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To the Graduate Council:

I am submitting herewith a thesis written by Merle R. Menegay entitled "Communication Patterns of 100 Tennessee Farm Supply Dealers." I recommend that it be accepted for nine quarter hours of credit in partial fulfillment of the requirements for the degree of Master of Science, with a major in Agricultural Economics.

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COMMUNICATION PATTERNS OF 100 TENNESSEE FARM SUPPLY DEALERS

A Thesis

Presented to

the Graduate Council of
The University of Tennessee

In Partial Fulfillment
of the Requirements for the Degree
Master of Science

by
Merle R. Menegay
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ABSTRACT

In the present study data from a personal interview survey of 100 farm supply dealers in 15 Tennessee counties were analyzed. Systematic "judgment" sampling was used to select the counties in which all available dealers were interviewed. The objectives of the study were: (1) to determine the social and business characteristics of farm supply dealers, (2) to determine the communication patterns between the the farm dealers and their farmer-customers, and (3) to determine the sources of information and advice used by the farm dealers.

Farm supply dealers refer to those managing dealerships that sell feed, seed, chemicals, machinery, and/or farm related products. There were 42 machinery dealers, 16 co-op managers, 15 feed mill operators, 11 chemical dealers, 9 hardware dealers and 7 miscellaneous dealers.

The dealers averaged 46.4 years of age and had 13.3 years of education. They exhibited a relatively high level of living and earned approximately \$13,600 a year. Their background was strongly influenced by agriculture. For instance, 85 percent were reared on a farm, 49 percent had 4-H training and 56 percent studied vocational agriculture in high school. Confirming this role of agriculture was the fact that the major occupation of 82 percent of the dealers' fathers was either farming or agribusiness. Sixty-seven percent of the dealers owned or operated a farm.

Differences in the business characteristics by type of dealer occurred; for instance, the average annual volume of business ranged

from \$1,514,300 for miscellaneous dealers and \$1,493,800 for co-ops to \$296,400 for chemical dealers and \$446,700 for hardware dealers. Computing the annual volume of business per employee showed that chemical and feed mill dealerships earned more per employee than the much higher volume business, such as co-op and machinery dealerships.

All dealers frequently used the following means of communication: (1) discussing how to apply and how to use, (2) discussing the merits and advantages of the new products, and (3) informing farmers of new farming innovations. However, when considering the importance of these means of communication relative to the objectives of (1) helping farmers the most and (2) having the highest business payoff, discussing the merits and advantages of the new products clearly took precedence.

Dealers frequently advised farmers to use (1) sales literature, (2) certain farmers, and (3) local Extension agents in helping them learn and decide about farm innovations. These were rated as the most frequently used and the most important of the 13 sources listed in the survey schedule. Sales literature was the source most frequently advised, although the source, certain farmers, was rated as the most important.

According to all dealers the most frequently noted purposes for farmers contacting them were: (1) how to use a particular product, (2) general product information, and (3) how your product performs on his farm. However, for machinery dealers the most frequent and important reason for a farmer contacting them was to tell how your product performs on his farm while co-op and chemical dealers consistently ranked how to use a particular product higher.

The communication sources most frequently used and ranked most important by dealers in their learning about farm innovations were: (1) dealer representatives, (2) sales literature, and (3) up-to-date farmers. There were many variations in the frequency of use of these sources by type of dealers. Co-op and chemical dealers ranked local Extension agents and Extension bulletins and articles more important sources than other types of dealers.

The type of individuals that dealers personally asked for advice and information regarding farm innovations and technology were: (1) company representatives, (2) local Extension agents, (3) farmers, and (4) Agricultural Experiment Station personnel, respectively.

The proportion of dealers who named a person in the above four types of categories, as one of the three individuals most frequently asked about farm innovations, was 85 percent, 41 percent, 18 percent, and 14 percent, respectively. No other type of personal information service was named by more than 7 percent of the dealers.

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CHAPTER I

INTRODUCTION

Local farm supply dealers are a vital element in America's commercial agricultural sector.¹ Not only do farmers depend on them for many items, such as feed, seed, chemicals, machinery and farm related accessories, but also for various services and information about farm technology. Little has been written about the role that farm supply dealers play in relation to their farmer-customers in the dissemination of knowledge of farm innovations.

Farmers' adoption of technology patterns in the communication of the innovation process have been studied by many rural sociologists from varied points of view.² Businessmen and social scientists have met and discussed research findings on the social factors important in the adoption of new products, methods, and ideas.³ Such studies and seminars suggest that commercial dealers could more actively try to make farmers aware of new products or influence farmers' decisions. In fact, in one classic study by rural sociologists the favorable effects of "the lively commercial interests of seed corn salesmen"

¹Fred I. Jones, "Agribusiness Men and Women," American Association of Agricultural College Editors, 54, No. 4 (October/December, 1971), 67-71.

²Everett M. Rogers and E. Floyd Shoemaker, Communication of Innovations (New York: The Free Press, 1971).

³Foundations for Research on Human Behavior, The Adoption of New Products: Process and Influence (Ann Arbor: Lithoprint by Braun and Brumfield, Inc., 1959), foreword.

on the rate of hybrid seed corn adoption was shown.⁴ Others have studied the characteristics and attitudes of fertilizer dealers and machinery dealers.⁵ Other than these studies, little systematic attention has been given to farm supply dealers as a major source of farmer information and advice on improved technology.

I. OBJECTIVES

In the present study data from a survey of 100 Tennessee farm supply dealers conducted in the summer of 1972 were analyzed. The objectives of the study were: (1) to determine selected social and business characteristics of farm supply dealers, (2) to determine the communication patterns between the farm dealers and their farmer-customers, and (3) to determine the sources of information and advice used by the farm dealers.

II. STUDY PROCEDURES

The present study was designed specifically to obtain information about the communication patterns and the socioeconomic characteristics of Tennessee farm supply dealers.⁶ Farm supply dealers were

⁴Rogers and Shoemaker, op. cit., pp. 54-55.

⁵George M. Beal and Joe M. Bohlen, "Dealer and Farmer Attitudes and Actions Related to Fertilizer," Commercial Fertilizer and Plant Food Industry, 96, No. 4 (April, 1958), 25-26, 28, 30-33, 35.

⁶Data were collected as part of the Tennessee Agricultural Experiment Station Hatch Project--H-364, Influence of Farm Supply Dealers on Technological Change by High and Low Income Tennessee Farmers. The project director was Frank O. Leuthold.

defined here as including individuals managing businesses that sell feed, seed, chemicals, machinery and farm related products. The manager of each business was selected because he, for the most part, formulated policy and directed dealership activities.

Determining the parameters for the population of farm supply dealers was difficult. Therefore the following criteria for selection of dealerships were formulated: (1) products handled included feed, seed, chemicals, machinery and farm related products; (2) percentage of the business with farmers about farm products was set at a minimum of 20 percent; (3) a minimum of \$80,000 in annual volume of business; and (4) the dealership served as a full time product outlet employing no less than one full time employee.

No comprehensive list of farm supply dealerships in Tennessee was available to use in selecting a sample. Therefore, it was felt that by using county seat size and the geographic sections of Tennessee a representative sample of farm supply dealerships for the state could be obtained.

A systematic "judgment" sampling procedure was developed to select the counties in which all available dealers were interviewed. First, Tennessee was divided into the three most commonly referred to geographic sections, i.e., East, Middle and West Tennessee. Each section has different agricultural characteristics, such as major agricultural enterprises, cultivational practices and sizes of farms. Then, from each section five counties were selected with at least one county containing a county seat classified as small (population under 2,500), one as medium (population between 2,500 and 10,000)

and one as large (population over 10,000). In this selection process both geographic dispersion and agricultural factors, such as the percentage of the county's workers employed in agriculture in 1960 and the relatively high degree of agricultural production were considered.⁷ The counties containing Tennessee's four largest cities were excluded.

During the spring of 1972, two pretest schedules were developed and tested. The first schedule was composed of "open-ended" questions used to determine the general type of information available. The second schedule, based on the findings of the first, was directed to specific types of information with more "forced-choice" type of questions. Counties in which the schedules were pretested were Jefferson, Sevier, Blount, and Roane counties in East Tennessee and Lauderdale and Gibson counties in West Tennessee. Using the revised schedule, the data collection took place during the summer of 1972.⁸ The author interviewed all respondents. He also assisted in the project design and interview schedule construction.

⁷ United States Bureau of the Census, U.S. Census of Population: 1970, 1970 Census of Population, Tennessee, Final Report PC (VI)-44 (Washington: Government Printing Office, December, 1970); Frank O. Leuthold, Population Changes in Tennessee Since 1930, The University of Tennessee Agricultural Experiment Station Bulletin 403, May, 1966, pp. 18-21; Larry M. Boone and Curtis F. Lard, Changes in Tennessee Agriculture by Counties 1954-1964, The University of Tennessee Agricultural Experiment Station Bulletin 435, December, 1967, pp. 8-57.

⁸ Counties surveyed according to section of Tennessee: East Tennessee--Claiborne, Grainger, Greene, McMinn, and Union counties; Middle Tennessee--Bedford, Jackson, Lincoln, Robertson, and Rutherford counties; West Tennessee--Chester, Crockett, Dyer, Hardeman, and Obion counties.

The schedule was designed to include questions applicable to all types of farm supply dealers and consisted of three main parts:

(1) dealership related facts, such as annual volume of business, percentage of farm related business, and types of services available; (2) socioeconomic characteristics of the manager, such as age, years of education and income; and (3) communication patterns of the dealers, such as the frequency of use and importance of various stated forms of interaction and sources of information. The interview time ranged from 30 to 75 minutes. Relatively little difficulty in getting the data was encountered except for the question concerning the size of the personal income of the respondent.

Prior to interviewing dealers, the local Cooperative Extension Service leader was interviewed in order to obtain an initial list of the local farm supply dealers and to explain the survey. Using that list, dealerships were visited and the manager interviewed. In three instances the head salesman was interviewed because he was the acting manager. Vacations, business trips, too busy with customers, unable to answer the questions and refusals were the reasons 15 prospective dealers were not interviewed. Three schedules were dropped because of incomplete information.

It was estimated that there were between 700 and 800 farm supply dealers in Tennessee. Because the sample was not random, no statistical range of confidence can be made of the number of dealerships meeting the study criteria.

Little difficulty in determining the type of dealer was encountered. This was true for even those listed in the miscellaneous

category. The miscellaneous category included some wholesale dealers and cotton gin operators who sold a large amount of general farm supplies to farmers, that is, within the 20 percent range as set in the dealership criteria. The number of dealers in each category was as follows: machinery dealers (42), co-op managers (16), feed mill operators (15), chemical dealers (11), hardware dealers (9), and miscellaneous dealers (7). Because of the procedures in obtaining a dispersion of dealers from across the state, it cannot be stated that 42 percent of all Tennessee farm supply dealers are machinery dealers within known confidence limits. Because all the categories of type of dealer contained relatively few cases, except machinery dealers, the number of statistical tests applicable to test differences was felt to be limited. Hence, the analysis was mainly descriptive in nature. Throughout the analysis, differences which were described as large, medium and small were based on judgment. No claim is made that all differences described as "large" are statistically significant at the .05 level or any other specific level of probability.

Statistical tests were computed in a few instances. Differences in socioeconomic characteristics of the dealers, such as age, education, vocational agriculture in high school, 4-H training, reared on a farm, farm ownership, major occupation of father, place where reared, number of business trips, and income by section of Tennessee were tested by chi-square analysis. Also, rank order correlation analyses of the means of communication, advised communication sources, purposes for farmers contacting dealers, and dealers' communication sources according to frequency of use by type of dealer were performed on several occasions.

In general primary analysis of the data was made by a description of the response for all dealers and by the response for each type of dealer. In the organization of thesis topics, the goal was to analyze a large proportion of the data collected in the survey rather than to do a limited analysis of items where only large differences occurred by type of dealer. Since often two or three schemes were used to measure the same general event, some of the analysis was somewhat redundant. The similarity and dissimilarity of the results are indicated throughout the following analysis where more than one method was used to assess the same general relationship.

In the analysis, reference is made to the traditional view of the "innovation-decision" process which is called the "adoption process." This process consists of five stages: awareness, interest, evaluation, trial, and adoption stages.⁹ These stages are well formulated ones by rural sociologists. Attention is paid to the stages of the "adoption process" or "innovation-decision process" in the section on the ways dealers communicated with farmers.

Reference to Extension in the thesis refers to the Cooperative Extension Service. Local Extension agents refer to those agents located at the county level and includes the Extension leader and other personnel, such as the agricultural agent and 4-H Club agent. Extension articles and bulletins refer to those publications supplied by the Cooperative Extension Service, such as those prepared by the Service itself and the Agricultural Experiment Station.

⁹Rogers and Shoemaker, op. cit., p. 100.

CHAPTER II

CHARACTERISTICS OF TENNESSEE FARM SUPPLY DEALERS

I. SOCIOECONOMIC CHARACTERISTICS OF DEALERS

Selected socioeconomic characteristics of the 100 Tennessee farm supply dealers, who are referred to as "dealers" throughout the analysis, are presented in Table 1. The average age for all dealers in the sample was 46.4 years and they had an average of 13.3 years of education. They had a relatively high level of living as evidenced by having an average of 83 percent of the following seven selected home items: clothes dryer, car air conditioning, home air conditioning, wall-to-wall carpeting, deep freezer, color TV and stereo. Reported average annual income was \$13,600.

Agriculture played a very significant role in the upbringing of the dealers. Eighty-five percent were reared on a farm, 49 percent had 4-H training and 56 percent studied vocational agriculture in high school. Furthermore, the major occupation of 82 percent of the dealers' fathers was either farming or agribusiness. Sixty-seven percent of the dealers owned or operated a farm. The vast majority of the dealers were local to their present community. Fully 76 percent were reared in the same or an adjacent county. The strong propensity of Tennessee dealers to stay in their "backyard" strengthens the assertion that knowledge and experience of local conditions are major business assets for farm dealers.

Table 1. Selected Socioeconomic Characteristics of 100 Tennessee Farm Supply Dealers by Section of Tennessee, 1972

Socioeconomic Characteristics	All Dealers (N=100)	Section of Tennessee		
		East (N=26)	Middle (N=32)	West (N=42)
		Average		
Age (years)	46.4	47.2	49.4	42.4
Education (years)	13.3	13.9	12.7	13.3
Number of selected home items	5.8	5.7	5.7	6.0
Income (thousand dollars)	13.6	13.1	12.7	14.7
Farmer contacts per day in busy season	27.2	32.2	20.5	28.8
Farmer contacts per day in slow season	8.5	10.9	8.0	6.6
		Percentage		
Age 45 years or younger	47.0	30.8	34.4	66.7*
Some college education	44.0	65.4	31.3	40.5*
Vocational agriculture	56.0	57.7	34.4	71.5*
4-H training	49.0	50.0	37.5	57.2
Reared on a farm	85.0	92.3	81.3	83.4
Own a farm	67.0	73.1	59.4	69.1
Major occupation of father				
Farmer	61.0	50.0	71.9	59.5
Ag-business	21.0	30.8	15.6	19.1
Other	18.0	19.2	12.5	21.4
County where reared				
Same	60.0	65.4	62.5	54.8
Adjacent	16.0	19.2	15.6	14.3
Other	24.0	15.4	21.9	30.9
Out-of-state business trips	48.0	46.2	40.6	54.8

*Difference between the three sections was statistically significant at the .05 level based on chi-square test.

Of the dealers interviewed, 58 percent were in a combined owner-manager position while the remaining 42 percent were strictly managers. Forty-eight percent of the dealers made one or more out-of-state business trips within the past two years. The dealers reported that they were contacted by an average of 27.2 farmers per working day during the busy season and by an average of 8.5 farmers during the slow season. These contacts with farmers varied widely according to type of dealer, size of business and number of employees. This rate of contact gives an indication of the tight schedules the dealers had, especially considering the wide range of necessary managerial tasks.

The dealers reported that they spend an average of six hours per week in keeping abreast of new farming practices or innovations. One major source of such information was farm magazines; the Farm Journal and the Progressive Farmer were read by 68 percent of the dealers. The dealers subscribed to an average of 3.4 magazines. Magazines about the products which the dealer handled and the region in which he worked, such as the Delta Press, were mentioned frequently.

II. SOCIOECONOMIC AND BUSINESS CHARACTERISTICS OF DEALERS BY SECTION

The sampling criteria were designed to take into account Tennessee's three distinct sections--East, Middle and West Tennessee--whose geographic, climatic, and economic differences resulted in somewhat different agricultural enterprises and consequently different supporting farm supply dealerships. For instance, 56 percent of the

hardware dealers interviewed were found in East Tennessee, 53 percent of the feed mill operators surveyed were located in Middle Tennessee, while 64 percent of the chemical companies, 75 percent of the large scale cotton gin-farm supply dealers and 100 percent of the grain wholesalers were located in West Tennessee.

The characteristics of the farm supply dealerships were considered by section of Tennessee. Such factors as average annual volume of total business and average number of services showed little significant variation. The averages were \$705,900 of business and 8.9 services. Differences occurred in relation to the average number of male employees per business. For instance, Middle Tennessee dealers employed an average of 9.4 male employees while West Tennessee dealers employed only 6.4 male employees. Few females were employed by farm supply dealerships although the average was highest in East Tennessee and lowest in West Tennessee, 1.6 and .7 employees, respectively.

Several socioeconomic characteristics of the farm supply dealers varied slightly by section (Table 1, page 9). Some variation occurred by mean age and mean years of education, but the differences were not large. When classifying the dealers' ages into two categories, 26-45 years and 46-80 years, West Tennessee dealers were younger than other sections. Division into the categories of "no college" and "some college" showed that at the .05 level, significant differences occurred. More East Tennessee dealers, 65.4 percent, attended college compared with only 31.3 percent in Middle Tennessee.

The average number of selected home items, from the list of seven home items previously mentioned, showed very little variation

by section. Concerning the dealers' annual income, the averages for East Tennessee and Middle Tennessee dealers were below the mean for all dealers while the average for West Tennessee dealers was above that amount. The number of farmer contacts per day in the busy season indicates that East Tennessee dealers had more contacts, 32.3, with farmers than Middle Tennessee dealers who averaged only 20.5 contacts. Slow season contacts also pointed to more East Tennessee dealer-farmer direct interaction, 10.9 contacts, than West Tennessee dealers who averaged only 6.6 contacts per day.

One's background often is purported to influence his future career, and this appeared to be especially true for Tennessee farm supply dealers. Agriculture played a major role in the life of these dealers. Vocational agriculture classes in high school were attended by more West Tennessee dealers, 71.5 percent, than other dealers; the difference was significant at the .05 level. They also had the largest percentage with 4-H training, 57.2 percent. However, more East Tennessee dealers were reared on a farm, 92.3 percent, and owned or operated a farm, 73.1 percent. More East Tennessee dealers, 84.6 percent, had the propensity to live and work in or near the county in which they were reared. More out-of-state business trips within the past two years were taken by the West Tennessee dealers, 54.8 percent, than by Middle Tennessee dealers, 40.6 percent.

III. SELECTED BUSINESS CHARACTERISTICS OF DEALERS

BY TYPE OF DEALERSHIP

Characteristics of the 100 farm supply dealers by type of dealership are discussed (Table 2). The average annual volume of business was

Table 2. Selected Business Characteristics of 100 Tennessee Farm Supply Dealerships by Type of Dealership, 1972

Business Characteristics	All Dealers (N=100)	Type of Dealers				
		Machinery (N=42)	Co-op (N=16)	Feed Mill (N=15)	Chemical (N=11)	Hardware (N=9)
		Average				
						Miscellaneous (N=7)
Annual volume of total business (thousand dollars)	705.9	513.6	1,493.8	482.7	296.4	446.7
						1,514.3
Annual volume of business per employee (thousand dollars)	78.7	66.4	70.9	72.4	88.1	69.3
						265.0
Number of male employees	7.8	6.8	18.2	5.8	2.9	5.2
						5.6
Number of female employees	1.2	.9	2.9	.9	.5	1.2
						.1
Years worked for firm	13.8	12.3	12.0	15.6	9.7	21.4
						19.9
Years worked in present position	11.7	11.0	8.9	14.1	6.6	19.3
						15.6
Number of selected services offered	8.9	9.6	9.8	7.7	8.7	6.3
						8.1
Percent of business with farmers and farm products	91.2	92.9	90.9	91.7	98.6	68.7
						97.0

\$705,900 for all dealers; this ranged from \$1,514,300 for miscellaneous dealers and \$1,493,800 for cooperatives to \$296,400 for chemical dealers and \$446,700 for hardware dealers. The annual volume of business for each type of dealership divided by the number of their employees showed that for other than miscellaneous dealers, the chemical and feed mill dealerships earned more per employee than the much higher volume businesses such as co-op and machinery dealerships. Co-ops employed over twice the number of employees of the next highest employer, machinery dealers. Chemical dealerships employed the least number of male employees and a very few female employees.

The dealers had an average of 8.9 services of the 12 following services: soil test, field visit, delivery, credit, sale price, demonstration, field test, supply technical information, find answers to questions, special consideration (for example, government contracts), application equipment, and field services and repair. Credit and finding answers to questions were offered by all dealers, while 98 percent had delivery service and supplied technical product information. An interesting finding was that 64 percent of the dealers, when asked which service they would drop if they could, mentioned credit, although 33 percent considered it very necessary for their business. During the interviews, some dealers indicated that they would like to drop credit, yet farmers' dependency on credit and its availability from competitors made it necessary for business. Co-op and machinery dealerships had the largest number of services, while hardware dealerships had the fewest.

The average number of years that the dealers had been with their

respective type of dealership of in their present position seemed to indicate two major groupings. Those with the fewer years, below 13.8 years with the firm or 11.7 years in the present position, were the machinery, co-op, and chemical dealers. These are historically the more recent types of farm supply dealerships. Hardware, miscellaneous and feed mill dealers had been employed for the longest periods of time on the average. Overall, chemical dealers had been employed the least number of years and hardware dealers the most.

A critical consideration was the percentage of business each dealership transacted with farmers. The data confirmed that the study actually included farm supply dealers, in that an average of 91.2 percent of all business was conducted with farmers. Hardware dealers had the least amount of farm business, 68.7 percent, and chemical dealers the most, 98.6 percent.

IV. SOCIOECONOMIC CHARACTERISTICS OF DEALERS BY TYPE OF DEALER

The average age of dealers ranged from 57.5 years of age for hardware dealers to 41.6 years of age for co-op managers (Table 3). Years of education ranged from 14.2 years for hardware dealers to 12.7 years for chemical dealers. Annual income ranged from \$21,100 for miscellaneous dealers to \$10,200 for hardware dealers. Co-op, chemical and machinery dealers earned slightly less than the overall mean, while feed mill operators earned slightly more. The number of home items of the seven listed ranged from 6.6 items for miscellaneous dealers to 5.1 for chemical dealers.

The importance of agriculture in the background of the dealers

Table 3. Selected Socioeconomic Characteristics of 100 Tennessee Farm Supply Dealers by Type of Dealer, 1972

Socioeconomic Characteristics	All Dealers (N=100)	Type of Dealers					
		Machinery (N=42)	Co-op (N=16)	Feed Mill (N=15) Average	Chemical (N=11)	Hardware (N=9)	Miscellaneous (N=7)
Age (years)	46.4	44.7	41.6	48.5	44.6	57.8	44.1
Education (years)	13.3	13.0	13.5	13.1	12.7	14.2	13.0
Number of selected home items	5.8	6.1	5.5	5.8	5.1	5.3	6.6
Income (thousand dollars)	13.6	13.4	12.1	14.7	13.3	10.2	21.1
----- Percentage -----							
Age 45 years or younger	47.0	54.8	56.3	33.3	45.5	22.2	42.9
College education	44.0	38.1	50.0	53.3	36.4	66.7	28.6
One or more years	30.0	26.2	31.3	40.0	27.3	33.3	28.6
Graduate	20.0	9.5	31.3	33.3	27.3	11.1	28.6
Agriculture major							
Vocational agriculture	56.0	47.6	75.0	66.7	54.5	44.4	51.7
4-H training	49.0	47.6	50.0	46.7	45.5	44.4	71.4
Reared on a farm	85.0	81.0	100.0	73.3	90.9	88.9	85.7
Own a farm	67.0	64.3	43.8	93.3	81.8	44.4	85.7
Major occupation of father							
Farmer	61.0	57.1	75.0	60.0	81.8	44.4	42.9
Ag-business	21.0	23.8	0.0	26.7	18.2	11.1	57.1
Other business	8.0	11.9	6.3	6.7	0.0	11.1	0.0
Other	10.0	7.2	18.7	6.6	0.0	33.4	0.0
County where reared							
Same	60.0	71.4	43.8	53.3	63.6	33.3	71.4
Adjacent	16.0	11.9	18.8	20.0	18.2	22.2	14.3
Other	24.0	16.7	37.4	26.7	18.2	44.5	14.3
Out-of-state business trips	48.0	50.0	56.3	53.3	54.6	11.1	42.9
More than two trips	25.0	21.4	31.3	26.7	45.5	0.0	28.6

varied somewhat. The number of dealers who were reared on a farm ranged from 100 percent of the co-op managers to 73.3 percent of the feed mill operators. Fully 71.4 percent of the miscellaneous dealers had 4-H training compared to 44.4 percent of the hardware dealers. Dealers who were farm owners or operators ranged from 93.3 percent for the feed mill operators to as few as 43.8 percent for the co-op managers.

Factors contributing to this major role of agriculture in the lives of the dealers could have been the occupation of the dealers' fathers and whether dealers themselves worked near their place of origin. The major occupation of all chemical and miscellaneous dealers' fathers was either farming or agribusiness related, while only 55.5 percent of the hardware dealers' fathers and 75 percent of the co-op managers' fathers were thus employed. The dealers who showed a strong propensity to stay in their own "backyard," that is, in the country where reared or in a neighboring county, were miscellaneous dealers, 85.7 percent, machinery dealers, 83.3 percent, and chemical dealers, 81.8 percent. Only 55.5 percent of the hardware dealers and 62.6 percent of the co-op managers were from the local area. The proportion of those who made out-of-state business trips within the past two years ranged from 56.3 percent of the co-op managers to 11.1 percent of the hardware dealers. However, for more than two trips, the percentage of chemical dealers was clearly the highest, 45.5 percent.

CHAPTER III

COMMUNICATION PATTERNS OF DEALERS

I. FREQUENCY THAT DEALERS USE COMMUNICATION MEDIA

Means of Communication

The frequency farm supply dealers used various means of communicating with farmers about the farm products they handled varied substantially (Table 4). The three most frequently used means of communication in communicating with farmers were: (1) discuss how to apply and how to use, (2) discuss the merits and advantages of new products, and (3) inform farmers of new farming innovations. These means of communication received consistent, high response from all types of dealers with only slight differences in their ranking. Common elements of these three means indicate there was a major emphasis on creating awareness and providing basic information rather than on convincing or assisting farmers in making on-the-farm changes.

Four other means of communication were intermediate in frequency of use. Also, large differences occurred by type of dealer. For instance, helping farmers evaluate their trial use of a product was fairly frequently practiced by every type of dealer with the exception of hardware and feed mill dealers. Likewise encouraging probationary or trial use of an item was fairly frequently used by every type of dealer except hardware and chemical dealers. Assisting farmers on their farms with proper use was most frequently practiced

Table 4. Frequency 100 Tennessee Farm Supply Dealers Used Various Means of Communicating with Farmers About the Farm Products They Handle, 1972^a

Means of Communication ^b	Type of Dealers																				
	All Dealers		Machinery		Co-op		Feed Mill		Chemical		Hardware		Miscellaneous								
	Oft. Occ. Inf.	(N=100)	Oft. Occ. Inf.	(N=42)	Oft. Occ. Inf.	(N=16)	Oft. Occ. Inf.	(N=15)	Oft. Occ. Inf.	(N=11)	Oft. Occ. Inf.	(N=9)	Oft. Occ. Inf.	(N=7)							
Discuss how to apply and how to use	89	10	1	38	4	0	15	1	0	13	1	1	10	1	0	7	2	0	6	1	0
Discuss the merits and advantages of the new products	87	12	1	40	2	0	14	2	0	11	4	0	11	0	0	4	4	1	7	0	0
Inform farmers of new farming innovations	74	20	6	32	9	1	14	2	0	9	4	2	8	2	1	5	2	2	6	1	0
Help farmers evaluate their trial use of a product	58	35	7	27	13	2	9	7	0	7	7	1	8	2	1	2	4	3	5	2	0
Encourage probationary use of an item	50	41	9	21	18	3	9	7	0	8	6	1	4	4	3	3	5	1	5	1	1
Assist farmers on their farms with proper use	39	29	32	19	15	8	6	5	5	5	2	8	6	3	2	1	2	6	2	2	3
Help farmers re-evaluate long-used practices	33	39	28	8	18	16	7	6	3	5	8	2	8	2	1	0	4	5	5	1	1
Assist farmers in setting up a farm experiment	12	29	59	5	7	30	1	9	6	3	5	7	2	3	6	0	1	8	1	4	2
Assist farmers with farm planning beyond the scope of your products	7	27	66	3	10	29	1	3	12	2	6	7	0	3	8	0	3	6	1	2	4

^aThe number of frequency categories used in the survey was five, i.e., frequently, fairly regularly, sometimes, seldom, and never. In the analysis the first two categories were termed often, the third category was termed occasionally and the latter two were termed infrequently.

^bRanking of means of communication is according to frequency of use by "all dealers."

by chemical dealers, but seldom practiced by hardware or miscellaneous dealers. Helping farmers re-evaluate long-used practices was frequently done by chemical and miscellaneous dealers and seldom done by hardware and machinery dealers.

Assisting farmers in setting up a farm experiment and assisting farmers with farm planning beyond the scope of the products the dealers sell were the infrequently used means of communication for all types of dealers. Responses indicated that many dealers considered the former means as the job of local Extension agents and the latter means as the farmers' responsibility.

Sources of Information Advised

The frequency farm supply dealers advised farmers to use other communication sources in helping farmers learn and decide about farm innovations is discussed (Table 5). Reading sales literature, checking with certain farmers and checking with the local Extension agents were the most frequently recommended sources for all dealers. Reading sales literature was often advised by all dealers irrespective of type of dealer. Advising farmers to check with certain other farmers was most frequently the advice given by machinery dealers. Checking with the local Extension agents was advocated most frequently by chemical, co-op, feed mill and hardware dealers while the machinery dealers seldom offered such advice.

Checking with the Soil Conservation Service (SCS) and other local government agencies showed little variation by type of dealer. Advising farmers to check with university of Extension specialists was

Table 5. Frequency 100 Tennessee Farm Supply Dealers Advised Farmers to Use Other Communication Sources in Helping Them Learn and Decide About Farm Innovations, 1972^a

Communication Sources ^b	All Dealers		Machinery		Co-op		Feed Mill		Chemical		Hardware		Miscellaneous								
	Ofc.	Occ. Inf.	Ofc.	Occ. Inf.	Ofc.	Occ. Inf.	Ofc.	Occ. Inf.	Ofc.	Occ. Inf.	Ofc.	Occ. Inf.	Ofc.	Occ. Inf.							
	(N=100)		(N=42)		(N=16)		(N=15)		(N=11)		(N=9)		(N=7)								
Number																					
Dealer or sales literature	67	21	12	30	10	2	11	3	2	8	4	3	7	2	2	5	1	3	6	1	0
Certain farmers	59	36	5	34	6	2	6	10	0	6	7	2	6	5	0	3	5	1	4	3	0
Local Extension agent	55	29	16	15	15	12	12	3	1	9	5	1	9	2	0	5	3	1	5	1	1
SCS and other local government agencies	46	29	25	17	13	12	9	5	2	8	2	5	4	5	2	5	3	1	3	1	3
University or Extension specialists	39	32	29	13	15	14	10	4	2	5	2	8	5	4	2	2	4	3	4	3	0
Farm magazine articles	37	39	24	13	19	10	6	3	7	6	3	6	6	5	0	2	6	1	4	3	0
Extension bulletins or articles	36	35	29	6	19	17	9	1	6	8	5	2	7	4	0	3	4	2	3	2	2
Production Credit officials	34	32	34	20	12	10	6	6	4	3	5	7	3	3	5	2	3	4	0	3	4
Local banker	34	29	37	19	11	12	3	6	7	7	4	4	2	3	6	2	3	4	1	2	4
Veterinarian	24	32	44	4	11	27	8	6	2	9	4	2	1	2	8	0	7	2	2	2	3
Other dealers	20	37	43	10	10	22	0	9	7	3	6	6	3	6	2	2	3	4	2	3	2
Vocational Agriculture teacher	17	36	47	6	18	18	4	5	7	2	6	7	4	2	5	1	4	4	0	1	6
Radio and TV mass media advertisements	15	29	56	10	14	18	3	2	11	1	5	9	0	2	9	1	3	5	0	3	4

^aThe number of frequency categories used in the survey was five, i.e. frequently, fairly regularly, sometimes, seldom, and never. In the analysis the first two categories were termed often, the third category was termed occasionally, and the latter two were termed infrequently.

^bRanking of communication sources is according to frequency of use by "all dealers." The term Extension refers to the Cooperative Extension Service.

often used by co-op managers, but seldom by machinery and hardware dealers. Asking farmers to read farm magazine articles was seldom recommended by any type of dealer. However, advising farmers to read Extension bulletins and articles was often suggested by chemical, co-op and feed mill dealers, but infrequently by machinery dealers. Checking with Production Credit Association officials and with local bankers were infrequently mentioned by any type of dealer with the exception of machinery dealers. Checking with veterinarians had clearly only two proponents, feed mill operators and co-op managers.

Advising farmers to check with other dealers and vocational agriculture teachers and to listen to radio and TV mass media advertisements were infrequently suggested by any type of dealer.

Purposes for Communication

The main reasons or purposes for farmers contacting dealers from the viewpoint of the dealers are discussed (Table 6). The reasons of (1) how to use a particular product, (2) general product information, and (3) how the product performs on the farm were those frequently given. How to use a particular product was the most frequent purpose for farmers contacting chemical and co-op dealers. General product information, such as prices and product availability, was a frequent reason for contacting all types of dealers, but especially hardware, feed mill and chemical dealers. How the product performs on the farm was a frequent form of contact for miscellaneous and machinery dealers, but seldom for hardware dealers.

Other purposes for farmers contacting dealers were less

Table 6. Frequency That Farmers Contacted 100 Tennessee Farm Supply Dealers for Various Purposes, 1972^a

Purposes for Farmers Contacting Dealers ^b	Type of Dealers																				
	All Dealers (N=100)		Machinery (N=42)		Co-op (N=16)		Feed Mill (N=15)		Chemical (N=11)		Hardware (N=9)		Miscellaneous (N=7)								
	Oftr. Occ.	Inf.	Oftr. Occ.	Inf.	Oftr. Occ.	Inf.	Oftr. Occ.	Inf.	Oftr. Occ.	Inf.	Oftr. Occ.	Inf.	Oftr. Occ.	Inf.							
How to use a particular product	79	16	5	31	6	5	14	2	0	10	5	0	11	0	0	7	2	0	6	1	0
General product information	71	22	7	27	13	2	9	5	2	13	1	1	8	2	1	8	0	1	6	1	0
How your product performs on his farm	69	28	3	36	6	0	9	6	1	9	6	0	6	4	1	2	6	1	7	0	0
Advice on what to do for an immediate problem	55	36	9	22	17	3	9	6	1	11	2	2	2	8	1	6	1	2	5	2	0
A product new to this area but successful in other areas	43	42	15	19	20	3	6	8	2	4	6	5	6	4	1	2	3	4	6	1	0
A specific credit problem	37	35	28	18	16	8	5	7	4	4	5	6	4	3	4	4	1	4	2	3	2
A farm visit because of an immediate problem	33	46	21	20	19	3	3	12	1	5	5	5	3	5	3	1	2	6	1	3	3
News about what has been happening in his area	32	41	27	13	21	8	6	8	2	2	5	8	6	2	3	1	3	5	4	2	1
Advice on a cropping plan for this next year	12	21	67	0	2	40	5	7	4	2	3	10	3	5	3	2	2	5	0	2	5
Advice on setting up an overall farm plan	1	24	75	0	6	36	0	6	10	0	3	12	1	5	5	0	1	8	0	3	4

^aThe number of frequency categories used in the survey was five, i.e. frequently, fairly regularly, sometimes, seldom, and never. In the analysis the first two categories were termed often, the third category was termed occasionally, and the latter two were termed infrequently.

^bRanking of purposes is according to frequency of use by "all dealers."

frequently mentioned. For instance, advice on what to do for an immediate problem frequently brought farmers into contact with feed mill and hardware dealers, but not chemical dealers. A product new to this area, but successful in other areas, was more often brought to the attention of miscellaneous and chemical dealers than to other types. Neither a specific credit problem nor a farm visit because of an immediate problem produced much variation in type of dealer response. However, news about what has been happening in the local area more frequently brought farmers to miscellaneous and chemical dealers than to any other.

Advice on a cropping plan and advice on setting up an overall farm plan were infrequently given reasons. Farmers' competence in these areas plus the services of public or special private agencies may have negated any noticeable reliance on the dealers for these purposes.

Information Sources Used

The frequency which communication sources were used by farm supply dealers themselves in learning about farm innovations is shown by type of dealer (Table 7). Dealer representatives, sales literature and up-to-date farmers were the three most frequently used sources. Sales literature and up-to-date farmers received approximately the same emphasis for all dealers. However, the former source was the most frequently used source for machinery dealers. On the other hand, hardware and chemical dealers used five other sources more frequently than sales literature. Up-to-date farmers

Table 7. Frequency Various Communication Sources Were Used by 100 Tennessee Farm Supply Dealers in Learning About Farm Innovations, 1972^a

Communication Sources ^b	Type of Dealers																				
	All Dealers		Machinery		Co-op		Feed Mill		Chemical		Hardware		Miscellaneous								
	Offt.	Occ. Inf.	Offt.	Occ. Inf.	Offt.	Occ. Inf.	Offt.	Occ. Inf.	Offt.	Occ. Inf.	Offt.	Occ. Inf.	Offt.	Occ. Inf.							
	(N=100)		(N=42)		(N=16)		(N=15)		(N=11)		(N=9)		(N=7)								
	Number																				
Dealer representatives	82	14	4	36	6	0	13	2	1	13	0	2	7	4	0	7	2	0	6	0	1
Dealer and sales literature	78	17	5	40	2	0	12	3	1	9	5	1	7	3	1	4	4	1	6	0	1
Up-to-date farmers	77	18	5	36	5	1	11	4	1	9	4	2	10	1	0	6	3	0	5	1	1
Farm magazines	62	30	8	29	11	2	10	5	1	6	6	3	9	2	0	4	3	2	4	3	0
Extension bulletins and articles	58	18	24	16	11	15	13	2	1	5	5	5	11	0	0	7	0	2	6	0	1
Local Extension agents	47	27	26	12	13	17	13	2	1	5	6	4	8	3	0	5	0	4	4	3	0
Newspaper articles	41	28	31	18	12	12	8	4	4	4	6	5	4	2	5	5	3	1	2	1	4
Local banker or credit person	37	27	36	17	8	17	3	8	5	8	3	4	2	5	4	4	1	4	3	2	2
SCS and other local government agencies	32	31	37	11	10	21	9	2	5	2	9	4	4	4	3	4	2	3	2	4	1
Other dealers	30	38	32	16	13	13	3	9	4	5	6	4	2	5	4	2	2	5	2	3	2
University or Extension specialists	24	36	40	6	16	20	7	5	4	2	4	9	6	3	2	1	4	4	2	4	1
Veterinarian	24	22	54	5	7	30	8	3	5	8	5	2	0	2	9	1	5	3	2	0	5
Radio and TV mass media advertisements	23	32	45	11	16	15	4	5	7	3	2	10	2	4	5	2	3	4	1	2	4

^aThe number of frequency categories used in the survey was five, i.e. frequently, fairly regularly, sometimes, seldom, and never. In the analysis the first two categories were termed often, the third category was termed occasionally, and the latter two were termed infrequently.

^bRanking of communication is according to frequency of use by "all dealers." The term Extension refers to the Cooperative Extension Service.

were widely used by each type of dealer, particularly by chemical, machinery and hardware dealers.

The remaining communication sources were used to a lesser extent although variations occurred by type of dealer. Farm magazines were more frequently read by chemical, machinery and co-op dealers. Newspaper articles produced little variation in response, while local bankers or credit persons were occasionally used by feed mill operators, but infrequently used by chemical and co-op dealers. The SCS and other local government agencies were occasionally used by co-op managers but seldom by the other types of dealers, whereas other dealers in the area were seldom used by any type of dealer.

University or Extension specialists, veterinarian, and radio and TV mass media advertisements were the most infrequently used communication sources for all dealers. The first of these sources was seldom used by any type of dealer, except chemical dealers. The second was occasionally used by the feed mill and co-op dealers while the third was seldom used by any type of dealer.

Extension bulletins and articles were frequently used by chemical, co-op, miscellaneous and hardware dealers in learning about new technology. The lack of much use of Extension bulletins and articles by machinery dealers was the main reason for this source's relatively lower ranking for all dealers. Local Extension agents were most often used by co-op managers while machinery and feed mill dealers seldom used them.

The dealers were also asked how many times during the past year they contacted a local Extension agent regarding new farm technology.

The ranking and average number of contacts by type of dealer were as follows: co-op (25.6), chemical (19.2), feed mill (14.9), hardware (9.3), miscellaneous (9.1) and machinery (4.8). Thus, the results of these data were similar to the response on the relative frequency indicated in Table 7, page 25, that is, co-op and chemical dealers had frequent contact and machinery dealers infrequent contact with local Extension agents.

II. IMPORTANCE OF COMMUNICATION MEDIA

Means of Communication

Data on the importance farm supply dealers placed on the various means of communication in reaching the objective of (1) helping farmers the most and (2) having the highest business payoff were listed in Table 8 according to frequency of use as shown in Table 4, page 19. Data were obtained by asking each dealer to indicate the three most important means in reaching each of these objectives. Analysis of the data was made on the basis of the number or proportion of the dealers who indicated a means of communication was important. The means of (1) discussing how to apply and how to use, (2) discussing the merits and advantages of the new products, and (3) informing farmers of new farming innovations were the three most important means of communication for reaching both objectives. These were also the most frequently used means of communication as indicated earlier. The discussion of merits and advantages of the new products was indicated as the most important means of communication for all dealers and, in general, for each type of dealer. Its relative importance was ranked higher than

Table 8. Importance That 100 Tennessee Farm Supply Dealers Placed on Various Means of Communication to Obtain Three Objectives, 1972^a

Means of Communication ^b	Type of Dealers											
	All Dealers			Machinery			Co-op			Feed Mill		
	Helps Highest	Farmer's Business	Most Payoff	Helps Highest	Farmer's Business	Most Payoff	Helps Highest	Farmer's Business	Most Payoff	Helps Highest	Farmer's Business	Most Payoff
	(N=100)	(N=42)	(N=16)	(N=15)	(N=11)	(N=9)	(N=8)	(N=7)	(N=4)	(N=3)	(N=2)	(N=1)
Discuss how to apply and how to use	64	58	25	23	10	8	9	7	8	7	4	4
Discuss the merits and advantages of the new products	74	78	32	32	12	11	9	12	10	6	6	7
Inform farmers of new farming innovations	65	58	29	29	12	8	9	7	4	7	3	4
Help farmers evaluate their trial use of a product	21	17	6	4	2	3	5	7	1	1	3	1
Encourage probationary use of an item	30	38	15	23	6	8	4	4	2	2	2	1
Assist farmers on their farms with proper use	23	24	9	8	3	4	5	2	4	3	1	3
Help farmers re-evaluate long-used practices	9	12	4	4	1	2	0	1	3	0	2	0
Assist farmers in setting up a farm experiment	7	5	4	1	1	2	1	2	0	0	0	0
Assist farmers with farm planning beyond the scope of your products	7	10	2	2	1	2	3	3	1	1	0	1
Total	300	300	126	126	48	48	45	45	33	27	21	21

^aThe figure shown above in each column is the number of dealers who answered that this means of communication was one of the three most important means of communication to each of the two questions. The two questions are respectively: (1) Which of the above items do you feel helps farmers the most? and (2) Which of the above items do you feel has the highest payoff in improving your business? Each total is three times the sample number.

^bRanking of means of communication is according to the frequency of use.

its frequency of use; it was the second most frequently used means. Maybe, because competition was heavily weighted on the new products, informing farmers of new farming innovations was felt by the dealers to be more important than discussing how to apply and how to use the products; from the farmers' viewpoint the opposite may have been the case. In the "adoption process" creating awareness of new products is the initial stage. The data clearly indicated that dealers placed the most importance, in terms of both objectives, upon those communication methods which created awareness and provided basic knowledge of the usefulness of innovations.

The other communication means were given lesser importance. Helping farmers evaluate their trial use of a product was less important to all dealers than two other less frequently used communication means, that is, encouraging probationary use of an item and assisting farmers on their farms with proper use. Thus, dealers may have been asked by farmers to help with evaluation of trial use of practices even though they attached relatively less importance to this activity. Encouraging trial use of an innovation and actually assisting in its use were events which occur earlier in the "innovation-decision process" or "adoption process" than the evaluation of "trial" results. As indicated above, the dealers attach much greater importance, in terms of the two objectives, to events early in the "adoption process."

The remaining three communication means were the least important means of communication for all dealers. These were: (1) helping farmers re-evaluate long-used practices; (2) assisting farmers in setting up a farm experiment, and (3) assisting farmers with farm

planning beyond the scope of the products handled. This viewpoint may be shortsighted since farming is becoming more commercialized. As gradual change in practices fades into a continually updating process, farm planning goes beyond the scope of knowing the advantages of the dealer's products; dealers may need to pay greater attention to the evaluation of practices at the farm level. Dealers might have felt that company experimental programs and the Cooperative Extension Service combined to make these means of communication less important for them.

Even though the above discussion indicated that the rankings according to frequency of use and importance varied for the means of communication, the differences were slight. For instance, the rank correlation between the means according to frequency of use and importance in helping farmers the most and having the highest business payoff were both .90. These coefficients indicated a close positive relationship between the frequency the dealers used these means and the importance attached to these means on both criteria for helping farmers and helping their business.

Sources of Information Advised

The important communication sources that farm supply dealers advised the farmers to use in helping them learn and decide about farm innovations are discussed (Table 9). Reading sales literature, checking with certain farmers and checking with local Extension agents were the three most important communication sources that all dealers advised farmers to use. Reading sales literature shifted down to a secondary position from personal use by the dealers themselves

Table 9. The Important Communication Sources that 100 Tennessee Farm Supply Dealers Advised Farmers to Use in Helping Them Learn and Decide About Farm Innovations, 1972^a

Communication Sources ^b	All Dealers (N=100)	Type of Dealers						
		Machinery (N=42)	Co-op (N=16)	Feed Mill (N=15)	Chemical (N=11)	Hardware (N=9)	Miscellaneous (N=7)	
		Number						
Dealer or sales literature	49	30	4	5	3	4	3	
Certain farmers	73	38	10	8	4	7	6	
Local Extension agent	37	2	12	8	8	3	4	
SCS and other local government agencies	15	4	3	3	2	2	1	
University or Extension specialists	20	8	4	1	3	1	3	
Farm magazine articles	27	15	1	3	4	2	2	
Extension bulletins or articles	20	3	6	2	4	4	1	
Production Credit officials	9	4	2	2	0	1	0	
Local banker	8	4	0	3	1	0	0	
Veterinarian	9	0	1	6	0	1	1	
Other dealers	16	9	2	1	3	1	0	
Vocational Agriculture teacher	5	1	3	0	1	0	0	
Radio and TV mass media advertisements	12	8	0	3	0	1	0	
Total	300	126	48	45	33	27	21	

^aThe figure in each column is the number of dealers who designated this communication source as one of the three most important sources for helping farmers to learn and decide about the farm products they handle. Each total is three times the sample number.

^bRanking of communication sources is according to the frequency of use. The term Extension refers to the Cooperative Extension Service.

with the possible exception of machinery dealers. Checking with certain farmers was the most important source of advice for each type of dealer with the exception of chemical dealers. Advising farmers to check with the local Cooperative Extension Service agents was very important for co-op, chemical, feed mill and miscellaneous dealers, but machinery dealers scarcely recognized them as a source of reference. Some differences occurred between the relative importance dealers placed on the source in terms of the dealers' use of the source and how frequently they advised farmers to check with the source. Particularly they advised farmers to check with other farmers more frequently than they ranked this source as a creditable source of information for learning about new technology themselves. The opposite was true of sales literature.

The following communication sources were of lesser importance to all dealers. Checking with SCS and other local government agencies showed little difference in type of dealer response. Checking with university of Extension specialists was acknowledged by all types of dealers although feed mill and hardware dealers were seldom concerned. Reading farm magazine articles was advocated most often by machinery dealers. Reading Extension bulletins and articles was advocated by several hardware and co-op dealers and by some chemical dealers. Checking with Production Credit Association officials and with local bankers was seldom advised by any type of dealer. Veterinarians and other dealers had their own particular advocates, the former source was important to the feed mill operators and the the latter to machinery dealers.

The vocational agriculture teacher was the least advocated communication source. Listening to radio and TV mass media advertisements was relatively important to machinery dealers but of little importance to others.

In conclusion, advising farmers to check with certain other farmers, with local Extension agents and reading sales literature were ranked very high by the dealers in order to help them learn and decide about farm innovations. However, few dealers advised farmers to check with Production Credit Association officials, local bankers and vocational agriculture teachers for such purposes.

Purposes for Communication

Purposes for farmers contacting farm supply dealers that these dealers considered most important are discussed (Table 10). The purposes of (1) how to use a particular product, (2) general product information, and (3) how the product performs on the farm were the three most important purposes for farmers contacting dealers. The ranking of the various purposes according to importance was somewhat different than according to the frequency of use seen in Table 6, page 23. How to use a particular product was most important for all dealers and of primary importance to every type of dealer except machinery dealers. Providing general product information, such as prices and product availability, shifted down into third place for all dealers although for hardware, chemical and feed mill dealers it remained secondary in importance. How the product performs on the farms moved up into second place ranking for all dealers while machinery dealers considered it the primary purpose for farmers contacting them.

Table 10. Purposes for Farmers Contacting 100 Tennessee Farm Supply Dealers That Dealers Considered Important, 1972^a

Purposes for Farmers Contacting Dealers ^b	All Dealers (N=100)	Type of Dealers				
		Machinery (N=42)	Co-op (N=16)	Feed Mill (N=15)	Chemical (N=11)	Miscellaneous (N=7)
		Number				
How to use a particular product	72	26	13	13	9	4
General product information	45	17	5	8	6	3
How your product performs on his farm	50	29	4	5	4	3
Advice on what to do for an immediate problem	41	14	7	8	4	4
A product new to this area but successful in other areas	15	7	2	1	3	2
A specific credit problem	28	13	3	3	3	2
A farm visit because of an immediate problem	32	18	8	3	1	1
News about what has been happening in his area	6	1	1	2	1	1
Advice on a cropping plan for this next year	10	0	5	2	2	1
Advice on setting up an overall farm plan	1	1	0	0	0	0
Total	300	126	48	45	33	21

^aThe figure in each column is the number of dealers who considered this purpose as one of the three most important reasons for farmers contacting them. Each total is three times the sample number.

^bRanking of purposes is according to the frequency of use.

Advice on what to do for an immediate problem was consistently fourth in rank of frequency of occurrence and importance for all dealers. It was especially important to miscellaneous, feed mill and co-op dealers. A product new to this area but successful in other areas and a specific credit problem were of little importance to any type of dealer although the latter purpose might have brought more farmers to hardware dealers than to other types. A farm visit because of an immediate problem was noticeably more important to co-op and machinery dealers than other dealers.

News about what has been happening in the area, advice on a cropping plan for this next year and advice on setting up an overall farm plan were the least important purposes for farmers contacting dealers according to the dealers. Only advice on a cropping plan for this year elicited any type of significant response from the type of dealers except co-op managers who considered it fairly important.

III. IMPORTANCE OF DEALERS' OWN USE OF COMMUNICATION SOURCES

The important communication sources that farm supply dealers used in learning about farm innovations are examined (Table 11). Data were obtained by asking each dealer to indicate the three most important sources of communication of the 13 sources indicated for learning about new farm technology. Analysis was based upon the number or proportion of dealers indicating each source as important. Dealer representatives, sales literature and up-to-date farmers in the area were the three most important communication sources. The ranking of the sources showed

Table 11. The Important Communication Sources That 100 Tennessee Farm Supply Dealers Used in Learning About Farm Innovations, 1972^a

Communication Sources ^b	All Dealers (N=100)	Type of Dealers				
		Machinery (N=42)	Co-op (N=16)	Feed Mill (N=15)	Chemical (N=11)	Hardware (N=9)
		Miscellaneous (N=7)				
		Number				
Dealer representatives	73	36	9	13	4	5
Dealer and sales literature	46	28	4	5	4	1
Up-to-date farmers	33	15	5	3	4	3
Farm magazines	30	15	3	3	4	3
Extension bulletins and articles	24	3	10	0	6	3
Local Extension agent	33	4	11	6	7	3
Newspaper articles	7	4	0	2	0	0
Local banker or credit persons	9	4	0	2	0	3
SCS and other local government agencies	7	2	2	1	0	2
Other dealers	16	12	1	2	0	0
University or Extension specialists	11	2	2	1	4	2
Veterinarian	8	1	0	7	0	0
Radio and TV mass media advertisements	3	0	1	0	0	2
Total	300	126	48	45	33	27

^aThe figure in each column is the number of dealers who designated this source as one of the three most important for their learning about farm innovations. Each total is three times the sample number.

^bRanking of communication sources is according to the frequency of use. The term Extension refers to the Cooperative Extension Service.

that the sources the dealers used the most frequently, as shown in Table 7, page 25, were also ranked as the three most important sources. The rank order coefficient of the 13 communication sources was .84 on the two criteria. The major differences were that personal sources were ranked relatively higher on the basis of importance than on the basis of frequency of use.

Dealer representatives were very important, especially for feed mill, machinery, miscellaneous and hardware dealers. Sales literature was of primary importance for machinery and miscellaneous dealers, but of much less importance for hardware dealers. Up-to-date farmers maintained a fairly high position of relevance with little difference between type of dealer.

Extension bulletins and articles were very important to co-op and chemical dealers, but not for feed mill and machinery dealers. Similarly the local Extension agent was very useful to co-op and chemical dealers, somewhat helpful for feed mill operators and of very little usefulness to machinery dealers. Farm magazine articles were somewhat important for all types of dealers. Newspaper articles, local bankers or credit persons, and the SCS and other local government agencies were seldom mentioned as important by any type of dealer. Other dealers in the area were of negligible importance in learning about new technology except for machinery dealers. University or Extension specialists were somewhat important to chemical dealers, and veterinarians were very important to the feed mill operators. Radio and TV mass media advertisements were important to only three of the 100 dealers.

In summary, farm supply dealers considered dealer representatives to be their most important source of learning about new farm innovations. Also sales literature and up-to-date farmers were important sources. Newspaper articles, SCS and other local government agencies, and radio and TV mass media advertisements were the least important communication sources.

Specific Personal Information Sources

Dealers were asked to answer the open-end question, "Who are the three individuals you most frequently ask for advice and information regarding farm innovations and technology?" The results of the analysis are indicated in Tables 12 and 13.

Company representatives were clearly the type of persons most frequently asked for advice and information regarding farm innovations and technology. Company representatives, such as co-op specialists, block managers, sales personnel, managerial staff and technical staff of companies, were frequently asked for advice and information by each type of dealer. Overall, 59 percent of all personal sources were dealer representatives.

Local Extension agents, although being relatively few compared to the number of company representatives, were often sought; this was especially true for chemical, miscellaneous and co-op dealers. In spite of the generally low response of machinery dealers concerning interaction with local Extension agents, as indicated earlier, 13 machinery dealers listed a local Extension agent as one of the three most important personal information sources. However, since the interviewer was identified with the university, it was felt that

Table 12. The Number of 100 Tennessee Farm Supply Dealers Who Mentioned Various Types of Persons as Those Most Frequently Asked for Advice and Information About Farm Innovations and Technology, 1972a

Personal Information Sources ^b	All Dealers (N=100)	Type of Dealers						
		Machinery (N=42)	Co-op (N=16)	Feed Mill (N=15)	Chemical (N=11)	Hardware (N=9)	Miscellaneous (N=7)	
		Number						
Company representatives ^c	85	35	16	12	8	7	5	
Local Extension agents	41	13	8	5	7	4	4	
Farmers	18	11	1	3	1	1	1	
Experiment Station personnel	14	6	1	0	4	1	2	
Credit persons	7	6	1	0	0	0	0	
Other dealers ^d	6	4	0	0	1	0	1	
Veterinarian	5	0	0	5	0	0	0	
SCS persons	3	1	2	0	0	0	0	
Extension specialists	3	0	0	1	2	0	0	
ASCS persons	3	1	0	0	1	1	0	
Vocational Agriculture teachers	3	0	1	1	1	0	0	
Total	188	77	30	27	25	14	13	

^aThe figure in each column is the number of dealers who designated this type of individual as one of the three most frequently asked for advice and information regarding farm innovations and technology. Although the same type of individual was named more than once by some dealers, it is counted only once.

^bRanking of personal information sources is according to "all dealers" response. The term Extension refers to the Cooperative Extension Service.

^cIncludes co-op specialists, block managers, managerial staff, technical staff, and sales personnel of companies.

^dSignifies managers of other dealerships from whom the dealer does not receive supplies for his business.

Table 13. The Number of Times Various Types of Persons Were Mentioned as a Frequent Source of Advice and Information About Farm Innovations and Technology by 100 Tennessee Farm Supply Dealers, 1972a

Personal Information Sources ^b	All Dealers (N=100)	Type of Dealers					
		Machinery (N=42)	Co-op (N=16)	Feed Mill (N=15)	Chemical (N=11)	Hardware (N=9)	Miscellaneous (N=7)
		Number					
Company representatives ^c	168	67	34	27	14	15	11
Local Extension agents	43	14	8	6	7	4	4
Farmers	25	16	1	3	2	2	1
Experiment Station personnel	15	6	1	0	5	1	2
Credit persons	8	7	1	0	0	0	0
Other dealers ^d	7	5	0	0	1	0	1
Veterinarian	5	0	0	5	0	0	0
SCS persons	3	1	2	0	0	0	0
Extension specialists	3	0	0	1	2	0	0
ASCS persons	3	1	0	0	1	1	0
Vocational Agriculture teachers	3	0	1	1	1	0	0
Total	283	117	48	43	33	23	19

^aThe figure in each column is the number of persons within that category who were named by that type of dealer as one of the three individuals most frequently asked for advice and information regarding farm innovations and technology. Some dealers listed the same type of person two or three times. A total of 283 persons was named by the dealers and of those, 168 persons were company representatives.

^bRanking of personal information sources is according to "all dealers" response. The term Extension refers to the Cooperative Extension Service.

^cIncludes co-op specialists, block managers, managerial staff, technical staff, and sales personnel of companies.

^dSignifies managers of other dealerships from whom the dealer does not receive supplies for his business.

interviewer bias may have influenced machinery dealer response. Overall, 41 percent of the dealers listed a local Extension agent while 15 percent of all choices were local Extension agents.

The remaining personal information sources were less frequently selected. Up-to-date farmers in the community were mainly sought for advice by machinery and feed mill dealers. Agricultural Experiment Station personnel were mainly contacted by chemical dealers and occasionally by machinery dealers interested in getting the information from the basic source, the researcher himself. Fourteen dealers named such a person. Credit persons, predominantly Production Credit Association officers, and other dealers were mentioned by several machinery dealers. Veterinarians were mentioned exclusively by feed mill operators.

The type of persons asked least for information regarding farm innovations and technology were SCS persons, Extension specialists, Agricultural Stabilization Conservation Service persons and vocational agriculture teachers. Only three dealers named each of these types of sources as one of their most important persons sought for advice and information regarding farm innovations.

The co-op is a self-contained organization dependent on its own resources, i.e., technical specialists, managerial staff and products. Seventy-one percent of all individuals listed by the co-op managers were company representatives. This was the highest for any type of dealers. Every co-op manager mentioned that they used a co-op specialist at La Vergne. One half of these managers also mentioned a local Extension agent, but very few used any other type of personal information source to any extent.

Feed mill operators relied heavily on company representatives and somewhat less on local Extension agents and veterinarians. Only slightly more chemical dealers used company representatives than the local Extension agents; of significance was the amount of use they made of the Agricultural Experiment Station personnel. Hardware dealers seemed to look mainly to company representatives and secondarily to the local Extension agent. Miscellaneous dealers' response was very similar to that of chemical dealers, i.e., slightly more preferred to ask company representatives than to ask the local Extension agent for information.

CHAPTER IV

SUMMARY AND CONCLUSIONS

I. SUMMARY OF FINDINGS

In the present study data from a survey of 100 farm supply dealers in Tennessee were analyzed. The objectives of the study were: (1) to determine the social and business characteristics of farm supply dealers, (2) to determine the communication patterns between the farm dealers and their farmer-customers, and (3) to determine farm dealers' sources of information and advice.

Data were obtained by personal interview with the managers of all full time dealerships operating in 15 Tennessee counties. Five counties in each section of Tennessee, that is, East, Middle and West Tennessee, were selected. Farm supply dealers refer to those persons managing dealerships that sell feed, seed, chemicals, machinery, and/or farm related products.

Systematic "judgment" sampling was used to select the counties. Interviewing was conducted during the summer of 1972 by the author. An 87 percent rate of response was obtained. Of the 100 dealers on whom data were collected, 26 were located in East Tennessee, 32 operated in Middle Tennessee and 42 dealers were located in West Tennessee. Forty-two dealers were machinery dealers, 16 co-op managers, 15 feed mill operators, 11 chemical dealers, 9 hardware dealers and 7 miscellaneous dealers. Miscellaneous dealerships included cotton gins and grain wholesalers who also sold farm supplies.

The dealers averaged 46.4 years of age and had 13.3 years of education. They exhibited a relatively high level of living and earned approximately \$13,600 a year. Their background was strongly influenced by agriculture. For instance, 85 percent were reared on a farm, 49 percent had 4-H training and 56 percent studied vocational agriculture in high school. Confirming this role of agriculture was the fact that the major occupation of 82 percent of the dealers' fathers was either farming or agribusiness. Sixty-seven percent of the dealers owned or operated their own farms.

Differences in the socioeconomic characteristics of farm supply dealers by section of Tennessee were notable in some instances. For instance, Middle Tennessee dealerships employed an average of 9.4 males while West Tennessee employed only 6.4 males. East Tennessee dealerships employed 1.6 females compared to .7 for West Tennessee dealerships. By dividing dealers' ages into two categories, 26-45 years and 46-80 years, West Tennessee dealers were significantly younger. Likewise, a division into categories of "no college" and "some college" indicated that significantly more, at the .05 level of significant, East Tennessee dealers attended college. Background considerations showed that significantly more West Tennessee dealers attended vocational agriculture classes and also scored highest in 4-H training, 57.2 percent. However, more East Tennessee dealers were reared on a farm, 92.3 percent, owned or operated a farm, 73.1 percent, and worked in or near the county in which they were reared, 84.6 percent.

Differences in the business characteristics by type of dealer were evident. The average annual volume business ranged from

\$1,514,300 for miscellaneous dealers and \$1,493,800 for co-ops to \$296,400 for chemical dealers and \$446,700 for hardware dealers. Computing the annual volume of business per employee showed that chemical and feed mill dealerships earned more per employee than the much higher volume business, such as co-op and machinery dealerships. Of the services listed all dealerships offered some form of credit and found answers to questions posed by their customers. Co-op and machinery dealerships offered the most services while hardware dealerships had the least. Considering the number of years with the dealership or in the present position, hardware dealers on the average have been employed the longest and chemical dealers for the shortest period of time. An important indicator of farm supply dealerships classification was the percentage of business transacted with farmers regarding farm products. In that respect, chemical dealers had an average of 98.6 percent of their business with farmers regarding farm products compared to hardware dealers with an average of 68.7.

The socioeconomic characteristics according to type of dealers showed some wide ranges of variation. The average age of dealers ranged from 57.5 years for hardware dealers to 41.6 years for co-op managers. The number of years of education showed little variation between types of dealers. Annual income ranged from the highest, \$21,000 for miscellaneous dealers, to the lowest, \$10,200 for hardware dealers. Their backgrounds were strongly influenced by agriculture with some variations. For instance, dealers who were reared on a farm ranged from 100 percent of the co-op managers to 73.7 percent of the feed mill dealers. And dealers who owned or operated a farm ranged from

93.3 percent of the feed mill dealers to 43.8 percent of the co-op managers. All chemical and miscellaneous dealers' fathers had either farming or agribusiness as a major occupation while just over one half of the hardware dealers' fathers had been so employed.

The dealers were asked to consider their approaches to the following activities in two ways, in relation to frequency of use and importance to them. These activities basically entailed looking through the eyes of dealers as they (1) presented their products to farmers, (2) advised farmers to check with other sources to substantiate what dealers have said, (3) looked back at the reasons for farmers contacting them, and (4) recalled which sources of information they themselves used. By ranking and comparing their responses various communication patterns emerged.

Dealers frequently presented their products by (1) discussing how to apply and how to use them, (2) discussing the merits and advantages of the new products, and (3) informing farmers of new farming innovations. However, when considering the importance of these means of communication relative to the objectives of helping the farmers the most and having the highest business payoff, discussing the merits and advantages of the new products clearly took precedence. Variations according to type of dealer were slight.

Dealers frequently advised farmers to use (1) sales literature, (2) certain farmers, and (3) local Extension agents in helping them learn and decide about farm innovations. However, the dealers indicated that the most important source to advise farmers to use was certain other farmers rather than sales literature. Considering type of dealer

response, certain farmers and sales literature were both frequently advised by and important to machinery dealers. Most other types of dealers frequently advised the use of the local Extension agent.

According to all dealers the frequently noted purposes for farmers contacting them were: (1) how to use a particular product, (2) general product information, and (3) how your product performs on his farm. The latter two purposes were inverted when the dealers scored importance. However, according to machinery dealers, the most frequent and important reason for farmers contacting them was to tell how your product performs on his farm, while co-op and chemical dealers consistently ranked how to use a particular product in first position.

The communication sources most frequently used and ranked most important to dealers in learning about farm innovations were dealer representatives, sales literature, and up-to-date farmers. According to the type of dealers, there were many variations in the frequency of use of these sources. For instance, the frequent use of the above-mentioned sources and the lack of use of Extension bulletins and articles by machinery and feed mill dealers seemed to have offset the rankings of other types of dealers. Regarding the importance of communication sources, co-op and chemical dealers ranked the local Extension agents and Extension bulletins and articles more important than other sources. Yet, all other types of dealers fairly consistently preferred the three sources ranked first by all dealers.

The type of individuals that dealers most frequently asked for advice and information regarding farm innovations and technology

were, respectively, company representatives, local Extension agents, farmers, and experiment station personnel. The response to this open-end question was fairly consistent with the previous listing of communication sources.

II. CONCLUSIONS

Farmers are not only customers to be given information, but also important sources of information for the dealers themselves and for other farmers. Dealers systematically use farmers as channels of information through which to communicate the knowledge and excellence of their products. The importance and use of each of these roles which farmers play are clearly seen in this study. Likewise, the basic role agriculture plays in the upbringing of dealers is documented.

Dealers seemed to feel most contented operating in the early phases of the "adoption process." Such means of communication as discussing the merits and advantages of the new products, informing farmers of new farming innovations and discussing how to apply or how to use farm innovations were clearly felt by the dealers to be the main ways of helping farmers the most and of having the highest business payoff. Apparently they considered that whatever helped farmers also affected business profits. Assistance to farmers at the later phases of the adoption process, such as assisting in setting up a farm experiment, the evaluation of the trial use of a product and long-range planning were felt to be more the duty of other agencies such as the Cooperative Extension Service.

Even with the use of different credible sources of information

most dealers remain in relatively the same position in the "adoption process." Machinery dealers basically rely on their product line relationships for information and rely on specific farmers, probably opinion leaders, to pass on the news about the qualities of their equipment. Very little is made of the Cooperative Extension Service's personnel or publications by machinery dealers. Co-op managers essentially use two sources of information, their technical staff at La Vergne and the Cooperative Extension Service. Feed mill operators use company representatives, veterinarians and the local Extension agents. Chemical dealers stressed the use of the Cooperative Extension Service as well as company representatives. Hardware and miscellaneous dealers relied heavily on company representatives. The sources used by the various types of dealers were related to the products handled, the company's organizational structure and the request of farmers for information and service.

Because farmers demand that dealers discuss how to apply and how to use their products, the dealers most frequently use that means of communication, even though dealers do not consider it to be their most important means. Farmers direct influence on dealers, in this instance, is noted in the dealers' response to the later question regarding the purposes for which farmers contact them. The most frequent and most important purpose for farmers contacting dealers was considered to be how to use a particular product. Wanting to know how to use the dealers' product the farmers ask and the dealers answer.

The role of the vocational agriculture teacher in informing farmers of new farm innovations and in serving as a source of advice

about farm technology to dealers themselves were not deemed vital from the perspective of the farm supply dealers. Although over half of the dealers had studied vocational agriculture in high school, the vocational agriculture teacher was seldom sought for agricultural information about new technology. This was not unusual since other government personnel, such as SCS and ASCS officials, were similarly seldom used.

Considering the primary research task of the Agricultural Experiment Station personnel, it is very interesting to note the amount of practical extension type duties they perform. Only three dealers actively sought Extension Specialists whose job it is to disseminate the findings of the Agricultural Experiment Station research whereas 14 dealers went directly to the research personnel.

A broad conclusion is that hardware dealers had lost a substantial part of the farm supply business they previously had. Co-operatives were in a monopoly position in relation to general farm supplies in several counties. The volume of business, number of employees, capabilities of managers, research units, technical specialists, manufacturing business, bulk purchases and field men of Cooperatives are amenities that most hardware businesses cannot be complete with effectively.

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VITA

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