100.0 |
| 2   | 9   | 7.7  | 9     | 7.7  | 19    | 16.2 | 80    | 68.4 | 117  | 100.0 |
| 3   | 2   | 1.8  | 2     | 1.8  | 9     | 8.0  | 99    | 88.4 | 112  | 100.0 |
| Total | 24  | 6.9  | 47    | 13.5 | 41    | 11.8 | 235   | 67.7 | 347  | 100.0 |

Chi square = 64.2803 (d.f. = 6), p = 0.000.

Two factors of significance emerge from this table: 1) the majority
(67.7 percent) of vendors have no special Systems Selling staff at all, and 2) for those who do, the number of specialists increases significantly as the top third is approached. In the top third, slightly more than half (52.5 percent) have at least one specialist, as compared to the lowest third, where but 11.6 percent have any specialists. Moreover, those in the top third with specialists frequently have at least two, and often three or four, which is precisely what would be expected.

It is probably of some benefit to have specialists if the vendor is a Systems Contractor, because constant re-selling is needed which could well be handled by such a team. Blanket Contractors could perhaps enjoy greater success as well, were they to take greater efforts to ensure the proper negotiation and sale of their approach.

The Extent of System Computerization

Respondents were asked to indicate whether or not computers, either in-house or service bureau installations, were used in their Systems Selling programs. While it is well known that computers are not required for Systems Selling, their availability can add a significant dimension. Chiefly, computer capability is relevant because 1) it facilitates the installation of Data-Phone card transmitters and receivers which may serve as the primary information source in requisitioning, 2) the entire ordering cycle, including requisitioning, packing, shipping, and invoicing is faster and more error free, and 3) printouts can be furnished to customers covering item usage, cost and price summaries and other information of value. In short, EDP capability adds a total information component to the vendor's System. Referred to in Chapter II as a Communication Subsystem, it represents
a significant service addition which can further strengthen the cooperative nature of the vendor-customer relationship. The findings are highlighted in Table 46.

**TABLE 46**

**COMPUTERIZATION OF SYSTEMS SELLING PROGRAM**

<table>
<thead>
<tr>
<th>Profile Thirds</th>
<th>In-house Install No.</th>
<th>Service Bureau No.</th>
<th>No Computer No.</th>
<th>Other No.</th>
<th>Total No.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>%</td>
<td>%</td>
<td></td>
<td>%</td>
</tr>
<tr>
<td>1</td>
<td>52</td>
<td>23</td>
<td>38</td>
<td>5</td>
<td>118</td>
</tr>
<tr>
<td>2</td>
<td>23</td>
<td>18</td>
<td>70</td>
<td>6</td>
<td>117</td>
</tr>
<tr>
<td>3</td>
<td>16</td>
<td>8</td>
<td>86</td>
<td>2</td>
<td>112</td>
</tr>
<tr>
<td>Total</td>
<td>91</td>
<td>49</td>
<td>194</td>
<td>13</td>
<td>347</td>
</tr>
</tbody>
</table>

Chi square = 51.4763 (d.f. = 6), p = 0.000.

Again, significant differences are found to exist as among the profile thirds. Of those in the top third, 63.6 percent use computers, with 44.1 percent having in-house installations. In the lower third, only 21.4 percent have computer capability. Apparently the Systems Contractors have recognized the potential of EDP equipment more than have Blanket Contractors. Moreover, the sophisticated scope of the Systems Contract frequently lends itself better to the computer, whereas the simpler Blanket Contract can be easily executed manually.

The Extent of Automated Requisitioning

Related to the use of computers is the question of automated requisitioning using mechanical transmission equipment. The ideal
System would contain a transmission device whereby direct customer inputs (requisitions) would arrive at the vendor in an output format that could in turn be input into a computer for processing. Data-Phone transmitters and receivers utilize convenient punched cards as an input-output medium, and Data-Phone is recognized as perhaps the best communications device when a System is computerized. Other requisitioning procedures typically involve mail, route-man pickup, and telephone orders, but these manual techniques all lose some of the speed, convenience, and error-free operation of the Data-Phone. The responses to a question concerning the method of requisitioning are presented in Table 47.

**TABLE 47**

**EXTENT OF AUTOMATED REQUISITIONING**

<table>
<thead>
<tr>
<th>Profile Thirds</th>
<th>Mail</th>
<th>Route-man Pickup</th>
<th>Data-Phone</th>
<th>Telephone</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>No. %</td>
<td>No. %</td>
<td>No. %</td>
<td>No. %</td>
</tr>
<tr>
<td>1</td>
<td>24</td>
<td>18.5</td>
<td>9 69.2</td>
<td>44 60.3</td>
<td>41 31.3</td>
</tr>
<tr>
<td>2</td>
<td>48</td>
<td>36.9</td>
<td>4 30.8</td>
<td>15 20.5</td>
<td>50 38.2</td>
</tr>
<tr>
<td>3</td>
<td>58</td>
<td>44.6</td>
<td>0 0.0</td>
<td>14 19.2</td>
<td>40 30.5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>130</td>
<td>100.0</td>
<td>13 100.0</td>
<td>73 100.0</td>
<td>131 100.0</td>
</tr>
</tbody>
</table>

Chi square = 48.3612 (d.f. = 6), p = 0.000.

Since it is pointless to install a Data-Phone unless the System is computerized, it is expected that there be no more vendors using Data-Phones than the number possessing computers. Reflecting back on Table 46 shows this to be true. In Table 47 above, 60.3 percent
of those with Data-Phones are in the top third, compared to 19.2 percent in the lower third. Moreover, Data-Phone is the most frequently used requisitioning procedure for all vendors in the top third. However, mail and telephone orders appear to be the predominant requisitioning vehicles in Systems Selling generally.

The Impact of Distributor Size

A final measure of capability was size. Vendors were asked to specify their gross sales for 1972. In view of the factors presented to this point, it would seem logical to expect those in the top profile third to be the largest in size, because of the sophistication of Systems Contracting. An analysis of the profiles, broken down by size groupings, is presented in Table 48.

Overall, substantial differences are evident as between those in the highest and lowest thirds. Of the vendors with sales of $20 million or greater, 69.6 percent fall in the top third. As size decreases, so does the percentage of distributors, so that 44.3 percent of those with sales of $5 to $9.9 million and but 15.4 percent of those under $1.5 million in sales reside in the top third. It can apparently be concluded that smaller houses tend to be reliant on the simplicity of the Blanket Order, perhaps because they lack the resources or channel power for more extensive Systems. Thus in general size and System type appear to be significantly related.

Factors Associated with Success and Satisfaction

Research question six is addressed to the factors found to be associated with success and satisfaction in Systems Selling. Generally,
<table>
<thead>
<tr>
<th>Profile Thirds</th>
<th>20+</th>
<th>10-19.9</th>
<th>5-9.9</th>
<th>1.5-4.9</th>
<th>Under 1.5</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>1</td>
<td>16</td>
<td>69.6</td>
<td>12</td>
<td>54.5</td>
<td>31</td>
<td>44.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>51</td>
<td>28.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8</td>
<td>15.4</td>
</tr>
<tr>
<td></td>
<td>118</td>
<td>34.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>6</td>
<td>26.1</td>
<td>5</td>
<td>22.7</td>
<td>17</td>
<td>24.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>71</td>
<td>39.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>18</td>
<td>34.6</td>
</tr>
<tr>
<td></td>
<td>117</td>
<td>33.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>4.3</td>
<td>5</td>
<td>22.7</td>
<td>22</td>
<td>31.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>58</td>
<td>32.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>26</td>
<td>50.0</td>
</tr>
<tr>
<td></td>
<td>117</td>
<td>32.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Totals</td>
<td>23</td>
<td>100.0</td>
<td>22</td>
<td>100.0</td>
<td>70</td>
<td>100.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>180</td>
<td>100.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>52</td>
<td>100.0</td>
</tr>
<tr>
<td></td>
<td>347</td>
<td>100.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
the analysis to this point has indicated that a statistically significant relationship does exist between the profile ranking (System type) of the respondents and their performance and attitude rankings. Moreover, a significant relationship exists between the profile and capability rankings of the vendors. Logically, then, it is to be expected that a correlation would be found between vendor capabilities and their rankings with respect to performance and attitude. A summary of such correlations, using the Kendall rank-order correlation coefficient tau, is presented in Table 49.

**TABLE 49**

**CORRELATION OF PERFORMANCE AND ATTITUDE RANKING WITH CAPABILITY RANKINGS**

<table>
<thead>
<tr>
<th>Correlation of tau value</th>
<th>Capability Thirds</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performance Thirds</td>
<td>0.2065</td>
<td>242</td>
</tr>
<tr>
<td>Attitude Thirds</td>
<td>0.3345</td>
<td>331</td>
</tr>
</tbody>
</table>

As expected, there is a significant relationship between overall capabilities and the measures of operating performance and attitudinal satisfaction developed earlier. This conclusion is based upon the 0.001 level of significance, meaning that the probabilities of obtaining tau values as large as those in Table 49 as a result of chance are but one in one thousand. In other words, the observed association represents a genuine relation in the population.

Despite the existence of a generally significant relationship
between overall capabilities and performance/satisfaction, it is worthwhile to consider the individual capability correlates as well. This is so because it is known from prior results that not all the capability submeasures were significantly related to System type. Individual analysis therefore has the advantage of isolating the factors having the strongest association. In Table 50 the correlations between the submeasures of capability and the performance/satisfaction thirds are presented, in a format similar to that of Table 49.

The strongest correlates of performance/satisfaction are large numbers of special services, existence of a Systems staff, and computer capability. As was true of the profile analysis, there is very little correlation between the length of time with Systems and success and satisfaction. The degree of association is not particularly significant in terms of the requisitioning procedure, sales, and product line width, although sales are significantly correlated with satisfaction. Obviously, some of the differences in the tau values as between performance and satisfaction are due to differences in the size of the samples (n). Still, it does seem apparent that some success and satisfaction can be achieved by vendors with less than total capability. Experience has been shown to be of little importance, and the requisitioning procedure is, after all, a matter of communications which need not be critical to System functioning. High levels of sales can generate revenues that may improve a System, but they are no guarantee of success. The width of the product line is not a major factor, and it appears that general-line, limited-line and specialty-line vendors can all pursue Systems Selling with good chances for success if the
<table>
<thead>
<tr>
<th>Correlation of</th>
<th>With Performance Thirds</th>
<th>With Attitudinal Thirds</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>tau value</td>
<td>n</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Length of time with Systems Selling</td>
<td>-0.0420</td>
<td>242</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Number of special services</td>
<td>-0.2046</td>
<td>242</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Existence of special Systems staff</td>
<td>0.1800</td>
<td>242</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Computer capability</td>
<td>0.2190</td>
<td>242</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Requisitioning procedure</td>
<td>-0.0626</td>
<td>242</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Gross sales</td>
<td>0.0562</td>
<td>242</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Width of product line</td>
<td>-0.1013</td>
<td>242</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

TABLE 50
CORRELATION OF CAPABILITY SUBMEASURES WITH PERFORMANCE AND ATTITUDINAL RANKINGS
other factors are present, at least to some degree.

A final consideration to be discussed is the influence of the kind of products in the line. Product lines are defined for this analysis by trade association membership, since this provides a good surrogate indication of the nature of the lines carried in addition to being the most convenient way of differentiating between vendors whose lines may overlap to some extent. In Table 51, profile thirds are crosstabulated by the six associations. Since the associations do not represent an ordinal scale, analysis of relationships in this case uses the Chi square and contingency coefficient statistics.

A weak relationship exists between profile thirds and product lines. However, this significance is obscured by the inconsistencies between the associations. SIDA and NIDA represent associations of nearly identical general-line industrial supply houses, differentiated only by geographical location. Yet 42.9 percent of all SIDA members reside in the bottom third, while 43.4 percent of NIDA members are in the top bracket. Similarly, 44.1 percent of the bearing specialists are in the top third, while 44.4 percent of the electrical specialists are in the bottom. From this, the following inferences are drawn:

1. General-line industrial supply houses have no inherent product-line characteristics that make them more suitable for Systems Contracting as opposed to Blanket Ordering.

2. While a greater percentage of bearing specialists may have discovered Systems Contracting, specialty-line houses as a group have no inherent characteristics that result in their being more (or less) suitable for Systems Contracting than Blanket Ordering.

3. Therefore it appears that the choice of Systems approach is not
TABLE 51
PROFILE THIRDS BY TRADE ASSOCIATION

<table>
<thead>
<tr>
<th>Raw Profile Thirds</th>
<th>SIDA No.</th>
<th>SIDA %</th>
<th>NIDA No.</th>
<th>NIDA %</th>
<th>ASA No.</th>
<th>ASA %</th>
<th>NFDA No.</th>
<th>NFDA %</th>
<th>BSA No.</th>
<th>BSA %</th>
<th>NAED No.</th>
<th>NAED %</th>
<th>Total No.</th>
<th>Total %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>15</td>
<td>23.8</td>
<td>46</td>
<td>43.4</td>
<td>18</td>
<td>36.7</td>
<td>7</td>
<td>30.4</td>
<td>15</td>
<td>44.1</td>
<td>17</td>
<td>23.6</td>
<td>118</td>
<td>34.0</td>
</tr>
<tr>
<td>2</td>
<td>21</td>
<td>33.3</td>
<td>35</td>
<td>33.0</td>
<td>15</td>
<td>30.6</td>
<td>10</td>
<td>43.5</td>
<td>13</td>
<td>38.2</td>
<td>23</td>
<td>31.9</td>
<td>117</td>
<td>33.7</td>
</tr>
<tr>
<td>3</td>
<td>27</td>
<td>42.9</td>
<td>25</td>
<td>23.6</td>
<td>16</td>
<td>32.7</td>
<td>6</td>
<td>26.1</td>
<td>6</td>
<td>17.6</td>
<td>32</td>
<td>44.4</td>
<td>112</td>
<td>32.3</td>
</tr>
<tr>
<td>Totals</td>
<td>63</td>
<td>100.0</td>
<td>106</td>
<td>100.0</td>
<td>49</td>
<td>100.0</td>
<td>23</td>
<td>100.0</td>
<td>34</td>
<td>100.0</td>
<td>72</td>
<td>100.0</td>
<td>347</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Chi square = 19.7579 (d.f. = 10), p = 0.0316.
necessarily related to either the width of the product line or the type of products comprising the line.

Further comparisons of the product lines may be made in terms of operating performance and satisfaction. While the contingency coefficient (C) for Table 51 was 0.232, the values of C for tables correlating the six associations with performance and satisfaction thirds were 0.215 and 0.204 respectively, neither value being significant even at \( p = 0.10 \). Summarily, it may be said that performance and satisfaction appear not to be correlated with the width of the product line or the nature of the products within the line.

**Conclusion to Capability Analysis**

In response to research question six, the preceding discussion of the capabilities of Systems Selling distributors has been oriented toward uncovering significant relationships between general and specific capabilities and System type, operating success, and attitudinal satisfaction. The findings may be summarized as follows:

1. Overall, there is a significant relationship between System type (as measured by profile thirds) and the total capabilities of a given vendor. In terms of individual areas of capability, the strongest relationships exist between the type of System and the number of Systems services, the existence of a Systems staff, System computerization, the requisitioning procedure, and size (in gross sales). For all such measures the greater capability is associated with Systems Contracting.

2. There is a significant relationship between total Systems capability and operating success (as measured by performance thirds)
and satisfaction (as measured by attitude thirds). The specific areas of capability found to be most strongly correlated with high levels of success and satisfaction included a) large numbers of special services; b) the existence of a special Systems staff; c) computer capability in Systems Selling.

3. There is a significant relationship between the type of System implemented and the degree of operating success and attitudinal satisfaction. It has been clearly shown in prior sections of this chapter that close approximations of Systems Contracting are likely to result in the greatest degree of success and satisfaction.

4. The nature of the MRO product line (i.e. the kinds of products carried) does not appear to have a significant relationship to operational success and satisfaction in Systems Selling.

It may therefore be concluded that irrespective of the nature and width of their lines, MRO vendors who choose the Systems Contracting approach in combination with recognized levels of capability stand the better chance of achieving success and satisfaction in their ventures. The philosophy behind Systems Contracting can be neatly blended with special services, automation, and a staff of trained Systems personnel to yield an approach which maximizes customer service, yet builds in profitability for the seller. The result is a mutually beneficial relationship that lays the foundation for success.

One final research question remains to be considered, that of the benefits and problems involved in implementing and maintaining a Systems Selling arrangement. A discussion of these follows as the
concluding section to the analysis of the collected data.

The Advantages and Disadvantages of Systems Selling

Respondents were provided with two lists containing 9 items each, one of which represented advantages, the other disadvantages. They were directed to check any of the items which they perceived as relevant. The findings are summarized in Tables 52 and 53. Generally, the number of recognized advantages outweighs the number of disadvantages by three to one for all of Systems Selling, assuming an item is an advantage (or disadvantage) if at least 50 percent of all 347 respondents so indicated. But the real significance of this portion of the study lies in the differences between the top and bottom thirds (Systems Contractors and Blanket Contractors) in their perceptions of the advantages and disadvantages of their approaches.

Perceived Advantages

Recognition of advantages generally was highest among those vendors in the top third. Using the 50 percent figure as a criterion, five of the nine items listed are perceived to be advantages to the distributor using Systems Contracting:

1. He can "lock in" the business of major customers.
2. He is in a position to better forecast sales and plan inventories.
4. Account profitability increases.
5. The distributor's paperwork is often reduced or simplified.

Only items (1) and (3) above were agreed as being advantages by vendors
<table>
<thead>
<tr>
<th>Base Number for each third:</th>
<th>Profile Thirds</th>
<th>1 (118)</th>
<th>2 (117)</th>
<th>3 (112)</th>
<th>Total (347)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. He can &quot;lock in&quot; the business of major customers</td>
<td>104&lt;sup&gt;a&lt;/sup&gt;</td>
<td>88</td>
<td>74</td>
<td>266&lt;sup&gt;c&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>88.1&lt;sup&gt;b&lt;/sup&gt;</td>
<td>75.2</td>
<td>66.1</td>
<td>76.7&lt;sup&gt;d&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>2. He is in a position to better forecast sales and plan inventories</td>
<td>90</td>
<td>61</td>
<td>45</td>
<td>196</td>
<td></td>
</tr>
<tr>
<td></td>
<td>76.3</td>
<td>52.1</td>
<td>40.2</td>
<td>56.5</td>
<td></td>
</tr>
<tr>
<td>3. Inventory obsolescence is reduced</td>
<td>50</td>
<td>25</td>
<td>14</td>
<td>89</td>
<td></td>
</tr>
<tr>
<td></td>
<td>42.4</td>
<td>21.4</td>
<td>12.5</td>
<td>25.6</td>
<td></td>
</tr>
<tr>
<td>4. Sales volume increases</td>
<td>97</td>
<td>95</td>
<td>69</td>
<td>261</td>
<td></td>
</tr>
<tr>
<td></td>
<td>82.2</td>
<td>81.2</td>
<td>61.6</td>
<td>75.2</td>
<td></td>
</tr>
<tr>
<td>5. Account Profitability increases</td>
<td>77</td>
<td>54</td>
<td>24</td>
<td>155</td>
<td></td>
</tr>
<tr>
<td></td>
<td>65.3</td>
<td>46.2</td>
<td>21.4</td>
<td>44.7</td>
<td></td>
</tr>
<tr>
<td>6. The need to constantly out-guess competitors is eliminated</td>
<td>44</td>
<td>47</td>
<td>38</td>
<td>129</td>
<td></td>
</tr>
<tr>
<td></td>
<td>37.3</td>
<td>40.2</td>
<td>33.9</td>
<td>37.2</td>
<td></td>
</tr>
<tr>
<td>7. The distributor's paperwork is often reduced or simplified</td>
<td>61</td>
<td>47</td>
<td>32</td>
<td>140</td>
<td></td>
</tr>
<tr>
<td></td>
<td>51.7</td>
<td>40.2</td>
<td>28.6</td>
<td>40.3</td>
<td></td>
</tr>
<tr>
<td>8. The distributor's cash flow improves</td>
<td>39</td>
<td>34</td>
<td>16</td>
<td>89</td>
<td></td>
</tr>
<tr>
<td></td>
<td>33.1</td>
<td>29.1</td>
<td>14.3</td>
<td>25.6</td>
<td></td>
</tr>
<tr>
<td>9. Markets or territories can be expanded</td>
<td>45</td>
<td>24</td>
<td>14</td>
<td>83</td>
<td></td>
</tr>
<tr>
<td></td>
<td>38.1</td>
<td>20.5</td>
<td>12.5</td>
<td>23.9</td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup>Absolute number of respondents agreeing, per third.

<sup>b</sup>Number agreeing expressed as a percentage of the total respondents in that third.

<sup>c</sup>Total number agreeing (all thirds).

<sup>d</sup>Total number agreeing expressed as a percentage of all respondents (347).
TABLE 53
DISADVANTAGES TO THE DISTRIBUTOR USING THE SYSTEMS SELLING APPROACH

<table>
<thead>
<tr>
<th></th>
<th>Profile Thirds</th>
<th></th>
<th>3</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Number for each third:</td>
<td>1  (118)</td>
<td>2  (117)</td>
<td>3  (112)</td>
<td>(347)</td>
</tr>
<tr>
<td>1. They are a one-way street:</td>
<td>8 (^a)</td>
<td>12</td>
<td>30</td>
<td>50(^c)</td>
</tr>
<tr>
<td>they benefit only the customer</td>
<td>6.8 (^b)</td>
<td>10.3</td>
<td>26.8</td>
<td>14.4(^d)</td>
</tr>
<tr>
<td>2. The distributor's paperwork increases</td>
<td>35</td>
<td>30</td>
<td>35</td>
<td>100</td>
</tr>
<tr>
<td>increases</td>
<td>29.7</td>
<td>25.6</td>
<td>31.3</td>
<td>28.8</td>
</tr>
<tr>
<td>3. Customers force you to negotiate on a price basis</td>
<td>36</td>
<td>62</td>
<td>73</td>
<td>171</td>
</tr>
<tr>
<td></td>
<td>30.5</td>
<td>53.0</td>
<td>65.2</td>
<td>49.3</td>
</tr>
<tr>
<td>4. The distributor is forced to stock added inventory</td>
<td>63</td>
<td>67</td>
<td>57</td>
<td>187</td>
</tr>
<tr>
<td></td>
<td>53.4</td>
<td>57.3</td>
<td>50.9</td>
<td>53.9</td>
</tr>
<tr>
<td>5. It is too expensive to service Systems customers</td>
<td>5</td>
<td>6</td>
<td>9</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>4.2</td>
<td>5.1</td>
<td>8.0</td>
<td>5.8</td>
</tr>
<tr>
<td>6. The distributor can get stuck with obsolescent inventory</td>
<td>28</td>
<td>37</td>
<td>46</td>
<td>111</td>
</tr>
<tr>
<td></td>
<td>23.7</td>
<td>31.6</td>
<td>41.1</td>
<td>32.0</td>
</tr>
<tr>
<td>7. The distributor cannot increase prices when he needs to</td>
<td>19</td>
<td>29</td>
<td>33</td>
<td>81</td>
</tr>
<tr>
<td></td>
<td>16.1</td>
<td>24.8</td>
<td>29.5</td>
<td>23.3</td>
</tr>
<tr>
<td>8. It is difficult to sell because customers resist change</td>
<td>41</td>
<td>27</td>
<td>17</td>
<td>85</td>
</tr>
<tr>
<td></td>
<td>34.7</td>
<td>23.1</td>
<td>15.2</td>
<td>24.5</td>
</tr>
<tr>
<td>9. Customers do not understand Systems Selling concept</td>
<td>52</td>
<td>36</td>
<td>16</td>
<td>104</td>
</tr>
<tr>
<td></td>
<td>44.1</td>
<td>30.8</td>
<td>14.3</td>
<td>30.0</td>
</tr>
</tbody>
</table>

\(^a\)Absolute number of respondents agreeing, per third.

\(^b\)Number agreeing expressed as a percentage of the total respondents in that third.

\(^c\)Total number agreeing (all thirds).

\(^d\)Total number agreeing expressed as a percentage of all respondents, (347).
in the bottom third. It may be conjectured that items (2), (4), and (5) above are not seen as advantages by Blanket Contractors for the following reasons: (1) the shorter term of the typical Blanket Contract (vis-a-vis the "evergreen" status of many Systems Contracts) may effectively eliminate long term forecasting, especially if next year's contract is won by a competitor; (2) slipping gross margins and a downward competitive pressure on Blanket Contract prices serve to erode rather than increase the profitability of these accounts; and (3) the distributor's paperwork probably remains relatively constant, since billing procedures rarely change under the Blanket Order. In fact, customer insistence upon special items and other nonstandard procedures may even increase the distributor's paperwork. Conversely, Systems Contractors can frequently reduce the paperwork load through simplified and more automated requisitioning, order processing, and monthly billing using the tally sheet.

Apparently the most pervasive advantage for all forms of Systems Selling is a guaranteed level of repeat sales. Better than 75 percent of all vendors agreed that business could be locked in by the contract, and that sales increase as a result. The problem appears to be one of generating profitable sales, as but 46.2 percent of the vendors in even the middle third could claim that profitability increases for Systems accounts. It may be concluded that while Systems Selling as a whole does have some strong advantages, it seems that the Systems Contractors definitely enjoy more benefits than do Blanket Contractors, once again emphasizing the importance of well designed and thoughtfully implemented programs.
Perceived Disadvantages

Respondents in the top third indicated generally fewer problems than those in the lower third. In only one case did more than 50 percent of the Systems Contractors agree on a problem ("the distributor is forced to stock added inventory"), whereas a majority of Blanket Contractors agreed not only that extra stocking was a disadvantage, but more so that "customers force you to negotiate on a price basis." This pricing complaint reinforces strongly what was initially pointed out in the conceptual framework, partially verified in the profile analysis, and strongly supported in the discussion of performance. It may be inferred that the problem of price is perhaps the most significant reason why Blanket Contractors fail to equal Systems Contractors in the area of performance, and it undoubtedly was an influence upon their generally dissatisfied opinions. This attitude is also reflected in Table 53, with 26.8 percent of the Blanket Contractors claiming that their contracts "are a one way street--they benefit only the customer." Only 6.8 percent of the Systems Contractors agreed.

The problem of stocking added inventory is pervasive among the groupings. This has the effect at times of eliciting protest on the part of vendors, who feel that they could become burdened with extra stock should the contract be terminated. In reality, vendors must expect to stock more items, some of them "specials" for specific customers because 1) the shifting of stock back to the vendor is an integral part of many contracts and 2) vendors can often become the sole source for the supplies in question, making stock availability
of crucial significance. With regard to "getting stuck," the problem appears to be one of poor contract negotiations. Post-survey discussions have indicated that well-conceived contracts have provisions which protect the vendor against the eventuality of being left with special stock that has little saleability.

Perhaps the most significant finding in Table 53 is that the kinds of disadvantages indicated often vary as between the highest and lowest thirds. This has already been discussed with regard to price considerations, and it is also true with respect to others. For example, only 15.2 percent of those in the lower third felt that Systems were difficult to sell because customers resist change, but better than double this number (34.7 percent) of those in the top third perceived this as a problem. Similarly, only 14.3 percent in the bottom group claimed that customers do not understand the concept of Systems Selling, whereas 44.1 percent of those in the first third so indicated. It may be speculated again that differences in perceived benefits and problems stem from inherent differences in the major approaches. It is quite logical to expect that few Blanket Contractors would indicate that customers are resistant to change, or that they do not understand the concept. This is so because the Blanket Contract is often the customer's idea, a technique proposed and encouraged by Purchasing. Moreover, its simplicity can hardly be denied, making the problem of understanding a relatively minor point. On the other hand, though Systems Contracts are logical extensions of the Blanket Order, they incorporate more features, benefits, and safeguards to the seller. As the distributor's approach, attempts to
project the technique to customers are often met with some degree of confusion, caution and fear. The scope of such contracts is great, and it may appear that employee domains and procedures will be changed or threatened. The problem for the seller is to convince the customer that the System can be workable without drastic alterations in the existing mode of operations, and that the necessary changes will be easy to implement. Further, the customer must be made to understand that a Systems Contract is based on mutual benefit, that price may be relegated to a secondary role. It is factors such as these that must be explicitly documented for buyers, and it is for these reasons that selling the Systems Contracting technique is difficult. This, then, provides at least a partial explanation for the differences as noted in Table 53.

Conclusions

Overall, it has been shown in this section that benefits outweigh problems for Systems Selling as a whole. Still, the actual magnitude and nature of such benefits depends upon the particular approach a vendor uses. Generally, Systems Contractors enjoy more benefits than do Blanket Contractors, and the latter perceive more problems than do the former. Different kinds of problems are faced by each, whereas with advantages it is a question of Blanket Contractors simply having fewer. It may be inferred that the observed differences are again attributable to the characteristic differences in the major approaches; this in fact is the principal tenet of this study.
CHAPTER VI

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

FOR FURTHER STUDY

In light of the paucity of previous studies on the topic, the problem for this study was to explore the concept of Systems Selling, and to assess its viability and potential success as a method for structuring channel relationships between vendors of industrial maintenance, repair, and operating (MRO) supplies, and their customers.

The objectives of the research were:

1) To estimate the extent of Systems Selling by industrial distributors, in terms of:
   a) the percentage of vendors which use some kind of System.
   b) the kinds of Systems that are most frequently adopted.

2) To determine how the dominant types of Systems are structured and implemented by different kinds of industrial distributors.

3) To determine the importance of Systems Selling to the vendor, in terms of its contributions to sales, profits, return on investment, and other operating performance criteria.

4) To determine what it takes to make a System's operation satisfactory, what it is that constitutes success, and whether one particular variety is more satisfactory than another.

5) To clarify the kinds of related benefits and problems that different vendors face with Systems Selling.

The research design specified a descriptive, exploratory study, oriented to industrial distributors currently using the Systems Selling technique. Information was obtained through a mail survey of the top management of 1255 vendors dealing in five separate product line areas.
In line with the general objectives of the study, a number of more specific research questions were developed in order to thoroughly investigate several interrelated areas in Systems Selling. The questions led to the collection of data pertaining to:

1) the general impact made by Systems Selling,
2) the structural characteristics of alternative approaches,
3) estimates of System operating performance,
4) management attitudes toward Systems Selling,
5) the role of vendor capabilities,
6) advantages and disadvantages in Systems Selling.

Most of the data were analyzed using table displays and basic statistical tests of significance. The analysis centered about a comparison of the numerous differences observed between alternative System types, with managerial significance being assessed using percentage comparisons. An illustrative example using multiple discriminant analysis was also presented, to show the applicability of more advanced statistical techniques in the analysis of the data.

A summary and interpretation of the findings from this study, plus conclusions and recommendations for further study based on the findings are presented in the following sections of this chapter.

Summary of Findings From the Primary Research

The General Extent and Impact of Systems Selling

The information obtained from the primary research for this study indicates a very high incidence of Systems Selling among all of the respondents. However, there is also indication of differing approaches to Systems Selling, with attendant differences in performance,
managerial attitudes, capabilities, and perceptions of benefits and problems. Consequently, the findings from the primary research provide comparisons mainly between the major varieties of Systems Selling.

As a general approach to marketing MRO supplies to industrial customers, Systems Selling was found to be quite adaptable to a variety of different kinds of distributors. General-line, limited-line, and specialty-line vendors all appear to have used the concept advantageously, and the nature of the MRO lines handled appears not to be a significant factor in terms of adaptability to the concept. There is some indication that Systems Selling is more prevalent among large vendors, but small size alone does not preclude a distributor's involvement. Customer type, however, is quite probably a consideration. Vendors dealing primarily with the construction and retail trades are somewhat less apt to have Systems arrangements.

For those who are actively involved, it appears that Systems accounts comprise a small percentage of their total accounts. Nevertheless, these few accounts quite commonly generate a high proportion of total industrial sales. Moreover, the performance of Systems accounts as a group is about equal to that of nonsystems accounts, and consequently the respondents as a whole were found to be generally favorable to Systems Selling as a marketing technique.

The experience a firm had in Systems Selling was found to be a negligible factor with respect to the type of System used, System performance, and vendor attitudes. The majority of distributors have been involved for at least two years, with only a very few firms
having less experience. This suggests that the growth rate for Systems Selling as a whole may be considerably slower than originally supposed, a contention that is supported elsewhere in the study. However, it is very likely that growth may be impeded by the considerable controversy and misinformation surrounding Systems Selling. There is much room for growth among current nonusers, and there is abundant opportunity for existing users to pursue strategies in Systems Selling different from those currently employed.

Structural Differences Between Approaches

The information obtained from the primary research suggests that important differences exist between alternative varieties of Systems Selling. Since these differences influence the nature of the rewards that a vendor may expect, they have a direct bearing on the ultimate importance of the Systems Selling program. The following discussion summarizes the major structural differences between the approaches.

The majority of Systems Sellers have opted for one of three basic approaches: Systems Contracting, Blanket Ordering, or Mixed Systems. Mixed Systems combine elements of the other two approaches and constitute the most frequent application of the Systems Selling concept. Approaches approximating the Systems Contracting technique differ significantly from those approximating the Blanket Order technique. Systems Contracts were found to be generally broader in scope, covering more items and extending for longer time periods than Blanket Orders.

Systems Contracts are generally more service-oriented than
Blanket Contracts. Specifically, a greater percentage of Systems Contracts than Blanket Orders require the vendor to assume the customer's stores function, and to guarantee item availability and rapid delivery. Further, a higher percentage of Systems Contractors are able to provide ancillary services such as consultation, item usage reports, and streamlined billing and requisitioning procedures.

Systems Contractors approach the negotiation process in a manner different from Blanket Contractors. A high percentage of the former prefer to initiate high-level contract negotiations, in which a proven System is aggressively sold by a team of top management Systems specialists. Blanket Contractors negotiate with mid-management purchasing agents, the line salesman being the vendor's representative in the majority of cases. Further, price emerges as a key variable in the negotiation of Blanket Contracts, whereas the levels of service are key issues under a Systems Contract.

Account Performance, Vendor Attitudes, and Systems Capabilities

It was found that Systems Contract accounts perform significantly better overall than Blanket Order accounts. Systems Contracts outperform Blanket Orders by the greatest margins in the areas of gross sales, gross margins, and return on investment. Further, Systems Contract accounts outperform nonsystems accounts, whereas Blanket Order accounts did not.

The general attitude and degree of satisfaction held by top vendor management toward the Systems concept is significantly more favorable for those who use Systems Contracts than for those with
Blanket Orders. Systems Contractors as a whole indicated that their programs are beneficial, well-suited to their operations, intelligently designed, and superior to the competition. Blanket Contractors found their approaches generally unsuitable and poorly designed, and expressed little faith in their programs.

Most Systems Contractors have greater sophistication and capabilities than their Blanket Order counterparts. However, it was found that extensive Systems experience and the width of the product line do not appreciably affect those capabilities. Systems Contractors usually provide more services for their customers, in addition to having more Systems personnel, greater computer capability, and more automated requisitioning than Blanket Contractors. As would be expected, there is also a tendency for smaller distributors to prefer Blanket Orders.

There is a significant correlation overall between high levels of success (measured by operating performance) and satisfaction (measured by attitude scores) and Systems Contracting. Further, success and satisfaction are also significantly correlated with overall capabilities, and especially with the provision of relatively more customer services, the existence of a Systems Selling staff, and computer capability.

Advantages and Disadvantages

In general, Systems Contractors as a group listed more advantages to the distributor, (and fewer disadvantages) than Blanket Contractors. While the major advantage appears to be the increase in sales that the contract provides, the Blanket Contractors consider the price orientation
as a major drawback. This is not so much a difficulty to the Systems Contractors as are the problems involved in selling a sophisticated approach to customers who were difficult to convince and resistant to change.

Interpretation of Findings

The findings summarized above relate directly to four of the five stated objectives of this study. It remains to discuss factors necessary to obtain satisfaction and success in Systems Selling. Inferences may then be drawn which may prove to be of usefulness to distributors who wish to enter the field of Systems Selling, or to vendors currently disillusioned by their experience.

Success and Satisfaction in Systems Selling

It is difficult to arrive at a totally satisfactory definition of success in Systems Selling, because differences of opinion exist as to which measures are most appropriate. In this study, success is defined in terms of the general performance of Systems Selling accounts. General performance in this context considers all six component measures developed in this study. If the Systems accounts make significant contributions to the firm, the program must be at least partially successful.

A useful standard for assessing the contribution of Systems accounts is nonsystems accounts. Since the objective of the program is to make the vendor more competitive in the marketplace, it follows that successful programs should contribute more significantly than the traditional nonsystems mode of operation. Success therefore
implies that Systems accounts must exceed the performance of nonsystems accounts. If this is not the case, the time, effort, and funds expended in designating the System cannot be justified.

Satisfaction is defined as a positive vendor attitude or opinion about the Systems program. Therefore if a vendor's mean attitude score is greater than the mean of all respondents, some measure of satisfaction must be present.

The findings of the study have shown conclusively that success and satisfaction are significantly related to System type. Specifically, high levels of success and satisfaction are much more common under Systems Contracting than Blanket Ordering. Moreover, several capability factors were shown to be more common in Systems Contracting situations than in Blanket Ordering. Together, these findings suggest that there may be a logical heirarchy of effects in Systems Selling. It may be postulated that:

(1) Systems Type = f (Total capabilities)

(2) Operating Performance = f (System type)

(3) Attitudinal Satisfaction = f (Operating Performance)

The heirarchy is structured so that the dependent variable in one stage becomes the independent variable in the next. As the study has shown, the choice of System type is critical, because type is significantly related to performance and satisfaction. With respect to the findings presented, it may be inferred from the heirarchy that, ceteris paribus, vendors choosing Systems Contracting will experience better financial performance and higher levels of satisfaction than will their Blanket Contracting counterparts. Since the heirarchy
postulates that the choice of System type is dependent upon total capabilities, it is here that vendors must rethink their strategies.

The concept of total capabilities (as used in the hierarchy) goes beyond the seven variables studied in Chapter V. Five of these capabilities are necessary but not sufficient for the installation of a Systems Contracting program. A knowledge capability must be present as well, for the findings of the study have shown that successful Systems Contracts are premised upon quite a different set of assumptions than the more typical Blanket Order. Knowledge of the underlying Systems Selling philosophy on which Systems Contracting rests is therefore critical, as is some understanding of the structural differences between Systems Contracts and Blanket Contracts.

Vendors who have acquired this knowledge base (and a minimum level of other capabilities) are in a position to select, design, and implement Systems Selling programs that are strategically planned for success. This may entail a pure Systems Contract, but not necessarily. The quartiles developed for this research by nature incorporate variable approaches, and it has been shown that success and satisfaction are quite possible among the Mixed Systems as well. Obviously, selection of an approach will realistically consider exogenous factors such as the demands of buyers and regional competitive trends. But the main point of the many findings of this study is nevertheless clear: the closer to which a System approximates the pure Systems Contracting prototype, the greater will be that System's operating performance, and the level of satisfaction of vendor management.
Implications

Based upon the findings of this study and the interpretations as presented above, it would seem that a number of vendors could gain from incorporating the Systems Contracting technique into their overall marketing strategies. This is probably most likely to be true of nonusers—vendors not currently involved with Systems Selling at all. Most vendors dealing in industrial MRO supplies have product lines ideally suited to the concept, and lack of experience is probably an asset in comparison to the negative experience of some Blanket Contractors. Large size undoubtedly helps, but small vendors can often acquire the critical capabilities necessary to undertake Systems Contracts almost as easily as large distributors. It is most important to recognize that there is nothing about small size per se which dictates a haphazard or less than total approach. Ideally, a profitable System will enable a vendor to prosper and grow, with attendant Systems sophistication accruing as a result of that growth.

Currently dissatisfied users must take a hard look at the reasons for their problems and then assess the viability of alternative approaches, instead of trying to do better things which should not be done at all. A philosophy must be developed which accepts change as realistic and necessary. Once this has been done, several strategies are available. Mixed Systems have been recognized herein as being viable and often successful entities; it should therefore be possible for Blanket Contractors to pursue innovative distribution strategies within this context. Or the concept of "business as usual" can be dropped entirely, followed by the aggressive creation and marketing of well-planned Systems Contracts. But whether the change is gradual
or abrupt, the shift in philosophy and orientation seem requisite to the attainment of success and satisfaction in Systems Selling.

Conclusions and Recommendations for Further Study

Conclusions

In view of the aura of confusion and general misunderstanding surrounding the application of Systems Selling techniques by industrial distributors, the purpose of this exploratory study has been to assess the extent, importance, and relative success of the major varieties of Systems Selling currently in use. Moreover, clarification of benefits and problems associated with different techniques has been provided. This expanded knowledge base should ultimately lead to improved marketing strategies and better decision-making for industrial wholesalers of maintenance, repair, and operating supplies.

The philosophical intent of all pure Systems Selling approaches is the provision of total packages of product/service solutions to customer problems. It implies the recognition by customers that certain business functions are at times best delegated to other channel intermediaries who are more capable of the efficient performance of those functions. Consequently a Systems Selling arrangement changes the roles of the supplier and customer as traditional channel autonomy is supplanted by the cooperative meshing of resources; as complete solutions replace the fragmented purchase of individual items.

The findings of this study indicate that the pure philosophy of Systems Selling is but partially present in the field of industrial distribution. Because of the limitations on the manufacturing capability of distributors, purchasing systems are the viable competitive entities
(as opposed to product systems containing capital goods). While all purchasing systems are oriented toward the problem of alleviating the costs and paperwork involved in purchasing MRO supplies, it is apparent from the findings that structural differences between various approaches have a major impact upon the efficacy of those techniques as Systems. As such, it appears that some of the approaches studied in this dissertation are in reality not true Systems at all, in light of the philosophical intent of Systems Selling as recapitulated above.

It is therefore proper to think of purchasing systems on the whole as occupying a continuum. The approaches along such a continuum have enough commonalities that differences between adjacent entities may be very slight, yet the extremities of the scale (Blanket Ordering and Systems Contracting) are quite apart in their purposes, philosophies, and structures, with attendant differences in their effectiveness to both buyer and seller. The Blanket Ordering technique probably should not be classed as a System, for it misses the intent of the Systems Selling philosophy. It is instead a rather simplistic, sole source supply contract, imposing minimum standards upon the supplier and solving few of the buyer's problems. Oriented toward limited numbers of MRO items, it is a short-term entity that is awarded on the basis of submitting low bids. The item price-cost to the buyer is usually low, but other acquisition and carrying costs are not changed appreciably. Moreover, competitive pressures among distributors to submit low bids exerts a downward pressure on prices, a force that many claim is destructive of competition.

More consonant with the real intent of the Systems Selling
philosophy is the Systems Contracting approach. Instead of a price orientation, these contracts offer sophisticated total Systems that combine sole source inventory carrying and restocking features, automated ordering, information/communications packages, the vendor's consulting expertise, and other ancillary services which together are designed to effect cost savings in all areas of the buyer's acquisition and possession of MRO items. The approach is based upon mutual benefit and cooperation, and as such the research findings have shown that Systems Contracting vendors are generally more capable, prosperous, and satisfied.

Ironically, it was found from the analysis of claimed approaches that the Blanket Order appears to be a dominant form of purchasing contract, suggesting that the confusion and misunderstanding evident in the literature is apparently quite real. To the extent that this lack of knowledge has prevented significant numbers of vendors from pursuing the Systems Contracting approach, the more important conclusion from this research may be that a true Systems Selling strategy does exist that, if properly designed, presented and maintained, can be more beneficial to both buyers and sellers than other common approaches.

Recommendations for Further Study

As the initial empirical research into Systems Selling practices of industrial distributors, this study has concentrated on a variety of approximations, indications, and estimates. Techniques have been explored, their differences catalogued, and the resulting implications have been assessed. The very nature of this exploratory study there-
fore suggests a number of related considerations which are worthy of additional research.

Methodological Extensions Using Multivariate Techniques

This research has centered heavily upon approximations of System type, using the twenty-item test developed for the profile analysis. Through the use of more rigorous analytical techniques, better measurements of System type could be obtained. For example, factor analysis would be useful in reducing the number of profile test items to a smaller set of principal components. Following this, cluster analysis could be used to classify vendors into similar groups—such as Systems Contracting or Blanket Ordering. Cluster analysis is also useful in that it provides summary measures (i.e. definitions) for each group or cluster. Given a more definitive identification process, the results of this study could be replicated, further comparisons between Systems could be made, and in-depth studies of particular approaches would be facilitated.

Other multivariate techniques could be used to extend the present effort. Multiple discriminant analysis was used in this study to determine which of the ten semantic differential scales distinguish best between good versus poor performance. The technique has other potential uses. For example, the existing profile test items could be used as independent variables in predicting expected success (performance) for new distributors. Alternatively, discriminant analysis could use the new set of principle components derived from the factor analysis in the accomplishment of this task.
Finally, discriminant analysis could be used to distinguish between Systems users and nonusers (or Systems Contractors and Blanket Contractors), with the capability components as the predictor variables. If the capability components were found to discriminate well between the groups, then a better assessment of the impact of capability would result.

Studies of Related Topics in Systems Selling

A number of other studies could be performed that would extend or complement this research. For example, it would be useful to undertake more exacting studies of the relative performance of alternative Systems Selling approaches. Precise statistical documentation of the results of high-yield strategies could be of substantial interest to vendors desiring to embark upon more profitable and innovative marketing techniques.

A study of customer reactions to Systems Selling would be an ideal complement to the findings of this study of industrial suppliers. Such research could take numerous directions. Purchasing managers could be surveyed to ascertain opinions of alternative Systems techniques. Actual cost savings accruing to Systems approaches could be assessed. The impact of vendor services on such savings could be analyzed. Related buyer perceptions of benefits and problems could be catalogued.

It would be exceedingly useful to conduct a behavioral study of power, cooperation, and conflict variables within a Systems Selling context. Approaches could again be compared in terms of these variables, and conclusions drawn regarding the effects of power
imbalance or the dysfunctional nature of conflict. Further, conflict resolution mechanisms used in Systems may be studied for their possible development to other channel settings.

Finally, the legal and social impact of coordinated/cooperative distribution systems is currently worthy of scrutiny. Studies assessing the legality of contract purchasing are long overdue, as are investigations of the competitive impact made by sole source buying agreements. Moreover, the future of Systems Selling must be analyzed within the context of an economy of shortages and rapidly escalating inflation. The Systems Selling advantages of guaranteed item availability and significant improvement in the customer's total cost of buying MRO supplies should stimulate healthy demand for these programs. But such an increase in demand will doubtless require the full planning skills of industrial distributors, especially as cost pressures continue to mount and shortages restrict inventory stocks even further. Quite obviously, the major issue confronting full-service Systems programs for the latter half of the 1970s will be one of simple feasibility.
SYSTEMS SELLING SURVEY QUESTIONNAIRE

As used in this survey, Systems Selling is a broad term to describe any form of cooperative contracting relationship between industrial vendors and their customers for the ordering and distribution of maintenance, repair, and operating (MRO) items, parts, or supplies. Systems Selling is known frequently by different names, some of which are: Systems Contracting, Systems Purchasing, Contract Buying, Stockless Purchasing, Blanket Contracting, and Blanket Ordering.

A. The following questions are to determine your involvement with Systems Selling.

1. To what extent does your firm engage in any form of Systems Selling? Check the one best response below.

   a. We currently have one or more systems
   b. We did have, but no longer have systems
   c. We have no system presently, but we are considering installing one
   d. We have no system, and we are not considering installing one
   e. We have not heard of this idea

   If your firm has one or more systems, please continue with the following questions. If you do not have a system, please turn to question 5, page 6, and continue.

2. Which one of the following names do you use in describing your system? Check one only. (Note: if you are using more than one of these, then check the one which accounts for the greatest sales volume).

   a. Systems Contracting
   b. Systems Purchasing
   c. Contract Buying
   d. Stockless Purchasing
   e. Blanket Ordering
   f. Blanket Contracting
   g. Other __________________________________________ (please specify)

   Now please continue, keeping only this one system type in mind when answering the remaining questions.

3. Do you have a company "name," perhaps an acronym, to describe your particular approach to Systems Selling?

   a. No
   b. Yes: The name (or acronym) is ____________________________________________ , and it means or stands for ____________________________________________ .

B. The following questions relate to characteristics of different kinds of Systems Selling approaches. For each question, please check the one response that most nearly approaches your Systems arrangement.

1. Are your Systems Selling contracts usually drawn up to include

   a. One or two specifically named products for each individual contract?
   b. A multitude of different products for each individual contract?
   c. Other __________________________________________ (please specify)
2. Do the majority of your contracts have specific termination dates, or are they more or less "evergreen," subject only to periodic reviews?

202 a. The majority of our contracts have specific termination dates
92 b. The majority of our contracts are "evergreen," subject to periodic reviews
53 c. We have both types, in about equal proportions

3. For items included under your contracts, are prices held firm for stipulated time periods, or do you have an escalator clause, permitting price changes whenever necessary?

78 a. Prices are held firm for stipulated time periods
141 b. We have an escalator clause, permitting price changes whenever necessary
128 c. We have some contracts of both types

4. Under your System, do authorized customer employees (at the plant level) requisition needed supplies directly from you, or must the customer's Purchasing Department first approve requisitions?

124 a. Most requisitions come directly from plant-level employees to us
120 b. Most requisitions must first be approved by customer's Purchasing Dep't.
97 c. Both of the above situations occur in about equal proportions

5. Do you prefer to initiate negotiations with potential Systems customers, or do you wait for them to approach you with a proposal?

151 a. We usually prefer to initiate negotiations
106 b. We usually wait for customers to approach us
90 c. We have no preference

6. At what level of customer management do you negotiate for your Systems Selling arrangement?

102 a. Top-level management
232 b. Middle-level management
19 c. Lower-level management

7. Who represents your firm when negotiating Systems Selling arrangements with customers?

77 a. We are represented by our regular line salesmen
200 b. We are represented by our top management
70 c. Other ____________________________ (please specify)

8. With regard to pricing the items included under the contract, do you usually

19 a. Quote prices that are below your competitors?
288 b. Stay competitive in price?
40 c. Quote prices that are higher than your competitors?

9. Does your philosophy of Systems Selling lead you to

120 a. Try to sell customers on the idea of accepting your basic concept of a proven Systems approach, or
227 b. Be completely flexible, and install whatever kind of System the customer desires?
Please continue with the following questions by placing a check in the appropriate box.

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes, usually</th>
<th>Usually not</th>
</tr>
</thead>
<tbody>
<tr>
<td>10. Do you agree to stock, for Systems customers, sufficient quantities of contract items on your premises? (Instead of in their storeroom?)</td>
<td>324</td>
<td>22</td>
</tr>
<tr>
<td>11. Do you think of your warehouse as an extension of your Systems customers' stores department?</td>
<td>275</td>
<td>69</td>
</tr>
<tr>
<td>12. Do you guarantee 95 percent item availability (or better) to Systems customers?</td>
<td>182</td>
<td>162</td>
</tr>
<tr>
<td>13. Do you guarantee 48 hour delivery (or better) to Systems customers?</td>
<td>243</td>
<td>102</td>
</tr>
<tr>
<td>14. Can you provide consultation services or technical seminars to better educate and users of your products, if requested by Systems customers?</td>
<td>259</td>
<td>87</td>
</tr>
<tr>
<td>15. At the end of the billing period, do you send Systems customers a single invoice (or tally sheet) covering all of their purchases for that time period, if requested?</td>
<td>237</td>
<td>85</td>
</tr>
<tr>
<td>16. Do you furnish Systems customers with special &quot;catalogs&quot; of items covered under the contract?</td>
<td>208</td>
<td>138</td>
</tr>
<tr>
<td>17. In your Systems program sold on the premise of reducing the customer's total costs of acquisition and possession of supplies?</td>
<td>295</td>
<td>51</td>
</tr>
<tr>
<td>18. Would you characterize your relationship with your Systems customers as one of cooperation, faith, and extensive mutual trust?</td>
<td>318</td>
<td>29</td>
</tr>
<tr>
<td>19. Do you feel that price is the key element in securing successful contracts?</td>
<td>112</td>
<td>233</td>
</tr>
</tbody>
</table>

C. The next group of questions deals with estimating the performance of your Systems Selling arrangement.

1. What percentage of your industrial accounts are presently Systems accounts?
   a. Less than 5 percent
   b. 5 - 9 percent
   c. 10 - 14 percent
   d. 15 - 19 percent
   e. 20 - 29 percent
   f. 30 percent or more

2. What is the approximate percentage of industrial sales volume contributed by your Systems accounts during calendar year 1972?
   a. Less than 10 percent
   b. 10 - 19 percent
   c. 20 - 29 percent
   d. 30 - 39 percent
   e. 40 - 49 percent
   f. 50 percent or more

3. How long, in years, has your company pursued the Systems Selling concept?
   a. More than 8 years
   b. Between 5 and 8 years
   c. Between 2 and 5 years
   d. Less than 2 years

Note: If your company has had a Systems Selling arrangement for less than two years, please go to section D, question 1, and continue.

If your company has had a Systems Selling arrangement for two years or more, please continue with question 4 below.

4. On the next page is a table that provides for estimating the performance of your Systems accounts and non-Systems (regular) accounts. At the left of the table are seven Performance Measures, each followed by a series of boxes representing a growth continuum. These boxes are for indicating, in round figures, whether each group of accounts has experienced growth or decline in terms of the measure in question.
For each of the seven measures, please estimate the growth (or decline) of both the Systems and non-Systems account groups by placing checks in the appropriate boxes. In doing so, do not consider your first two years with Systems Selling, but only those years (or months) beyond the initial two year startup period.

For example, if you have used Systems Selling for five years, then please consider only the last three years when evaluating the account groups.

### Historical Growth Trends in Industrial Accounts

<table>
<thead>
<tr>
<th>Performance Measures</th>
<th>Per cent change in Systems Accounts: Check one box below for each measure</th>
<th>Per cent change in Non-Systems Accounts: Check one box below for each measure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>INCREASES</td>
<td>DECREASES</td>
</tr>
<tr>
<td></td>
<td>50+</td>
<td>20-49</td>
</tr>
<tr>
<td>A. Gross Sales</td>
<td>23</td>
<td>91</td>
</tr>
<tr>
<td>B. Gross Margin</td>
<td>32</td>
<td>82</td>
</tr>
<tr>
<td>C. Stock Turnover</td>
<td>6</td>
<td>44</td>
</tr>
<tr>
<td>D. Return on Investment</td>
<td>3</td>
<td>28</td>
</tr>
<tr>
<td>E. Account Expenses</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>F. No. of New Accounts</td>
<td>7</td>
<td>16</td>
</tr>
<tr>
<td>G. Other (specify)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

D. Following is a set of factors which deal with how you feel about your firm's use of the Systems Selling approach. Each member of the group contains a pair of opposite statements, separated by seven blank spaces. Please place a check in the space that indicates how you feel about that aspect of your program. There are no right or wrong answers; only your opinion counts.

1. Our Systems Selling program is:


Not at all beneficial to us
Growing rapidly
Hurt by customers' lack of understanding
Not suited to us at all
Helping us gain accounts
Poorly designed
1. Outdoing our competitors  

2. A meaningless part of our firm  

3. Something we do not believe in  

1j. Totally satisfactory  

2. What do you feel are the major advantages to the distributor using the Systems Selling approach? Check any of the following responses.

   266a. He can "lock in" the business of major customers
   196b. He is in a position to better forecast sales and plan inventories
   89c. Inventory obsolescence is reduced
   261d. Sales volume increases
   155e. Account profitability increases
   129f. The need to constantly outguess competitors is eliminated
   148g. The distributor's paperwork is often reduced or simplified
   83h. The distributor's cash flow improves
   83i. Markets or territories can be expanded
   30j. Others ______________________________ (please specify)

3. What do you feel are the major disadvantages to the distributor using the Systems Selling approach? Check any of the following responses.

   50a. They are a one way street—they benefit only the customer
   100b. The distributor's paperwork increases
   171c. Customers force you to negotiate on a price basis
   187d. The distributor is forced to stock added inventory
   20e. It is too expensive to service Systems customers
   111f. The distributor can get stuck with obsolescent inventory
   81g. The distributor cannot increase his prices when he needs to
   85h. It is difficult to sell because customers resist change
   104i. Customers do not understand the Systems Selling concept
   27j. Others ______________________________ (please specify)

E. This final group of questions is for classification of the research findings. Please check the responses appropriate to your situation.

1. What special services do you provide for your Systems customers? Check any of the following that apply.

   278a. We carry a substantial portion of their inventories
   221b. Plant employees can requisition directly from us
   104c. We provide a means of control over their purchasing cycle
   266d. We provide 48 hour delivery (or better) on most accounts
   240e. We can make emergency deliveries anytime
   89f. We provide computer reports on item usage
   252g. We provide consultation and problem-solving services
2. Do you maintain a specialized staff of Systems Selling personnel? How many?

24a. 1 or more
24b. 2 - 3
24c. One only
24d. We have no specialists

3. To what extent is your Systems Selling program computerized?

31a. We have an in-house electronic data processing system
31b. We utilize the data processing facilities of a service bureau
31c. We do not use computers in our Systems Selling program
31d. Other ___________________________ (please specify)

4. How do customer requisitions for supplies reach your firm?

41a. Customers mail requisitions to us
41b. We pick up their requisitions when delivering supplies
41c. We utilize a Data-Phone (or other mechanical transmission equipment)
41d. Other ___________________________ (please specify)

5. What were your total gross sales in fiscal 1972?

51a. $20,000,000 or greater
51b. $10,000,000 - $19,999,999
51c. $5,000,000 - $9,999,999
51d. Less than $1,500,000
51e. Other ___________________________ (please specify)

6. Do you consider yourself to be a

61a. General-line house
61b. Limited-line house
61c. Specialist
61d. Combination house

7. Please check below which product lines you carry.

71a. Abrasives
71b. Automotive supplies, parts
71c. Bearings
71d. Builders' Hardware
71e. Cutting tools
71f. Electrical parts, supplies
71g. Electronic parts
71h. Fasteners
71i. Hand tools
71j. Industrial rubber goods
71k. Lubricants
71l. Machine tools
71m. Material handling equipment
71n. Motors
71o. Paint
71p. Pipe fittings, valves
71q. Plumbing, heating supplies
71r. Power transmission equipment
71s. Pumps, compressors
71t. Precision measuring tools
71u. Safety supplies
71v. Sanitary supplies
71w. Steel
71x. Welding supplies

8. What kinds of customers do you most frequently sell to?

81a. Manufacturing establishments
81b. Public utilities
81c. Transportation companies
81d. Mining and extractive industries
81e. Construction industries
81f. Wholesale or retail trades
81g. Institutional markets
81h. Agricultural producers/processors
81i. Government purchasing units

9. What is your title? ________________________________________________

Thank you for your time and cooperation in filling out this questionnaire.
The findings of this study will be made available to your trade association
for distribution to you.
APPENDIX B

Sample Letters of Endorsement

and

Letter Accompanying Follow up Mailing
Dear Industrial Distributor:

One of the most important current developments in industrial distribution is the growth of systems selling (which includes systems contracting, systems purchasing, contract buying, stockless purchasing, and blanket ordering). This development may have consequences of far-reaching importance to industrial distributors, yet little is known about it.

The enclosed questionnaire is part of a research project which will provide some comprehensive information on this subject. You are one of a limited number randomly selected from the thousands of industrial distributors in the country. Therefore, your cooperation in filling out the questionnaire is vital if this study is to accomplish its objectives.

The study is being conducted by Mr. William Hannaford, a doctoral candidate and instructor at Bowling Green State University, under the direction of his dissertation committee of three faculty members at The Ohio State University. All of us feel the results will make an important contribution to knowledge about the extent to which various forms of system selling are being used, their advantages and disadvantages, and what trends seem to be evident.

Please complete the questionnaire - today if possible. A stamped, self-addressed envelope is included for your convenience. Your reply will be held in strictest confidence and no individual's response will be revealed in any way. In return for your cooperation, Mr. Hannaford will be glad to supply you with the results of the study if you will add your name and address on the last page of the questionnaire.

Thank you for your help in this very important research project.

Sincerely,

John A. Grabner
Chairman

W. Wayna Talarzyk
Associate Professor

James H. Davis
Executive Director of
The Distribution
Research Education
Foundation
Dear ASA Member:

Enclosed is a mail questionnaire which is designed to obtain information from industrial and pipe valve & fitting distributors regarding their thoughts about the extent and practice of Systems Selling. The questionnaire is the major part of the dissertation research of Mr. William J. Hannaford, a doctoral candidate in Marketing at the Ohio State University. Mr. Hannaford is also an instructor at Bowling Green State University.

Your Association believes that research of this type is both necessary and timely. Our experience and Mr. Hannaford's preliminary studies indicate that Systems Selling (including the concepts of Systems Contracting, Systems Purchasing, Contract Buying, Stockless Purchasing, and Blanket Ordering) is an exciting, controversial and growing technique which could have considerable impact upon the future of distribution. Your insights will better enable us to assess the nature and extent, advantages and disadvantages, and related aspects of Systems Selling.

Since Mr. Hannaford will be sharing the results of his study with us, we are asking for your cooperation in filling out the questionnaire. You have been randomly selected from among the members of the American Supply Association, and are one of only a few distributors that will be taking part in this research. Therefore, your cooperation is essential. The information to be collected will be strictly confidential, and no individual's response will be revealed.

As Executive Vice President of ASA, I urge you to complete and return Mr. Hannaford's questionnaire today. A stamped, self-addressed envelope is included for your reply.

Sincerely yours,

James H. Poery
Executive Vice President

JHP/11
Encl.
July 30, 1973
NAED's 65th Year

TO: MAIN HOUSE MEMBERS OF NAED

Dear NAED Member:

Enclosed is a mail questionnaire which is designed to obtain information from industrial distributors regarding their thoughts about the extent and practice of Systems Selling. The questionnaire is the major part of the dissertation research of Mr. William J. Hannaford, a doctoral candidate at Ohio State University. Mr. Hannaford is also an instructor at Bowling Green State University.

Your Association believes that research of this type is both necessary and timely. Our experience and Mr. Hannaford's preliminary studies indicate that Systems Selling (including the concepts of Systems Contracting, Systems Purchasing, Contract Buying, Stockless Purchasing, and Blanket Ordering) is an exciting, controversial, and growing technique which could have considerable impact upon the future of distribution. Your insights will better enable us to assess the nature and extent, advantages and disadvantages, and related aspects of Systems Selling.

Since Mr. Hannaford will be sharing the results of his study with us, we are asking for your cooperation in filling out the questionnaire. You have been randomly selected from among the members of the National Association of Electrical Distributors, and are one of only a few distributors that will be taking part in this research. Therefore, your cooperation is essential. The information to be collected will be strictly confidential, and no individual's response will be revealed.

I urge you to complete and return Mr. Hannaford's questionnaire today. A stamped, self-addressed envelope is included for your reply.

Sincerely,

Arthur W. Hooper
Executive Director

AWH:ip
Enc.
August 3, 1973

Dear NFDA Member:

Enclosed is a questionnaire which is designed to obtain information from industrial distributors regarding their thoughts about the extent and practice of Systems Selling. The questionnaire is the major part of the dissertation research of Mr. William J. Hannaford, a doctoral candidate at the Ohio State University. Mr. Hannaford is also an instructor in Marketing at Bowling Green State University.

Your Association believes that research of this type is both necessary and timely. Mr. Hannaford's preliminary studies indicate that Systems Selling (including the concepts of Systems Contracting, Systems Purchasing, Contract Buying, Stockless Purchasing, and Blanket Ordering) is a controversial yet growing technique which could have a considerable impact upon the future of distribution. Your answers will better enable us to assess the nature and extent, advantages and disadvantages, and related aspects of Systems Selling.

Since Mr. Hannaford will be sharing the results of his study with us, we are asking for your cooperation in filling out this questionnaire. You have been randomly selected from among the members of the National Fastener Distributors Association, and are one of only a few distributors that will be taking part in this research. Therefore, your cooperation is very important. The information to be collected will be strictly confidential, and no individual's response will be revealed.

As Executive Secretary-Treasurer of NFDA, I urge you to complete and return Mr. Hannaford's questionnaire today. A stamped, self-addressed envelope is included for your reply. Thank you very much.

Sincerely,

T. Gordon Vaughan
Executive Secretary-Treasurer

Enclosure
August 3, 1973

Dear SIDA Member:

Enclosed is a questionnaire which is designed to obtain information from Industrial distributors regarding their thoughts about the extent and practice of Systems Selling. The questionnaire is the major part of the dissertation research of Mr. William J. Hannaford, a doctoral candidate in Marketing at the Ohio State University. Mr. Hannaford is also an instructor at Bowling Green State University.

Your association believes that research of this type is both necessary and timely based on the amount of interest which has been evidenced by many of our members. Mr. Hannaford's preliminary studies indicate that Systems Selling (including the concepts of Systems Contracting, Systems Purchasing, Contract Buying, Stockless Purchasing, and Blanket Ordering) while often misunderstood and controversial, is a growing technique which could have considerable impact upon the future of distribution. Your insights will better enable us to assess the nature and extent, advantages and disadvantages, and related aspects of Systems Selling.

Since Mr. Hannaford will be sharing the results of his study with us, we are asking for your cooperation in filling out the questionnaire. You have been randomly selected from among the members of the Southern Industrial Distributors Association, and are one of only a few distributors that will be taking part in this research. Therefore, your cooperation is important. The information to be collected will be strictly confidential, and no individual's response will be revealed.

While the questionnaire appears to be lengthy, most questions can be quickly answered without extensive research and require only a check mark. Since we will be able to provide our SIDA members with the results of this survey for their guidance and information, we hope you will complete and return Mr. Hannaford's questionnaire today. A stamped, self-addressed envelope is included for your reply.

Sincerely,

H. T. Davisson
Executive Vice President

H. T. Davisson
Executive Vice President

HTD/ss
August 23, 1973

Dear Sir:

Recently I sent you a questionnaire on Systems Selling, designed to determine your usage and opinions of this technique. As only a limited number of these were sent out, your answer is very important to the accuracy of this survey of distributors.

Possibly my original questionnaire went astray in the mails or the press of business or vacation kept you from responding. If you have not yet had a chance to answer, I would be most grateful if you would do so now. A copy of the questionnaire and a stamped return envelope are included for your convenience.

One final request—in answering the questionnaire, please pay particular attention to the Table on page 4. Your answers here are especially vital to the research. It is not necessary to do extensive checking, but try to estimate the answers from memory as accurately as possible. Your answers will, of course, be held in the strictest of confidence.

Thank you very much for your time and cooperation.

Faithfully yours,

William J. Hannaford
Assistant Professor

Enclosures
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Books and Monographs


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