



An evaluation of use and care booklets as completed by 110 Montana residents
by Eva Peterson Anseth

A thesis submitted to the Graduate Faculty in partial fulfillment of the requirements for the degree of
MASTER OF SCIENCE in Home Economics
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Abstract:

The careful reading and continued reference to the use and care booklets manufacturers provide with home equipment can help the owner achieve optimum use and satisfaction from the equipment. The purpose of this study was to determine if Montana equipment owners were reading the use and care booklets and if they were satisfied with the manner in which the information was presented.

Two hundred forty-five residents living in Montana's county seats were contacted to discover their reaction to the last use and care booklet they had received. One hundred ten participated in the study. A large variety of equipment was reported as well as a large number of manufacturers. Because of the failure to receive a representative number in either of these categories, no attempt was made to generalize as to their effect on the equipment owners' evaluations.

Most of the equipment, 76.2 per cent, had been purchased and 70.9 Per cent had been obtained after 1967. Neither the manner of obtaining the equipment nor the date it was obtained affected the owners' evaluation of the booklet.

The majority of the owners were satisfied with their equipment.

The null hypothesis stating "there is no significant relationship between owner satisfaction with the equipment and the thoroughness with which the booklet was read," was not rejected for this study.

Only 5.5 per cent of the 110 responding did not read any part of the booklet with 70 per cent reading the booklet word for word or reading parts thoroughly and glancing through the rest. The sections' most often read included the operation information, care information, and the warranty information. Sixty-eight per cent did read the booklet before operating the equipment and sixty-nine per cent saved and stored their booklets in a special place.

Although 42.8 per cent of the owners did indicate dissatisfaction with one or more areas, the owners were generally satisfied with the manufacturer's presentation of the information. Those areas most frequently mentioned for improvement included the booklet organization 22.7 per cent; warranty information, 15.3 per cent; and the wording, 13.5 per cent. The need for service was also considered. The null hypothesis stating "there is no significant relationship between service problems and the manner in which the instruction booklet was read," would not be rejected for this study. Only 26.4 per cent indicated the need for service and all but one had read all or parts of the instruction booklet. For this study it was found the equipment owners were reading the instruction booklets and were generally satisfied with them. No relationship was found between owner satisfaction with the equipment or the need for service and the manner in which the booklet was read. It must be remembered that these findings are based on replies from individuals believed to be the more interested and literate.

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Signature Eve Peterson Christ

Date August 4, 1969

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COMPLETED BY 110 MONTANA RESIDENTS

by

EVA PETERSON ANSETH

A thesis submitted to the Graduate Faculty in partial
fulfillment of the requirements for the degree

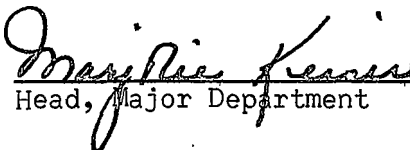
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ABSTRACT

The careful reading and continued reference to the use and care booklets manufacturers provide with home equipment can help the owner achieve optimum use and satisfaction from the equipment. The purpose of this study was to determine if Montana equipment owners were reading the use and care booklets and if they were satisfied with the manner in which the information was presented.

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The majority of the owners were satisfied with their equipment. The null hypothesis stating "there is no significant relationship between owner satisfaction with the equipment and the thoroughness with which the booklet was read," was not rejected for this study.

Only 5.5 per cent of the 110 responding did not read any part of the booklet with 70 per cent reading the booklet word for word or reading parts thoroughly and glancing through the rest. The sections most often read included the operation information, care information, and the warranty information. Sixty-eight per cent did read the booklet before operating the equipment and sixty-nine per cent saved and stored their booklets in a special place.

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The need for service was also considered. The null hypothesis stating "there is no significant relationship between service problems and the manner in which the instruction booklet was read," would not be rejected for this study. Only 26.4 per cent indicated the need for service and all but one had read all or parts of the instruction booklet.

For this study it was found the equipment owners were reading the instruction booklets and were generally satisfied with them. No relationship was found between owner satisfaction with the equipment or the need for service and the manner in which the booklet was read. It must be remembered that these findings are based on replies from individuals believed to be the more interested and literate.

CHAPTER I

Introduction

Importance of Study

Today there is a wide range of household equipment on the market. One can purchase equipment designed to help with such tasks as food preparation, cleaning, or personal grooming; or it may serve to make the leisure hours more enjoyable. For almost every task that needs to be done, there is some type of equipment available to help do it.

The development of much of this equipment has occurred within the last sixty years.¹ Because more equipment is available, more equipment is also found in the home. Considering just the appliances, a typical home in the nineteen-fifties probably had a total of six major and portable appliances; today the figure has risen to fifteen or more.²

Not only has equipment in the home increased in numbers, but also in complexity. Ranges, for example, no longer just produce heat for cooking, but may have a burner with a brain, a stirring attachment for

¹"Sixty Years of Major Appliances: from Ice Chests and Wood Stoves to No-frost and Self Cleaners," Merchandising Week, May 20, 1968 p. 22.

²Association of Home Appliance Manufacturers, Report of the First National Home Appliance Conference, Info 68: Living up to Your Appliances (Chicago: Association of Home Appliance Manufacturers, [1968/]), p. 5.

top of the range cooking, and a self cleaning oven. The automatic washer has buttons and dials for almost every conceivable laundry situation that might be encountered. Both are quite different from their forerunners of the past.

To keep the owner abreast with these new changes and to guide him in using the equipment correctly, safely, and to its fullest, manufacturers include with each piece of equipment a use and care booklet. The careful reading of these booklets before operating the equipment will not only help the owner achieve full satisfaction from all the features, but can also prevent costly, unnecessary repair bills.

Since the use and care booklets can not accomplish this unless they are read and understood, it is important for the manufacturers to be aware of the equipment owners' opinions concerning the booklets and the effectiveness of the message they contain.

Purpose of Study

The residents of Montana are among the nation's equipment owners. One indication of this is the high percentage of major appliance ownership revealed in the 1968 survey of wired homes in Montana which are served by Montana Power. To cite a few examples, the saturation percentage for gas and electric ranges was 99 per cent and 91 per cent for black and white television.³ Many of the residents of Montana, there-

³"Comparing Your Volume to Local, State, Regional Patterns," Merchandising Week, February 24, 1969, p. 66.

fore, would have had the opportunity to become acquainted with the instruction booklets and form some opinions about them. It is the purpose of this study to determine what these opinions are. In doing so it is hoped that the extent of thoroughness with which the use and care booklets are read will be discovered. "Women just don't read the directions" has been the "universal lament" of the appliance industry.⁴ The study will help reveal if this is true of Montana equipment owners.

Since reading the booklet thoroughly will help the owner achieve satisfaction from all features of the equipment and prevent unnecessary servicing, the following null hypotheses will be tested:

1. There is no significant relationship between owner satisfaction with the equipment and the thoroughness with which the instruction booklet was read.

2. There is no significant relationship between service problems and the manner in which the instruction booklet was read.

⁴Gerald J. Barry, "Mr. Fix-it --- His Busy Rounds And His \$4 Billion Yearly Bill," Newsweek, November 13, 1961, p. 82.

CHAPTER II

Review of Literature

Equipment in the home has increased in numbers and complexity in recent years. Over fifteen new appliances have appeared on the market in the last twenty-five years, not to mention other household equipment.¹ New features are continually being added to the older pieces of equipment, features such as the self-cleaning oven. Each one is different and will operate best only if used as the manufacturer directs.²

There was a time when daughters could learn from their mothers how to use and maintain equipment. How, perhaps due to lack of time on the part of both the mother and daughter or the rapid changes in the equipment itself, this is no longer true.³

Merchandising methods have also changed and in doing so, removed another source of information once available to the equipment owner--the salesman. Today's salesmen may know very little about the merchandise they are selling, and in the large serve-yourself stores, household

¹"Sixty Years of Major Appliances: from Ice Chests and Wood Stoves to No-frost and Self Cleaners," Merchandising Week, May 20, 1968, pp. 32-33.

²"Use and Care Books are Teaching Aids, Too," What's New In Home Economics, March, 1968, p. 43.

³Margaret Davidson, "Follow the Instructions," Report of the First National Home Appliance Conference, Info 68: Living up to your Appliances (Chicago: Association of Home Appliance Manufacturers, [1968/], p. 62.

equipment can be purchased without contacting a salesman. Many of today's dealers therefore either can not or do not provide adequate instructions at the point of purchase.⁴

Similarly, post sale visits once provided by utilities or distributors of major appliances have just about disappeared. Thus the instruction booklet becomes " . . . a very important link between the maker and user."⁵ To be successful, they must be read. If they are not read, owners will probably not enjoy optimum use of features or relatively trouble free operation. Both the manufacturers and the equipment owners have responsibilities regarding the use and care booklets.

Use and Care Booklets for Household Equipment

Information included by the manufacturer

The importance of each manufacturer producing a well written, understandable instruction booklet is obvious. The degree to which this has been accomplished may be questioned. At the beginning of this decade, the following was written about instruction booklets:

⁴Mary S. Picket, "Controlled Heat Burners," Journal of Home Economics, LIV (January, 1962), 42.

⁵Katherine Alderman, "The Homemaker's Point of View," Journal of Home Economics, LII (December, 1960), 826.

. . . across the land, millions of householders can testify that instruction manuals are often a feeble tool when it comes to dealing with the complex gadgeting that adorns the frost-free 6 refrigerator, the infra-red oven, the self-timing washer . . .

Even as late as 1966, the appliance representatives admitted instruction booklets were hard to understand and use.⁷

Today, however, manufacturers believe the following statement to be more appropriate:

What we loosely call 'use and care books' is sufficient to provide an entire course on any given subject. The information is more up to date than any text book could possibly be. Even though the appliance and subject may be relatively complicated, the material is written simply with words understandable by anyone.⁸

The first use and care booklets were simply labeled instructions, a list of steps which, if followed, would result in the successful operation of the equipment. Now, however, consumers have indicated they want more than just the operating instructions. As a result, today's instruction booklets include not only step by step directions for equipment operation but a list of do's and don'ts, safety information, basic use and care instructions, a check list on what to do before calling a

⁶Gerald J. Barry, "Mr. Fix-it --- His Busy Rounds . . . and His \$4 Billion Yearly Bill," Newsweek, November 13, 1961, p. 82.

⁷Davidson, "Follow the Instructions," p. 62.

⁸Ann Olson, "Industry Teaching Aids," Report of the First National Home Appliance Conference, Info 68: Living up to Your Appliances (Chicago: Association of Home Appliance Manufacturers, /1968/), p. 58.

service man and additional information concerning the areas related to the equipment.⁹

Even so, a study on consumer information conducted by Lightfoot revealed that of the 100 participants, only 47 indicated they saved the instructions for their equipment. The reasons given for discarding the booklets included indifference, feelings that the booklets were too time consuming, not clear enough, had poor wording, did not contain adequate information, and were done in print that was too small.¹⁰ Thus the manufacturers are still working to publish use and care booklets which are easier for the consumers to use.

Instruction booklet construction

Manufacturers continually evaluate and improve the construction of their use and care booklets. Presto, for example, consults the office personnel, advertising and management staffs to obtain help in evaluating their booklets. A field test is then conducted and a final evaluation made by the advertising and publicity agencies. Even after they are in the hands of the equipment owners, changes are made in the

⁹Olson, "Industry Teaching Aids," p. 59.

¹⁰Gwendolyn Grady Lightfoot, A Study of Consumer Information Concerning Selected Goods with Implications for Professional Home Economists, M. S. Thesis, University of Maryland, 1963, pp. 54-55.

next reprint if repeated complaints are received.¹¹

A similar company evaluation of use and care booklets is made by Westinghouse with the Home Economics, Marketing, Engineering, Design, Reliability, and Service departments all involved. Following this, research is conducted to determine the effectiveness of the booklet and any necessary revisions are then made.¹²

The home economists at Frigidaire first test the appliances and become familiar with their performance and then write the instruction booklets. The Engineering, Service and Product Technical departments check the information, and the advertising agency prepares the layout. Means of improvement are always being sought.¹³

Because much care is taken in the construction of use and care booklets, many improvements are being made. For example, the Whirlpool Company has incorporated more charts and sketches to explain appliance operation. In addition, each appliance has separate instructions for each basic model instead of one booklet covering many models. As an example of the steps a manufacturer sometimes takes to insure correct operation, Whirlpool has established a "cool line". On this, equipment

¹¹Letter from Dorthy Z. Bergman, Presto Home Economics Director, Eau Claire, Wisconsin, May 13, 1969.

¹²Letter from Wathena Shine, Westinghouse Director of Home Economics, Mansfield, Ohio, May 27, 1969.

¹³Letter from R. G. McCloskey, Frigidaire Consumer Services, Dayton, Ohio, June 19, 1969.

owners with service problems can call them for help any time day or night.¹⁴

Sears found having consumers read the instructions before operating the appliances helped avoid service calls. To make it easier for the equipment owner to do this, the most important points are covered at the beginning of the use and care booklet, on the appliance itself, or with easy to see tags and stickers.¹⁵

One area of the instruction book many manufacturers have been improving is the equipment warranty, trying to " . . . revise the jumble of legalese that once made the warranties almost indecipherable and replace it with layman's language."¹⁶

It is possible the entire fault does not lie in the instruction booklet and that manufacturers should evaluate other areas of production. As one dealer said, "As long as the manufacturer thinks that women are engineers and continues to make increasingly complicated appliances--sacrificing quality for gadgets--the dealer is being burdened more and more with a service problem he can't afford."¹⁷

¹⁴Virginia Van Norstrand, "Recap" (Benton Harbor, Michigan: Whirlpool Corporation, 1969), p. 2.

¹⁵Letter from Laurie Gordon, Sears Assistant Director of Consumer Information, Skokie, Ill., May 12, 1969.

¹⁶"Warranties and Consumerism: Big Change in the Small Print," Merchandising Week, April 28, 1969, p. 16.

¹⁷Nessie Nides, "A Dealer Looks at Service Problems," Journal of Home Economics, LII (December, 1960), 828.

The Consumer

The increased amount of equipment found in the homes today makes it harder for the owners to keep track of all the information for each one.¹⁸ Storage of the booklet may become a problem. They can't be used if they can not be found.¹⁹ However, it may also be true that if the equipment booklets were easier to read and understand, the owners might hold on to them longer.²⁰ One laundry manufacturer built a pocket for the instruction booklet right into the appliance design, thus encouraging the equipment owner to save and use the booklet.²¹

Value of reading booklet

The equipment owner receives optimum use of all equipment features only when well enough informed to use the equipment wisely. In a study concerning the use of features on deluxe appliances, Regan

¹⁸Betty Bay, "Do You Call the Appliance Man Before You Have To?" Better Homes and Gardens, November, 1961, p. 6.

¹⁹Davidson, "Follow the Instructions," p. 62.

²⁰Dr. Marjorie Keiser, Speech given during the Educator's Session during the meeting of the National Home Appliance Conference, Denver, Colorado, October 24, 1968, p. 11.

²¹Davidson, "Follow the Instructions," p. 62.

found that the owner rarely used these features.²² This was substantiated by Withrow in her study of the use of accessories on the washer and range. Those homemakers learning to use the special features through a demonstration and/or by reading the instruction manual used them more often than those learning by trial and error methods.²³

In another study concerning the selection, use and care of ranges, Payne determined that those homemakers receiving the instruction on special features such as the rotisserie and controlled oven timer used such features more than homemakers not receiving instructions.²⁴ While this might indicate a need for more than just the use and care booklet to help acquaint the owner with his equipment, the importance of the booklet for providing operation information can not be discounted.

When Rasdall surveyed fifty-nine homemakers with blenders, operation problems were found to be related to the owner's lack of

²²Wilma Kellogg Regan, A Study of the Purchase, Use and Care of Household Equipment in Homes of Oakesdale, Washington and their Relation to Instituting a Household Equipment Course in the Home Economics Curriculum, M. S. Thesis, Washington State University, 1960, pp. 4, 29.

²³Millicent Withrow, Factors Underlying Homemaker Use or Nonuse of selected Accessories on the Range and Washer, M. S. Thesis, University of Maryland, 1964, p. 65.

²⁴Mildred Aigner Payne, Selection, Use and Care of Ranges and Two Small Cooking Appliances By 103 Homemakers in Charles City and New Kent Counties, Virginia, M. S. Thesis, Virginia Polytechnic Institute, 1963, p. 44.

familiarity with procedures and information on the use and cleaning. Those homemakers indicating from three to nine problems with their blenders were less well informed than those who had fewer problems.²⁵

Servicing

One factor which prompted the improvement of use and care booklets was the number of unnecessary service calls which resulted from the equipment owner's failure to read the instructions. In 1960, for example, the American Home Laundry Manufacturers Association conducted a survey which revealed thirty to forty per cent of the total service calls made for home laundry appliances in that year were due to "operator errors and oversights." This resulted in 27 million dollars being spent needlessly.²⁶ Another study by a leading appliance maker indicated one service call in every five was not due to a product defect and could have been avoided.²⁷

More recent reports indicate the same problems still exist. At the 1968 National Home Appliance Conference, the chairman stated, "In about one-third of in-warranty calls, it isn't service that's needed--

²⁵Joyce Rasdall, Factors Related to Ownership and Use of Electric Blenders, M. S. Thesis, University of North Carolina, 1967, p. 33.

²⁶Bay, "Do You Call the Appliance Man Before You Have To?" p. 6.

²⁷"To Reduce Appliance Service Problems, Read the Instruction Book," Consumer Bulletin, June, 1969, p. 32.

it's education."²⁸ Another participant at the conference stated:

In spite of the unquestioned importance of reading the instructions for using appliances, too many of today's consumers remain nonreaders.

* * * * *
Case histories are full of reports about air conditioners that do not cool because filters are dirty, ovens that won't heat because they are set on automatic, washers which can't spin because hose connections are kinked, refrigerators that warm up because plugs are loose. The inconvenience, the problems and even the expense of the service in thousands of instances could have been prevented by the user herself.²⁹

She did admit, however, there are some owner problems that are so uncanny even the best instruction book couldn't cover them. As an example, she cited the case of the new owner of a steam iron who was told she could use freezer drippings in it. Later the owner called the utility home service director to ask if she should use beef or pork drippings.³⁰

Besides being a nuisance, service problems are also expensive. The pay scale for repairmen, plumbers, and household electricians ranges from \$2.75 to \$6.85 per hour, and may be higher depending on the

²⁸Richard Maxwell and Stephen E. Upton, "Facts and Fallacies About Service," Report to the 1968 National Home Appliance Conference, Frontiers and Fundamentals (Chicago: Association of Home Appliance Manufacturers, [1969]), p. 77.

²⁹Davidson, "Follow the Instructions," pp. 60-61.

³⁰Ibid., p. 61.

locality.³¹ Although equipment owners often become irate when they are charged such prices just to have a repairman tell them the only problem was that the equipment wasn't plugged in, they must remember it still costs a company money to send a service man out, no matter what the reason.³²

Evaluation

Not all booklets go unread. One participant of the 1967 Home Appliance Conference found that when instruction books did not accompany the appliances, a number of requests were received for an instruction book.³³

Nor does everyone believe that instruction books need to be improved. One manufacturer's representative explained the company she worked for had contacted utilities, consumer organizations and others for suggestions on improving their instruction booklets. She reported, "When it comes right down to the line, they liked what we had."³⁴

³¹U. S. Department of Labor, Report of the Task Force, Appliance Warranties and Service (Washington, D. C.: Government Printing Office, 1963), p. 188.

³²"Use and Care Books are Teaching Aids, Too," p. 43.

³³Olson, "Industry Teaching Aids," p. 58.

³⁴Participant in the discussion held after the speech given by Dr. Marjorie Keiser at the National Home Appliance Conference, p. 12.

Tilden also found consumer approval when studying instruction booklets for automatic washers. Of the thirty-four homemakers interviewed regarding washer use and care booklets, thirty-one read parts or all of the booklet before using their washers and twenty-seven said they felt the books were adequate. The suggestions that were given for improvement included making the instruction booklets shorter and less wordy and including more information on equipment operation.³⁵

³⁵Betty Jo Tilden, Analysis and Use of Instruction Booklets for Automatic Washers, M. S. Thesis, Ohio State University, 1962, pp. 17, 22, 30.

CHAPTER III

Procedure

Selection of Sample

Today's equipment owners are faced with the perplexing problem of learning the correct operation, care and use for a large variety of equipment. The main source of information to help them acquire this knowledge is the use and care booklet published by the manufacturer. If the booklet is to accomplish the task for which it was designed, that of informing the consumer, it must first be constructed by the manufacturer to present a message understandable to the equipment owner. Secondly, it must be read by the consumer. It is the purpose of the following study to determine if these two requirements are being met.

Montana residents are among the nation's equipment owners and thus have been exposed to various use and care booklets. A sample of 245 was selected from Montana's fifty-six county seats. This was done to prevent concentrating the sample in only one geographical area of Montana. The number of individuals selected from each county seat was determined by calculating the percentage of the total state population found in each county and taking that same per cent of 245, to the nearest whole number. The results of these calculations are found in appendix A.

Individual names were obtained from the telephone directory for each county seat by drawing numbers for the page, column, and line. It should be pointed out that the manner in which the sample was selected introduced bias in that it may have eliminated most rural families as well as those families not having telephones. Thus the population used is not a true random sample.

Construction of the Questionnaire

A mailed questionnaire was selected for the data gathering instrument as it afforded the most convenient means of obtaining the broad coverage desired. Through careful construction and the use of the closed questionnaire form, it was hoped the information required from each participant would be presented in a clear, understandable manner, resulting in accurate, relevant answers from those responding.

The questionnaire was reviewed by professional consultants and evaluated by means of a pilot study consisting of twelve members of a local women's group. The final questionnaire form was then mailed, with a letter of explanation, to the individuals selected for the sample. (See appendix B). A follow up postcard reminder as well as a second mailing of the questionnaire were used to insure as many returns as possible.

It is the writer's belief that addressing the letters for the first mailing using the name exactly as found in the telephone directory instead of addressing them all to "Mrs." was detrimental

to the study. Some of the men apparently did not feel their wives should complete the questionnaire because it was addressed to the husband. Although attempts were made to correct this in the second and third mailings, it did seem to be a deterring factor.

Treatment of Data

It can not be assumed that the members of the sample who did not reply are the same as the respondents.¹ It has been noted that " . . . people who do return them [questionnaires] are usually less mobile (and thus they are more likely actually to receive the questionnaire), the more interested, the more literate, and the more partisan section of the population."² These characteristics should be kept in mind when reviewing the findings in the following chapter.

The chi-square test for independence was applied to various findings to determine if a relationship did exist. The .05 level of confidence was selected for testing. When frequencies of less than ten were used, Yates's correction for continuity was applied.³ The statistical findings stated will apply only to the 110 respondents in the

¹Carter V. Good and Douglas E. Scates, Methods of Research (New York: Appleton-Century-Crofts, Inc., 1954), p. 527.

²Clair Selltitz, et al., Research Methods in Social Relations (n. p.: Henry Holt and Company, Inc., 1959), p. 242.

³J. P. Guilford, Fundamental Statistics in Psychology and Education (4th ed.; New York: McGraw-Hill Book Company, 1965), p. 237.

study and not to Montana residents as a whole. Also, recognition must be given to the fact that statistics are more accurate if the sample is quite large and grow less accurate as the sample becomes smaller, even though attempts are made to correct this distortion.

CHAPTER IV

Findings

Sample

It was hoped that an adequate return (at least 70 per cent or over) would be received. A total of 147 or 60.0 per cent were returned. Of these only 44.9 per cent were usable. Another 2.4 per cent were not reached because of incorrect addresses. No reply was received from 37.6 per cent. The findings therefore must be limited to the 110 participants who returned a usable reply. (See figure 1).

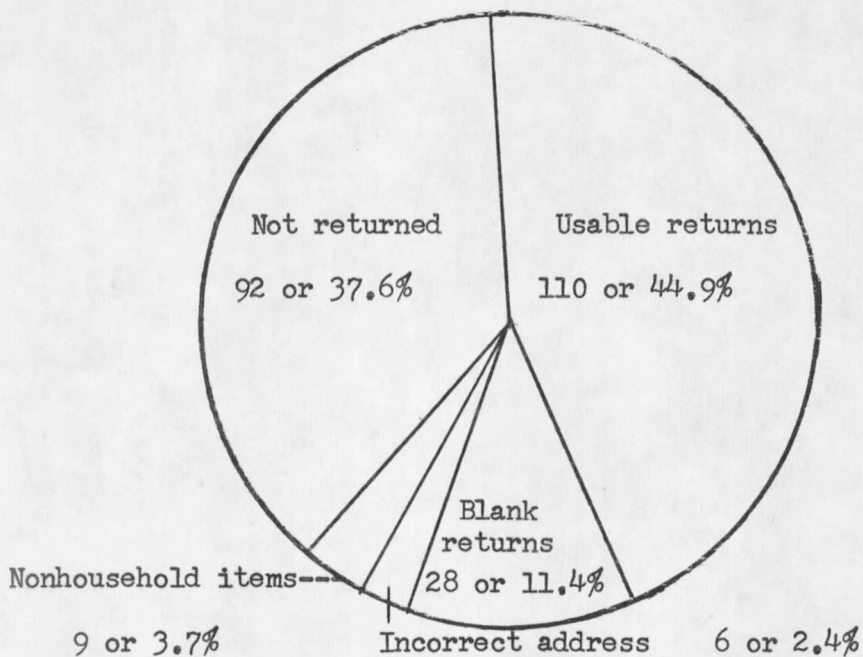


Fig. 1.--Distribution of questionnaires returned

Although twenty-eight of the questionnaires were returned unanswered, some of the respondents did explain why they did not answer the questions. Seven indicated they had not purchased equipment recently, others were not interested, two felt what they read was their own business, and two did not have time to participate. This would suggest a need to achieve better rapport so that their cooperation could have been obtained. (See appendix C).

No usable returns were received from thirteen of the fifty-six county seats. (See appendix D). These were Sidney, Deerlodge, Malta, Columbus, Virginia City, Roundup, Baker, Superior, Townsend, White Sulphur Springs, Ekalaka, Jordon, and Winnet. This further reduced the randomness of the sample, especially affecting the eastern portion of the state. (See figure 2).

Equipment Information

Make and Manufacturer

The most recent purchase is usually the one with which the consumer is most familiar. It was believed, therefore, that the information concerning this purchase would be the most accurate. It would also give the respondent a concrete reference on which to base his answers, again attempting to gain an accurate and honest response.

Forty different types of equipment were listed. Those mentioned most frequently were the washing machine, vacuum cleaner, range and blender. Kitchen equipment accounted for 40.9 per cent of the total

MONTANA

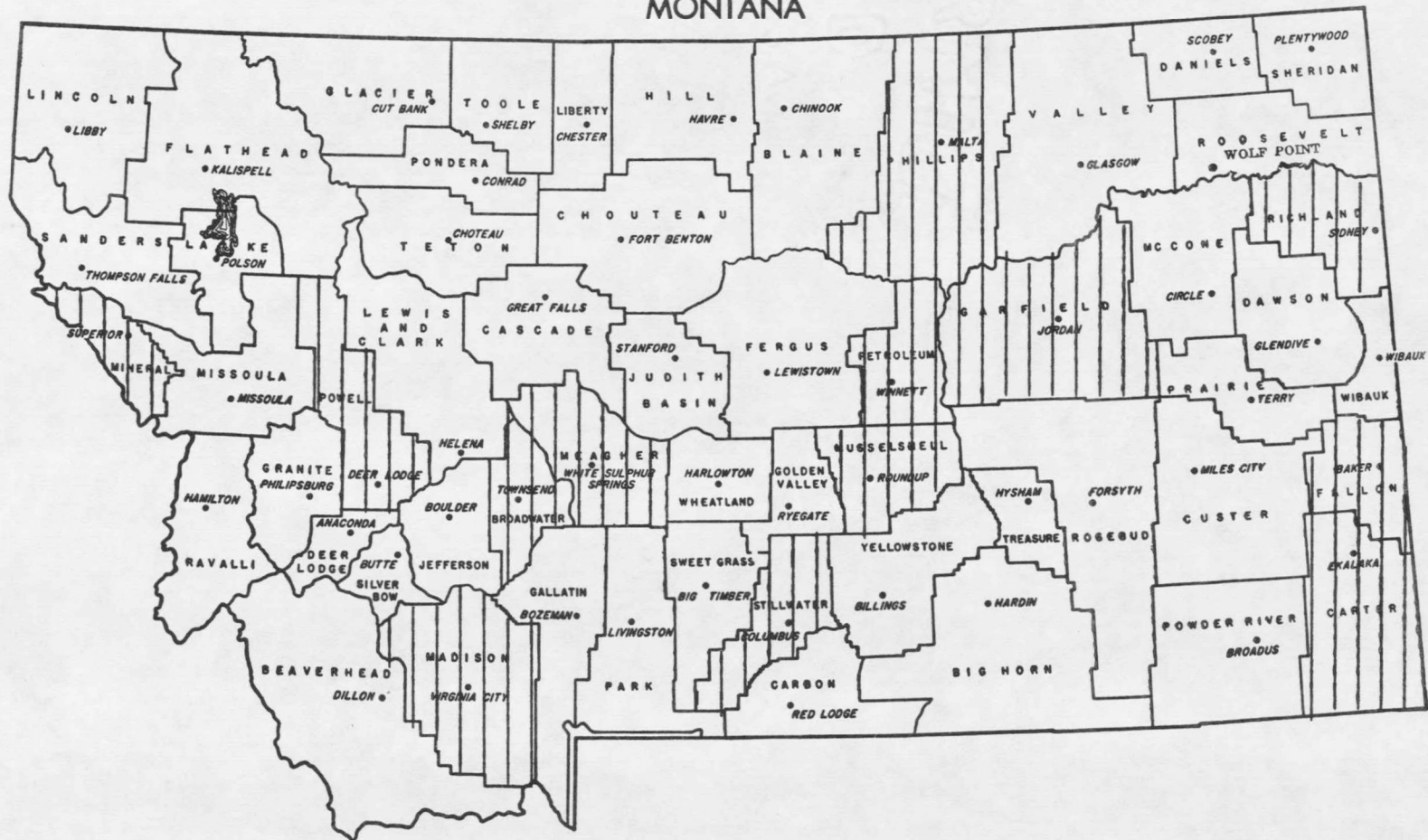


Fig. 2. --Areas not returning questionnaires

replies; laundry equipment for 23.8 percent; general equipment, 13.6 per cent; cleaning equipment 12.7 per cent and personal equipment, 9.0 per cent. (Table I). The 1969 Statistical Report by Merchandising Week indicated a high saturation percentage of kitchen and laundry equipment in most homes; this may account for their high representation in the study.¹

TABLE I
EQUIPMENT LISTED ON COMPLETED QUESTIONNAIRES

Equipment	Number	Percentage
<u>Kitchen</u>		
Range	9	8.2
Blender	8	7.3
Refrigerator	5	4.6
Frying Pan	4	3.7
Dishwasher	3	2.7
Coffee maker	3	2.7
Freezer	3	2.7
Wall oven	2	1.8
Refrigerator-freezer	2	1.8
Garbage disposal	1	.9
Electric knife	1	.9
Can opener	1	.9
Bowl set	1	.9
Hand mixer	1	.9
Ice crusher	1	.9
Total	45	40.9
<u>Laundry</u>		
Washing machine	14	12.9
Dryer	5	4.6

¹"Comparing Your Volume to Local, State, Regional Patterns."
Merchandising Week, February 24, 1969, pp. 62-67.

TABLE I--Continued

Equipment	Number	Percentage
Iron	3	2.7
Washer-dryer	3	2.7
Ironrite	1	.9
Total	26	23.8
<u>Cleaning</u>		
Vacuum Cleaner	10	9.1
Electric Broom	2	1.8
Rug Shampooer	1	.9
Floor Polisher	1	.9
Total	14	12.7
<u>General</u>		
Television	4	3.7
Radio	3	2.7
Tape Recorder	2	1.8
Organ	1	.9
Sewing machine	1	.9
Camera	1	.9
Furnace	1	.9
Humidifier	1	.9
Stereo	1	.9
Total	15	13.6
<u>Personal</u>		
Razor	3	2.7
Heating pad	2	1.8
Hair curler set	1	.9
Clothes brush	1	.9
Water pic	1	.9
Facial sauna	1	.9
Electric tooth brush	1	.9
Total	10	9.0
Grand total	110	100.0

Although such a large variety of equipment increases the variables in the study, it does help in achieving the overall look at consumers' opinions concerning today's use and care booklets which was desired.

A large number of manufacturers were listed by the equipment owners. General Electric was mentioned most frequently, followed by Sears, Sunbeam, Coronado and Westinghouse respectively. (Figure 3). The representation of each manufacturer would be influenced by the availability of his product not only in each county seat but in the state as well. One might also expect the national brands to be more prevalent.

Of the thirty-eight manufacturers represented, 66 per cent published instruction booklets to which the owners reacted unfavorably in one area or more. Due to failure to receive a representative number of replies for many of the manufacturers, no valid statement can be made concerning the correlation between dissatisfaction with the booklet and the manufacturer involved. (Table II).

Manner of obtaining Equipment

Most pieces of equipment, 76.2 per cent, were purchased; 22.9 per cent were received as gifts, and one article was obtained with trading stamps. The percentage of owners receiving the equipment as a gift who read the booklet word for word was very similar to that for owners who had purchased their equipment: 32 per cent for the first group and 39.8 per cent for the latter. (Table III).

As would be suspected from the percentages, no significant relationship was found between the manner of obtaining the equipment and the thoroughness with which the instruction booklet was read.

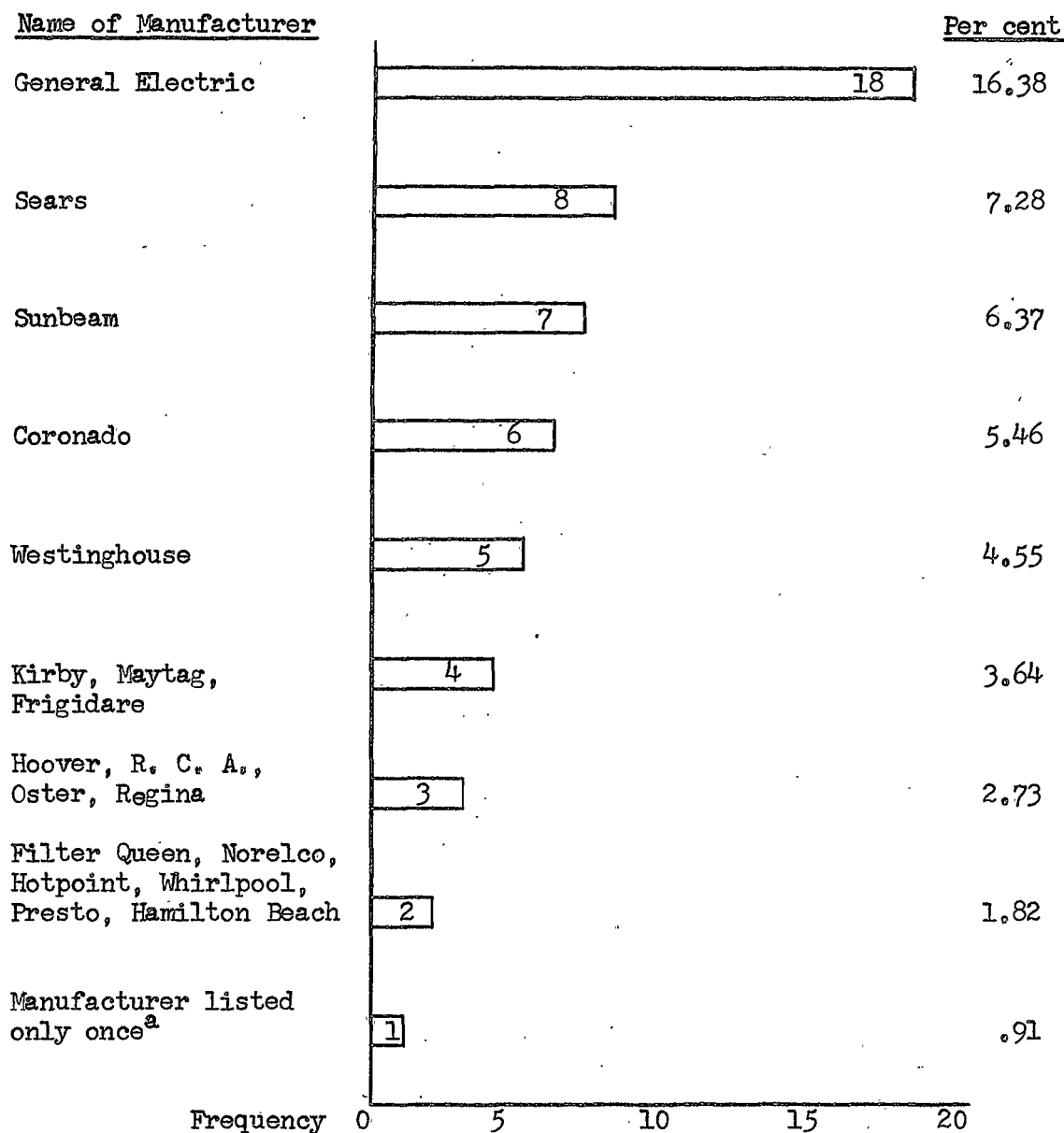


Fig. 3.--Frequency of Manufacturers listed on questionnaires
^aManufacturers listed only once include Norge, Speed Queen, Kelvinator, Wards, Bissell, Hobart, Dayton, Ironrite, Craige, Motorola, Poloroid, Hammond, Remington, Corning Glass works, Water pic, Coleman, Singer, Procter Silex, Waring, Magnovox, Philco, Sony, West Bend, W. T. Grant, Iona, and Swing-away. Four participants did not indicate the manufacturer.

TABLE II

MANUFACTURERS PRODUCING INSTRUCTION BOOKLETS WITH
ONE OR MORE SECTIONS RATED UNSATISFACTORY
BY EQUIPMENT OWNERS

Equipment Manufacturer	Total number of owners	Dissatisfied owners	Per cent dissatisfied
General Electric	18	8	44
Sears	8	4	50
Coronado	6	4	66
Kirby	4	3	75
Maytag	4	2	50
Filter Queen	2	2	100
Westinghouse	5	2	40
R. C. A.	3	2	66
Sunbeam	7	2	29
Oster	3	2	66
Manufacturer not given	4	2	50
Speed Queen	1	1	100
Whirlpool	1	1	100
Norge	1	1	100
Frigidare	4	1	25
Kelvinator	1	1	100
Hoover	3	1	33
Hobart	1	1	100
Ironrite	1	1	100
Magnovox	1	1	100
Motorola	1	1	100
Remington	1	1	100
Corning Glass Wares	1	1	100
West Bend	1	1	100
Presto	2	1	50

TABLE III
MEANS OF OBTAINING EQUIPMENT AS RELATED
TO MANNER OF READING INSTRUCTION BOOKLET

Manner in which booklet was read	Obtained as gift	Per cent	Equipment purchased	Per cent
Word for Word	8	32.0	33	39.8
Not read word for word	17	68.0	50	60.2
Total	25	100.0	83	100.0

This would indicate both groups were concerned with becoming better informed about their new equipment. (Appendix E).

Owner Satisfaction

Satisfaction with one's equipment has been correlated with the manner in which the instruction booklets were read. The participants in the study were satisfied with their equipment in 91 per cent of the cases and partially dissatisfied in 9.1 per cent. No one indicated total dissatisfaction. Six, or 66.7 per cent, of the nine partially dissatisfied owners had read or looked at all parts of the booklet and all parts of the booklet were read or glanced at by 71 per cent of those satisfied with their equipment. The remainder of both groups did not read parts or all of the booklet. (Table IV).

TABLE IV

MANNER OF READING THE INSTRUCTION BOOKLET AS RELATED
TO SATISFACTION WITH THE EQUIPMENT

Manner in which booklet was read	Satisfied with equipment	Per cent	Not satisfied with equipment	Per cent
Read or glanced at all parts	71	71.0	6	66.7
Did not read all parts	29	29.0	3	33.3
Total	100	100.0	9	100.0

The chi square test of independence revealed no significant relationship between the owner's satisfaction with the equipment and the manner in which the booklet was read. (Appendix E). It was interesting to note, however, that five of the nine owners dissatisfied with their equipment were also dissatisfied with their instruction booklets. Because of the size of the sample, this could easily have happened by chance. It does suggest, however, that maybe the manner of reading the instruction booklet isn't the only factor involved in achieving satisfaction with the equipment; the manner in which the instructions are written and presented must meet the needs of the owner too. (Table V).

TABLE V

SUMMARY OF FACTS ABOUT EQUIPMENT WITH WHICH
OWNERS WERE ONLY PARTIALLY SATISFIED

Equipment	Manufacturer	Satisfied with book	Read all parts	Did not read all parts
Washing machine	General Elect.	Yes		x
Freezer	Coronado	No	x	
Vacuum	Kirby	No	x	
Dishwasher	Sears Kenmore	No		x
Bowl set	Corning Ware	No	x	
Tooth brush	Oster	No		x
Blender	Sunbeam	Yes	x	
Blender	Sunbeam	Yes	x	
Hair curler	Sears	Yes	x	

Date Equipment was Obtained

The date the equipment was obtained was considered important, first to determine if those answering before 1968 were more dissatisfied with the booklet since, at that time, even the manufacturers had suggested that booklets could be improved and, second, to determine if those answering the questionnaire about equipment purchased or obtained before 1968 seemed more favorable or unfavorable due to failure to remember accurately.

Twenty-five or 22.75 per cent of the 110 participants received their equipment before 1968; seventy-eight or 70.98 per cent obtained their equipment after 1967. Of the owners obtaining their equipment before 1968, fifteen or 60 per cent were satisfied with the booklet and ten or 40 per cent were not. Forty-four or 56 per cent of the owners

obtaining their equipment after 1967 were satisfied with the booklet and thirty-four, or 44 per cent, were dissatisfied. (Table VI).

TABLE VI
DATE EQUIPMENT WAS OBTAINED

Month	Before 1968	Per cent	1968	Per cent	1969	Per cent
January	1	.91	1	.91	9	8.19
February					7	6.37
March	2	1.82	4	3.64	5	4.55
April			3	2.73	4	3.64
May	1	.91	3	2.73	5	4.55
June	1	.91	2	1.82		
July	3	2.73	3	2.73		
August	1	.91	3	2.73		
September	1	.91	4	3.64		
October	1	.91	8	7.28		
November	2	1.82	6	5.46		
December	8	7.28	10	9.10		
Month not given ^a	4	3.64	1	.91		
Total	25	22.75	48	43.68	30	27.30

^aThe year was not given for seven replies so these were not included in the above table.

As reflected in the percentages, no significant relationship was found when the chi square test for independence was applied. For these respondents, therefore, the year in which the equipment was obtained did not influence their evaluation of the use and care booklet.

(Appendix E).

Manner of Reading the Instruction Booklet

Thoroughness

The manner in which the instruction booklet was read was an important aspect of the study since this information was necessary to evaluate accuracy and to establish various relationships. The majority of the participants either read the instruction booklet word for word or read parts of it and glanced through the rest. Only six, or 5.5 per cent, did not read any part of the instruction booklet, the reasons given by these nonreaders included not receiving a booklet, receiving a dealer demonstration, and obtaining equipment that was not complicated enough to make reading the instruction booklet necessary. The equipment referred to in the latter comment included a freezer, refrigerator, and electric skillet. The two nonreaders who indicated they did not receive an instruction booklet, misread the questionnaire since they were asked to select the last piece of equipment they obtained that had an instruction booklet with it. (Figure 4).

It would appear that the participants of the study, for the most part, realized the value of their use and care booklets and made use of this resource. Recalling that individuals who do reply to mail surveys are usually the more interested, literate and partisan may help to explain why this result was obtained.

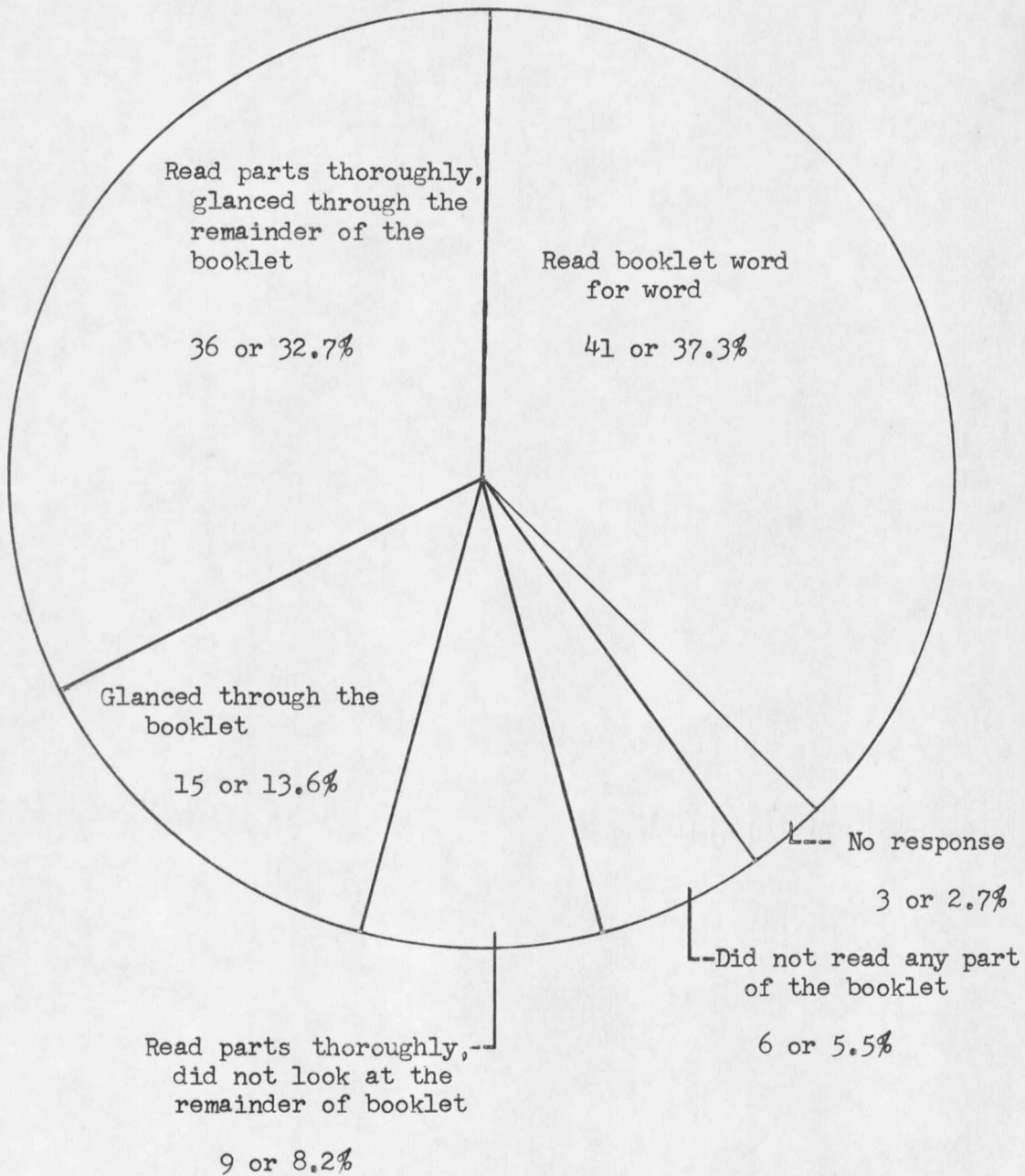


Fig. 4.--Manner in which instruction booklets were read

Sections Read

The respondents were to designate the sections of the instruction booklet they read and also indicate if any sections mentioned were not found in their booklet. This was to serve as a very brief evaluation of the information contained in today's booklets but because only seventeen responded to this portion of the questionnaire an evaluation could not be completed.

It appeared that most equipment owners were concerned about equipment operation first as this was read by 82.8 per cent of the sample. This was followed by care and warranty information, read by 73.7 per cent and 66.4 per cent respectively. The 51.8 per cent who read the additional information generally had a favorable attitude toward this section of the instruction booklet.

Only 42.7 per cent had read the section on what to do before calling a repairman and 46.4 per cent reviewed where to send the item for repair. These may have been low because the information referred to their most recently acquired piece of equipment. Many may not have found it necessary to consult these two sections to date.

Much of the equipment included in the study did not require special installation. In many cases, therefore, this section may not have been included in the booklet. When special installation is required, it is sometimes furnished by the dealer and thus the owner would not need to read this part of the booklet to operate the equipment. This would help explain why only 51.8 per cent read the section on installation.

Fifty-two participants, or 47.3 per cent, read the section on safety. It may be that being familiar with the equipment was the only safety information the owners believed they needed. It is also possible the booklet did not contain special safety information. (Table VII).

TABLE VII
SECTIONS OF INSTRUCTION BOOKLET
READ BY PARTICIPANTS

Section	Number	Number includ- ing 41 who read all	Per cent
Operation information	50	91	82.8
Care Information	40	81	73.7
Warranty	32	73	66.4
Additional information	16	57	51.8
Installation	12	53	48.2
Safety	11	52	47.3
What to do before call- ing a repair man	6	47	42.7
Where to send for repair	10	51	46.4

A chi square test for independence was applied to determine if there was a significant relationship in the manner in which the instruction booklet was read and the owner's satisfaction or dissatisfaction with the booklet. This was done to reveal if those who had not read the booklet thoroughly had answered the questions less carefully than those reading the booklet word for word. Twenty-six, or 63 per cent of the forty-one reading the instruction booklet word for word were satisfied with the booklet and fifteen or 37 per cent were not. Of the sixty not reading the booklet word for word, twenty-eight or 47 per

cent were satisfied and thirty-two or 53 per cent were not. No significant relationship was found, however. (Appendix E).

Storage

Since the instruction booklet can not be helpful unless it can be found, the participants' storage of their booklets was of interest. The majority of the owners, 69 per cent, did make a special effort to keep track of the booklet with 19.6 per cent storing it near the equipment and 50 per cent filing it in a special place with other instruction booklets.

Of the eleven, or 10 per cent, who did not know where the use and care booklet was, one had read it word for word, one had read parts thoroughly and glanced at the rest, six had glanced at the booklet and three read no parts at all. The lack of careful reading of the booklet might be a further indication these participants did not attach a great deal of importance to the booklet. (Table VIII).

TABLE VIII
INSTRUCTION BOOKLET STORAGE

Placement	Number	Per cent
Stored near equipment	21	19
Filed in a special place	55	50
Do not know where booklet is	11	10
No response	23	21
Total	110	100

Initial Reading

The time of the initial reading of the instruction booklet was considered important to determine if most owners used the trial and error method and then, "when all else failed," turned to the instructions. On the other hand, it might be that new equipment owners read the instructions first and then operated the equipment.

The latter seemed to be the case with the majority of the study participants. Seventy-five or 68.2 per cent did read the equipment use and care booklet before first using the equipment. Only one of these, however, read the booklet before purchasing. Use and care booklets might be an excellent source of information for the comparative shopper, but it appears that they are not being used for this purpose. This may indicate the need to inform the public that such a resource exists.

Seven or 6.5 per cent used the equipment first and then read the instruction booklet. The equipment involved included an organ, radio, two television sets, a dryer, washer and a vacuum cleaner. Most of these one might expect individuals to be able to operate without instructions.

Although frequencies are too small to obtain an accurate comparison, it would appear the participants did choose to become acquainted with the equipment first and then operate it. (Table IX).

TABLE IX
INITIAL READING OF THE INSTRUCTION BOOKLET

Initial reading	Number	Per cent
Before purchasing equipment	1	.9
Before using equipment	74	67.3
After using equipment, to learn more about it	7	6.4
Other: depends on equipment	1	.9
No reply	27	24.5
Total	110	100.0

Owner dissatisfaction with the instruction booklet

The equipment owners evaluated the instruction booklet in the following areas: length, illustrations, wording, print, warranty information, organization, and additional information contained in the booklet. Of the 110 replies received, 42.8 per cent, or 47 equipment owners indicated dissatisfaction with the instruction booklet in one or more of the areas mentioned. The remaining 57.2 per cent were satisfied with all sections of their booklets. It should be noted that not every participant completed each question in this section. Also, seventeen of the forty-seven, or 15.5 per cent of the sample, were dissatisfied with only one area of the booklet.

Of those that were dissatisfied, 32 per cent read the booklet word for word, 39 per cent read parts thoroughly and glanced at the

rest, 8 per cent read only parts, and 17 per cent merely glanced at the booklet. (Table X).

TABLE X
MANNER INSTRUCTION BOOKLET WAS READ BY THOSE OWNERS
DISSATISFIED WITH ONE OR MORE AREAS

Manner of reading instruction booklet.	Number	Per cent
Read booklet word for word	15	32
Read parts thoroughly and glanced at rest	18	39
Read parts thoroughly and did not look at remainder	4	8
Glanced at booklet	8	17
Did not indicate how booklet was read	2	4
Total	47	100

The type of equipment the instruction booklets referred to could not be classified as being complex or simple to operate. Such a classification would also be altered by the owner's knowledge and experience. Therefore, no correlation was attempted between the "complexity" of the equipment and the owner's evaluation of the use and care booklets. (Table XI).

TABLE VI

EQUIPMENT HAVING INSTRUCTION BOOKLETS WITH
WHICH OWNERS WERE DISSATISFIED

Equipment	Number of times listed	Per cent	Number dis- satisfied with book	Per cent
Vacuum Cleaner	10	9.1	7	70
Washer	14	12.9	6	43
Range	9	8.2	4	44
Dishwasher	3	2.7	3	100
Television	4	3.7	3	75
Dryer	5	4.6	2	40
Freezer	3	2.7	2	66
Refrigerator	5	4.6	2	40
Radio	3	2.7	2	66
Blender	8	7.3	2	25
Frying pan	4	3.7	2	50
Razor	3	2.7	1	33
Iron	3	2.7	1	33
Coffee maker	3	2.7	1	33
Heating pad	2	1.8	1	50
Tape recorder	2	1.8	1	50
Oven	2	1.8	1	50
Ironrite	1	.9	1	100
Stereo	1	.9	1	100
Bowl set	1	.9	1	100
Facial sauna	1	.9	1	100
Electric toothbrush	1	.9	1	100
Can opener	1	.9	1	100

Length

Only 7.3 per cent of the total sample indicated dissatisfaction with the instruction booklet length; six felt it was too short and two thought it was too long. Those feeling the booklet was too long were owners of a range and vacuum cleaner; one had read parts thoroughly and glanced through the rest, the other read part of it and did not look at the rest. Owners of washers, a freezer, vacuum cleaner, television and

coming were set indicated their instruction booklets were too short. Two of the six, however, did not read the instruction booklet word for word so it may be they really didn't want a longer booklet, just more complete information. This was indicated by the comments which stated there was "too little" or "insufficient" information. (Figure 5).

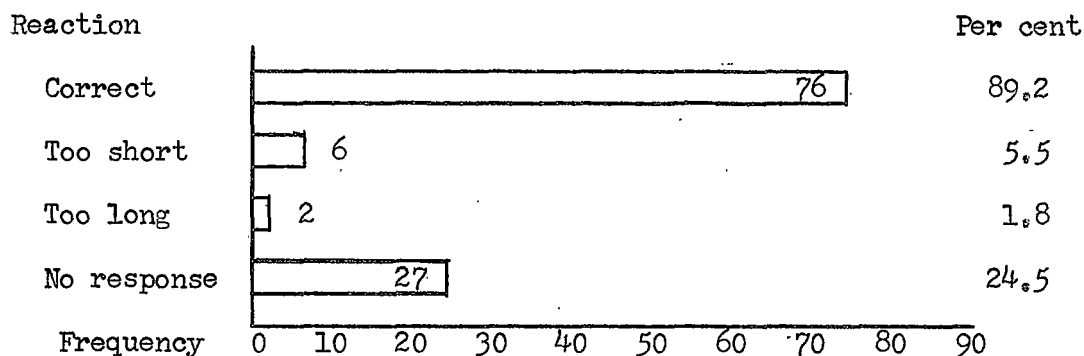


Fig. 5.--Participants' reactions to use and care booklet length

Illustrations

As with the length, most of the equipment owners were satisfied with the illustrations contained in the booklet. Seventy-six or 69.2 per cent rated the illustrations as well done or average; just 4.5 per cent were dissatisfied. Three felt the illustrations were too sketchy, one too numerous and one not clear. (Figure 6). Comments received for suggested improvements were to include more diagrams to make understanding easier, picturing of the replacement of various parts, and avoiding the use of illustrations that are too small.

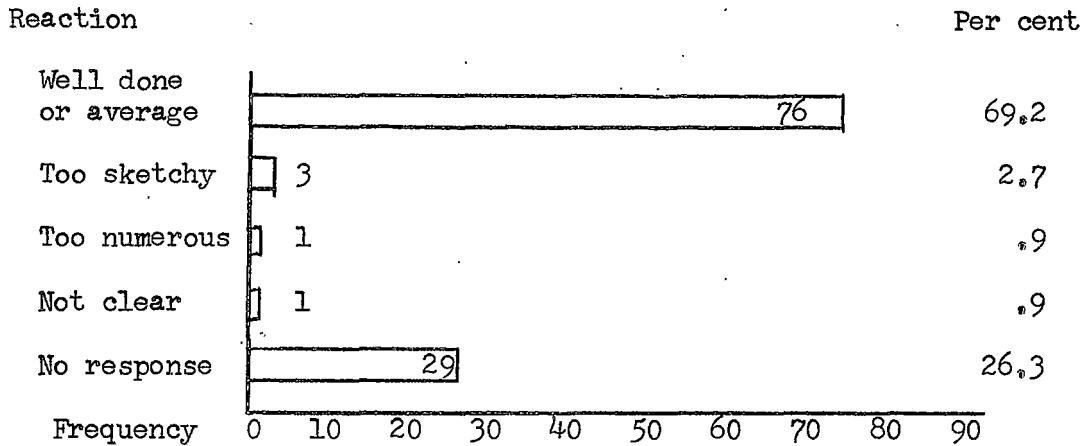


Fig. 6.--Participants' reactions to use and care booklet illustrations

Four of the five dissatisfied owners read the booklet word for word; the other did not indicate how the booklet was read. Again the equipment involved was quite varied with owners of a washer, freezer and corning ware set indicating the illustrations were too sketchy, a television owner found them hard to understand, and another washer owner found they were too numerous.

Wording.

A few more owners were dissatisfied with the wording of the instruction booklets. Of the eighty-two replying to this question, sixty-seven or 61 per cent of the total sample felt their directions were clear and easy to understand; eleven or 9.9 per cent found most parts easy to understand and some parts complicated; three or 2.7 per cent said the booklet was somewhat repetitious and one indicated it

was too complicated. Thus 13.5 per cent felt the instruction booklet wording could be improved. (Figure 7).

Of those dissatisfied with the wording, six had read the booklet word for word, seven read parts of it thoroughly and glanced through or did not look at the rest, and one just glanced through it. The equipment involved included washers, vacuum cleaners, ranges, and television sets and one each of a wall oven, refrigerator, dishwasher, radio and can opener. With a few exceptions, most of the equipment could have a more complex operation, which might explain the owners' reaction to the wording.

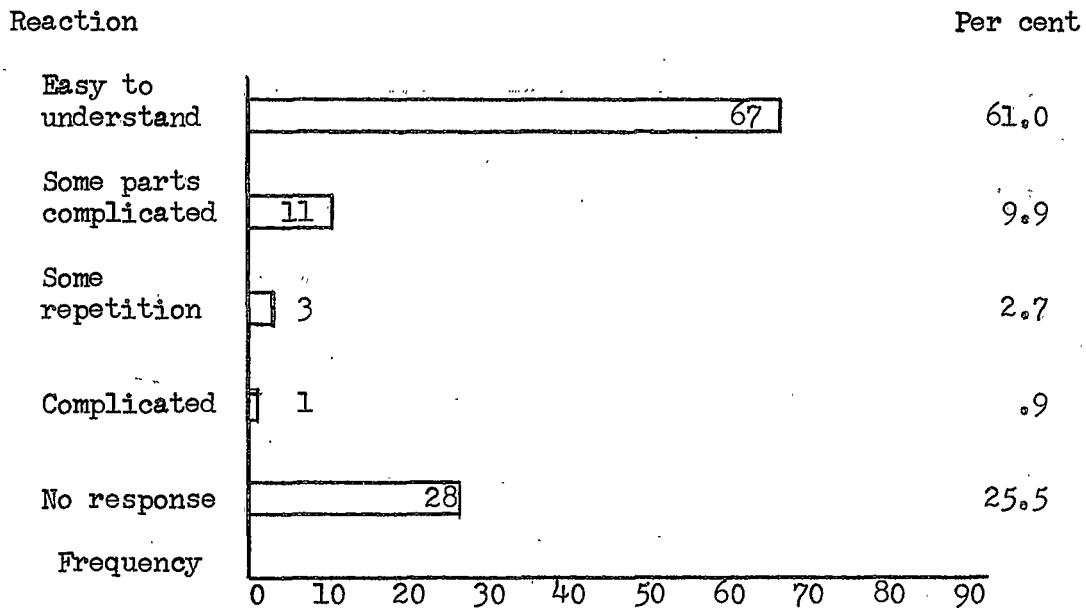


Fig. 7.--Participants' reactions to use and care booklet wording

One woman felt the manufacturer should use terms more common to everyone. Her main complaint was the 'use of meaningless terms such as

Sani-Emtor for dust bag . . ." A participant satisfied with the wording explained he felt "The only problem is in the person reading it, reading too fast."

Print

Eight or 7.3 per cent of the participants felt the print was hard to see, either because it was too light or too small. Eighty-eight or 80.1 per cent of the participants replying felt it was just right and easy to read. Physical factors such as age might have had an influence here. Comments on the print included a request for larger print and the use of white backgrounds. (Figure 8).

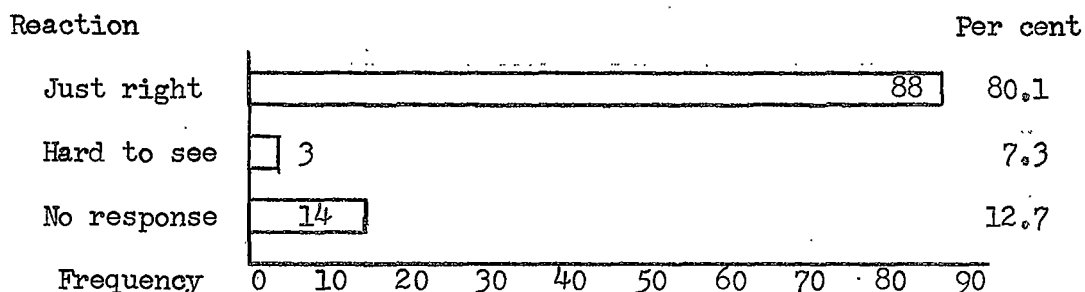


Fig. 8.--Participants' reactions to use and care booklet print

Warranty information

The warranty information was considered by 15.3 per cent of the respondents as being in need of improvement. Two felt it was difficult and complicated and fifteen indicated it was adequate but could have been explained better. The pieces of equipment involved included

blenders, vacuum cleaners, ranges, electric frying pans, a wall oven, television, corning ware set, dishwasher and can opener. All might be subject to defects and require repair and/or servicing, thus explaining the owners' concern in this area.

One consumer stated warranties should be more specific and another replied, "For once it should be explained in laymen's terms." However, with 66.5 per cent of the participants rating the warranty information as well explained, maybe the "big change in the small print" undertaken by manufacturers has been somewhat successful. (Figure 9).

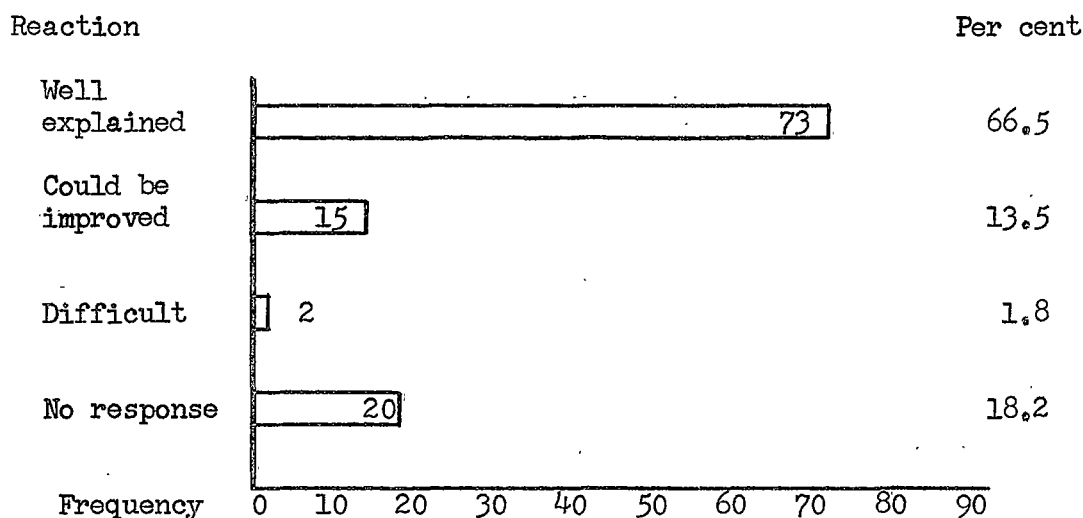


Fig. 9.--Participants' reactions to use and care booklet warranty information

Organization

The organization of the instruction booklet received the most dissatisfied ratings with twenty-five or one-fifth of the equipment

equipment owners indicating it could be improved or was poorly done. (Figure 10). Participants commented the information seemed mixed up, that a better sequence was needed, and that there was too much reference to "this and that page or section." Improvements suggested were categorical listings and less crowding of the information.

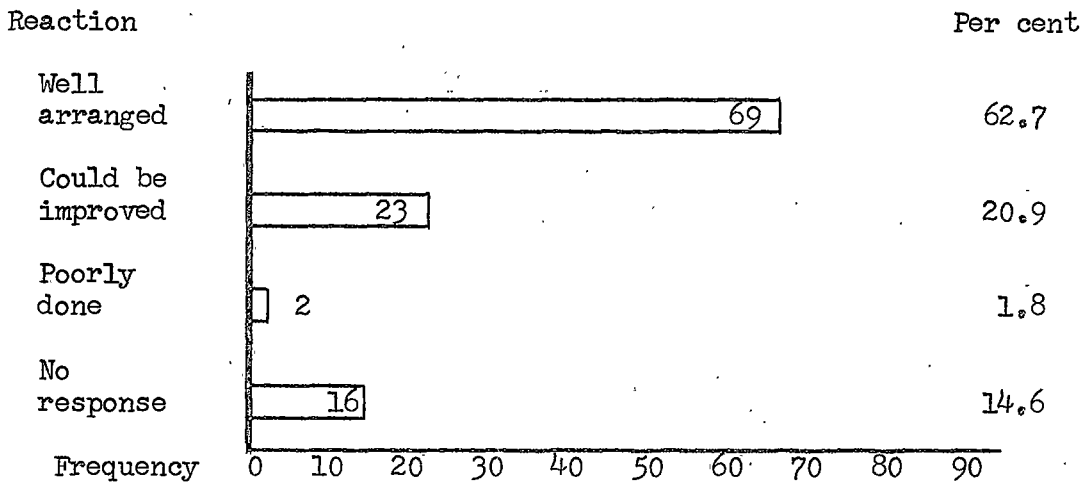


Fig. 10.--Participants' reactions to the organization of the use and care booklet

Additional information

The additional information was also evaluated. Thirty or 27.3 per cent of the equipment owners answering this question felt such information was valuable and should be included in the booklet. Fourteen or 12.8 per cent thought it was informative but could be included as a separate booklet and 9.9 per cent indicated it was not necessary as everyone knew the information.

Since half of the participants did not respond in this area, the results are not as meaningful as they might appear since we can not predict what their reaction might have been. (Figure 11). Comments ranged from "useful" and "valuable for younger people" to "I already know how." No suggested improvements were given.

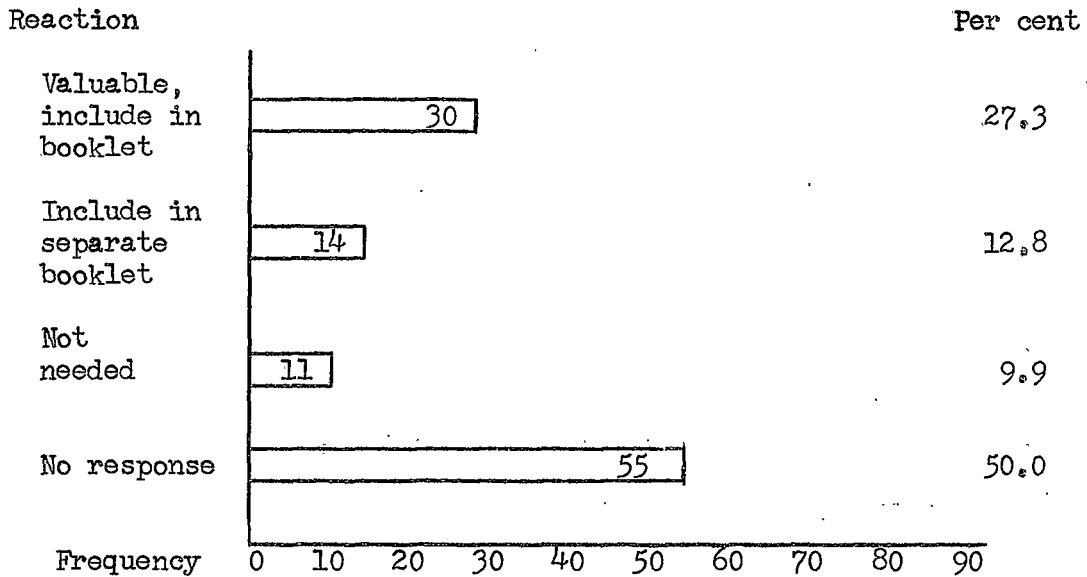


Fig. 11.--Participants' reactions to the additional information included in the use and care booklet

TABLE XII

SUMMARY OF THE AREAS OF THE INSTRUCTION BOOKLETS WITH
WHICH EQUIPMENT OWNERS WERE DISSATISFIED

Area of booklet	Number	Per cent
Organization	25	22.7
Warranty	17	15.3
Wording	15	13.5
Additional information	11	9.9
Print	8	7.3
Length	8	7.3
Illustrations	5	4.5

Owners' preferences for learning about equipment

It was pointed out previously that many of today's dealers either can not or do not provide information about the use and care of equipment at the point of purchase. Sixty-seven per cent of the participants, however, indicated they prefer to have a demonstration to help acquaint them with their equipment.

There were 17.3 per cent who preferred to learn about the equipment by studying the instruction booklet on their own. This group had done fairly well in reading the instruction booklet they were to evaluate as sixteen had either read it word for word or read parts of it thoroughly and glanced through the rest. One had just glanced through the booklet and the remaining two read parts of it thoroughly but did not look at the rest. For the majority of the participants, however, a

dealer demonstration at the point of purchase or a follow-up demonstration would have been a welcomed service. (Table XIII).

TABLE XIII
OWNERS' PREFERENCE FOR LEARNING ABOUT EQUIPMENT

Manner of learning	Number	Per cent
Reading booklet on own and learning to operate equipment	19	17.3
Receiving a demonstration and reading the booklet	40	36.4
Point of purchase demonstration	31	28.3
Follow-up demonstration	3	2.7
No response	17	15.3
Total	110	100.0

Service Problems

One of the most important benefits derived from reading the instruction booklet would be avoiding unnecessary service calls. The participants indicated if any of their equipment needed servicing in the last year. This applied to equipment in general, not just to the last piece they had obtained; the manner in which they read their last instruction booklet, however, was used as a general indicator of how they had read previous instruction booklets and this must be taken into account when considering the findings in this area. A total of sixty-three per cent did not need equipment repairs or servicing. Of these, twenty-four had read the instruction booklet word for word, with

the remainder reading or glancing at parts of the book or not reading it at all. Of the eleven not responding, three had read the booklet word for word, six had glanced at parts of it and two did not read any part of the booklet.

A large portion of those indicating the need for service had also read the instruction booklets; twenty-four of the twenty-nine had either read the instruction booklet word for word or had read parts thoroughly and glanced through the rest. Three merely glanced through the booklet, one read only parts, and one did not read any part as he had received a dealer demonstration. (Table XIV).

TABLE XIV

COMPARISON OF MANNER INSTRUCTION BOOKLET WAS READ BY
THOSE NEEDING SERVICE AND THOSE NOT NEEDING SERVICE

Service needed	Read book word for word	Read just parts	Did not read any part	Total	Per cent
None	24	43	3	70	63.7
Needed service	14	14	1	29	26.4
No response	3	6	2	11	9.9
Total	41	63	6	110	100.0

When the chi square test for independence was applied to determine if a significant relationship did exist between the manner in which the instruction booklet was read and the need for service, none was found. (Appendix E).

The majority of the owners did not service their own appliances; only six of the twenty-nine completed the repairs themselves. In most cases, 14, the reason given for a family member not doing the repair was that it was a major or minor repair not covered in the instruction booklet. Two of the participants indicated they did not know if the repair had been covered in the instruction booklet; they also indicated only reading parts of the instruction booklet. This points out another advantage of reading the entire booklet thoroughly. (Table XV).

TABLE XV
REASONS GIVEN FOR FAMILY MEMBERS
NOT COMPLETING REPAIRS

Reason	Number	Per cent
Major repair not covered in booklet	9	39.2
Minor repair not covered in booklet	5	21.7
Do not know if it was covered in booklet	2	8.7
Did not have time	4	17.4
No response	3	13.0
Total	23	100.0

One participant commented that minor repairs should be included in the instruction booklet but, since most people are not mechanical, she did not feel major repairs need to be included.

Another comment received concerning service problems was the following:

A wire was loose on my range, my dryer was not sequencing properly, my washing machine leaked a little, and I was getting a slight shock from my dishwasher. When the repairman left, one burner on my range no longer operated, the dryer didn't heat, the washing machine emptied onto the floor and I received a shock from the dishwasher that blew it apart and permanently damaged my optic nerve. Perhaps the repairman should read instruction booklets.

Her statement parallels the views obtained by Consumer Bulletin in letters received from consumers. They found " . . . what consumers really need and want most is prompt, competent servicing . . ."¹

It seems that other consumers might share the opinion of the participant who made the following comment, "Personally I do not want clearer instructions for a do-it-yourself job. I'm tired of the whole business of doing it myself by myself. I want competent, well-trained, courteous, prompt, and reasonably priced help."

¹"Not Informative Labels but More Skilled Repairmen Needed," Consumer Bulletin, March, 1967, p. 22.

CHAPTER V

Summary and Recommendations

Summary

General Information

The field of home equipment is one of rapid change and advancement. It is important that manufacturers and educators provide equipment owners with up to date information. In order to do this, readable, understandable instructions, presented in a manner that encourage the owner to read, save and refer to the booklet are necessary. Continued research in this area will help the manufacturer and educator know if the instruction booklets are meeting this challenge. It was the purpose of this study to determine if Montana equipment owners read the use and care booklets and if they were satisfied with the manner in which the information was presented. It was hoped to discover if the thoroughness with which the instruction booklet was read affected the owner's need for service and his satisfaction with the equipment.

A sample of 245 was selected at random from Montana's fifty-six county seats. These equipment owners were asked to evaluate the last use and care booklet they had received and indicate how thoroughly it was read. Results were then tabulated and tested statistically by the chi square for independence when applicable.

Although 60 per cent of the questionnaires were returned, only 110 or 44.9 per cent were usable. Thus the findings were based on the replies of these 110 participants. The fact that individuals who do reply to mail questionnaires are the more interested and literate should be kept in mind when evaluating the results.

Booklet Evaluation

The replies of the 110 participants indicated they did read the instruction booklets. Only 5.5 per cent did not read any part of their use and care booklets while 70.0 per cent had read the booklet word for word or read parts thoroughly and glanced through the rest. The sections of the booklet of most concern to the owners included the operation information which was read by 82.8 per cent, the care information, read by 73.7 per cent and the warranty information, read by 66.4 per cent. Sixty-eight per cent did read the booklet before operating the equipment and sixty-nine per cent either stored the booklet near the equipment or filed it with other instruction booklets.

The findings also revealed that most equipment owners were generally satisfied with the use and care booklets they had received with the last piece of equipment obtained; only 42.8 per cent rated one or more parts of the booklet as being unsatisfactory. The areas most frequently mentioned as being in need of improvement were the booklet organization, mentioned by 22.7 per cent; warranty information, 15.3 per cent; and the wording, 13.5 per cent.

The null hypothesis stating "there is no significant relationship between owner satisfaction with the equipment and the thoroughness with which the instruction booklet was read," was not rejected for this study. No significant relationship was found when comparing how the instruction booklet was read by the nine partially satisfied equipment owners to how it was read by the one hundred satisfied owners when the chi square test for independence was applied.

Similarly, no significant difference was found between the manner the booklet was read by the 26.4 per cent of the equipment owners needing service and those that did not need service when tested with the chi square for independence. Therefore, the null hypothesis stating "there is no significant relationship between service problems and the manner in which the instruction booklet was read," would not be rejected for these participants.

Most of the 110 equipment owners participating, then, did read the instruction booklets and were satisfied with them. The manner of reading the instruction booklet did not affect the owner's need for service or his satisfaction with the equipment.

Recommendations

For this study

One of the purposes of research is to stimulate other research. The following recommendations are proposed for improvement of this study. The mailed questionnaire has a number of disadvantages, such as:

. . . diversity of meaning attributed to a question by various respondents, the amount of education that may be required of a person in order to understand the questions and procedures, the difficulty of securing valid . . . information and the uncertainty of receiving an adequate number of responses to represent the population.¹

Along with this, bias may be introduced by the manner of construction. Therefore, another method of research, such as a personal interview, might eliminate some of the shortcomings found in this study.

Other improvements would include having a larger sample and selecting a sample that was more nearly a true random sample thus not eliminating some segments of the population.

For additional studies

An in-depth study conducted to determine the actual knowledge each equipment owner had concerning his equipment and relate that to the information found in the use and care booklet would be interesting. The use of the equipment could be studied to determine if a relationship did exist between knowledge of the equipment and owner satisfaction and use of equipment features.

When asked how they preferred to learn about new equipment, 67 per cent of the participants indicated they would like a demonstration. Research concerning what is being done by dealers in this area could

¹Olive A. Hall, Research Handbook for Home Economics Education (2nd ed.; Minneapolis, Minnesota: Burgess Publishing Company, 1967), p. 70.

be interesting. The consumers' reactions to such a service could also be studied. This may be especially interesting if related to low income families.

APPENDIX

APPENDIX A

CALCULATIONS FOR DETERMINING THE NUMBER OF QUESTIONNAIRES
TO BE SENT TO EACH COUNTY SEAT

County and County Seat	1960 County census	Per cent of total population	Total sent
Yellowstone - Billings	79,016	12.0	29
Cascade - Great Falls	73,418	10.0	25
Silver Bow - Butte	46,454	6.0	15
Missoula - Missoula	44,663	6.0	15
Flathead - Kalispell	32,965	5.0	12
Lewis and Clark - Helena	28,006	4.0	10
Gallatin - Bozeman	26,045	4.0	10
Hill - Havre	18,653	3.0	7
Deerlodge - Anaconda	18,640	3.0	7
Valley - Glasgow	17,080	3.0	7
Fergus - Lewistown	14,018	2.0	5
Custer - Miles City	13,227	2.0	5
Park - Livingston	13,168	2.0	5
Lake - Polson	13,104	2.0	5
Lincoln - Libby	12,537	1.7	4
Ravalli - Hamilton	12,341	1.7	4
Dawson - Glendive	12,314	1.7	4
Roosevelt - Wolf Point	11,731	1.7	4
Glacier - Cut Bank	11,565	1.7	4
Richland - Sidney	10,504	1.7	4
Bighorn - Hardin	10,007	1.7	4
Carbon - Redlodge	8,317	1.2	3
Blaine - Chinook	8,091	1.2	3
Toole - Shelby	7,904	1.2	3
Pondera - Conrad	7,653	1.2	3
Chouteau - Fort Benton	7,348	1.2	3
Teton - Choteau	7,295	1.2	3
Beaverhead - Dillon	7,194	1.2	3
Powell - Deerlodge	7,002	1.2	3
Saunders - Thompson Falls	6,880	1.2	3
Sheridan - Plentywood	6,458	1.2	3
Rosebud - Forsyth	6,187	1.0	2
Phillips - Malta	6,027	1.0	2
Stillwater - Columbus	5,526	1.0	2
Madison - Virginia City	5,211	1.0	2

APPENDIX A--Continued

County and County seat	1960 County census	Per cent of total population	Total sent
Musselshell - Roundup	4,888	1.0	2
Jefferson - Boulder	4,297	.6	1
Fallon - Baker	3,997	.6	1
Daniels - Scobey	3,755	.6	1
McCove - Circle	3,321	.6	1
Sweet Grass - Big Timber	3,290	.4	1
Judith Basin - Standford	3,085	.4	1
Mineral - Superior	3,037	.4	1
Wheatland - Harlowton	3,026	.4	1
Granite - Phillipsburg	3,014	.4	1
Broadwater - Townsend	2,804	.4	1
Liberty - Chester	2,624	.3	1
Meager - White Sulpher Sp.	2,616	.3	1
Carter - Ekalaka	2,493	.3	1
Powder River - Broadus	2,485	.3	1
Prairie - Terry	2,318	.3	1
Garfield - Jordon	1,981	.2	1
Wibaux - Wibaux	1,698	.2	1
Treasure - Hysham	1,345	.2	1
Golden Valley - Ryegate	1,203	.1	1
Petroleum - Winnett	894	.1	1
Yellowstone Park	47		0
Total	674,767	100.0	245

APPENDIX B

LETTER OF EXPLANATION AND QUESTIONNAIRE

119 West Cleveland
Bozeman, Montana 59715
April 10, 1969

Dear

Much of the equipment available to us today is costly and many times complicated. Because of this, it is important that we receive adequate information on how to use and care for such equipment in order to insure longer usefulness and maximum benefit from all of the featurers. The main source of this information is the instruction booklet that comes with the equipment when we purchase it.

As a graduate student in home economics at Montana State University, I am interested in determining if you feel these instruction booklets are meeting your needs. If you would fill out the enclosed questionnaire concerning the instruction booklet that came with the last piece of equipment you obtained, you would be contributing a great deal to this study. A summary of the results will be sent to the major manufacturing companies.

A stamped, self-addressed envelope is enclosed to be used in returning the questionnaire. Please complete it as soon as possible and return it to me by April 23rd. Thank you for your cooperation.

Sincerely,

Eva Marie Anseth

APPENDIX B--Continued

INSTRUCTION BOOKLET QUESTIONNAIRE

If the suggested answers do not contain the reply you wish to make, please feel free to write your comments where it says "other".

1. Think of only the last piece of equipment which you obtained that came with an instruction booklet and write the name of it below, placing it in one of the following categories. It may be large equipment, such as a range or washer, or it may be small equipment such as an electric toothbrush or hair curler set. List just one piece of equipment

_____	Kitchen equipment
_____	Laundry equipment
_____	Cleaning equipment
_____	General equipment
_____	Personal equipment

2. The manufacturer of the above piece of equipment is: _____

3. The equipment was obtained: (Check one)

_____ as a gift
_____ as a purchase
_____ Other:

4. Are you satisfied with the above piece of equipment? (Check one)

_____ Yes _____ Partially _____ No

5. The approximate date the above piece of equipment was obtained was:
(Check month and year)

_____ January	_____ May	_____ September	_____ 1969
_____ February	_____ June	_____ October	_____ 1968
_____ March	_____ July	_____ November	_____ Before
_____ April	_____ August	_____ December	_____ 1968

6. Did you read the instruction booklet that came with the above piece of equipment? (Check one) If you did read the booklet, go to question number 8 next.

_____ Read it word for word.
_____ Glanced through it.
_____ Read parts of it thoroughly, but did not look at all of it.
_____ Read parts of it thoroughly, and glanced through the rest.
_____ Did not read any part of it.
_____ Other:

APPENDIX B--Continued

7. If you did not read the instruction booklet, why didn't you? You may check more than one. Go to question number 19 next.
- ☐ The equipment was similar to an older model it was replacing.
 - ☐ The dealer or company representative demonstrated the use and care of the equipment when it was purchased.
 - ☐ A friend demonstrated or explained how to use it.
 - ☐ The equipment was not complicated enough to make reading the instruction booklet necessary.
 - ☐ The instruction booklet was too complicated and time consuming to read.
 - ☐ Adequate instructions were printed right on the equipment.
 - ☐ Other:
8. When did you first read the instruction booklet?
- ☐ Before purchasing the equipment.
 - ☐ Before using the equipment.
 - ☐ After using the equipment, to find out more about the equipment.
 - ☐ After using the equipment, when it failed to operate correctly.
 - ☐ Other:
9. What parts of the above instruction booklet did you read? You may check more than one. Indicate those sections not contained in your booklet by placing a 0 in front of them.
- ☐ All parts of it.
 - ☐ The installation instructions.
 - ☐ The operating instructions.
 - ☐ The instructions on care of the equipment.
 - ☐ The safety information.
 - ☐ The section on what to do before calling a repairman.
 - ☐ The warranty information.
 - ☐ The special additional information such as laundry hints in an instruction booklet for a washer or dryer.
 - ☐ The information on where to send the equipment for repair.
 - ☐ Other:
10. Where is the instruction booklet now?
- ☐ Placed near the piece of equipment.
 - ☐ Do not know where it is.
 - ☐ Filed in a special place with other instruction booklets.
 - ☐ Other:

APPENDIX B--Continued

11. (a.) The length of the above instruction booklet was:
____ too long, containing unnecessary details.
____ correct for the information that needed to be presented.
____ too short, failing to give complete and adequate information.
____ Other:
- (b.) Suggestions for improvement of the length if you feel it should be improved:
12. (a.) The illustrations contained in the booklet were:
____ not clear, hard to understand.
____ well done, clear and easy to understand.
____ average.
____ too sketchy.
____ too numerous.
____ Other:
- (b.) Suggestions for improvement of the illustrations contained in the booklet if you feel they should be improved:
13. (a.) The wording used in the instruction booklet was:
____ too complicated, hard to understand.
____ easy to understand.
____ most parts were easy to understand, but some parts were complicated.
____ easy to understand, but repeated information more than necessary.
____ Other:
- (b.) Suggestions for improvement of the wording used in the instruction booklet if you feel it should be improved:
14. (a.) The print used was:
____ too small
____ just right, easy to read.
____ too light, hard to see.
____ done in a color other than black that was hard to read.
____ Other:
- (b.) Suggestions for improvement of the print used in the instruction booklet if you feel it should be improved:
15. (a.) The warranty information was:
____ well explained and easy to understand.
____ adequate, but could have been explained better.

APPENDIX B--Continued

- ____ complicated and difficult to understand.
____ not included in the instruction booklet.
____ Other:
- (b.) Suggestions for improvement of the warranty information if you feel it should be improved:
16. (a.) The organization of the instruction booklet was:
____ well arranged, all information was easy to find.
____ adequate but could be improved.
____ poorly done; the information was hard to find.
____ Other:
- (b.) Suggestions for improvement of the organization of the instruction booklet if you feel it should be improved:
17. If the instruction booklet contained additional information (such as the laundry hints that may be found in an instruction booklet for a washer) do you think the additional information:
____ is valuable and should be included in the booklet.
____ should be included in a separate booklet and not as part of the instruction booklet.
____ is interesting, but should not be included in the booklet.
____ is not necessary as most people know the information anyway.
____ Other:
18. Would you prefer the printed instructions be presented:
____ in both writing and illustrations, but with more writing.
____ in both writing and illustrations, but with more illustrations.
____ in equal amounts of both.
____ Other:
19. Would prefer to learn how to operate a new piece of equipment by:
____ reading the written instruction booklet and experimenting on your own?
____ receiving a demonstration on using the new equipment and also reading the instruction booklet?
____ receiving a demonstration on how to use and care for the equipment at the time of purchase?
____ receiving a follow-up demonstration after having used the equipment?
____ Other:

APPENDIX B--Continued

20. Have you needed repairs or servicing for any of your equipment within the last year?
____ Yes
____ No
21. Did you or a member of your family do the above repairs and servicing?
____ Yes
____ No
22. If your answer to number 21 was no, were the repairs or servicing needed:
____ major repairs not covered in the instruction booklet that came with the equipment.
____ minor repairs not covered in the instruction booklet that came with the equipment.
____ repairs that were poorly or vaguely covered in the instruction booklet that came with the equipment.
____ do not know if they were covered in the instruction booklet.
____ repairs that you or a member of your family did not have time to do.
____ Other:
23. If anything concerning the instruction booklet has not been covered in this questionnaire and you wish to comment on it, please use the space provided below for your additional suggestions.

THANK YOU.

APPENDIX C

COMMENTS RECEIVED FROM OWNERS NOT COMPLETING QUESTIONNAIRES

1. Not interested. It's all old.
2. I am returning your "Instruction Booklet Questionnaire" unanswered because I have not purchased an electric appliance or piece of equipment for so many years that I do not feel I could answer the questions with much accuracy.

I regret that I am not able to help you out although I would have been very willing to do so if circumstances were different. Best of luck on your project.
3. We are senior citizens and haven't bought new appliances for several years. Sorry.
4. Sorry, I can not answer your questions.
5. I live alone in a furnished apartment and have not purchased any of the articles mentioned.
6. Sorry - - I can not fill out this questionnaire.
7. I've purchased nothing in recent years that falls in the category of this questionnaire.
8. I am retired and in an apartment, so will not try to answer your questions.
9. Sorry, I can't help you.
10. Did not get one.
11. The book you get with you new range or any of your small motors don't /doesn't/ help one bit. They say see your repair man. They don't want you to fool with them. I buy repair books, it costs you money to buy them. The common /man/ can't afford to hire one fixed. I got a dryer in my shop they wanted \$40.00 to fix. Took me 1½ hours to fix it. It's good as new.
12. The questionnaire is destroyed. I don't care to be bothered with such bunk.
13. Haven't bought any equipment for years.

APPENDIX C--Continued

14. Miss Anseth: Please be advised that due to illness _____ is and will be unable to complete questionnaire you recently submitted to her per attached.
15. I don't think its [it's] anybody [anybody's] business if I read or what I read.
16. My time is too valuable to spends [spend] hours filling this out.
17. Please do not send this thing again. I am not interested. Thank you.
18. I am returning your questionnaire as I'm not interested in letting this information, so please stop sending me your letters.
19. Haven't time and feel this is not necessary. Don't send any more.

APPENDIX D

RETURNS FROM EACH COUNTY SEAT

County seat	Number sent	Usable returns	Blank returns	Wrong address	Other items	Not returned
Billings	29	13		1	2	13
Great Falls	25	13	2	2	2	6
Butte	15	5	4	1		5
Missoula	15	4	3		2	6
Kalispell	12	5				7
Helena	10	5	1			4
Bozeman	10	4	4	1		1
Havre	7	4	1			2
Anaconda	7	2				5
Glasgow	7	4	1			2
Lewistown	5	2	2			1
Miles City	5	1	2			2
Livingston	5	4				1
Polson	5	2	2			1
Libby	4	1		1	1	1
Hamilton	4	4				
Glendive	4	2				2
Wolf Point	4	1				3
Cut Bank	4	3	1			
Sidney	4		1			3
Hardin	4	3				1
Red Lodge	3	1	1			1
Chinook	3	1	1			1
Shelby	3	2				1
Conrad	3	1				2
Fort Benton	3	1				2
Choteau	3	2				1
Dillion	3	2				1
Deerlodge	3		1		1	1
Thompson Falls	3	2				1
Plentywood	3	1				2
Forsyth	2	2				
Malta	2		1			1
Columbus	2					2
Virginia City	2					2
Roundup	2					2
Boulder	1	1				
Baker	1					1

APPENDIX D--Continued

County seat	Number sent	Usable returns	Blank returns	Wrong address	Other items	Not returned
Scobey	1	1				
Circle	1	1				
Big Timber	1	1				
Standford	1	1				
Superior	1					1
Harlowtown	1	1				
Phillipsburg	1	1				
Townsend	1					1
White Sulphur Sp.	1					1
Chester	1	1				
Ekalaka	1					1
Broadus	1	1				
Terry	1	1				
Jordon	1					1
Wibaux	1	1				
Hysham	1	1				
Ryegate	1	1				
Winnett	1				1	
Total	245	110	28	6	9	92

APPENDIX E

CHI SQUARE TESTS FOR INDEPENDENCE

There is no significant relationship between the manner of obtaining the equipment and the manner in which the instruction booklet was read.

	Word for word	Read parts or none	
Gift	a. 8.0	b. 17.0	25.0
	9.5	15.5	
Purchase	c. 33.0	d. 50.0	83.0
	31.5	51.5	
	41.0	67.0	108.0

Cell	f_o	correction	f_t	$f_o - f_t$	$(f_o - f_t)^2$	$\frac{(f_o - f_t)^2}{f_t}$
a.	8.0	8.5	9.5	-1	1	$\frac{1}{9.5} = .01052$
b.	17.0	16.5	15.5	+1	1	$\frac{1}{15.5} = .00645$
c.	33.0	32.5	31.5	+1	1	$\frac{1}{31.5} = .00316$
d.	50.0	50.5	51.5	-1	1	$\frac{1}{51.5} = .00194$

Chi square = .02207

Required = .00393

DO NOT REJECT

APPENDIX E--Continued

There is no significant relationship between owner satisfaction with the equipment and the thoroughness with which the instruction booklet was read.

	Read or glanced at all	Did not read all	
Satisfied	a. 71.0 70.8	b. 29.0 29.2	100.0
Dissatisfied	c. 6.0 6.2	d. 3.0 2.8	9.0
	77.0	32.0	109.0

Cell	f_o	correction	f_t	$f_o - f_t$	$(f_o - f_t)^2$	$\frac{(f_o - f_t)^2}{f_t}$
a.	71.0	70.5	70.8	-.3	.09	$\frac{.09}{70.8} = .00141$
b.	29.0	29.5	29.2	+.3	.09	$\frac{.09}{29.2} = .00308$
c.	6.0	6.5	6.2	+.3	.09	$\frac{.09}{6.2} = .0145$
d.	3.0	2.5	2.8	-.3	.09	$\frac{.09}{2.8} = .0321$

Chi square = .05109

Required = .00393

DO NOT REJECT

APPENDIX E--Continued

There is no relationship between the year in which the equipment was purchased and the owner's satisfaction with the instruction booklet.

	Satisfied	Not Satisfied	
Before 1968	a. 15.0 14.3	b. 10.0 10.7	25.0
1968-9	c. 44.0 44.7	d. 34.0 33.3	78.0
	59.0	44.0	103.0

Cell	f_o	f_t	$f_o - f_t$	$(f_o - f_t)^2$	$\frac{(f_o - f_t)^2}{f_t}$
a.	15.0	14.3	+.7	.49	$\frac{.49}{14.3} = .034$
b.	10.0	10.7	-.7	.49	$\frac{.49}{10.7} = .045$
c.	44.0	44.7	-.7	.49	$\frac{.49}{44.7} = .019$
d.	34.0	33.3	+.7	.49	$\frac{.49}{33.3} = .014$

Chi square = .112

Required = .00393

DO NOT REJECT

APPENDIX E--Continued

There is no significant relationship between the manner the instruction booklet was read and the owners' satisfaction with the booklet.

	Satisfied	Not Satisfied	
Read word for word	a. 26.0 21.9	b. 15.0 19.1	41.0
Read parts	c. 28.0 32.1	d. 32.0 27.9	60.0
	54.0	47.0	101.0

Cell	f_o	f_t	$f_o - f_t$	$(f_o - f_t)^2$	$\frac{(f_o - f_t)^2}{f_t}$
a.	26.0	21.9	+4.1	16.81	$\frac{16.81}{21.9} = .767$
b.	15.0	19.1	-4.1	16.81	$\frac{16.81}{19.1} = .880$
c.	28.0	32.1	-4.1	16.81	$\frac{16.81}{32.1} = .523$
d.	32.0	27.9	+4.1	16.81	$\frac{16.81}{27.9} = .602$

Chi square = 2.772

Required = .00393 or 3.841

DO NOT REJECT

APPENDIX E--Continued

There is no significant relationship between service problems and the manner in which the instruction booklet was read.

	Read word for word	Not read word for word	
Needed Service	a. 14.0 11.8	b. 15.0 17.2	29.0
Did not need Service	c. 25.0 27.2	d. 42.0 39.8	67.0
	39.0	57.0	96.0

Cell	f_o	f_t	$f_o - f_t$	$(f_o - f_t)^2$	$\frac{(f_o - f_t)^2}{f_t}$
a.	14.0	11.8	+2.2	4.84	$\frac{4.84}{11.8} = .410$
b.	15.0	17.2	-2.2	4.84	$\frac{4.84}{17.2} = .281$
c.	25.0	27.2	-2.2	4.84	$\frac{4.84}{27.2} = .177$
d.	42.0	39.8	+2.2	4.84	$\frac{4.84}{39.8} = .123$

Chi square = .991

Required = .00393

DO NOT REJECT

LITERATURE CITED

1. Alderman, Katherine. "The Homemaker's Point of View," Journal Of Home Economics, LII (December, 1960), 826.
2. Association of Home Appliance Manufacturers. Report of the First National Home Appliance Conference. Info 68: Living up to Your Appliances. Chicago: Association of Home Appliance Manufacturers, 1968.
3. Bergman, Dorothy Z. Presto Home Economics Director. Letter. May 13, 1969.
4. Barry, Gerald J. "Mr. Fix-it -- His Busy Rounds And His \$4 Billion Yearly Bill." Newsweek, November 13, 1961, p. 82.
5. Bay, Betty. "Do You Call the Appliance Man Before You Have To?" Better Homes and Gardens, November, 1961, p. 6.
6. "Comparing You Volume to Local, State, Regional Patterns." Merchandising Week, February 24, 1969, pp. 62-67.
7. Davidson, Margaret. "Follow the Instructions." Report of the First National Home Appliance Conference. Info 68: Living up to Your Appliances. Chicago: Association of Home Appliance Manufacturers, 1968.
8. Good, Carter V. and Scates, Douglas E. Methods of Research. New York: Appleton-Century-Crofts, Inc., 1954.
9. Gordon, Laurie. Sears Assistant Director of Consumer Information. Letter. May 12, 1969.

10. Guilford, J. P. Fundamental Statistics in Psychology and Education.
4th ed. New York: McGraw-Hill book Company, 1965.
11. Hall, Olive A. Research Handbook for Home Economics Education.
2nd ed. Minneapolis, Minnesota: Burgess Publishing Company,
1967.
12. Keiser, Dr. Marjorie. Speech at Educator's Luncheon during
National Home Appliance Conference. Denver, Colorado,
October 24, 1968.
13. Lightfoot, Gwendolyn Grady. A Study of Consumer Information
Concerning Selected Goods with Implications for Professional
Home Economists. M. S. Thesis, Washington State University,
1960.
14. Maxwell, Richard and Upton, Stephen E. "Facts and Fallacies About
Service." Report to the 1968 National Home Appliance
Conference. Frontiers and Fundamentals. Chicago: Association
of Home Appliance Manufacturers, 1969.
15. McCloskey, R. G. Frigidaire Consumer Services. Letter. June 19,
1969.
16. Nides, Nessie. "A Dealer Looks at Service Problems." Journal of
Home Economics, LII (December, 1960), 828.
17. Norstrand, Virginia van. "Recap." Benton Harbor, Michigan:
Whirlpool Corporation, 1969.
18. "Not Informative Labels but More Skilled Repairmen Needed."
Consumer Bulletin, March, 1967, p. 22.

19. Olson, Ann. "Industry Teaching Aids." Report to the First National Home Appliance Conference, Info 68: Living up to Your Appliances. Chicago: Association of Home Appliance Manufacturers, 1968.
20. Payne, Mildred Aigner. Selection, Use and Care of Ranges and Two Small Cooking Appliances By 103 Homemakers in Charles City and New Kent Counties, Virginia. M. S. Thesis, Virginia Polytechnic Institute, 1963.
21. Picket, Mary S. "Controlled Heat Burners." Journal of Home Economics, LIV (January, 1962), 42.
22. Rasdall, Joyce. Factors Related to Ownership and Use of Electric Blenders. M. S. Thesis, University of North Carolina, 1967.
23. Regan, Wilma Kellogg. A Study of the Purchase, Use and Care of Household Equipment in Homes of Oakesdale, Washington and Their Relation to Instituting a Household Equipment Course in the Home Economics Curriculum. M. S. Thesis, Washington State University, 1960.
24. Selltitz, Clair, et al. Research Methods in Social Relations. n. p.: Henry Holt and Company, Inc., 1959.
25. Shine, Wathena. Westinghouse Director of Home Economics. Letter. May 27, 1969.
26. "Sixty Years of Major Appliances: From Ice Chests and Wood Stoves to No-frost and Self Cleaners." Merchandising Week, May 20, 1968, p. 22.

27. Tilden, Betty Jo. Analysis and Use of Instruction Booklets for Automatic Washers. M. S. Thesis, Ohio State University, 1962.
28. "To Reduce Appliance Service Problems, Read the Instruction Book," Consumer Bulletin, June, 1969, p. 32.
29. U. S. Department of Labor. Report of the Task Force. Appliances, Warranties and Service. Washington, D. C.: Government Printing Office, 1963.
30. "Use and Care Books are Teaching Aids, Too." What's New In Home Economics, March, 1968, p. 43.
31. "Warranties and Consumerism: Big Change in the Small Print." Merchandising Week, April 28, 1969, p. 16.
32. Withrow, Millicent. Factors Underlying Homemaker Use or Nonuse of Selected Accessories on the Range and Washer. M. S. Thesis, University of Maryland, 1964.

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12-1-69	501 S. 2nd St. (S)
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LIB. USE	KAREN Chaloupka
1-21-70	2nd St. (S)
2-26-70	Chaloupka
MAY 10 1970	R. Chaloupka
5-18-76	501 S
JUL 2 1971	Karen Ch
SEP 1 '70	INVT
Spokane Cherry	
JAN 3 '71	

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