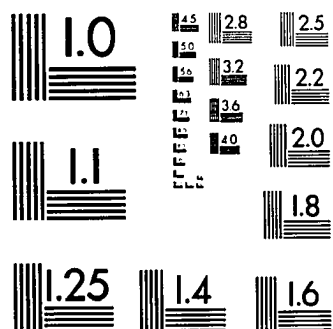


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**A STUDY OF PRODUCT INFORMATION AS IT RELATES TO RETAILERS
AND ADULT CONSUMERS**

The University of Oklahoma

PH.D. 1985

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THE UNIVERSITY OF OKLAHOMA
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A STUDY OF PRODUCT INFORMATION AS IT RELATES
TO RETAILERS AND ADULT CONSUMERS

A DISSERTATION
SUBMITTED TO THE GRADUATE FACULTY
in partial fulfillment of the requirements for the
degree of
DOCTOR OF PHILOSOPHY

By
TOM LOREN TRITTIPO
Norman, Oklahoma
1985

A STUDY OF PRODUCT INFORMATION AS IT RELATES
TO RETAILERS AND ADULT CONSUMERS
A DISSERTATION
APPROVED FOR THE DEPARTMENT OF ADULT EDUCATION

By

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A STUDY OF PRODUCT INFORMATION AS IT RELATES TO RETAILERS AND ADULT CONSUMERS

Abstract

Manufacturers in the market environment are confronted with the problem of channel member communication, persuasion of these members to buy merchandise and properly educating the adult consumer to purchase the manufacturer's products. Product complexity could have an effect on the retailers' importance of manufacturer representatives' sales calls. In a survey of 100 retail hardware stores, ratings were obtained for power and hand tools in three areas: product complexity, retailers' importance ratings of retailers in dealing with manufacturer representatives, and former adult consumer feedback information. Measures were obtained for sixteen distinct situations. Results indicated that manufacturer representatives for hand tools are perceived as poorer sources of information than power tool manufacturer representatives in the first two areas. The consumer was found to be an important information source in both hand and power tool groups in the third area. A significant difference was found between product groups and the importance of manufacturer representatives' sales calls to the retailer. The findings suggest training programs for retail personnel should include differentiated recommendations concerning high and low complexity tools. The influence of manufacturer power, hardware store retailer dependence and store identifying information were also studied.

INTRODUCTION

The marketing channel consists primarily of manufacturers, wholesalers and retailers. Each management level is only concerned with suppliers and customers who conduct business at their respective channel level. These channel members bargain aggressively and destructively with each other, sever business relationships arbitrarily, generally behave in a highly independent manner and have no strategic commitment to a channel system, according to Mason and Mayer (1984).

Mason and Mayer (1984) also see at the top level the manufacturer performing the functions of product research and development and mass media advertising as part of the conventional distribution structure. Wholesalers at the second level can best be characterized as intermediate distributors who provide inventory management, warehousing, delivery, product assortment and often credit to the retailer.

The third level is the retailer who normally provides promotion, distribution and even inventory functions at the local level. The retailer deals directly with the consumers and must recognize their motives for buying the products.

Supermarket News (1982) reports that lack of cooperation and conflict are common between channel members. Communication is poor because the various levels of the channel do not see themselves as pursuing common goals.

Brown and Stoops (1982) state power is often used by channel members to respond to channel conflict. Power, in its general use, refers to the ability of a channel member to control the marketing product mix variables of another member.

Retailers must realize the adult consumer's need for adequate product information. Adequate information from the manufacturer concerning product complexity must be provided to the retailer before a purchasing decision is made. Owners/Managers can make information available to consumers in a variety of ways to guide them in their product search. Adult consumers in turn receive product information from sources dominated by the market, the government and consumer product rating agencies.

RELATED RESEARCH

Two studies have indicated that salesmen represented the most important source of information at all stages of the product adoption process and nonpersonal sources such as trade association and journal advertising declined in importance from awareness to adoption. (See Martilla, 1971; Webster, 1970). Luffman (1974) studied source importance utilizing the qualifying, determining and confirmation phases and concluded that nonpersonal sources of information i.e., trade journals and trade directories, were most important in the qualifying stage. Personal, on-site visits and salesmen contacts were the most important factors in the determining and confirmation phases.

Kollinger (1963) assessed the sales effects of industrial advertising and found that advertising does increase the efficiency and reduces the costs of personal selling. Morrill (1970) found that industrial advertising had a positive effect on buyer ratings and market share for the suppliers' products.

Numerous studies on manufacturer power have indicated that it is derived from two sources: coercive and noncoercive. (Hunt and Nevin (1974) Etgar (1976), and Lusch (1976).) According to Hunt and Nevin (1974), Etgar (1976) and Lusch (1976) coercive sources were significantly related to the amount of

channel member conflict while noncoercive sources were negatively related to the amount of channel member conflict.

Promotional strategies by channel members change according to the characteristics of the product being marketed. Studies support the theory that shopping goods require a greater use of personal selling by retailers while convenience goods are promoted at all levels of distribution. (See Holton (1958), Bucklin (1963), Miracle (1965), and Buell (1976).)

Anderson and Jolson (1973), Dorris and Tabrizi (1978), and Crosby and Taylor (1981), conclude that adults make their product choices based upon expectations, proper communications, perception and cognitive learning. Anderson (1973) believes there is a communication gap present at the retail level that affects the judgement of the adult buyer.

Dorris and Tabrizi (1978) conclude that buying perceptions will vary among consumers according to their age, lifestyle and interests. Crosby and Taylor (1981) contend that product information properly diffused has a profound impact upon cognitive learning and consumer choice.

A study by Apps (1980) suggests that people are increasingly more aware of their rights as consumers. They complain about shoddy goods and poor quality service. People are more careful about what they buy in the first place, whether it be goods or services.

INFORMATION SOURCES--HYPOTHESES

Retailers serve as an information source for consumer products, especially when the cost for these products begins to increase. One of the major reasons information becomes more important is the fact that the product's use must be explained to the consumer. Hardware store owners and managers depend on manufacturer representatives to make this product information available. Upah

(1979) found that when the product becomes more complex the amount of product information necessary increases. Product information also could affect the importance of personal selling by the retail owner/manager. Retailers have a need for product information. As products become more complex the need for information increases. A better understanding of the products would benefit and guide the retailers in their purchases from the manufacturer. Expanded breadth of the product line may be a factor influencing the retailers' perception of the importance in manufacturer representatives sales calls. Manufacturer representatives could assist retail owners/managers in selection of correct inventory levels, demand forecasts for a specific product and even provide promotional offers that accompany the product.

Sales contacts by manufacturer representatives become the primary method of distributing product information to the retailer. The retailer must decide which information source is important in the buying decision process. Feedback from former adult consumers could provide the retailer with information necessary to make future purchasing decisions. There is also a communication gap at the retail level that affects the judgement of the adult buyer (Anderson 1973). The retailer must choose from manufacturers' sales contacts or feedback received from former adult consumers.

Miracle (1965) and Buell (1976) both predicted a relationship between the marketing of the product and the use of personal selling by the manufacturer representative and retailer due to the products' technical complexity. When products become complex, retailers need more and better information to aid them and adult consumers with their purchases. For this part of the study, the following hypothesis was tested:

H₁: Retailers will judge personal selling to the adult consumer as a significantly more important source of information when product complexity is high than when product complexity is low (Upah 1979).

Manufacturers will place more emphasis on personal selling as opposed to advertising when products become complex according to Miracle (1965) and Buell (1976). Both theorists also point out that distribution is more direct for products higher in complexity. High complex products should reflect more emphasis on personal selling and a higher number of sales calls by manufacturer representatives' as compared to low complex products. The following hypothesis was tested:

H₂: The frequency of personal sales contacts between manufacturers and retailers will be greater for products high in complexity than for products low in complexity (Upah 1979).

Product information properly diffused has a profound impact upon cognitive learning and consumer choice as noted by Crosby and Taylor (1981). Consumers in turn could use the product information to give buying advice to the retailer. The retailer should be concerned with consumer purchase decisions in relation to product complexity. The following hypothesis was tested:

H₃: Former adult consumers will be viewed by retailers as an important source of information in either complexity category i.e., retailers will consider feedback received from former adult consumers more important for products high in complexity than for products low in complexity.

METHOD

Testing of the hypotheses was conducted through a telephone survey and

personal interview of 100 retail store owners and managers in a South Central state. Ninety percent were contacted by telephone and ten percent were personally interviewed.

The Retail Environment

The retail hardware store has a large product assortment in terms of product complexity. Specifically, power and hand tools in the \$20 to \$40 price range were chosen for this study. To insure a higher cooperation rate, 50% of the respondents were asked questions pertaining only to power tools and 50% pertaining only to hand tools. Hardware stores tend to be smaller in physical size and employ fewer personnel than any other retail establishments. Owners/managers could be aware of all contacts with the manufacturer representative because of store size and fewer number of employees. The hardware store carries a line of speciality goods that are powered and a line of speciality goods that are hand driven.

Data Collection

A stratified sample according to sales volume of 250 stores was taken from a list of retail hardware stores supplied by the National Retail Hardware Association. From this sample, forty percent were randomly selected based upon sales volume. Store respondents, though assured of anonymity, were identified by a code number.

Owners/managers were given a question that dealt with the amount of selling effort required for power and hand tools. The sample could reflect the difference requirement of high complex and low complexity products. Subjects were asked to indicate what amount of sales effort was required of managers and sales people to explain various options, features and consumer use requirements of power tools. Ratings were from 1 to 5 with 5 being most positive--e.g.,

ratings of (1) "no significant amount at all" to (5) "extremely high amount required" to test hypothesis one. The question was similar to the one employed by Upah (1979).

Frequency of manufacturer--retailer contacts was measured by comparing sales calls from the top two major suppliers of power tools with the top two major suppliers of hand tools. The use of two suppliers would reduce the possibility of collecting data in a market where only one supplier is dominant. The respondents were then asked, "How many times during the last year did the power (hand) tool representative call?" to compare power tool mean rating with hand tool mean rating. Respondents then were asked, "Who are your two top major brand suppliers for power (hand) tools and how often did they call during the last year?" to compare mean number of calls of top two power tool suppliers with mean number of calls of top two hand tool suppliers for the second hypothesis (Upah 1979).

Purchase decisions made by the adult consumer provide information to the retailer. Purchase decision making was measured by comparing high complex (power tools) with low complex (hand tools) products. Subjects then were asked "How important did they (retailers) consider feedback from former adult consumers as an information source, i.e., who purchased power (hand) tools in terms of former adult consumer purchase decisions." The ratings were from 1 to 5 with 1 being "not significant at all" to 5 being "of extreme importance" to test hypothesis three.

Adult consumers could provide product buying advice to the retailer. Advice importance was measured by again comparing high complex (power tools) with low complex (hand tools) products. Respondents were asked "How important did they (retailers) consider feedback from former adult consumers as an information source, i.e., who purchased power (hand) tools in terms of adult

consumers product buying advice?" Again, ratings were from 1 to 5 with 1 being "not significant at all" to 5 being "of extreme importance" also to test the third hypothesis.

Retailer satisfaction and cooperation are examples of two measures of manufacturer power. The power variables were determined by the results of the study by Buell (1976). Buell's study listed both of these as reasons why a retailer stocked a particular brand of hardware product. Satisfaction and cooperation were measured to determine if manufacturer power would influence a retailer's preference when dealing with the manufacturer representative. Manufacturers' influence in the power and hand tool market was measured by asking the retailer to rate his overall satisfaction and cooperation with the top two suppliers in each category. Ratings again were 1 to 5 with 1 being "no significant satisfaction (cooperation)" to 5 being "extreme satisfaction (cooperation)."

Dependence was measured to provide information concerning the relative importance of a particular manufacturer's product line to the retailer. Retailers' dependence was measured by a replacement value rating given in the areas of adult consumer product preference, profit margins and product quality for the two top suppliers of power (hand) tools. A 1 to 5 rating was utilized with 1 being "easy to replace" and 5 being "impossible to replace." An example of retailers' dependence would be a retailer's difficulty in finding another supplier if the present one were no longer available. Finally, sample measures were obtained for store identifying purposes.

RESULTS AND ANALYSIS

Tests of the Hypotheses

Hypotheses 1 employed a one-way design with one separate dependent measure. Analysis was conducted on the dependent measure (amount of sales

effort) separately for each of the two product groups (power and hand).

Support for the first hypothesis results from the fact that retailers revealed a greater amount of sales effort was required of their staff to explain requirements of tools to adult consumers as they become more complex. Respondents reported a significantly greater amount of effort was spent by retailers in explaining power tools ($\bar{x} = 3.04$) than hand tools ($\bar{x} = 2.61$). Table 1 reveals the statistical likelihood of this difference to be achieved by chance to be less than .05.

(Insert Table 1)

The second hypothesis was tested by the frequency of calls questions. The power tool category had a lower mean number of calls ($\bar{x} = 2.46$) than did the hand tool category ($\bar{x} = 3.05$). Comparisons were made between mean number of calls for power tool and for hand tool major suppliers. A t-test design measure indicated in Table 2 reveals a significant difference in these means. Therefore, the second hypothesis is rejected.

(Insert Table 2)

Retailers reported that the top two suppliers in the power tool market (Black & Decker and Skil) had a mean number of sales calls of 1.08 and 1.48 respectively while the top supplier of hand tools (Stanley) reported a mean number of sales calls of 3.23. Sales calls differences between product groups suggest the major supplier's emphasis on selling in each respective group. Suppliers have the capacity to emphasize selling efforts on larger retail accounts in the hardware market because of market share. Table 3 reveals that Black & Decker and Skil power tools represented over 92 percent of that category while

Stanley and Cooper hand tools dominated 47 percent of that category. Both product groups, because of dominant market share, could have influence over the retailer in personnel selling efforts due to sales calls frequency.

(Insert Table 3)

Hypothesis 3 was concerned with whether retailers considered information from former adult consumers more important for high complexity products than for low complexity products. Hypothesis 3 was tested utilizing a t-test measure design based on information importance feedback with two separate dependent measures (importance of former adult consumers' purchase decision-making and importance of former adult consumers' product buying advice) for power and hand tools. Product buying advice included suggestions given by former adult consumers to retailers regarding brand preference, number of models in the product line and product pricing. The comparison of both sets of product groups (high and low complexity) revealed no significant difference between the dependent variables. (See Table 4). Retailers considered information from former adult consumers moderately important as an information source in either complexity condition, which permits the rejection of Hypothesis 3.

(Insert Table 4)

Influence of Manufacturer Power and Dependence

Power in the market channel could influence the number of sales visits by a manufacturer representative. A manufacturer with a dominant share of the market could have greater control over the channel members including the retailer. Retailers could ultimately have a greater dependence on such a manufacturer. It is possible that the difference in satisfaction and cooperation ratings between both product groups could be attributed to manufacturer power and the resulting retailer dependence. To determine the influence level of

power, a t-test was conducted across product groups separately based on satisfaction and cooperation between the retailer and the two top suppliers. Both product groups revealed no significant difference in mean ratings between satisfaction and cooperation. The comparison also revealed that when product groups were placed together that overall satisfaction was higher when compared to overall cooperation. Therefore, it appears that retailers placed a greater degree of satisfaction with the manufacturer. (See Table 5).

(Insert Table 5)

The retailer dependence mean rating across both product groups revealed little importance for all three impact replacement categories. Adult consumer preference mean rating suggests that the retailer would be concerned about the future product preferences of the consumer. Results are given in Table 6.

(Insert Table 6)

Influence of Store Information

Thirty two percent of the stores included in the sample reported annual gross sales volume for 1984 ranging from 1 to 2.5 million dollars. This is significant to note because the number of sales calls by manufacturer representatives to the retailers with higher gross sales could indicate an emphasis on manufacturer representatives' personal selling efforts. As previously noted, the top two suppliers for both product categories could concentrate their personal selling efforts on retailers in the thirty-two percent group. Seventy three percent of the respondents in the sample employed 4 to 19 employees. The number of employees could have an influence on the retailer's importance for the employee to be properly trained to sell hand and power tools. The necessary information should be provided by the manufacturer representative. The data revealed that 35 percent of the respondents have a

store size of 10,000 square feet or more. This denotes the possible capacity for a very large product assortment to the consumer. The hardware stores were well established business operations by years in existence (mean = 29.68 and median = 50.00).

Discussion and Summary

Hypothesis one was concerned with the importance of personal selling for retailers in relation to product complexity. Product complexity did increase the importance of sales calls by manufacturer representatives which supports the hypothesis. As products become more complex the knowledge required to use the product increases. Retailers also may find it necessary to seek assistance from manufacturer representatives with warranty and service problems associated with complex products. Sale training assistance provided by the manufacturer representative could prove more beneficial with complex products. The results of this study are consistent with Upah (1979) who reported personal selling efforts by retailers were dependent on the types of products being purchased.

Hypothesis two evaluated frequency of sales calls by manufacturer representatives in relation to product complexity. Specifically, it was expected that frequency of calls would be greater for complex products than for less complex products. Results of the findings do not support the hypothesis. Hand tool suppliers distribute a broader product line than power tool suppliers. Suppliers in the hand tool market are greater in number and each supplier holds a smaller share of the market which could intensify competition in pricing and promotional allowances (See Table 3). Upah (1979) also indicated that product complexity does have a significant impact on retailers' perceived importance ratings for sales calls by manufacturer representatives.

Adult consumer feedback was measured according to product complexity in hypothesis three. The feedback of former adult consumers dealt with product purchase decisions and former adult consumers' buying advice to the retailer. Retailers' importance rating of adult consumer feedback was compared to high and low product complexity. The comparison indicated no retailer preference for feedback from the adult consumer in either complexity condition. Retailers revealed moderate importance to adult consumer feedback in both product groups. Adult consumers as an information source to the retailer are still a vital factor in the personal selling process.

This study also has indicated that cooperation and satisfaction between the retailer and the manufacturer representative had a high rating but dependence had a low rating. Low dependence could be attributed to the increase in foreign competition in both the power and hand tool market. This response was frequently given but was not tested specifically.

Limitations on the findings of this study must be recognized. Limitations include using hardware retailers and only two product groups.

The Future For the Tool Market

The study of product information importance could be expanded into other areas such as consumer information sources that involve the areas of consumer product usage, health and safety, consumer product user training, consumer feedback model and brand preference, product maintenance suggestions from the consumer to the retailer and consumer feedback on product complaints.

Finally, the results of this study suggest the importance of information being given to the retailer in each product group. The retailer must rely on the manufacturer representative and former adult consumer to fulfill this need. The findings suggest training programs for retail personnel should include differentiated recommendations concerning high and low complexity tools.

TABLE 1
Results of the t-Test for Power Tools
and Hand Tools for Measures of Retailers'
Amount of Effort to Explain Tools

Group	Power Tool					Hand Tool				
	M	SD	Error	t-Value	df	M	SD	Error	t-Value	df
Amount of Effort to Explain Tools	3.04	1.02	.146	2.19*	97	2.61	.909	.130	2.19*	96

*p < .05

TABLE 2
Results of the t-Test for Frequency
of Sales Calls from Manufacturers to Retailers

Group	Power Tool					Hand Tool				
	M	SD	Error	t-Value	df	M	SD	Error	t-Value	df
Number of Sales Calls	3.05	.084	.047	.092*	98	2.46	.334	.056	.092*	97

*p < .05

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*Other category represents no more than 3 percent of the retail buyers in the sample.

TABLE 4

Results of the t-Test for Power
Tools and Hand Tools for Measures
of Retailers' Importance of Adult
Consumers' Purchase Decision-Making
and Product Buying Advice

Group	Power Tool					Hand Tool				
	M	SD	Error	t-Value	df	M	SD	Error	t-Value	df
Importance of Adult Consumers' Purchase Decision- Making	3.64	1.02	.145	-1.06*	98	3.86	1.05	.148	-1.06*	98
Importance of Adult Consumers' Buying Advice	3.48	1.24	.177	1.39*	98	3.14	1.19	.169	1.39*	98

*n.s.

TABLE 5
Results of the t-Test and 2-Tail Test for Power Tools
and Hand Tools for Measures of Overall Satisfaction
and Cooperation With Top Two Suppliers

Group	Power Tools					Hand Tools				
	M	SD	Error	t-Value	2-Tail	M	SD	Error	t-Value	2-Tail
Overall Satisfaction	3.62	.667	0.94	-1.75*	.358	3.84	.584	.083	-1.75*	.358
Overall Cooperation	3.62	.753	.106	-.93*	.567	3.75	.693	.099	-.93*	.567

*n.s.

TABLE 6

Results of the t-Test and 2-Tail Test for Power Tools
and Hand Tools for Measures of Retailer
Dependence on the Top 2 Suppliers

Group	Power Tools					Hand Tools				
	M	SD	Error	t-Value	2-Tail	M	SD	Error	t-Value	2-Tail
Replacement Impact on Adult Consumer Preference	1.95	1.15	.165	.52*	.802	1.84	1.11	.157	*.52	.802
Replacement Impact On Profit Margins	1.68	.926	.134	.18*	.876	1.65	.948	.135	.18*	.876
Replacement Impact on Product Quality	1.80	.926	.131	-.27*	.829	1.85	.955	.139	-.27*	.829

*n.s.

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APPENDIX A
PROSPECTUS

Introduction

Mason and Mayer (1984) both see the marketing channel as a loosely formed group of autonomous manufacturers, wholesalers and retailers. Management at each level is likely to be concerned only with suppliers and customers immediately above and below them and not with links at all levels of the channel. They bargain aggressively and destructively with each other, sever business relationships arbitrarily, generally behave in a highly independent manner, and have no strategic commitment to a channel system.

Mason and Mayer (1984) also see the manufacturer performing the functions of product research and development and mass media advertising as part of the conventional distribution structure. Wholesalers can best be characterized as intermediate distributors who provide inventory management, warehousing, delivery, product assortment and often credit to the retailer.

The third layer is the retailer who normally provides promotion, distribution and even inventory functions at the local level.

Supermarket News (1982) reports that lack of cooperation and conflict are common. Communication is poor because the various levels of the "channel" do not see themselves as pursuing common goals.

Brown and Stoops (1982) state power is often used by channel members to respond to channel conflict. Power, in its general use, refers to the ability of one firm to control the marketing product mix variables of another.

Retailers must understand manufacturers power when dealing with the adult consumer. Adequate information concerning product purchasing must be provided when this adult consumer makes such a decision. Management can make information available to consumers in a variety of ways to guide them in their search. Adult consumers receive this information from sources dominated by the market, the consumer, the government and consumer rating agencies.

Waters (1974) states that the evaluative criteria for merchandise may be grouped into four categories: cost, performance, suitability and convenience. Cost would include: price, repairs, operating cost, cost of extras and opportunity cost. Performance would be judged by durability. Suitability takes into account: brand, style, store image, product image and time factor. Convenience would be evaluated by store location, store layout, store atmosphere, store services and product extras.

Problem

A problem facing manufacturers in the market environment is channel member communication and persuading these intermediaries to buy merchandise and properly educate the adult consumer to purchase the manufacturer's products. Several communication methods are available for the manufacturer to influence retailers and the ultimate adult consumer, consumer and trade association reports and adult customer contacts represent other sources of information or media not under the manufacturer's direct control. A better understanding of which communication method is most important to intermediaries and adult consumers under which conditions should aid manufacturers in designing consumer education strategies. Intermediaries improving their understanding of the importance given to various media and the factors that affect them also has implications for improving consumer education and marketing theory in the area of communications.

Purpose

The purpose of this study is to: (1) evaluate the effect of product information for retailers as it directly relates to manufacturer representatives sales calls; (2) examine the effects of product information on the actual number of personal calls by manufacturers to retailers; (3) attempt to determine whether the pattern of product information importance found in studies of retail buyers

correlates for adult buyers in consumers products channels; and (4) examine the effects of product information education on the decision making process of the adult consumer. The effectiveness of sales calls by manufacturer representatives will be compared to other sources of manufacturer's power and retailer dependence. Power is measured by the degree of control a particular channel member exercises over another channel member in terms of pricing and distribution according to Brown and Stoops (1982).

Significance of This Study

This study will add to the knowledge of information use by the retailer, the wholesaler and the adult buyer in consumer products channels. There are no published studies dealing specifically with information use by adult buyers in the consumer products channels. The study also should provide some insight about the presumed relationships between characteristics of products and promotional strategy (see, for example, Aspinwall (1976)). Data will be gathered and examined to determine if personal selling is a preferred and frequently used information source when product complexity is high. Information will be obtained concerning the specific reasons why retailers value seeing sales representatives (Upah, 1979).

The study has managerial implications for the design of manufacturer-to-retailer communication strategies for different levels of product complexity. The study will extend the limited research findings in the area of interorganizational communications and will suggest directions for future research (See Upah, (1979).)

This research also will provide some preliminary indication of the effects of sales calls by manufacturer representatives, relative to other elements of manufacturer power, in increasing retailer satisfaction and cooperation with the

manufacturer. This relationship has been specifically tested in a previous study of power and conflict in channels of distribution (see Upah 1979). The implications of the findings from this research are limited by the specific channel of the intermediary studied and the adult market.

Definitions

1. Complexity Complexity refers to the degree of difficulty in understanding and using the product. (See Rogers 1983)
2. Conflict Conflict refers to the perceptions, goals and decisions that present problems among channel members.
3. Power The power of the supplier over the retailer is the ability of the supplier to control decisions made by the retailer. (See Lusch 1982)
4. Dependence Retailer A must depend on Supplier B in terms of inventory planning and delivery, possible financial assistance and promotional assistance. The concept of dependence was derived from Emerson (1962).
5. Consumer Education The practice and policies of educating consumers by making them aware of goods and services and their intended uses.

Literature Review

This chapter first will discuss various studies that have been made to assess information source importance by organizational buyers. Second, studies on the effects of industrial advertising will be reviewed. Third, studies on the effects of personal selling will be reviewed. Fourth, a review of studies relating the characteristics of products to marketing promotional strategy will be made. Fifth, some basic differences between industrial and consumer products channels will be discussed, focusing on differences and importance of various sources of information. Finally, studies on the concept of why the adult consumer purchases products and the learning theory or theories that may explain purchasing will be discussed.

Studies Measuring Information Source Importance by Organizational Buyers

Webster (1970), Martilla (1971), and Luffman (1974) all looked at information source importance at various stages of the adoption process. The basic stages of the process are: (1) awareness or determination of which seller can provide needed products (or services); (2) interest in the sellers and their products; (3) evaluation of sellers and products; (4) purchase decision; and (5) post-purchase evaluation. Webster and Martilla interviewed purchasing agents and other individuals involved in purchasing decisions. Both found that personal sources--i.e., salesmen--were the most important source of information at all stages of the adoption process. Furthermore, nonpersonal sources (e.g., trade journal advertising and trade association reports) were found to decline in importance from awareness to adoption.

These two studies diverge, however, in their findings as to the importance of word-of-mouth to be rated high in importance, especially at later stages of the adoption process. Kelly and Hise (1979), in another source importance study, also showed word-of-mouth to be rated high in importance by industrial buyers. Kelly and Hise did not, however, look at importance ratings by stage in the adoption process. One possible reason for the inconsistent findings was that the organizations and individuals studied differed across studies--i.e., purchasing agents were used in one study, higher-level managers in others. A second possible reason was that the information sources referred to differed in quantity and type across studies.

Luffman (1974) examined source important by phase in the buying process. He referred to these phases as the qualifying, determining and confirmatory phases. Luffman's sample consisted of specialist raw material buyers and chief buyers from thirteen firms producing valve fittings and twenty firms producing earth-moving equipment. The product studied was a process raw material used

by both of these firms in the manufacture of their products.

Luffman found that supplier representatives were rated, overall, the most important information source by buyers in the two industries. In the qualifying phase, nonpersonal sources of information such as trade directories and trade journals were most important. In the determining and confirmatory phases, personal sources such as visits to the plant and contact with salesmen were most important.

Luffman tested for differences in the ratings of source importance by industry, buyer experience, ownership of the firm (e.g., whether U.S. or British), organizational status of the buyers, and degree of perceived risk in switching from existing suppliers. The only significant difference occurred with respect to the type of firm or industry. Buyers in the valve industry rated trade directories as the most important source of information in the evaluation stage. Buyers from the earth-moving equipment industry rated salesmen as the most important source in the stage. Since there were more earth-moving equipment firms in the sample, salesmen were rated higher in overall importance.

Luffman offers no explanation as to what differences in the two industries may have caused the difference in source importance ratings. A possible explanation is that the raw material was one of a multitude of component parts that had to be used in producing earth-moving equipment. It comprised only five percent of the total finished price of the equipment. In contrast, the raw material accounted for over 40 percent of the price of valve fittings. Thus, the equipment buyers may not have had the same degree of expertise in buying each separate part and material as would buyers of fewer parts and materials. Furthermore, the use of the material in earth-moving equipment may have involved more complex technical considerations--i.e., greater complexity in use--than the use of the material in a valve fitting. These factors may have resulted

in the increased reliance on personal selling by these buyers.

Studies on the Effects of Industrial Advertising

A review of research on industrial advertising and budgeting practices by Lilien et al. (1976) showed that there is very little published research dealing with the effects of industrial advertising. This is true whether one is talking about effects on behavior such as sales or nonbehavioral measures of effects such as attitudes. The authors also point out that those studies that have been done employed mostly correlational methods. They found no studies had examined the effects of industrial advertising experimentally.

There have been two major studies which have attempted to assess the sales and/or attitudinal effects of industrial advertising. Kolliner (1963), using a sample of approximately 100 industrial firms, showed that as the percentage of total promotional expenses (advertising and salesforce expenditures) spent on advertising increased, total salesforce expenditures as a percentage of sales declined. On the basis of this finding, he suggests that advertising increases the efficiency and reduces the costs of personal selling. Kolliner found that with an arbitrary cut-off designating firms with high and low industrial advertising budgets, sales costs were on the average 21 percent lower for firms with high advertising budgets. This result was basically the same regardless of whether the firms sold raw materials, supplies or machinery and equipment.

Morrill (1970) provides a possible explanation for Kolliner's results. He found that industrial advertising had a significant, positive effect on such factors as buyer ratings of supplier salesmen and market share for the supplier's products. Thus, both studies have indicated that industrial advertising may increase the effectiveness of salesmen, and result in increased sales with possibly lower overall promotional costs.

Morrill's findings were based on group comparisons--one group exposed to a high number of the seller's advertisements (i.e., buyers that read over 30 percent of the trade journal issues where the seller had placed ads) and a second group exposed to a low number of the seller's ads (i.e., buyers that read less than 30 percent of the issues with the seller's ads). These were ex post facto comparisons and did not involve a true experimental design. Morrill claims that the equality of groups was achieved by a "statistical weighting process." However, factors which may have led one group to read more trade journals than the other, and not the advertising itself, may have had something to do with the increased market share and higher ratings of salesmen. Nevertheless, Morrill claims that his results have been confirmed in numerous studies across many industries.

Studies on the Effects of Personal Selling

No studies have specifically attempted to assess the effects of personal selling in a consumer products channel. Similarly, there have been no published studies in this regard for industrial selling.

However, there have been several studies relating sources of manufacturer power or influence (including personal selling assistance) to manufacturer control over dealers and dealer satisfaction and cooperation with manufacturers. Etgar (1976), using a sample of independent insurance agents, found that non-coercive sources of power (e.g., sales training assistance and advertising support) were more highly correlated with insurer control over agents' business decisions than power based on the agents' dependence on the insurer. Hunt and Nevin (1974), however, using a sample of fast-food franchises, found that coercive sources of power (e.g., limitations and requirements set down in the franchise agreement) explained much more of the variability in franchisor control than noncoercive sources of power. Noncoercive sources such as sales training and site location

assistance were slightly better predictors of franchise satisfaction with the franchisors. Hunt and Nevin's results are not surprising since a failure of a franchise to adhere to contractual provisions would mean possible loss of their franchise.

Lusch (1976), in another power and conflict study using automobile dealers, examined the role of noncoersive versus coercive sources of power in increasing/decreasing the amount of conflict between manufacturers and their dealers. As hypothesized, noncoersive sources of power (e.g., manufacturer assistance to dealers) were negative related to amount of conflict. Coercive sources (e.g., slow delivery of products or slow payment on warranty service performed by dealer) were significantly, positively related to the amount of conflict.

Wilkinson (1974), in a study of manufacturers, wholesalers and retailers in the venetian blind industry, used measures of French and Raven's (1959) bases of social power as predictors of the overall power of one set of firms over another. None of Wilkinson's measure of sources of power specifically dealt with personal selling.

Wilkinson found that the measure of reward, coercive, legitimate, referent and expert power were not good predictors of overall power. The unadjusted R using these five predictors of overall power in a regression was .13. Wilkinson did find, however, that by including variables relating to the dependence of one firm on another (e.g., duration of business relationship, percentage of business transacted with power holder) the percent of variance in overall power explained by the regression equation was more than doubled.

El-Ansary and Stern (1972), in a study of retailers and wholesalers in the heating and cooling industry, tested the relationship between an index of various sources of power and dependence and the degree of one firm's control over

another firm. Sources of power included variables relating to personal selling such as sales training assistance, provisions of business advice, and such variables as degree of customer preference for the firm's products and co-op advertising provisions. Dependence was measured by an index of the percentage of one channel member's business contracted with another, perceived difficulty of replacing another channel member with another source of supply and perceived commitment of one channel member to the policies of another. No significant relationships were found between the predictor variables--i.e., sources of power and dependence--and the dependent variable--control. The authors blamed the lack of significant results on a lack of any concentration of power in the channel, i.e., the power of all channel members was fairly equal. The authors also found that a very high level of conflict existed which may have colored the responses of the firms in the sample.

Characteristics of Products and Communication Strategy

A number of authors have suggested and shown that communication or promotional strategies (as well as other elements of marketing strategy) should change as a function of the characteristics of the products being marketed. An early attempt to related product characteristics of consumer products to marketing strategy was made by Copeland (1923). A similar approach was made by Aspinwall (1967). Copeland's familiar convenience goods, shopping goods and specialty goods breakdown was later modified by Holton (1958), and expanded upon by Bucklin (1963), Miracle (1965), and Buell (1976). The general thesis on promotional strategy that arises from these papers is that shopping goods (i.e., those with, among other things, low frequencies of purchase, high consumer willingness to search and high prices) require more direct promotion through the channel (i.e., involving greater use of personal selling). Convenience goods (i.e.,

those with high frequencies of purchase, low consumer willingness to search and lower prices) are more well-suited to mass promotion throughout the channel.

Miracle (1965) classified products into five major groups based on nine major product characteristics. These characteristics included unit value of the product, rate of technological change, technical complexity, consumer need for assistance and product service and frequency of purchase. Group 1 products included cigarettes, candy bars and other simple-to-use convenience items. Group 4 products include automobiles and high-quality cameras. In between were various levels of products increasing in cost, complexity, need for consumer assistance, etc., up through Group 5. Group 5 products crossed the consumer products barrier into major industrial products such as computers and turbine engines. Miracle suggests that personal selling will be used to a greater extent (and presumably be more highly valued by buyers) for products in Group 5 than for products in Group 1.

A study quoted in Robinson and Stidson (1967) by E. H. Lewis (1954) seems, in part, to confirm this suggestion very well (at least in terms of promotional allocations of sellers of these products). Lewis collected data on 38 manufacturing firms producing products in a variety of the groups suggested by Miracle. His results show very clearly that the advertising-to-personal selling ratio was very high for products of the Group 1 type and very low for products in Group 5. Another study by Smallbone (1969) using 400 firms showed basically the same result.

Smallbone utilized a slightly different product classification scheme than did Miracle. However, products were still broken down into five distinct groups. The first two groups were rapid turnover consumer products and durable consumer products. The last three groups were all composed of industrial goods--i.e., rapid turnover industrial products, component parts and durable industrial

goods. The percentage of promotional expense allocated to personal selling increased markedly when moving from the rapid turnover consumer goods to durable industrial goods. While differences were quite pronounced between the lowest level of consumer goods and the lowest level of industrial goods, there were also differences between the two levels of consumer goods, and among the three industrial goods classifications. Smallbone points out that there is a greater need for personal communication between buyers and sellers as one moves toward the durable industrial goods category.

Buzzell and Farris (1976) looked at changes in promotional allocations as a function of the type of industrial product marketed. Firms were divided into three categories according to whether they produced, principally, raw materials and components, supplies or capital goods. Salesforce expenditures were felt to be lower for raw materials firms because these products were often purchased with long-term contractual agreements. Capital goods, on the other hand were felt to require intensive personal contact since purchases were very infrequent, products were often custom-made and because many more people requiring multiple types of information were involved in the decision. Supply items, because they are purchased more frequently, are standardized products and because purchase decisions for them are made at lower level of management, were predicted to require less personal selling. Buzzell and Farris' data partially confirmed this with the mean sales force expenditures for raw materials firms being significantly lower than for capital goods and supply firms (which were about equal in these expenditures as a percent of sales).

A slightly different way of looking at product characteristics and their effects on marketing strategy is through the perceived risk concept developed by Bauer (1967). Perceived risk has been defined in terms of two components: uncertainty as to the outcome of choosing a particular alternative (e.g., will the

product perform in the way the buyer expects it to), and the consequences of choosing that alternative should an unfavorable outcome occur (i.e., what are the economic, social and psychological losses should the product not perform up to expectations) (Cunningham, 1967). Methods of reducing risk include buying from a known company, gathering more information, choosing more credible information sources or choosing lower-cost alternatives. The study of Cardozo and Cagley (1971) reported earlier showed that use of supplier-related information (i.e., information stressing company-specific as opposed to product-specific attributes) increased as risk increased.

Newton (1967) suggests that personal selling (presumably to household and intermediary buyers) is most useful when: (1) performance risk is high and salesmen provide technical information to buyers; and (2) when psycho-social risk is high and salesmen provide reassurance to buyers. Mass advertising is said to be most appropriate when both performance and psycho-social risks are low.

Intermediary Versus Industrial Buying

All of the studies on intrachannel communication reported above (with the exception of the study by Buell) have dealt with industrial buyers. Too often the assumption is made that industrial buyers are the only type of organization buyer. The fact is that there are many more retail and wholesale buyers (of consumer products) in the United States than industrial buyers. The questions that arise then are whether there are differences between these buyer groups and their buying processes that lead to significant differences in the marketing communication strategies used to reach and influences these buyers.

Seth (1980) maintains that there is more variability within industrial and consumer products in terms of the degree of mass versus direct promotion than there is between the two product groups. Smallbone (1969) has shown that

promotional expenditures do vary within the two product groups. However, allocations for personal selling by firms selling industrial products are much greater (as a percentage of total advertising and personal selling expenditures) than personal selling allocations for consumer-products firms. Convenience goods firms were found to spend an average of 79 percent of their total promotional expenditures (i.e., including only advertising and personal selling expenditures) on advertising. The highest allocation to advertising by industrial firms was by industrial supply firms.

There are a number of reasons why one should expect differences in promotional strategy due to the nature of the organizational buyer and the product being marketed. These differences can be traced to the following product and customer variables. Some of these factors have been cited by Corey (1983) as reasons for an increased emphasis on personal selling in industrial as opposed to consumer markets.

Complexity. Industrial products are normally much more complex than consumer products. Production machinery and other industrial products usually require much more knowledge and skill for effective use than consumer products. Even such complex consumer products as homes, automobiles and appliances are far less complicated than computers, printing presses, commercial aircraft and ships. At the same time, some consumer products are vastly more complicated than other consumer items.

For instance, Buell (1976) provides some evidence of the low importance given to sales representatives by retailers for purchase of consumer products in the mid-range of complexity, cost and need for service. However, he suggests that this low importance may not hold true for more complex consumer products.

Standardization. As most consumer products are standardized, little personal contact between buyer and seller is required except for possibly some

post purchase service. Industrial products, on the other hand, are frequently custom-made to buyer specifications and require substantial personal contact between the buyer and the seller.

Frequency of purchase and cost. Wholesalers and retailers usually carry a broad assortment of products which are sold and resold to retailers. The dollar amount of an individual item is relatively small but the frequency of individual purchases is great. For industrial buyers, purchases involving large cash outlays may occur one time only.

Unless the volume is exceptionally high, personal selling is not economically possible in every purchase transaction involving consumer goods. For high margin, high cost, technical industrial goods, a salesman may be involved profitably in every exchange.

The number of industrial and consumer buyers. There are far more intermediary buyers than industrial buyers. U.S. Census figures typically show as many as eight to ten times as many retail buyers as industrial (manufacturing organizations) buyers. This, coupled with the lower average purchase by retail buyers significantly reduces the ability of any manufacturer selling to multiple retail outlets to make frequent personal contact with all of them. Buell (1976) cites this fact as a reason for the lower overall importance ratings given to visits by manufacturer representatives by retailers than by wholesalers.

Centralized exchanges, like trade shows, provide opportunities for retail buyers to place orders and gain information about products. It is virtually impossible for many retail stores such as supermarkets and drug stores who carry wide ranges of brand names to see sales representatives for every order.

The conclusion is that in promotion two major differences exist between industrial and consumer products. First, the importance of personal selling to industrial buyers is far greater than to intermediary buyers in consumer product

channels because of the number of buyers, the complexity of the product and the higher cost per unit. Second, for the same reasons, much less emphasis is placed on personal selling by firms handling consumer products than by industrial buyers.

At least one study (Luffman, 1974) has provided some indirect evidence that there are differences in source important by type of industry or end-use of the product. However, there have been no studies designed specifically to determine the effects of product characteristics on source important to organizational buyers. The arguments just presented provide some major reasons to believe that information source preference in consumer product channels will be different from that found in industrial channels, and that there may be further differences across categories of consumer products.

Studies on the Reasons Adults Purchase Products

Anderson and Jolson (1973), Dorris and Tabrizi (1978), and Crosby and Taylor (1981) conclude that adults make their product choices based upon expectations, proper communications, perception and cognitive learning. Anderson believes there is a communication gap present that affects the judgment of the adult buyer.

Dorris and Tabrizi (1978) conclude that perceptions will vary among consumers according to age, lifestyle and interests. Crosby and Taylor (1981) both feel that product information properly diffused has a profound impact upon cognitive learning and consumer choice.

Hunt and Nevin (1981) expounds on the reasons consumers believe in purchasing products in the market when there is a problem in the areas of attitudes, perceptions, product value, service, prices and consumer education. Stampfl (1978) conducted research on the consumer life cycle and identified areas that should be emphasized. These areas included: consumer education,

policy making, consumers, product life cycles and market research. Well (1980) concludes that consumer public education is a very effective tool to reduce product liability costs for the adult consumer in the market environment.

Studies on the Adult Learning Theory

Kirkpatrick (1975) conceives the adult evaluation learning process as four steps. The first step is reaction evaluation, getting data about how the participants are responding to a product and recording positive and negative feelings they have. The second step is learning evaluation, which involves gathering data about the facts and techniques which were acquired by the participants. The third step is behavior evaluation, required data such as reports about actual changes in what the learner does after the purchase as compared with what he did before. The fourth step is results evaluation, where data contained in the routine records of an organization are analyzed including: costs, prices, efficiency, sales reports, and quality control rejections.

Knox (1977) reports that adult learning develops in seven stages. These steps provide a basis for knowledge acquisition and include: (1) attention to information (perception, meaning, persistence, association); (2) memory (registration, retention, recall); (3) practice and reinforcement (rehearsal, reward, conditioning); (4) interference (relearning, unlearning); (5) pacing (speediness); (6) transfer (application); and (7) incidental learning. The effectiveness of the learning process partly depends on whether the adult is able to interact with appropriate learning resources.

A study by Apps (1980) explains that people are increasingly more aware of their rights as consumers. They complain about shoddy goods and poor quality service. People are more careful about what they buy in the first place, whether it be goods or services. Consumers will likely continue to pressure adult education providers to offer information on consumer topics ranging from how to

purchase a house to consumer rights when dealing with insurance salespersons.

Research Questions

What are the positive or negative factors that retailers comprehend when manufacturer representatives call and will these factors be affected by product type in the adult consumer market? Secondly, how does the frequency of sales calls to retailers compare to other sources of manufacturer power and retailer dependence? Third, what factors influence adult consumer purchase decision making in the retail market in terms of product information.

Hypotheses

The hypotheses are as follows:

1. Retailers will judge personal selling to the adult consumer as a significantly more important source of information when product complexity is high than when product complexity is low. (Upah 1979)
2. The frequency of personal sales contacts between manufacturers and retailers will be greater for products high in complexity than for products low in complexity. (Refer to Upah 1979).
3. Former adult consumers will be viewed by retailers as an important source of information in either complexity category i.e., retailers will consider received feedback from adult consumers more important for products high in complexity than for products low in complexity.

Method

There will be four steps utilized for this study. The relevant steps are summarized below.

1. The sampling procedures used.
2. Sampling methods.

3. The field method required for instrumentation.
4. Analysis of data.

Procedure

The particular type of retail firm chosen for this study is the retail hardware store. Hardware stores were chosen primarily because of their product assortment in terms of product complexity. In contrast, most all products carried by such retail stores as supermarkets are low in complexity.

Another advantage of hardware stores is their relatively small size in gross volume and square feet of retail space and the managers and/or owners of these stores would be aware of virtually all manufacturer-dealer contacts.

Sample

A stratified sample of 250 stores will be taken from a list of retail hardware stores in the State of Oklahoma. The list of hardware stores will be supplied by the National Retail Hardware Association (NRHA). From this sample, forty percent will be randomly subsampled based upon sales volume.

Instrumentation

Ninety percent of all interviewing will be done by telephone while ten percent will be done by personal interview. Store interviews will be identified by a code number. Phone and personal interview were chosen because of poor response by hardware retailers to direct mail surveys. Phone methods used by the (NRHA) have yielded 85 percent or better response rates.

The questionnaire will be divided into three sections:

1. Questions relating to high complexity products;
2. Questions relating to low complexity products; and
3. Questions relating to store demographics and its adult consumers.

Analysis of Data

In order to give an organized and concise presentation of the findings resulting from an analysis and interpretation of the information contained in the survey responses, the data will be divided into the following sections.

1. Profile of high versus low complex products.
2. Results of importance priorities of retailers in their relationship with visits by manufacturer representatives.
3. Results of the influence of manufacturer power on retailer and adult consumer buying behavior.

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APPENDIX B
SURVEY INSTRUMENT

Instructions: The first set of questions in the pair will refer to the stores line of power tools selling for \$20 to \$40. The second set of questions in the pair will refer to the store's line of hand tools selling for \$20 to \$40. The third set refers to adult consumers and store demographics.

1. "In comparison to seeing sales reps for other hardware products selling for \$20 to \$40, how important would you say it is to see reps for power tools?"
 - (1) Not significant at all
 - (2) Of little or no importance
 - (3) Moderately important
 - (4) Very important
 - (5) Of extreme importance
2. "In comparison to seeing sales reps for other hardware products selling for \$20 to \$40, how important would you say it is to see reps for hand tools?"
 - (1) Not significant at all
 - (2) Of little or no importance
 - (3) Moderately important
 - (4) Very important
 - (5) Of extreme importance
3. What amount of sales effort is required of managers and salespeople to explain various options, features and consumer use requirements of power tools?"
 - (1) No significant amount at all
 - (2) Little amount required
 - (3) Moderate amount required
 - (4) High amount required
 - (5) Extremely high amount required
4. What amount of sales effort is required of managers and salespeople to explain various options, features and consumer use requirements of hand tools?"
 - (1) No significant amount at all
 - (2) Little amount required
 - (3) Moderate amount required
 - (4) High amount required
 - (5) Extremely high amount required

5. "What reasons are important to you in manufacturers' representatives sales visits for power (hand) tools?"

- a. "How many times during the last year did the power (hand) tool representative call?"

6. "Please indicate which two sources of information from the following five are the most important in terms of buying, selling and merchandising power tools?"
 - (1) Manufacturers sales calls
 - (2) Trade shows
 - (3) Order manuals, product brochures and labels
 - (4) Trade journals
 - (5) Discussion with adult consumers who purchase power tools?
7. "Please indicate which two sources of information from the following five are the most important in terms of buying, selling and merchandising hand tools?"
 - (1) Manufacturers sales calls
 - (2) Trade shows
 - (3) Order manuals, product brochures and labels
 - (4) Trade journals
 - (5) Discussion with adult consumers who purchase hand tools?
8. "Who are your 2 top major brand suppliers for power tools and how often did they call during the last year?"
9. "Who are your 2 top major brand suppliers for hand tools and how often did they call during the last year?"
10. How would you rate the 2 top major brand suppliers for power tools in terms of quality of:
 - A. The manufacturers products?
 - (1) Poor
 - (2) Fair
 - (3) Good
 - (4) Excellent
 - (5) Exceptional
 - B. Co-op advertising?
 - (1) Poor
 - (2) Fair
 - (3) Good
 - (4) Excellent
 - (5) Exceptional

C. Manufacturer's representatives?

- (1) Poor
- (2) Fair
- (3) Good
- (4) Excellent
- (5) Exceptional

D. Printed product information?

- (1) Poor
- (2) Fair
- (3) Good
- (4) Excellent
- (5) Exceptional

E. Product point of purchase material?

- (1) Poor
- (2) Fair
- (3) Good
- (4) Excellent
- (5) Exceptional

F. Retail profit margin?

- (1) Poor
- (2) Fair
- (3) Good
- (4) Excellent
- (5) Exceptional

11. How would you rate the 2 top major brand suppliers for hand tools in terms of quality of:

A. The manufacturer's products?

- (1) Poor
- (2) Fair
- (3) Good
- (4) Excellent
- (5) Exceptional

B. Co-op advertising?

- (1) Poor
- (2) Fair
- (3) Good
- (4) Excellent
- (5) Exceptional

C. Manufacturers' representatives?

- (1) Poor
- (2) Fair
- (3) Good
- (4) Excellent
- (5) Exceptional

D. Printed product information?

- (1) Poor
- (2) Fair
- (3) Good
- (4) Excellent
- (5) Exceptional

E. Product point of purchase material?

- (1) Poor
- (2) Fair
- (3) Good
- (4) Excellent
- (5) Exceptional

F. Retail profit margin?

- (1) Poor
- (2) Fair
- (3) Good
- (4) Excellent
- (5) Exceptional

12. Suppose that the 2 top suppliers of power tools ceased doing business with you, how much of a problem would it be to replace them with two more brands in terms of:

A. Adult consumer preference?

- (1) Easy to replace
- (2) Somewhat difficult to replace
- (3) Difficult to replace
- (4) Very difficult to replace
- (5) Impossible to replace

B. Profit margins?

- (1) Easy to replace
- (2) Somewhat difficult to replace
- (3) Difficult to replace
- (4) Very difficult to replace
- (5) Impossible to replace

C. Product quality?

- (1) Easy to replace
- (2) Somewhat difficult to replace
- (3) Difficult to replace
- (4) Very difficult to replace
- (5) Impossible to replace

13. Suppose that the 2 top suppliers of hand tools ceased doing business with you, how much of a problem would it be to replace them with two more brands in terms of:

A. Adult consumer preference?

- (1) Easy to replace
- (2) Somewhat difficult to replace
- (3) Difficult to replace
- (4) Very difficult to replace
- (5) Impossible to replace

B. Profit margins?

- (1) Easy to replace
- (2) Somewhat difficult to replace
- (3) Difficult to replace
- (4) Very difficult to replace
- (5) Impossible to replace

C. Product quality?

- (1) Easy to replace
- (2) Somewhat difficult to replace
- (3) Difficult to replace
- (4) Very difficult to replace
- (5) Impossible to replace

14. "How would you rate your overall satisfaction with your top 2 major suppliers?"

- (1) No significant satisfaction
- (2) Very little satisfaction
- (3) Moderate satisfaction
- (4) High satisfaction
- (5) Extremely high satisfaction

15. "How would you rate your overall cooperation with the manufacturer's suggestions for pricing, advertising and merchandising the manufacturer's products?"

- (1) No significant cooperation at all
- (2) Very little cooperation
- (3) Moderate cooperation
- (4) Highly cooperative
- (5) Extreme cooperation

16. "How important do you consider feedback as an information source from adult consumers who purchase power tools in terms of:"

A. Adult consumers purchase decision-making

- (1) Not significant at all
- (2) Of little or no importance
- (3) Moderately important
- (4) Very important
- (5) Of extreme importance

B. Adult consumers health and safety

- (1) Not significant at all
- (2) Of little or no importance
- (3) Moderately important
- (4) Very important
- (5) Of extreme importance

C. Adult user training

- (1) Not significant at all
- (2) Of little or no importance
- (3) Moderately important
- (4) Very important
- (5) Of extreme importance

D. Adult consumers buying advice

- (1) Not significant at all
- (2) Of little or no importance
- (3) Moderately important
- (4) Very important
- (5) Of extreme importance

E. Models and brand data

- (1) Not significant at all
- (2) Of little or no importance
- (3) Moderately important
- (4) Very important
- (5) Of extreme importance

F. Maintenance data

- (1) Not significant at all
- (2) Of little or no importance
- (3) Moderately important
- (4) Very important
- (5) Of extreme importance

G. Product claims

- (1) Not significant at all
- (2) Of little or no importance
- (3) Moderately important
- (4) Very important
- (5) Of extreme importance

H. Product complaints

- (1) Not significant at all
- (2) Of little or no importance
- (3) Moderately important
- (4) Very important
- (5) Of extreme importance

17. "How important do you consider feedback as an information source from adult consumers who purchase hand tools in terms of:"

A. Adult consumers purchase decision-making

- (1) Not significant at all
- (2) Of little or no importance
- (3) Moderately important
- (4) Very important
- (5) Of extreme importance

B. Adult consumers health and safety

- (1) Not significant at all
- (2) Of little or no importance
- (3) Moderately important
- (4) Very important
- (5) Of extreme importance

C. Adult user training

- (1) Not significant at all
- (2) Of little or no importance
- (3) Moderately important
- (4) Very important
- (5) Of extreme importance

D. Adult consumers buying advice

- (1) Not significant at all
- (2) Of little or no importance
- (3) Moderately important
- (4) Very important
- (5) Of extreme importance

E. Models and brand data

- (1) Not significant at all
- (2) Of little or no importance
- (3) Moderately important
- (4) Very important
- (5) Of extreme importance

F. Maintenance data

- (1) Not significant at all
- (2) Of little or no importance
- (3) Moderately important
- (4) Very important
- (5) Of extreme importance

G. Product claims

- (1) Not significant at all
- (2) Of little or no importance
- (3) Moderately important
- (4) Very important
- (5) Of extreme importance

H. Product complaints

- (1) Not significant at all
- (2) Of little or no importance
- (3) Moderately important
- (4) Very important
- (5) Of extreme importance

18. Store size:

- (1) Number of employees?
- (2) Gross sales yearly?
- (3) Number of years store in existence?
- (4) Square footage?

APPENDIX C
SAMPLING INFORMATION

TABLE 1

Sampling Information

<u>Total Number of Hardware Stores</u>		% of Total
<u>In Sample:</u>	128	
Completed Interviews	100	78.12
Refusals	28	<u>21.88</u>
		100.00

Completion Rate (i.e., number of completed interviews/initial sample size):
 $100/128 = 78.12\%$

Distribution of Sample by Size of Store

Annual Gross Sales

<u>Volume for 1984</u>	<u>% of Stores</u>
100,000-249,999	7.0
250,000-499,999	17.0
500,000-749,999	5.0
750,000-999,999	5.0
1,000,000-2,499,999	32.0
2,500,000 and over	<u>5.0</u>
Refusals or Don't Knows	<u>29.0</u>
	100.0%

APPENDIX D
SAMPLING INFORMATION

TABLE 2

Sampling Information

Distribution of Sample by Size of Store

<u>Number of Employees</u>	<u>% of Stores</u>
1 to 3	15.0%
4 to 9	40.0%
10-19	33.0%
20-40	9.0%
Refusals	3.0%
	100.0%

<u>Square Footage</u>	<u>% of Stores</u>
0-2,499	9.0
2,500-4,999	20.0
5,000-7,499	17.0
7,500-9,999	15.0
10,000 and over	35.0
Refusals	4.0
	100.0%

APPENDIX E
SAMPLING INFORMATION

TABLE 2A

Distribution of Sample by Years Store in Existence

Group	Mean	SD	Measures		
			Error	Skewness	Mode
Hardware Store	29.68	25.06	2.51	1.03	40.00

APPENDIX F
SAMPLING INFORMATION

Table 3

Sampling Information

Distribution of Sample by Graphic Location

<u>Location - City</u>	<u>% of Stores</u>
Oklahoma City	16.0
Tulsa	9.0
Edmond	5.0
Norman	5.0
Enid	5.0
Muskogee	4.0
Bartlesville	4.0
Ponca City	4.0
Midwest City	3.0
Yukon	3.0
Lawton	3.0
Altus	3.0
McAlester	3.0
Okmulgee	3.0
Ada	3.0
Miami	3.0
Weatherford	3.0
Moore	2.0
Broken Arrow	2.0
Stillwater	2.0
Ardmore	2.0
Woodward	2.0
Del City	1.0
Mustang	1.0
Tuttle	1.0
Claremore	1.0
Elk City	1.0
Durant	1.0
Shawnee	1.0
Perkins	1.0
El Reno	1.0
Sapulpa	1.0
Chelsea	<u>1.0</u>
Total	100.0%

APPENDIX G
SALES CALLS RATINGS--POWER TOOLS

Table 4

Reasons for Rating Sales Calls Importance By
Power Tool Representatives

<u>Reason Specific to Power Tools</u>	<u>% of Times Mentioned</u>
Representatives handle warranty and service problems.	24.2
Products are constantly being introduced into the market and representatives must notify retailers of these changes with explanations.	23.9
Complex products require product knowledge information.	20.8
Product pricing information provided to the store buyer.	8.3
Product promotions require necessary information.	8.3
None - power tools sell themselves.	5.2
Other	<u>9.3</u>
	100.00
	(n = 50)

APPENDIX H
SALES CALLS RATINGS--HAND TOOLS

Table 4A

Reasons for Rating Sales Calls Importance By
Hand Tool Representatives

<u>Reasons Specific to Hand Tools</u>	<u>% of Times Mentioned</u>
Representatives handle service and warranty problems.	23.6
New products are being introduced with less need for explanations.	22.7
None-hand tools sell themselves,	12.9
Product knowledge is less important.	8.6
Product promotions require more information.	7.7
Product pricing information provided for the store buyer.	7.5
Product stock ordering and reordering.	6.4
Catalog buying information requirements.	2.1
Sales training provided by reps.	2.1
Other	<u>6.4</u>
	100.00
	(n = 50)

APPENDIX I
RANK ORDERING OF INFORMATION SOURCES

Table 5

Rank Ordering of Information Sources
for High Complexity (HC) and Low Complexity (LC)
Condition

Information Source	HC		LC	
	Number of Times Mentioned as Most Important Source	%	Number of Times Mentioned as Most Important Source	%
1. Trade Shows	30	30%	24	24.7
2. Discussion with Consumers	30	30%	22	22.7
3. Manuals & Brochures	15	15%	12	12.4
4. Manufacturers Sales Calls	14	14%	22	22.7
5. Trade Journals	11	11%	15	15.5
6. No Response	<u>0</u>	<u>0</u>	<u>2</u>	<u>2.1</u>
	100	100%	100	100%

APPENDIX J
MEASURES OF MANUFACTURER POWER

Table 6
Results of the T-Test for Power Tools (PT) and
(HT) for Measures for Manufacturer Power

Group	M	SD	PT Error	t-Value	df	M	HT SD	Error	t-Value	df
Product Quality	3.30	.814	.115	-2.25*	49	3.64	.693	.098	-2.25*	49
Co-op Advertising	2.73	.905	.133	-2.01*	45	3.18	1.04	.182	-2.01*	32
Manufacturers Reps	2.53	.997	.145	-3.72**	46	3.30	.911	.144	-3.72**	39
Printed Product Information	3.00	.728	.103	-2.20**	50	3.36	.898	.127	-2.20**	49
Point of Purchase Information	2.84	.817	.116	-2.17**	49	3.18	.748	.106	-2.17**	49
Retail Profit Margin	1.84	.817	.116	-8.27**	49	3.16	.773	.110	-8.27**	48

*p < .05

**n.s.

APPENDIX K

Measures of Adult Consumer Information

Table 7

Results of the T-Test for Power Tools and
Hand Tools for Measures of Adult
Consumer Information to the Retailer

Group	Power Tool					Hand Tool				
Feedback on	M	SD	Error	t-Value	df	M	SD	Error	t-Value	df
Purchase Decisions	3.64	1.02	.145	-1.06*	49	3.86	1.05	.148	-1.06*	49
Health-Safety	3.72	1.08	.154	1.77*	49	3.30	1.28	.181	1.77*	49
User Training	2.40	1.32	.187	.52*	49	2.26	1.35	.191	.52*	49
Buying Advice	3.48	1.24	.177	1.39*	49	3.14	1.19	.169	1.39*	49
Models and Brand Data	3.04	1.293	.183	.50*	49	2.92	1.12	.159	.50*	49
Maintenance Data	2.78	1.46	.207	---	49	2.78	1.404	.199	---	49
Product Claims	3.22	1.282	.181	-2.09**	49	3.70	.995	.141	-2.09**	49
Product Complaints	3.24	1.255	.177	-2.03**	49	3.70	.995	.141	-2.03**	49

*n.s.

**p < .05

APPENDIX L
SUMMARY STATISTICS

Question 1 and Question 2

Count ROW PCT CCL PCT TOT PCT	Tool Type		Row Total
	Power Tool	Hand Tool	
1.00	11 45.8 22.0 11.0	13 54.2 26.0 13.0	24 24.0
2.00	13 56.5 26.0 13.0	10 43.5 20.0 10.0	23 23.0
3.00	15 46.9 30.0 15.0	17 53.1 34.0 17.0	32 32.0
4.00	10 55.6 20.0 10.0	8 44.4 16.0 8.0	18 18.0
5.00	1 33.3 2.0 1.0	2 66.7 4.0 2.0	3 3.0
Column Total	50 50.0	50 50.0	100 100.0
Chi-Square	1.23853		
D.F.	4		
Significance	0.8717		
MIN E.F.	1.500		
Cells with E.F.<5	2 of 10 (20.0%)		
Number of Missing Observations = 0			

Question 3 and Question 4

Count ROW PCT CCL PCT TOT PCT	Tool Type		Row Total
	Power Tool	Hand Tool	
1.00	4 36.4 8.0 4.0	7 63.6 14.3 7.1	11 11.1
2.00	10 47.6 20.0 10.1	11 52.4 22.4 11.1	21 21.2
3.00	19 42.2 38.0 19.2	26 57.8 53.1 26.3	45 45.5
4.00	14 77.8 28.0 14.1	4 22.2 8.2 4.0	18 18.2
5.00	3 75.0 6.0 3.0	1 25.0 2.0 1.0	4 4.0
Column Total	50 50.5	49 49.5	99 100.0

Chi-Square 8.50101

D.F. 4

Significance 0.0749

MIN E.F. 1.980

Cells with E.F. <5 2 of 10 (20.0%)

Number of Missing Observations = 1

Question 10A and Question 11A

Count ROW PCT CCL PCT TOT PCT	Tool Type		Row Total
	Power Tool	Hand Tool	
2.00	7 87.5 14.0 7.0	1 12.5 2.0 1.0	8 8.0
3.00	25 54.3 50.0 25.0	21 45.7 42.0 21.0	46 46.0
4.00	14 37.8 28.0 14.0	23 62.2 46.0 23.0	37 37.0
5.00	4 44.4 8.0 4.0	5 55.6 10.0 5.0	9 9.0
Column Total	50 50.0	50 50.0	100 100.0
Chi-Square	7.14813		
D.F.	3		
Significance	0.0673		
MIN E.F.	4.000		
Cells with E.F.<5	4 of 8 (50.0%)		
Number of Missing Observations = 0			

Question 10B and Question 11B

Count ROW PCT CCL PCT TOT PCT	Tool Type		Row Total
	Power Tool	Hand Tool	
1.00	6 66.7 13.0 7.6	3 33.3 9.1 3.8	9 11.4
2.00	8 72.7 17.4 10.1	3 27.3 9.1 3.8	11 13.9
3.00	24 61.5 52.2 30.4	15 38.5 45.5 19.0	39 49.4
4.00	8 47.1 17.4 10.1	9 52.9 27.3 11.4	17 21.5
5.00		3 100.0 9.1 3.8	3 3.8
Column Total	46 58.2	33 41.8	79 100.0

Chi-Square 6.44372

D.F. 4

Significance 0.1684

MIN E.F. 1.253

Cells with E.F.<5 4 of 10 (40.0%)

Number of Missing Observations = 21

Question 10C and Question 11C

Count ROW PCT CCL PCT TOT PCT	Tool Type		Row Total
	Power Tool	Hand Tool	
1.00	10	1	11
	90.9	9.1	12.6
	21.3	2.5	
	11.5	1.1	
2.00	9	6	15
	60.0	40.0	17.2
	19.1	15.0	
	10.3	6.9	
3.00	21	16	37
	56.8	43.2	42.5
	44.7	40.0	
	24.1	18.4	
4.00	7	14	21
	33.3	66.7	24.1
	14.9	35.0	
	8.0	16.1	
5.00		3	3
		100.0	3.4
		7.5	
		3.4	
Column Total	47	40	87
	54.0	46.0	100.0

Chi-Square 13.49680

D.F. 4

Significance 0.0091

MIN E.F. 1.379

Cells with E.F.<5 2 of 10 (20.0%)

Number of Missing Observations = 13

Question 10D and Question 11D

Count ROW PCT CCL PCT TOT PCT	Tool Type		Row Total
	Power Tool	Hand Tool	
1.00	3 60.0 6.0 3.0	2 40.0 4.0 2.0	5 5.0
2.00	4 57.1 8.0 4.0	3 42.9 6.0 3.0	7 7.0
3.00	33 56.9 66.0 33.0	25 43.1 50.0 25.0	58 58.0
4.00	10 40.0 20.0 10.0	15 60.0 30.0 15.0	25 25.0
5.00		5 100.0 10.0 5.0	5 5.0
Column Total	50 50.0	50 50.0	100 100.0

Chi-Square 7.44631
D.F. 4
Significance 0.1141
MIN E.F. 2.500
Cells with E.F.<5 6 of 10 (60.0%)
Number of Missing Observations = 0

Question 10E and Question 11E

Count ROW PCT CCL PCT TOT PCT	Tool Type		Row Total
	Power Tool	Hand Tool	
1.00	4 100.0 8.0 4.0		4 4.0
2.00	9 52.9 18.0 9.0	8 47.1 16.0 8.0	17 17.0
3.00	28 50.9 56.0 28.0	27 49.1 54.0 27.0	55 55.0
4.00	9 40.9 18.0 9.0	13 59.1 26.0 13.0	22 22.0
5.00		2 100.0 4.0 2.0	2 2.0
Column Total	50 50.0	50 50.0	100 100.0

Chi-Square 6.80428
D.F. 4
Significance 0.1466
MIN E.F. 1.000
Cells with E.F. <5 4 of 10 (40.0%)

Number of Missing Observations = 0

Question 10F and Question 11F

Count ROW PCT CCL PCT TOT PCT	Tool Type		Row Total
	Power Tool	Hand Tool	
1.00	20 95.2 40.0 20.2	1 4.8 2.0 1.0	21 21.2
2.00	19 79.2 38.0 19.2	5 28.8 10.2 5.1	24 24.2
3.00	10 24.4 20.0 10.1	31 75.6 63.3 31.3	41 41.4
4.00	1 10.0 2.0 1.0	9 90.0 18.4 9.1	10 10.1
5.00		3 100.0 6.1 3.0	3 3.0
Column Total	50 50.5	49 49.5	99 100.0

Chi-Square 45.50778

D.F. 4

Significance 0.0000

MIN E.F. 1.485

Cells with E.F.<5 3 of 10 (30.0%)

Number of Missing Observations = 1

Question 12A and Question 13A

Count ROW PCT CCL PCT TOT PCT	Tool Type		Row Total
	Power Tool	Hand Tool	
1.00	26 49.1 53.1 26.3	27 50.9 54.0 27.3	53 53.5
2.00	6 35.3 12.2 6.1	11 64.7 22.0 11.1	17 17.2
3.00	10 62.5 20.4 10.1	6 37.5 12.0 6.1	16 16.2
4.00	7 58.3 14.3 7.1	5 41.7 10.0 5.1	12 12.1
5.00		1 100.0 2.0 1.0	1 1.0
Column Total	49 49.5	50 50.5	99 100.0

Chi-Square 3.81308
D.F. 4
Significance 0.4319
MIN E.F. 0.495
Cells with E.F.<5 2 of 10 (20.0%)

Number of Missing Observations = 1

Question 12B and Question 13B

Count ROW PCT CCL PCT TOT PCT	Tool Type		Row Total
	Power Tool	Hand Tool	
1.00	29 49.2 60.4 29.9	30 50.8 61.2 30.9	59 60.8
2.00	6 40.0 12.5 6.2	9 60.0 18.4 9.3	15 15.5
3.00	12 63.2 25.0 12.4	7 36.8 14.3 7.2	19 19.6
4.00	1 25.0 2.1 1.0	3 75.0 6.1 3.1	4 4.1
Column Total	48 49.5	49 50.5	97 100.0
Chi-Square	2.92274		
D.F.	3		
Significance	0.4037		
MIN E.F.	1.979		
Cells with E.F. <5	2 of 8 (25.0%)		
Number of Missing Observations = 3			

Question 12C and Question 13C

Count ROW PCT CCL PCT TOT PCT	Tool Type		Row Total
	Power Tool	Hand Tool	
1.00	25 53.2 50.0 25.8	22 46.8 46.8 22.7	47 48.5
2.00	12 48.0 24.0 12.4	13 52.0 27.7 13.4	25 25.8
3.00	11 55.0 22.0 11.3	9 45.0 19.1 9.3	20 20.6
4.00	2 40.0 4.0 2.1	3 60.0 6.4 3.1	5 5.2
Column Total	50 51.5	47 48.5	97 100.0
Chi-Square	0.53922		
D.F.	3		
Significance	0.9102		
MIN E.F.	2.423		
Cells with E.F.< 5	2 of 8 (25.0%)		
Number of Missing Observations = 3			

Question 14

Count ROW PCT CCL PCT TOT PCT	Tool Type		Row Total
	Power Tool	Hand Tool	
Very Little Satisfaction	1 100.0 2.0 1.0		1 1.0
Moderate Satisfaction	21 61.8 42.0 21.0	13 38.2 26.0 13.0	34 34.0
High Satisfaction	24 42.9 48.0 24.0	32 57.1 64.0 32.0	56 56.0
Extremely High Satisfaction	4 44.4 8.0 4.0	5 55.6 10.0 5.0	9 9.0
Column Total	50 50.0	50 50.0	100 100.0
Chi-Square	4.13632		
D.F.	3		
Significance	0.2471		
MIN E.F.	0.500		
Cells with E.F. <5	4 of 8 (50.0%)		
Number of Missing Observations = 0			

Question 15

Count ROW PCT CCL PCT TOT PCT	Tool Type		Row Total
	Power Tool	Hand Tool	
No Significant Cooperation	1 100.0 2.0 1.0		1 1.0
Very Little Cooperation		2 100.0 4.1 2.0	2 2.0
Moderate Cooperation	21 61.8 42.0 21.2	13 38.2 26.5 13.1	34 34.3
Highly Cooperative	23 44.2 46.0 23.2	29 55.8 59.2 29.3	52 52.5
Extreme Cooperation	5 50.0 10.0 5.1	5 50.0 10.2 5.1	10 10.1
Column Total	50 50.5	49 49.5	99 100.0
Chi-Square	5.56513		
D.F.	4		
Significance	0.2341		
MIN E.F.	0.495		
Cells with E.F. <5	5 of 10 (50.0%)		
Number of Missing Observations = 1			

Question 16A and Question 17A

Count ROW PCT CCL PCT TOT PCT	Tool Type		Row Total
	Power Tool	Hand Tool	
1.00	2	4	6
	33.3	66.7	6.0
	4.0	8.0	
	2.0	4.0	
2.00	7	1	8
	87.5	12.5	8.0
	14.0	2.0	
	7.0	1.0	
3.00	5	4	9
	55.6	44.4	9.0
	10.0	8.0	
	5.0	4.0	
4.00	29	30	59
	49.2	50.8	59.0
	58.0	60.0	
	29.0	30.0	
5.00	7	11	18
	38.9	61.1	18.0
	14.0	22.0	
	7.0	11.0	
Column Total	50	50	100
	50.0	50.0	100.0

Chi-Square 6.18362

D.F. 4

Significance 0.1858

MIN E.F. 3.000

Cells with E.F. <5 6 of 10 (60.0%)

Number of Missing Observations = 0

Question 16B and Question 17B

Count ROW PCT CCL PCT TOT PCT	Tool Type		Row Total
	Power Tool	Hand Tool	
1.00	4	8	12
	33.3	66.7	12.0
	8.0	16.0	
	4.0	8.0	
2.00	3	3	6
	50.0	50.0	6.0
	6.0	6.0	
	3.0	3.0	
3.00	5	13	18
	27.8	72.2	18.0
	10.0	26.0	
	5.0	13.0	
4.00	29	18	47
	61.7	38.3	47.0
	58.0	36.0	
	29.0	18.0	
5.00	9	8	17
	52.9	47.1	17.0
	18.0	16.0	
	9.0	8.0	
Column Total	50	50	100
	50.0	50.0	100.0

Chi-Square 7.52218

D.F. 4

Significance 0.1107

MIN E.F. 3.000

Cells with E.F.<5 2 of 10 (20.0%)

Number of Missing Observations = 0

Question 16C and Question 17C

Count ROW PCT CCL PCT TOT PCT	Tool Type		Row Total
	Power Tool	Hand Tool	
1.00	20	24	44
	45.5	54.5	44.0
	40.0	48.0	
	20.0	24.0	
2.00	5	3	8
	62.5	37.5	8.0
	10.0	6.0	
	5.0	3.0	
3.00	12	11	23
	52.2	47.8	23.0
	24.0	22.0	
	12.0	11.0	
4.00	11	10	21
	52.4	47.6	21.0
	22.0	20.0	
	11.0	10.0	
5.00	2	2	4
	50.0	50.0	4.0
	4.0	4.0	
	2.0	2.0	
Column Total	50	50	100
	50.0	50.0	100.0

Chi-Square 0.95473

D.F. 4

Significance 0.9166

MIN E.F. 2.000

Cells with E.F. < 5 4 of 10 (40.0%)

Number of Missing Observations = 0

Question 16D and Question 17D

Count ROW PCT CCL PCT TOT PCT	Tool Type		Row Total
	Power Tool	Hand Tool	
1.00	7	9	16
	43.8	56.3	16.0
	14.0	18.0	
	7.0	9.0	
2.00	2	3	5
	40.0	60.0	5.0
	4.0	6.0	
	2.0	3.0	
3.00	10	12	22
	45.5	54.5	22.0
	20.0	24.0	
	10.0	12.0	
4.00	22	24	46
	47.8	52.2	46.0
	44.0	48.0	
	22.0	24.0	
5.00	9	2	11
	81.8	18.2	11.0
	18.0	4.0	
	9.0	2.0	
Column Total	50	50	100
	50.0	50.0	100.0

Chi-Square 5.17332

D.F. 4

Significance 0.2700

MIN E.F. 2.500

Cells with E.F.<5 2 of 10 (20.0%)

Number of Missing Observations = 0

Question 16E and Question 17E

Count ROW PCT CCL PCT TOT PCT	Tool Type		Row Total
	Power Tool	Hand Tool	
1.00	10 55.6 20.0 10.0	8 44.4 16.0 8.0	18 18.0
2.00	6 46.2 12.0 6.0	7 53.8 14.0 7.0	13 13.0
3.00	10 35.7 20.0 10.0	18 64.3 36.0 18.0	28 28.0
4.00	20 57.1 40.0 20.0	15 42.9 30.0 15.0	35 35.0
5.00	4 66.7 8.0 4.0	2 33.3 4.0 2.0	6 6.0
Column Total	50 50.0	50 50.0	100 100.0

Chi-Square 3.96581
D.F. 4
Significance 0.4107
MIN E.F. 3.000
Cells with E.F.<5 2 of 10 (20.0%)
Number of Missing Observations = 0

Question 16F and Question 17F

Count ROW PCT CCL PCT TOT PCT	Tool Type		Row Total
	Power Tool	Hand Tool	
1.00	17	15	32
	53.1	46.9	32.0
	34.0	30.0	
	17.0	15.0	
2.00	4	7	11
	36.4	63.6	11.0
	8.0	14.0	
	4.0	7.0	
3.00	6	5	11
	54.5	45.5	11.0
	12.0	10.0	
	6.0	5.0	
4.00	19	20	39
	48.7	51.3	39.0
	38.0	40.0	
	19.0	20.0	
5.00	4	3	7
	57.1	42.9	7.0
	8.0	6.0	
	4.0	3.0	
Column Total	50	50	100
	50.0	50.0	100.0

Chi-Square 1.20259

D.F. 4

Significance 0.8777

MIN E.F. 3.500

Cells with E.F. <5 2 of 10 (20.0%)

Number of Missing Observations = 0

Question 16G and Question 17G

Count ROW PCT CCL PCT TOT PCT	Tool Type		Row Total
	Power Tool	Hand Tool	
1.00	7	3	10
	70.0	30.0	10.0
	14.0	6.0	
	7.0	3.0	
2.00	9	3	12
	75.0	25.0	12.0
	18.0	6.0	
	9.0	3.0	
3.00	6	7	13
	46.2	53.8	13.0
	12.0	14.0	
	6.0	7.0	
4.00	22	30	52
	42.3	57.7	52.0
	44.0	60.0	
	22.0	30.0	
5.00	6	7	13
	46.2	53.8	13.0
	12.0	14.0	
	6.0	7.0	
Column Total	50	50	100
	50.0	50.0	100.0

Chi-Square 5.98462

D.F. 4

Significance 0.2003

MIN E.F. 5.000

Cells with E.F.<5 None

Number of Missing Observations = 0

Question 16H and Question 17H

Count ROW PCT CCL PCT TOT PCT	Tool Type		Row Total
	Power Tool	Hand Tool	
1.00	6	3	9
	66.7	33.3	9.0
	12.0	6.0	
	6.0	3.0	
2.00	10	3	13
	76.9	23.1	13.0
	20.0	6.0	
	10.0	3.0	
3.00	6	7	13
	46.2	53.8	13.0
	12.0	14.0	
	6.0	7.0	
4.00	22	30	52
	42.3	57.7	52.0
	44.0	60.0	
	22.0	30.0	
5.00	6	7	13
	46.2	53.8	13.0
	12.0	14.0	
	6.0	7.0	
Column Total	50	50	100
	50.0	50.0	100.0

Chi-Square 6.15385

D.F. 4

Significance 0.1879

MIN E.F. 4.500

Cells with E.F.< 5 2 of 10 (20.00%)

Number of Missing Observations = 0

APPENDIX M
MULTIPLE CHANNELS

Figure 1

Multiple Channels of Distribution

