

A COMMUNICATIONS PROGRAM FOR THE KANSAS INDUSTRIAL EXTENSION

LIAISON PROGRAM

by *323*

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CHAPTER I

INTRODUCTION

On September 14, 1965, Congress passed the State Technical Services (STS) Act which has the basic purpose of speeding the development and spread of new technology from the Federal Government to private business firms and to large and small manufacturers. Similar to the Agricultural Extension Program in concept, but devoted entirely to business and industrial needs, the STS Act contains in its wording the goal:

That wider diffusion and more effective application of science and technology in business, commerce and industry are essential to the growth of the economy, to higher levels of employment, and to the competitive position of the United States' products in world markets.¹

The Transfer of Technology

The transfer of technology is a complex and difficult process and is not automatic or inevitable as many businessmen and government officials have learned. The greatest problem in the transfer process, particularly in using aerospace and military technology, has been the highly sophisticated nature of the information. Until World War II, military technology, apart from ordinance, dealt with problems of food, clothing, health, basic construction, transportation, and communication. These were elements that are not difficult to understand or to work

¹Federal Registrar, Appendix H., April 19, 1965, Vol. 31, No. 75.

with. However, today's aerospace and military technology in many instances bears little or no direct connection with civilian requirements.²

Many Federal programs, including the STS Program, are now underway to select, evaluate, interpret, and disseminate new technology in order to find a place for it in the civilian economy.

Nearly two-thirds of all research and development in the United States is supported by Federal funding.³ In spite of billions of tax dollars invested in research and development for the defense and space efforts, little use by private business has been made of the direct results or of the by-products of these operations except by contractors in the programs. Small firms similar to most Kansas companies, have not taken advantage of the "information explosion" in government reports, contractors reports, or the professional trade journal articles.

An often-quoted story illustrates another important point related to the transfer of technical information to industry: A recent study identified eleven hundred "unsolved" technical problems in industrial firms; solutions to each of these problems were then found in the public literature.

As indicated, government research agencies have great difficulty in getting private industry to use and adopt the new technology and take advantage of "spin off" advancements. On the other hand, businesses

²R. A. Sole, "Gearing Military R & D to Economic Growth," Harvard Business Review, Nov.-Dec. 1962, p. 49.

³R. A. Rosenbloom, "Technology Transfer--Process and Policy," An Analysis of the Utilization of Technological By Products of Military and Space R & D, Special Report No. 62. National Planning Assoc. July 1965, p. 39.

have often been quite unaware or unable to use these valuable government resources to solve their problems.

Objectives of the Study

The primary purpose of the study was to investigate the Industrial Extension Liaison Program originated by the Kansas Industrial Extension Service (KIES), as a unique method to transfer technology to the businesses and industries of Kansas. To understand better the context in which the Liaison Program operates, several analyses were made concerning the needs of KIES and Kansas industry. At the conclusion of the study, several recommendations are offered by the author to improve communications between the respective groups so that the goals of the STS Program might be better implemented throughout the state.

CHAPTER II

THE KANSAS INDUSTRIAL EXTENSION SERVICE

Since July 1, 1966, the STS Program has been implemented in Kansas by KIES. Figure 1 depicts the organizational structure and relationships between the Federal Government and state agencies. The U.S. Department of Commerce was given the basic responsibility by Congress to administer the State Technical Services Act. This Department in turn requested each state to identify a state agency to serve as the "Designated Agency" for the state to implement the goals of the Act. The Research Foundation of Kansas was assigned this responsibility by the Governor.

As organized in Kansas, the STS Program is a cooperative effort between Kansas colleges and universities, the State Board of Regents, the Research Foundation of Kansas, and the U.S. Department of Commerce. The actual task of carrying out the technical services program for the state, however, is assigned to KIES.

Headquarters for KIES operations are located in Seaton Hall, College of Engineering, at Kansas State University. The staff is composed of a director, a full-time field service representative, a full-time director of information, an informational writer, and a clerical and stenographic staff.

This chapter reviews the overall objectives of the STS Program and discusses the specific programs and goals defined for the state by the KIES Director. An extensive discussion is devoted to the Industrial

Extension Liaison Program which is a major device used to implement many of the objectives of the program.

The STS Ten-Point Program

During the past two years, KIES has carried out an active effort to implement the goals and objectives outlined in the STS Ten-Point Program.⁴ In several specific areas, results have been impressive. Table I enumerates specific tasks and projects successfully completed to satisfy the goals of the Ten-Point Program. As indicated, primary effort has been placed on developing educational classes for industry, exchange of information between KIES and industry, and the establishment of links between the generators and potential users of new knowledge. This latter effort has been accomplished largely through the organization of the Industrial Extension Liaison Program. All of these tasks, carried forth with limited financing, have resulted in a specific program tailored to the State of Kansas and the capabilities of the KIES staff.

The KIES "Tri-Point Program"

Early in the development of the KIES Program, three basic areas of effort, called the "Tri-Point Program," were defined by the KIES Director to fulfill the essential objectives of the STS Program for the state. The program consists of the following elements:

- 1) Continuing education for industry and business,

⁴The Kansas Industrial Extension Journal, Vol. 1, No. 1, Jan. 1967, p. 1.

- 2) Technical assistance to industry and business,
- 3) Information services and technology transfer to industry and business.⁵

Specific projects developed under the "Tri-Point Program" are oriented primarily to science and technology and focus on the unique needs of manufacturing firms in the state. Enterprises in this category are defined as those firms that have a definable product. To qualify under the KIES definition, a firm must take a raw material and process it into an end product.

Continuing Education

During the initial period of operation, KIES conducted a variety of workshops, courses, and seminars for Kansas firms (Goal No. 3, Table I). The basic goal in this area of effort is to transfer technical experience. These offerings have been on a professional level for graduate engineers as well as on a production level to meet specific needs of manufacturing employees.

The programs consist only of non-credit special educational programs intended to serve employees in manufacturing industries, i.e., technicians, technical workers, production workers, engineers, as well as managers. Conducted largely by the universities and colleges in the state, these technical education programs are being designed to introduce industrial groups to technological advances which can be used to increase productivity, reduce costs, and improve the quality of company products.

⁵The Kansas Industrial Extension Journal, Vol. 1, No. 2, Mar. 1967, p. 1.

Recently, KIES developed a program to evaluate each class offered under its auspices and award a specific number of "Continuing Education Units" to each industrial participant through a formal KIES transcript program (Figure 2).⁶

For each class, one half the costs can be funded by the KIES Office through the STS Act, while the remainder of the costs are handled through student fees or company participation.

Technical Assistance

This KIES Program area also has as its purpose to transfer technical information and "know how" by means of personal and direct contact between an expert and a company employee. This area involves "eyeball to eyeball" communications through field service contacts. At present, only one Technical Field Service Representative, a chemical engineer with a Ph.D. degree, is in the full-time employ of KIES. Due to limited staff, field visits, consultations, and technical demonstrations have been limited. Most requests for services of this sort have been either referred to engineering consultants, or an attempt has been made to locate a qualified professor on a university staff to serve a manufacturing firm in a consultant's capacity. The lack of a strong field service staff within the headquarters' operations has been partially and, in several instances, successfully offset through support developed in the Industrial Extension Liaison Program.

⁶ A review of the KIES transcript program is contained in The Kansas Industrial Extension Journal, Oct. 1968, p. 5.

Information Services

Information services offered by KIES have included technical reports, abstracts, digests, bulletins, technical notes, reviews, and other similar scientific, engineering, and business information. Bibliographic searches on technical topics, promotion of conferences, and dissemination of information through the mass media have been provided to industry.

A new technical information retrieval service has also been considered by KIES to provide a current search activity of more than seven thousand technical journals. The program, called Selective Dissemination of Information (SDI), has been developed for the STS Program in Iowa. This computerized retrieval service provides a listing of the articles (by title, author, and source) to participating members each week. A proposal on the system has been distributed to all Liaison Representatives in the State of Kansas.⁷

The three areas of the "Tri-Point Program" can be custom-designed to meet the interests and needs of specific manufacturing firms within the state. The real challenge for KIES in developing the program has revolved around the best way to design the offerings within these areas so they will stimulate action and be used by the Industrial Extension Liaison Representatives.

⁷"A Proposal for Selective Dissemination of Information System for Kansas Companies," The Tri-Pointer, Vol. 1, No. 5, March 20, 1968.

The Industrial Extension Liaison Program

The Industrial Extension Liaison Program was developed to satisfy two essential needs of the STS Program:

- 1) Assist local industry to apply new scientific and technological discoveries to their own purposes;
- 2) Establish linkages between the generators and the potential users of new knowledge.

Limited funding precluded the development of a strong field service staff with the capabilities of contacting manufacturing firms continually to transfer technology or provide information services similar to the techniques used by the Agricultural Extension Service. The KIES Liaison Program was designed to partially meet this need.

Company and Campus Liaison Representatives

The KIES Liaison Program consists of two groups:

- 1) Company Liaison Representatives;
- 2) Campus Liaison Representatives.

Invitations to join the program were initially extended through an article appearing in the July 1967 issue of The Kansas Industrial Extension Journal⁸ (hereafter called the Journal). (See Fig. 3.) Later, County Agents throughout the state were asked to contact Kansas firms interested in the program and obtain names of company employees who would be designated to serve as a Company Liaison Representative to

⁸The Kansas Industrial Extension Journal is distributed to all manufacturing firms in the state with more than twenty-five employees. It serves as the primary communications medium to Liaison Representatives.

KIES. Concurrently, a letter campaign to companies was initiated asking them to participate. After a Company Liaison Representative was appointed, a follow-up letter was mailed to the named employee. (Fig. 4.) Since the initial announcement in the spring of 1968, more than eighty Kansas firms have affiliated with the program and have designated an employee to work with KIES (Appendix A).

In January 1968, professors on the state campuses also were requested to join the Liaison Program and adopt one of the participating companies. This invitation was extended through a Journal article (Fig. 5), and a letter to the deans of the various colleges (Fig. 6). To date, more than twenty professors have accepted this assignment and have initiated contacts with their counterpart representatives in specific companies.

Purpose of the Liaison Program

The basic purpose for establishing this relationship between a company employee and a professor was to try to improve communications between Kansas firms and institutions of higher learning in the state.

"Social action usually has its beginning when two or more people agree that a problem exists and that something should be done about it."⁹ Establishing the means for getting two or more people to talk to each other was the basic idea behind the Liaison Program concept. KIES supported this interchange by paying travel expenses for field trips of each Campus Liaison Representative to the respective company. The KIES Director believed that "face to face" communications with a Company

⁹ Communications Handbook, American Association of Agricultural College Editors. The Interstate Printers and Publishers, Danville, Illinois, 1967, p. 10.

Liaison Representative about mutual interests, technical requirements, and educational goals would provide an effective base on which to develop a "Tri-Point Program" for the company.

Guidelines have been established for the Representatives who have been assigned the task of developing specific goals for the company in the area of continuing education classes. Specific tasks for Liaison Representatives, appropriate to the development of an effective "Tri-Point Program" for the company, were defined in two Journal articles (Figs. 7 and 8) in June and October 1968.¹⁰

¹⁰The specific tasks for Liaison Representatives resulted from discussions during a "Speak Out for Kansas Industry" conference held April 23, 1968, in Wichita, Kansas, with appointed representatives.

CHAPTER III

CHARACTERISTICS AND INFORMATION NEEDS OF THE LIAISON PROGRAM

In investigating the need for communications for the Liaison Program, a realistic assessment was required of the needs of Kansas industry, as well as an understanding of the characteristics of the representatives themselves. Several studies which detailed the needs of business personnel for information were reviewed. Finally, studies which defined the nature of Kansas industry--in which the Company Representatives work--were reviewed to provide a better understanding of the communication requirements.

Characteristics of Company Liaison Representatives

Company Representatives appointed to KIES may not have a technical background. They are located at every level on the management organization chart--from president to foreman--with interests and education varying greatly and spanning the fields of personnel, production, sales, finance, and accounting. The typical Company Liaison Representative may have only a minor interest in the KIES "Tri-Point Program" unless--and this might be considered the key--the services offered have direct and timely application to solving his everyday problems.

Like most businessmen, the Company Liaison Representative is primarily concerned with the profit motive, a factor which sets him apart from his professional contemporaries as well as his counterpart representative on the campus. Often a Company Representative's success depends on his ability to earn a profit for himself and his company.

This basic motivation, or mental set, influences all his values, his relationships with KIES, his interests, as well as his selection of information and the channels of communications he uses on a daily basis.

Most representatives associated with the KIES Program believe their businesses are operating about as well as can be expected. Often the company is making a good profit and has shown a growth and profit curve through the years, and in many cases, the potential for growth in the future also is good.

The typical representative doesn't usually think of his operation in terms of problems. When he expresses need for additional information on which to base a business decision, he usually is only asking questions. Many businessmen are often unwilling to recognize or admit the existence of a problem within their own operations. Perhaps this is due to factors related to self-esteem or feelings of guilt that a problem will reflect on one's personal ability in business management.

Characteristics of Campus Liaison Representatives

Campus professors who adopt a company in the KIES Liaison Program are usually highly educated specialists with many holding the Ph.D. degree in engineering or science. These professors are oriented toward the classroom: to textbooks and theoretical discussions of case problems. While many representatives have excellent education, they may not have had experience in an industrial setting where the profit motive is paramount. Consequently, after field trips many professors have come to realize the necessity of lowering their level of technical interest

using simpler and plainer vocabulary, and conversing with Company Liaison Representatives in a more practical way.

Unlike the businessman who may often operate from the "seat of his pants" in making a business decision, the typical Campus Representative is accustomed to seeking information from libraries and using a variety of research techniques in the process of decision making. Any engineering or scientific decision that must be made is usually done in a thoughtful, systematic manner after extensive research to collect pertinent data. The Campus Representative can be more analytical and thorough in his approach to problem solving, primarily because he has more time. He is not prone to use trial-and-error methods in making decisions due to his educational level. He will be more aware of many research resources that can be used within the state, but not necessarily those that apply directly to the needs of the assigned company. He has the ability and initiative, however, to locate information and resources when needed.

Characteristics of Kansas Industry

Manufacturing plays a significant role within the economy of the state, contributing more than twenty-seven percent of the wages and salaries paid in Kansas. This exceeded one billion dollars for the first time in 1966. KIES decided to develop a program for this segment of Kansas business and industry. The number of possible companies for developing a Liaison Program consisted of approximately 4,000 firms listed in the Manufacturers' Directory.¹¹ These companies possessed

¹¹Directory of Kansas Manufacturers and Products, 1966-7 Edition, Kansas Department of Economic Development, State Office Bldg., Topeka.

diverse interests, both in product lines as well as manufacturing sophistication and technical capabilities. The predominant number of firms were metal fabricators, working with such products as agricultural equipment, campers, storm windows, building hardware, heating equipment, sheet metal work, and wire products. A few firms were producing screw machine parts and metal stamping.

To determine better the qualitative and quantitative aspects of this group, surveys of Kansas industry were made by KIES.¹²

The surveys, conducted on a scientific basis, covered the areas of southeast Kansas, Wichita, and Western Kansas. Their purpose was to determine the needs of Kansas companies for technological information and technically trained personnel.

For the majority of firms, the surveys revealed that Kansas firms were classed in one or two groups: "have" or "have not" companies. Of the total firms listed in the Directory, it was estimated that fewer than forty companies--of the four thousand listed--in Kansas have employees eligible and capable of understanding the type of technological information disseminated from the research programs sponsored by most U.S. Government agencies.

Moreover, the results also revealed a low technological level among employees and company owners alike. Most employers required production workers in order to "get the product out."

¹²Industrial Profiles, Kansas State College of Pittsburg, Robert E. Scott, Survey Director, 1967.

In one survey, out of a total of 4,142 employees, one hundred forty held a college degree (3.4 percent). Of this group, forty-two were graduate engineers employed by only six of the firms surveyed.

The surveys also revealed that few companies ever recruited college graduates on one of the campuses in the state. The majority of companies marketed their products strictly on a regional basis. Few conducted research. Of two hundred fifty-one companies surveyed in one area, only forty companies indicated that they had any type of written long-range plan.

Predominant interest in educational programs focussed on vocational and management courses with strong interest in business courses. Modest interest was expressed in engineering courses with lesser interest in science and mathematics.

Figure 9 summarizes some of the essential facts resulting from the profile surveys made by KIES. Review of this profile of Kansas industry assisted the author in understanding better the types of companies that KIES must communicate with and the environment in which many of the Liaison Representatives work.

Sources of Business Information

A variety of information sources are used by Company Liaison Representatives and the average businessman. The highlights of a comparative study conducted by the author which illustrates the types of information sources favored by the average Company Representative are shown in Figure 10.

Favored Sources of Information

Results of the study pointed out a consistent pattern of interest and use. The most important sources of information used by the average businessman were "non-periodical, short, printed bulletins." "Trade journal/technical articles" published by specific trade associations were second, while periodical publications, which also could be classed as trade journal material, were rated number three by the respondents in the five research studies.

The fourth most important sources of information were "lectures/seminars/and short courses." The "lecture type or conference" method received a high rating from the trade association contacts of several researchers. Many trade associations also believed conferences provided an excellent method to disseminate technical information to their members. In a study by Malinowski "Institutes/conferences" was rated second in importance to "trade associations" as sources of business information.¹³

According to the comparative analysis, many of the businessmen in the studies had mixed feelings on use of "consultants/experts/personal contacts" in obtaining information on which to base business decisions. Although other dissemination techniques may be favored, the respective researchers generally believed that "personal contacts" were a fairly effective technique and should be used in conjunction with the other methods.

¹³This study is the second comparative study depicted in Figure 13.

Unfavorable Sources of Information

Determination of information sources that are regarded with dis-favor was just as important as identifying the most useful communications media. Three major sources of information received the lowest ratings as the result of comparing the several research studies--namely "university courses, suppliers/vendors, and libraries." In all studies, none of the businessmen interviewed placed high regard on use of these three sources. Although information concerning specific products was obtained through "vendors," most businessmen indicated that this source was usually biased in favor of the respective company. While a few industrialists used local "libraries" as important sources of information, the researchers indicated that most often the information needed was of the "how to do it" variety. Statistics and basic business data were usually obtained from non-periodical and periodical publications.

Summary and Analysis

The analysis of the studies indicated that several types of information were required by the average respondent. Some types were written, others were oral.

In most instances, the initial requirement was for basic facts and figures needed on a day-to-day basis to aid in decisions in the areas of marketing, expansion, purchasing, accounting, and so forth. Information needed in these categories took the form of reports, census information, sales, and production figures.

Another major information need was for how-to-do-it data. Required information usually took the form of pamphlets, books, and folders which

instructed a manager on how to balance his books, set up a quality-control program, or adapt his accounting system to electronic data processing.

Receiving information through personal counseling sessions with experts was another important type of information used by the average businessman responding to several of the surveys. Often this interchange was informal over a cup of coffee with a local CPA or banker. In many cases a more formal relationship was established such as the hiring of a management or technical consultant to aid in solving critical business problems.

The Journal survey revealed that Kansas businessmen have no great difficulty in obtaining information when needed. Specific types of information selected included (in order of preference):

- 1) Handbooks
- 2) Books
- 3) Data files
- 4) Periodicals

The largest percentage of Kansas businessmen responding to the Journal questionnaire indicated they maintain competence in their respective specialties by looking for information in technical trade journals or by attending technical society seminars and meetings (Figure 11). Thirty-nine percent of the KIES respondents fall into the Information Service category (Section A) while a close thirty-six percent are grouped into the Continuing Education area (Section B). Personal Contacts (Section C) received the second highest percentage of response (nineteen percent). Undoubtedly, as indicated in the other studies, many manufacturers contact personal friends or professional sources for information in resolving specific business problems.

CHAPTER IV

CHANNELS OF COMMUNICATION

Acceptance of new ideas by businessmen and Liaison Representatives can be painfully slow. Many social and psychological forces are at work within a business environment which influence their thinking and attitudes. In developing a communications plan for the program, a brief study was made to determine the kinds of media needed in order to cultivate Company Representatives and stimulate them to develop a "Tri-Point Program" for their company.

Acceptance of New Ideas

Rogers¹⁴ stated in his book that most people progress through a five step mental process over a period of time prior to accepting a new idea. These stages are

- Stage 1 - Awareness stage;
- Stage 2 - Interest stage;
- Stage 3 - Evaluation stage;
- Stage 4 - Trial stage; and
- Stage 5 - Adoption stage.

During each of these stages, a variety of channels of communications are at work to influence an individual's thinking: 1) mass media; 2) government agencies (such as KIES); 3) neighbors and friends; and 4) salesmen and other marketing forces (Fig. 12).

¹⁴ Everett M. Rogers, Diffusion of Innovations, The Free Press, New York, 1962, p. 23.

To be effective, Rogers stipulated that the right communications channel must be used at the right time, to have the most influence at each of the preceding stages.¹⁵

Stages of Diffusion

In Stage 1 the mass media, magazines, newspapers, radio, or television usually alert most people and initially make them aware of new ideas. This fact was substantiated through the Industry Profile Surveys conducted by KIES where most Kansas businessmen often relied on trade and technical publications for new idea material related to their operations. Interestingly, government agencies ranked second at this stage, neighbors and friends ranked third, and salesmen and dealers ranked fourth.

At the second stage, Interest, the mass media continued to have primary communications value with the other channels following in the same order.

Not until the Evaluation Stage does a decided change in the most effect channel of communications occur. In this, as well as the Trial Stage, neighbors and friends become predominant. People are prone to ask their contemporaries about the value of the product in this stage. Government agencies still rank second, according to Rogers' study. Mass media become less effective (third place), with salesmen and dealers fourth.

¹⁵Rogers stipulates that before any innovation of technology may be used, a new idea must pass through a five-step process. Each potential user of a new product will at least touch each of the steps depending upon his background of knowledge and experience.

When people finally "adopt" the new idea, self communication becomes predominant as a channel of communications. At this final stage, the person has tried the idea, likes the results, and decides to go ahead. Reinforcement of his decision is vital here. The person will again turn to the same communications channel, neighbors and friends, co-workers, leaders, government agencies, mass media, and salesmen, to reconfirm and rejustify the decision made.

Characteristics of Persons

Rogers further pointed out another important aspect of the diffusion process: Different kinds of people accept ideas differently and at different rates.¹⁶ He identifies and characterizes these types of persons in five categories:

- 1) Innovators;
- 2) Early adopters;
- 3) Early majority;
- 4) Late majority; and
- 5) Laggards.

In another study, L. F. Crampon identified basically three types of businessmen with three distinct types of attitudes concerning interest in and utilization of business information:

First, there is the one who recognizes neither his problems nor his informational needs.

¹⁶Rogers points out that individuals adopt new ideas at different rates over a period of time depending upon their personal characteristics, behavior, and social relationships. The Kansas Industrial Extension Journal, March 1968, p. 5.

Second, there is the small businessman who has the ability --and the time--necessary to recognize a problem or need for a decision but lacks the inclination--or the time--to permit gathering the information needed to reach a satisfactory decision.

Finally, there is the businessman operating a small establishment who can and does recognize his problems, and once the problem is recognized, gathers the information upon which the decision can be based.¹⁷

These same types of personalities exist within the ranks of Company Liaison Representatives as far as use of information is concerned. Relating these personalities to the categories established by Rogers, it can be projected that the first group (who don't even recognize their problems or needs) can be placed in the "laggard" category. The second group can be placed in the "early majority" group; the third group might be considered "innovators" who recognize their problems and seek information prior to making business decisions.

Companies who have already assigned Company Liaison Representatives to KIES might be classed in the "innovator" or "early adopter" categories. These eighty companies have identified themselves to KIES and indicated a need and interest in obtaining new resources, new services, and new ideas for their organizations. Often the employee in the company who has been designated as the Company Liaison Representative falls into the "innovative" category and might be considered an "opinion leader" within his firm.

¹⁷E. J. Crampon. Communicating Information to Small Businessmen. Bureau of Business Research, University of Colorado, Boulder, Colorado, p. 4.

The development of a communications program for the Industrial Extension Liaison Program concerns this advanced innovative group of companies' (two percent of four thousand firms in Kansas). Techniques considered for use in implementing the program will be different for this group than those that might be used for the remainder of the companies--those who have not yet signed up or expressed interest in the program.

The "Three R's" of Information Dissemination

One of the unique characteristics of businessmen is related to how they use information.

The "Three R's of Information Dissemination" is a descriptive phrase coined by the author to describe this important characteristic. In order to get a businessman to make effective use of new technical information, Crampon pointed out that three essential elements are needed: 1) Get the right information; 2) to the right user; 3) at the right time. Crampon explains these elements in his study "Communicating Information to Small Businessmen," p. 27, as follows: "It is not only necessary to get the right information to the right user; it is also necessary to get the right information to the right user at the right time. If the last qualification is not achieved, the information will probably go unused."

Graphically, this relationship can be expressed as follows:



Figure 13.--The "Three R's" of Information Dissemination

Storehouses of Information

In his study, Crampon also advocated the development of a "Source-User" system through which information might effectively be disseminated to local businessmen (Fig. 14). Such a framework also has important implications as a model for KIES in establishing an effective communications network between Industrial Extension Liaison Representatives.

The "Source-User" system establishes a "storehouse of information" as a central element in a communications network. In the development of the concept, Crampon was sympathetic to the problems and informational needs of average businessmen and industrialists who must sift through a great amount of information to locate something of direct value. Due to the urgency of business and customer deliveries, often small businessmen don't have the time for this cataloging operation. Nor, do these smaller companies (one hundred employees or less) have sufficient experts employed in "staff" positions to conduct the needed research.

Crampon also pointed out in his concept that industrialists employ common methods of seeking information and often contact qualified persons (local banker, CPA, or County Agricultural Agent) for assistance.¹⁸ Crampon emphasized that education of these "contact points" to the availability of a storehouse of information was essential. Once a businessman successfully used a new information source and discovered

¹⁸Crampon explains that the businessman may also turn to friends and associates for ideas and suggestions. "This could be anyone in the community. Once the businessman has become a user of the setup, however, and has discovered the value of such information, he too becomes a contact point for other potential users." Crampon, Communicating Information, p. 30.

its value, he then became a "contact point" for other potential users. Crampon indicated that word of mouth advertising of this resource then becomes predominant. The essential elements needed within a storehouse system recommended by this author are listed as follows:

- 1) Convenient to user;
- 2) Located on a "regional basis;"
- 3) Relatively complete collection of business information aids;
- 4) Interagency loan system essential;
- 5) Information is available when needed;
- 6) Users aided in understanding resource value

Current KIES Communications Devices

Several information devices have been developed by KIES during the past two years to provide useful communications between the agency and its respective audiences. This section reviews and describes the media developed to date.

The Kansas Industrial Extension Journal

The Journal (Fig. 15) has been the primary communications tool for KIES in stimulating interest among Kansas industry in its program. It also serves as a vehicle to transfer technical information to its readers. A bi-monthly tabloid newspaper, the initial issue was published in January 1967. Since that time eleven issues have been published and distributed to more than seven thousand readers. The distribution list, which is maintained on IBM cards, includes such groups as registered

engineers in the State of Kansas, faculty personnel on the various state campuses, presidents and general managers of Kansas industries, all economic development personnel, bankers, financial institutions, printers and publishers, all newspapers and radio stations, TV-station managers, stockbrokers, and many of the Cooperative and Academic Extension personnel.

The basic purpose of the Journal is stated in its masthead as follows:

The JOURNAL is dedicated to informing Kansas industry and business of the latest advances in science and technology, advising on methods for using this information, and explaining how the universities and colleges in Kansas can be more effectively used in the growth of business and industry, both large and small.¹⁹

Each issue reviews specific educational classes offered by KIES, special listings of continuing education activities offered by the Academic Extension Program throughout the state, as well as summaries of technical articles and resources of potential value to the small industrialist and manufacturer. Other highlights include an editorial by the KIES Director, several columns on engineering and technology, library resources in the state, and specially prepared how-to-do-it feature stories. The last page of each issue is reserved for stories related to the Industrial Extension Liaison Representative Program. In addition, the "Reader Action Card" is used to invoke reader response

¹⁹The Kansas Industrial Extension Journal, vol. 2, No. 3, p. 2.

and requests for information offered in specific stories throughout the issue. Each story closes with a unique "Action box" giving the reader specific directions on the response he may initiate to follow up the information provided in the story.

The Tri-Pointer Newsletter

The Tri-Pointer newsletter (Fig. 16) was designed specifically for the Industrial Extension Liaison Program. It was an attempt to provide a short special report that would meet the specific communications needs of the KIES Director, and be read and acted upon by the Liaison Representatives. More than ten Tri-Pointers have been issued to date covering a diverse range of topics (Table II). Several of these Tri-Pointers have included questionnaires or requests for specific feedback on questions of interest to the KIES Director. Others have reported results of meetings with detailed minutes of the proceedings. More recently, they have been used to announce new workshops, conferences, and classes to the Liaison Representatives in advance of publication in the Journal.

KIES Bulletins

Studies have indicated that a great need exists in business and industry for information of the how-to-do-it variety. To meet this requirement in Kansas, a new publication has been proposed called the KIES Bulletin. This information service has been designed to satisfy the demand for practical specific guides on topics of value to the manufacturing industries in Kansas.

The first bulletin of the series, titled "Paper Testing and the Printer," has been prepared by a graphic arts specialist and is

currently being published. To be well documented and illustrated, KIES Bulletins will be designed to offer useful technical information in a highly readable form to manufacturing employees. In developing future bulletins, the KIES Director has encouraged knowledgeable authors and technical experts to prepare technical manuscripts for possible publication as KIES Bulletins. Future Bulletins will include such topics as dynamic tillage of soil, checklists for conducting a conference, and the Staff Corporation Concept.²⁰

Speak Out for Kansas Industry Conferences

In order to provide "face to face" contact with Company and Campus Liaison Representatives, several conferences have been held by KIES, called "Speak Out for Kansas Industry." These one-day meetings were designed to stimulate discussions between KIES and Kansas industry representatives, as well as to further define specific tasks and project interests for individual companies. These local meetings of representatives were designed to attract additional Company Representatives and describe KIES programs in continuing education and technical assistance of possible interest to companies located near a specific community. On several occasions, action items have resulted from the meetings requiring follow-up visits to develop continuing education programs or handle technical assistance calls.

²⁰The Kansas Industrial Extension Journal, Vol, 2, No. 4, August 1968, p. 5.

Other Methods

In addition to the aforementioned communication devices currently used by KIES, several less formalized methods have been used. These include an annual report and a variety of news releases to the mass media. During the past two years, news releases have been placed in papers throughout the state covering the activities of KIES (Fig. 17).

As with any government agency, an extensive amount of daily correspondence is prepared to interested persons throughout the state. An example, the KIES office processed more than three-hundred, fifty letters during one year to industries explaining the "Tri-Point Program" and the Liaison Program concepts. A great number of personal contacts also were made with industry personnel. Over a period of twenty-two months, for instance, the KIES Director visited eighty-seven companies to handle requests for information, technical assistance, or promotional visits.²¹

²¹Annual Report of State Technical Services Program for the State of Kansas, cumulative to June 30, 1967. Research Foundation of Kansas, Topeka, Kansas, August 30, 1967.

CHAPTER V

EVALUATION AND ASSESSMENT

The long-range program of KIES has been directed toward helping Kansas manufacturers and industrial firms improve their productivity by making better use of current technology from state and Federal sources in their operations. This goal, however, has been complicated by the unsophisticated state of most of the manufacturing industries in Kansas, as revealed by the surveys conducted during the course of this study. Much of the technical information available from Federal agencies (as well as from university sources) cannot be used by many Kansas employees. Many company personnel are unable to comprehend the technology when it is presented to them.

As the study progressed, it became evident that one of the primary needs, especially for the smaller companies, was to increase the general level of technical education among manufacturing employees. This seemed as important or perhaps of greater importance than evolving a comprehensive communications mechanism to transfer the technology that already exists.

This need was proclaimed by the KIES Director in a recent editorial which said in part:

The Kansas Industrial Extension Service, in attempting to fulfill its task of technology transfer, has concluded that technology will be transferred most successfully by dealing with the RECEIVERS OF TECHNOLOGY rather than by organizing a sophisticated and complicated information distribution

and dissemination system. Accordingly, the primary emphasis of KIES is on education and, more specifically, continuing education.²²

Any communication program designed to appeal to these needs must be tailored to the technical level of the respective company and the level of the Liaison Representative assigned to KIES. The "have-not" firms must be approached using communication techniques that are less theoretical and more practical with attention given to getting the right information to the right person at the right time ("Three R's of Information Dissemination"). Personal contact on a one-to-one basis will probably be the most effective. The more sophisticated firms (which employ at least ten percent of their work force as engineers) may be approached in a more indirect fashion, emphasizing more impersonal communication devices with a higher level of technical information at the outset.

This chapter reviews many of the concepts discussed previously. A variety of recommendations are offered relating to the development of a more effective communication program for the Liaison Representatives. It is proposed that the KIES program be viewed as a "marketing" effort where the challenge is to develop techniques to sell the product lines defined within the "Tri-Point Program," i.e., continuing education, information service, and technical assistance. A specific information service program is proposed using Crampon's "Storehouse of Information" concepts as well as service other communication devices which may be helpful in the further development of the STS Program.

²²The Kansas Industrial Extension Journal, Vol. 2, No. 4, August 1968, Editorial, "Is Technology Being Transferred?" p. 2.

The Marketing Approach

"Marketing is the distinguishing and unique function of a business. A business is set apart from all other human organizations by the fact that it markets a product or a service."²³

Although KIES is a non-profit organization, it is in the business of disseminating technical information. Consequently, the need to develop a marketing program to efficiently transfer technology to the Liaison Representatives is a necessary part of a successful transfer effort. Several products or services have been defined by the KIES Director which can be offered to the Liaison Representatives, or client firms, throughout the state. As noted, the KIES program offers three main areas of technical information service--namely continuing education, information service, and technical assistance (the "Tri-Point Program"). But, rather than viewing the KIES technical information program in broad generalities, a marketing program requires specific well-defined services that can be offered to potential customers. By viewing the three areas of the "Tri-Point Program" from a marketing perspective, it is believed a more practical strategy can be developed to achieve the goals of the STS Program. For, as noted by Staudt and Taylor, "The market holds veto power over the total enterprise."²⁴ Unless the services offered by KIES appeal to and satisfy a basic demand of the Liaison Companies, the KIES Program will not long endure.

²³ Thomas A. Staudt and Donald A. Taylor. A Managerial Introduction to Marketing, Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1965, p. 63.

²⁴ Ibid, p. 7.

KIES Service Lines

The three elements defined within the "Tri-Point Program" have excellent possibilities for further development into clearly defined services that can be offered to Kansas industry. This section reviews the areas of Continuing Education, Information Service, and Technical Assistance and suggests several tangible elements that can be used to form a marketable information service of value to Liaison Representatives.

Continuing Education Services

As noted previously, Kansas industry consists basically of two types of firms, the "haves" and the "have-nots." In developing an educational service, two types of classes or programs must be defined--one for technical companies who employ professional engineering and scientific personnel, and one for the less sophisticated firms whose educational needs focus on production programs.

A specific procedure recommended for the implementation of a continuing education program for Kansas firms, has been developed by the KIES Director, which makes use of a unique "continuing education formula." Figure 18 depicts a flow chart of the sequence of events required to establish a class for a company using the formula.

The formula uses an instructor, who is an employee of a local firm, and an experienced university professor to act as advisor and counselor to the class. These two persons are teamed up to conduct a specific technical class for manufacturing employees. This original plan was published in a recent issue of the Journal.²⁵

²⁵The Kansas Industrial Extension Journal, Vol. 2, No. 4, August 1968, p. 4.

Fees from the class are designed to generate at least fifty percent of the cost of conducting the class. KIES contributes the remaining portion through the STS Program. By brokering teaching talent from the universities and from industry, KIES establishes a flexible faculty on a short-term basis without incurring high overhead costs usually required for teaching personnel.

This continuing education program is one of the most tangible developments within the KIES program to date. For the first time KIES has defined a tangible service which can be "sold" to a Liaison Company through contractual agreement. But, this new service must be marketed like any other "product." Many of the same sales techniques used to sell commercial products can be applied to developing continuing education classes for industry using the continuing education formula approach. In addition to applying the formula to small companies, oriented to production-type classes, it can also be used for the more technical firms. With aggressive marketing management, KIES should also be able to develop many "in house" training programs offered by such large firms as the Boeing Company, Cessna Aircraft Company, Beech Aircraft Company, and Lear Jet. In some cases, the resources and faculty available within a nearby college of engineering may be better utilized than establishing a single university professor to act as class advisor and counselor.

Information Services

The Information Services area includes more diverse elements than development of continuing education classes for both large and small companies. Several communication devices already in existence can be used to initiate this package--such as the Journal, the Tri-Pointer,

KIES Bulletins, and the Annual Report. Also included are bibliographic searches for technical information requested from Liaison Representatives for their firms.

Selective Dissemination of Information System--The Selective Dissemination of Information System (SDI) proposed by the Iowa STS Program²⁶ also has application to the Kansas industrial environment on a limited basis. It was determined only the more advanced companies in the state would make use of this current literature retrieval service. However, such a service has utility, if offered at moderate cost, and should be developed further as part of the information marketing package for Liaison Representatives within the larger firms.

Additional Services--Several additional information services and communication devices should be defined by KIES. These services include a Speaker's Bureau for use by industry, an industrial technical film library, and a pilot educational television project for the Kansas ETV network. In addition, development of a video-tape recording studio, to aid continuing education instructors in preparing lesson plans, is another information service that could prove of real value to firms developing classes for employees. These additional information services will help round out the information services that can be developed for the representatives.

Technical Assistance Services

Getting technical information to a manufacturer when he needs it sometimes isn't enough. Often he doesn't have time or motivation to travel to a storehouse of information tailored to meet his needs. On

²⁶"SDI System," The Tri-Pointer, March 20, 1968.

other occasions, he may not have the knowledge or intelligence to interpret the data and apply it directly to his operation or to the solution of his question. In addition to establishing an information system that provides new technical data, an additional step may be needed. The manufacturer may have to be shown how to apply the new technology provided. This points up the need for the development of a third service area within the KIES Operation--a technical field service activity to round out the total technical information marketing program.

Several approaches can be taken in spite of limited budget and number of personnel in the KIES Office. The development of the Campus Liaison Representative Program is an example of what can be done. However, these professors have limited time available to devote to the program. They should be relied on primarily as a communications link to a Company Liaison Representative. If a professor has the time and technical capability, the opportunity to develop a contractual consulting arrangement with the company on a specific technical question also is possible.

Another approach to developing a technical assistance effort is to engage the part-time services of retired professionals as members of the staff. The KIES consultants should, of course, have background and education in the engineering or science fields. Although such technical consultants might not be current within their technical specialties, the smaller firms in the state could profit most from their services where education, experience, and maturity provide the most important assets to aid business operations.

Employment of a full-time field service staff, highly qualified in current technology of value to Kansas industry, would offer the best

solution to the development of this product line. Although this approach is expensive, highly-trained engineers and scientists would have the best capability to aid the large technically-oriented firms within the state. A compromise approach also should be considered by developing a KIES program of retired professionals on a part-time basis to develop a field service activity for the larger companies in the state.

Another alternative to obtaining personnel for an activity of this type involves the employment of qualified engineering professors on a half-time basis during the year. Experience with the STS Program to date indicates that affiliation on less than a half-time basis is not efficient or productive. This approach has much to recommend it; it has been successfully used by KIES in developing continuing education classes and by other STS offices in the United States.

The basic objective of the Technical Assistance Services is to provide more personal contacts for Kansas firms regarding the application of technical information in the classroom, library, or information center. Technical assistance personnel would establish contacts in the company, help Company Liaison Representatives define their problems, and then aid in referring the company to the proper resources to resolve the question. The technical assistance team would be designed to complement all the other KIES services offered. This function is probably one of the most important areas in the development of a successful technical information marketing effort, especially for the smaller companies. This staff should be considered the real "salesmen of technology" for the STS Program in the state.

KIES Service Offices

After defining the variety of services associated with KIES, development of a workable organization and staff are necessary. Figure 19 suggests the formation of three separate Service Offices (SO) reporting to the KIES Director to sell the variety of services defined within the industrial extension activity. These offices are:

- 1) Continuing Education Service Office;
- 2) Technical Assistance Service Office; and
- 3) Information Service Office.

As with any marketing office, the full details for developing and exploiting the full potential of a sales program should be contained in a comprehensive and descriptive "market plan." After each SO is staffed and functioning on a full-time basis, documents outlining proposed marketing effort should be developed for review and approval by the KIES Director. Approved elements would then be proposed to the KIES Advisory Board and to STS officials in future Annual Plans submitted by the Director each year to the U.S. Department of Commerce.

The preparation of a marketing plan is as vital to the marketing of technical information as it is to selling a commercial product line such as automobiles or boats. The format and content for each plan should be resolved by each SO head and the KIES Director. Certain basic elements may be standardized within each plan, with variations added depending upon the services offered and the segment of the market. In the development of the plan, however, each marketing manager should consider the following seven functions that must be performed in selling either products or services:

- 1) Market delineation;
- 2) Purchase motivation;
- 3) Product adjustment;
- 4) Physical distribution;
- 5) Communications function;
- 6) Transaction function; and
- 7) Post-transaction.²⁷

The marketing plan for each SO would provide a springboard to initiation of new programs, as well as to measure the effectiveness of services offered over a period of time. Each SO manager would establish specific market goals for special segments of the Liaison Program. Development of a program to meet the technical information needs of the Liaison Representatives and their respective firms is basic to the successful evolution of a KIES program.

Several elements included in this report are examples of planning procedures that might be included in a SO plan. These exhibits include such items as the continuing education formula for the Continuing Education SO, the storehouses of information concept for the Information Services SO, and the suggestion to establish a retired staff of technical consultants as outlined for the Technical Assistance SO.

²⁷Staudt and Taylor, p. 18.

Channels of Distribution

After clearly defining the types of services to be offered within the three proposed Services Offices, the next marketing consideration is the development of an accessible "distribution channel" to the Liaison Representatives.

The program of the U.S. Department of Agriculture and the Agricultural Extension Service (Coop Extension) provides an outstanding example of an effective program of information dissemination to the small businessman (farmer). A great variety of educational and informational aids are provided to the farmer through the County Agent. He operates at the local level and is the key instrument in disseminating data to the farmer and, if necessary, TEACHING him how to use it through field demonstrations and follow-up personal contacts. The County Agent, in this example, is the key "transfer agent" of the information to the requester. The County Agent is available to assist in interpreting the information to fit particular needs and he is available when the information is needed.

The County Agent's office is a recognized "information storehouse" where booklets, pamphlets, and brochures are stocked. It becomes the farmer's "library" and the agent might be considered the farmer's librarian for agricultural information. The agent is the key contact point between the USER (the farmer) and the Extension Service and the U.S. Department of Agriculture.

Trying to parallel this distribution network to serve local industry is much more complex. The needs of a manufacturer are too diverse and too heterogeneous to be able to develop only one contact point to satisfy all the needs and questions of a representative firm. The "storehouse of

information" needed to cover all the fields of interest of a typical manufacturer would require the establishment of a significant library.

Since the needs of the average manufacturer are so diverse, more than one "storehouse of information" is required to develop a distribution channel of real use to the Liaison Program. Figure 20 illustrates a "Source-User" diagram suggested for KIES utilization. This scheme clearly identifies a variety of storehouses that can be tapped by KIES to obtain information needed by Liaison Representatives. These storehouses include, but are not limited to:

- 1) Government sources;
- 2) County agents;
- 3) University extension services;
- 4) Colleges of engineering and commerce;
- 5) Adult education agencies;
- 6) Small Business Administration;
- 7) Vo-tech schools;
- 8) Junior colleges;
- 9) State and local libraries; and
- 10) Trade associations.

The studies conducted to date have indicated that Kansas businessmen prefer to consult handbooks, data files (internal), and periodicals as sources of information on which to base a business decision.²⁸ Use of trade and business associations, technical meetings, and personal contacts also were placed high on the list of methods used to obtain

²⁸ The Kansas Industrial Extension Journal, Vol. 1, No. 3, May 1967, p. 8.

information. In considering the implementation of a "storehouse" system, the current pattern of behavior exhibited by businessmen must be considered and used if possible.

Any storehouse of information that will be successfully used by the Liaison Representatives must be local and accessible when needed. The "Three-R's of Information Dissemination" is an important concept here. When Representatives ask KIES for specific technical information, the right information must be provided quickly to the right person in the company and at the right time. The reason businessmen prefer business associations, handbooks, or personal contacts is most probably associated with their availability when needed.

Libraries as Storehouses

Although a great variety of storehouses can be used by KIES as channels of distribution for its Service Offices, the most accessible resources reside within the extensive state and public library system. It is suggested that KIES develop this storehouse of information more extensively than the others.

As part of the marketing plan for the Information Services SO, a "Business/Industry Technical Information Service Center" could be developed within selected libraries in the state. KIES-assisted centers could be located in key areas throughout the state conveniently located for a group of Kansas firms affiliated with the Industrial Extension Liaison Program.

Selected libraries centrally located to most of the Liaison Representatives currently affiliated with the program are illustrated in Figure 21. Under this proposal, these libraries would be assisted by

KIES, either financially or through the employment of a full-time technical information specialist, to develop a collection of business information aids to meet the manufacturing needs of the region. A variety of government aids from the major research and development agencies could also be catalogued and made available upon request. The new Sweets Catalogue System, which is placed on film cartridges, could be offered in one or two library centers and promoted through KIES publications and through the mass media as a special service. The regional storehouses would also be tied together through an inter-library loan system which would give businessmen an opportunity to obtain any unclassified reference in the United States.

To further advertise this new resource, KIES should continue to sponsor workshops on the "Use of Technical Libraries" at each of these newly-designated library centers. Two library workshops have been successfully held by KIES to date--one at Watson Library in Lawrence and one at the Wichita Public Library. Although attendance was good with many favorable responses from the participants, a follow-up reference service has not been developed to take advantage of these industrial contacts. Extensive follow-up services could be offered with the local KIES librarian employed as part of the Information Service Program.

Most librarians would be enthusiastic in cooperating in the development of a formalized technical information program to aid local business and industry in their areas. Such services, directed toward the industrialist, are expanding daily throughout the state. One professional librarian stated:

Now as never before, libraries throughout the country are developing, expanding, exposing, and publicizing their

resources and services with an eye on the informational needs of business and industry.²⁹

All state libraries, for instance, located on college and university campuses, have extensive business and engineering collections of value to the businessman and manufacturer. Numerous handbooks, periodicals, texts, and government documents are offered. Several public libraries in the state, most notably the Wichita Public Library, offer a separate business and industry department with special services, facilities, and trained staff to service the informational needs of local industry.

Liaison Representatives will not seek out business information in a library unless it is readily available. Yet, new ideas, new techniques, new products, new methods, and new technology can be obtained through a Business/Industry Technical Information Service Center if a method can be developed to motivate the manufacturer to use these services. KIES must approach this problem with a marketing orientation. Educational and promotional efforts are required.

It is an educational process that should be approached from many angles, and is undoubtedly sufficiently important to warrant serious efforts. This can be done only by showing him how it will be of value to him in his business. The potential user (Liaison Representative) must be sold not so much on the informational aid itself but on the value that can be obtained by him through the use of this particular aid. The sales or educational problem is frequently over

²⁹Rose Vormelker, "Business Looks to Libraries," Advertiser's Digest, December 1958.

looked. Yet the disseminator is asking the potential user to expend something that may well be more valuable to him than mere money--his time, which is limited.³⁰

Trade Associations as Storehouses

The various trade and business associations throughout the nation are among the most active and complete sources of business information presently operating. In addition to this, it has been found that many businessmen are inclined to look upon these associations as their most important sources of information.³¹

The favorable attitude toward trade associations is a fact that has been established through the several KIES surveys conducted during the past year for Kansas industrialists. Within Kansas, several well organized and active trade and professional associations support the manufacturers in the state.³² In addition to these regional groups, many firms have members and employees associated with national professional associations that have local and regional chapters such as the Kansas Engineering Society, American Society of Engineering Education, American Society of Chemical Engineers, or the Graphic Arts Technical Foundation.

³⁰Crampon, p. 35.

³¹L. J. Crampon and S. F. Schweizer, "A Study of the Informational Needs and Problems of Small Businessmen." Small Business Management Research Report, February 1961, p. 19.

³²Western Kansas Manufacturers, Inc., 304 Highway 56, Dodge City, Kansas 67801; Associated Industries of Kansas, 870 Quincy, Topeka, Kansas 66612; and Central Kansas Manufacturer's Association, Hesston, Kansas 67062.

These larger associations also offer extensive information resources and professional trade publications which are used by members to keep abreast of new developments and changing technology. Numerous other services are offered by many associations including regional meetings, statistics, legal services, educational problems, and government relations.

Since the technical societies and business and trade associations are already established channels of communication and valuable storehouses of information, it is advisable to establish liaison relationships with the executives of these groups. A great variety of complimentary activities could be developed by KIES with the view to further augmenting technical services to industries in Kansas. Suggested liaison activities might include sharing mailing lists, joint participation in trade shows, attending association meetings, or providing KIES speakers. Assistance in developing a variety of continuing education programs for the membership within a group of companies might be the most fruitful joint endeavor. If an association published a journal or magazine, KIES news releases about joint activities should also be forwarded to the editor for possible publication.

Universities and Colleges as Storehouses

A wide variety of extension programs are offered to Kansas businessmen and industrialists seriously interested in up dating technical knowledge and improving specific management techniques (Table III). Almost every university and college has a continuing education or extension department dedicated to developing special classes, seminars, or workshops (usually during the evening) designed for businessmen. Most of

these are held in on-campus facilities. However, an excellent program of continuing education is carried on for Kansas businessmen by the Academic Extension Division of The University of Kansas. Dozens of classes are organized and held throughout the state each year on a wide variety of Technical and Business topics.

During the past year, KIES has developed several technology courses in cooperation with this agency; plans are underway to develop additional courses of interest to Kansas manufacturers.³³ Most participants enroll to increase their knowledge about a specific subject, such as computer programming, or to basically improve skills of management. While the KIES educational program is oriented to engineering and technical subject matter, plans should be formulated to develop and provide needed management and business type courses, such as "Tax Matters for the Small Businessman."

The University of Kansas also offers an extensive program of correspondence courses covering all types of subject matter of value to manufacturing employees and businessmen.³⁴

Feedback Provisions

In formulating policies and directing marketing activities, a marketing executive must be adequately informed not only about his company's operations, but also about the market for his products.³⁵

³³ See Goal No. 3 of Table I for a listing of classes sponsored by KIES.

³⁴ Information on course offerings is available by contacting the Director, Academic Extension, 645 North Hampshire Street, Lawrence, Kansas 66044.

³⁵ E. W. Cundiff and R. R. Still. Basic Marketing, (New Jersey) 1964, p. 68.

A vital element of any "market-communications system" or distribution channel is the provision for feedback of information from the Field or Liaison Representative to the various SOs. Feedback communication devices, either written or verbal, are necessary so that the KIES program can be adjusted to meet the need of the client firms on a continuing basis. The marketing manager of a SO should devise several built-in "sensing devices" in his marketing plan to permit a two-way flow of communications between the headquarters and the representatives throughout the state (Fig. 22). Information related to the needs of manufacturing firms can be obtained by informal conversation with the representatives, by scanning industrial reports and publications, or by more formal methods such as reviewing company records, operating statements, sales, or production records. Both formal and informal information gathering methods should be used in the feedback system.

The provision of feedback in the KIES communications system permits the SO marketing manager to determine if his message or service has been understood, used, or produced the intended response in the Liaison Representative who receives the information. In certain communications media, such as newspapers or magazines, this feedback or sensing device is designed into the message itself. The Journal, for instance, uses coupons and a Reader Action Card to obtain a reply or response from the reader.³⁶

Several communication devices are suggested as examples of the type of medium that can be developed by a marketing manager.

³⁶The Kansas Industrial Extension Journal, Vol. 1, No. 1, January 1967, p. 8.

Visit Report

Upon completion of a field visit by a Liaison Representative, a "Visit Report" could be completed and submitted to the marketing manager or KIES Director (Fig. 23). This report can be reviewed and filed in the company folder for reference and follow-up action. The suggested format of the report can be expanded depending on the communication needs of the reporter. Such a device would be used by a Company Liaison Representative who visits his counterpart representative on a college campus to learn more of university resources. With this type of information flowing into the SO, the manager can keep abreast of the developing "Tri-Point Program" for a company and initiate appropriate action to assist the representative at the right time.

Class Evaluation Questionnaire

To obtain reaction regarding the value of a continuing education class, the Continuing Education SO needs a response from the participants of each KIES-sponsored class. Figure 24 is a questionnaire used in KIES sponsored classes. For other offerings, individual questionnaires may be designed to obtain responses from students of special interest. Based on an analysis of the replies, the marketing manager will be in a better position to improve future programs or offer new classes of direct benefit and interest to company employees.

Technical Information Utilization Questionnaire

A third type of sensing device is suggested for use by either the Information Service SO or the Technical Assistance SO depending upon the nature of the service provided to a Liaison Representative (Fig. 25).

While the response to an information service can be obtained through personal conversation during a field visit, obtaining a written reaction can assist the SO head to prepare project reports, develop future services, provide for follow-up field contacts, or obtain a history of the relationships established with client firms.

Journal Questionnaire

Every communicator needs response from his readers. Appendix B is a feedback device to assist the Information Service SO to determine the effectiveness of the Journal as a communications media for the Industrial Extension Program. Such a survey should be conducted every three years by the editor to keep alert to the interests and needs of his readership, the value of the media, its readability and need for change or modification.³⁷

Management and Motivation of Liaison Representatives

The task of developing an effective relationship with Liaison Representatives is similar to the challenge a marketing manager faces in managing a sales force.

To accomplish the objectives of any marketing program, several basic tasks are required:

- 1) Selection of representatives;
- 2) Training on the job;
- 3) Intelligent job assignment; and
- 4) Provision for motivating the sales force.³⁸

³⁷Crampon suggests that a three-year lapse in time between such checks is preferable. Crampon, Communicating Information, p. 70.

³⁸Staudt and Taylor, p. 432.

Selection of Liaison Representatives

In the Liaison Program, the KIES Director depends on a company and a university to nominate a representative to KIES. An effort should be made at this initial step to determine the characteristics, background and education, and interests of each nominee. Development of a complete personal background data file, including biographical sheet and photograph, for each representative will greatly aid in the "matching" process of Campus Representatives with Company Representatives. This selection phase is a vital one since persons with compatible personalities (similar interests and technical backgrounds) should be paired if possible. Determining the "attitudes" of the respective representatives will also be useful since the most productivity from the relationship will result if like personalities are teamed up--each of whom possesses "innovator" or "early adopter" qualities. Although this is difficult to determine, a professor who falls into a "laggard" category will have great difficulty in communicating with a Company Representative who is an "innovator" in his approach to the needs of his company. In a relationship of this type, only frustration or antagonism will result in the development of a "Tri-Point Program" for the company.

Training and Orientation

To date only a minimum effort has been expended by KIES in orienting and training each representative about functions or opportunities for developing a "Tri-Point Program" for their firms. Several new communication devices are suggested to amplify the communication tools now used for the respective representatives.

General Orientation Materials

Upon the initial appointment to the KIES program, both the Campus and Company Liaison Representatives should become aware of their respective needs and areas of technical interest. Personal visits to the facilities probably will accomplish this interchange most successfully. However, each representative would also benefit from an exchange of publications and information materials. For instance, the Campus Representative should be placed on the mailing list to receive the company's newspaper or house organ, copies of product brochures, marketing brochures, and annual report. Periodically, he should be invited to attend the meetings of local trade associations, or professional society meetings in which the Company Representative is a member. In turn, the Company Representative can benefit from information forwarded from the university. Such materials might include:

- 1) Annual research reports from the engineering and agricultural experimental stations;
- 2) Selected editions of the campus newspaper;
- 3) Special engineering and science brochures on educational or research activities;
- 4) Copies of special news releases of technical interest; and
- 5) Other publications and materials recommended by the Campus Representative.

Periodically the Campus Representative should invite his counterpart to campus professional meetings, research institutes, or student seminars to become more intimately acquainted with university educational and research activities. Another orientation assignment that

could easily be delegated to the Campus Representative is to assist the Company Representative to develop a useful technical or business "Working Bookshelf" within the firm. The need for this type of information assistance would exist primarily with the smaller firms.

Journal Article Reprints

Other useful training materials for the Liaison Program could be developed to explain the philosophy and operation of the STS Program in Kansas. This philosophy, as well as many of the problems associated with the transfer of technology to Kansas companies, have been published during the past year in Journal articles and editorials. A set of selected reprints of these articles in bound form could be printed, using the offset reproduction method. With an appropriate cover design, this publication would have value for the Liaison Representatives as well as for general public relations distribution.

Liaison Program Fact Sheet

Appendix C is suggested as a fact sheet to explain the background of the KIES program as well as the specific functions expected of new Liaison Representatives. A formalized Liaison Representative Appointment Application is included in the rear of the fact sheet so that new representatives may affiliate with the KIES Program.

Initially this fact sheet should be published as a Tri-Pointer. If found useful, it could then be developed into a more formal and colorful brochure (Appendix D).

KIES Brochure

Many Kansas companies now receive copies of the Journal which reviews current KIES activities. The program has developed at such a rapid rate, however, that obtaining an accurate and comprehensive impression of the overall program is difficult. Consequently, development of a separate and descriptive brochure explaining the overall purpose and activity of KIES would be a needed communications device.

Developing a "Tri-Point Program"

An approach that might be useful to the Liaison Representatives in developing a working relationship with each other is suggested in Table IV. Titled the "ABC's of Developing a 'Tri-Point Program'," it suggests a procedure for generating a KIES program within a company. Specific recommendations to the representatives are offered regarding functions to accomplish. In this case, the functions are oriented toward developing continuing education classes. Additional procedures might be developed to emphasize information services or technical assistance projects.

Information Kit

As a final suggestion in the training and selection of Liaison Representatives, all orientation materials can be made a part of a KIES Liaison Program Information Kit. The various brochures, fact sheets, and handouts related to KIES or the Liaison Program should be contained in the pockets of a folder and forwarded to representatives as needed. Figure 26 illustrates a suggested design.

Motivation and Incentives

After a good working relationship has been established between the representatives, KIES must be concerned with motivating the representatives to spend the time and effort to develop specific projects related to the "Tri-Point Program." Motivational factors that can be used depend upon the individual representative and the company environment. The basic motivational factors that stimulate employees during their working hours are as follows:

- 1) Personal gain (money, power, prestige);
- 2) Desire for praise and recognition;
- 3) Avoidance of monotony and boredom;
- 4) Pride (job satisfaction);
- 5) Fear and worry;
- 6) Desire to be needed;
- 7) Love of family; and
- 8) Conscience (obligation to others)³⁹

These needs vary, of course, from representative to representative. But, designing one or more of these incentives into the Liaison Program will provide the needed stimulation to develop a successful "Tri-Point Program" for the company.

For instance, in the Campus Liaison Program several elements might be added to the program to appeal to a busy professor's need for personal gain or desire for praise and recognition. As a result of participation in the Liaison Program, a Campus Representative might receive personal

³⁹Richard E. O'Brien. "A Study of the Information Gathering Techniques of the Small Businessman (Manufacturing)," 1964. Small Business Management Research Report, p. 28.

recognition at a KIES-sponsored Awards Dinner at the end of the year. KIES could present a plaque to the "Outstanding Campus Representative" with attendant news coverage and expressions of appreciation. The same type of recognition could also be given to Company Representatives. These awards could be given to representatives who develop the most extensive and creative "Tri-Point Program" for their respective organization.

Such considerations are most important to the long-range success of this cooperative effort between the universities and colleges in Kansas and KIES. The dean of the respective college, as well as the individual department head, must be convinced that the KIES program is worthy and prestigious. Many professors who view the Liaison Program with favor must ask themselves: "If I devote my extra time and effort to an educational extension activity in Kansas instead of conducting research, what will my Dean think?" or "What is more important to my career--getting my research published in professional journals or conducting an extension class for a group of Kansas manufacturers?" Providing an honest and realistic answer to these questions is vital if KIES is to motivate the number of representatives needed.

This same realistic approach should be taken with company employees who volunteer for the program. KIES must answer the same type of inquiry: "How does the company profit by participating in the program?" and "What do I get out of it as an employee?"

If elements of the "Tri-Point Program" help the company to earn a greater profit, for instance, the company will be predisposed to designate an employee as a representative and cooperate in the development of an

educational project for the company. How much thought and effort the Liaison Representative devoted to the task will depend on the rewards or expectation of rewards he will obtain for his company and for himself.

CHAPTER VI

CONCLUSIONS

The STS Program provides a new and challenging opportunity to help industry in the state to help itself.

Although the establishment of the Liaison Representative Program is an important accomplishment in the KIES program to date, it is only part of an evolving industrial extension plan. The management of the organization must now become more "marketing oriented," regarding the fulfillment of the prescribed mission, i.e., transferring technology into local manufacturers. Establishing three specific Service Offices within KIES which correspond to the three basic elements of the "Tri-Point Program" is suggested:

- 1) Continuing Education Service Office;
- 2) Information Service Office; and
- 3) Technical Assistance Service Office.

In staffing these areas, the SO managers should be "sales" oriented, as well as possessing engineering or technical experience and an ability to get along with people at all levels. In addition to strong central management from the Director's office, an active and aggressive field service activity, developed within the Technical Assistance area, is vital to the overall success of the program. Until full-time KIES personnel can be hired, further development of the Liaison Representative Program is necessary. However, greater attention must be directed toward developing marketing incentives for these representatives and developing better management and communication techniques within the program if desired

results are to be obtained. The Liaison Program should be viewed as a channel of communications into the companies and used by all the SOs.

It is impossible for KIES to provide information and technical assistance to all four thousand Kansas manufacturers due to lack of staff and funds. The only practical approach is to initiate an educational program among the selected Liaison companies who have identified themselves to KIES. All the resources of the three Service Offices can then be brought to bear to help the company to learn to help itself. New technology introduced into the company through the Liaison Representatives must be learned and retained by the employees of the firm, so that it can be used when needed without assistance from sources outside the company.

The author believes that the foundation to building a successful KIES program rests on improving the areas of market planning and market communications. The several suggested communications devices, including a "storehouse of information" concept, are aimed at developing the greatest communications impact at the "point of sale" or within the local company environment. Implementation of these concepts will provide an improved flow of communications on which to base important "marketing-type" decisions in the coming months.

Much additional planning and work lies ahead for this pioneering organization. The challenges facing KIES in Kansas can be summarized in the words of another author who describes the environment of the small businessman:

The overall picture presented by the small businessman with reference to his use of information is generally one of inadequacy. He makes inadequate use of the information

available; he has inadequate knowledge of his own problems; he has inadequate knowledge of the information which might assist him in the solution of his problems; and finally he has an inadequate understanding of the potential value and place of information in the total business picture.

He tends to see one part to the exclusion of others. He oversimplifies his own operation. He tends to see his problems in terms of simply needing more customers or a better location or less competition. It is the exceptional small businessman who recognizes that the core of his problems may be managerial rather than accidental.

Thus, it would appear that if the small businessman is to be helped to any major extent, he must first be convinced of the existence of a problem; second that assistance is available; and third he must be taught to make proper use of the information itself. And intertwined in all three of these needs is the basic need for more effective channels of communication to (and from) the small businessman.⁴⁰

⁴⁰Crampon and Sweiser, p. 113.

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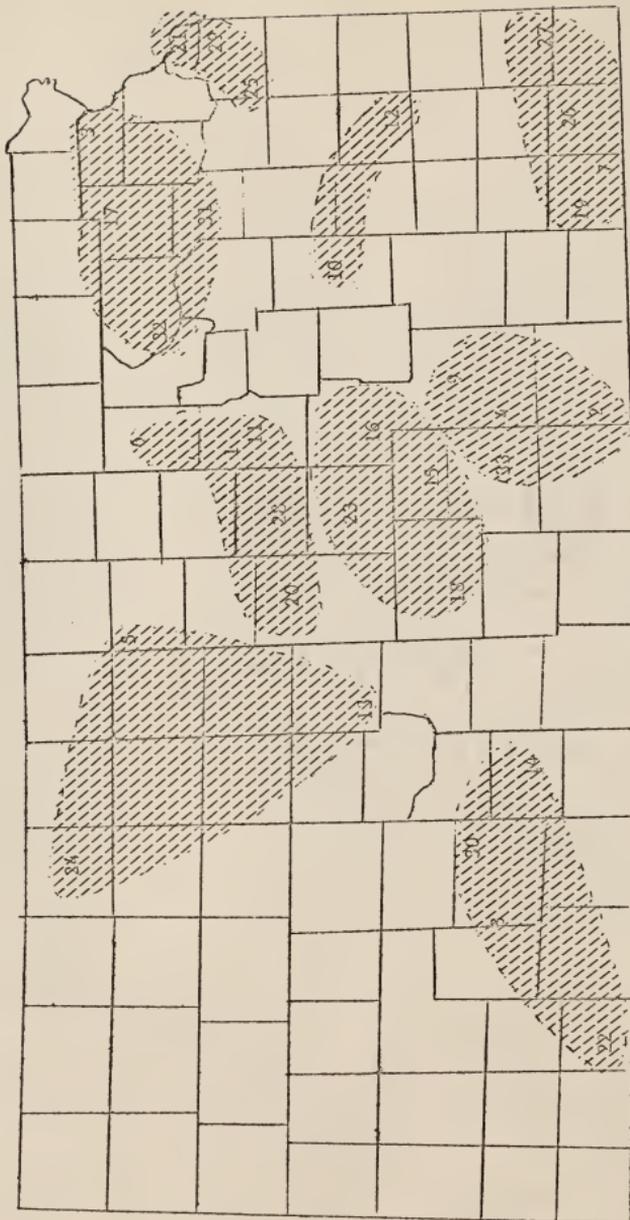
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APPENDIX A

MAP AND LISTING OF CURRENT
COMPANY LIAISON REPRESENTATIVES

LOCATION OF INDUSTRIAL EXTENSION REPRESENTATIVES IN KANSAS--JUNE 1968



NUMERICAL LOCATION KEY

- | | | |
|------------------|------------------|---------------------|
| 1. Abilene | 14. Greensburg | 27. Pittsburg |
| 2. Arkansas City | 15. Hesston | 28. Salina |
| 3. Atchison | 16. Hillsboro | 29. Shawnee Mission |
| 4. Augusta | 17. Holton | 30. Spearville |
| 5. Cawker City | 18. Hutchinson | 31. Topeka |
| 6. Clay Center | 19. Independence | 32. Wamego |
| 7. Coffeyville | 20. Kanopolis | 33. Wichita |
| | 21. Kansas City | |
| | 22. Liberal | |
| | 23. McPherson | |
| | 24. Norton | |
| | 25. Olathe | |
| | 26. Parsons | |

COMPANY LIAISON REPRESENTATIVES

October 30, 1968

Acme Brick Company in Kanopolis
Mr. Jim Clemans, Div. Sales Mgr.
6001 Manchester Trafficway
Kansas City, Missouri 64130

Acme Foundry and Machine Company
Mr. Jack Brooks
1502 Spruce
Coffeyville, Kansas 67337

American Petrofina Co. of Texas
Mr. Ken Suitor, Superintendent
Rural Route 4
El Dorado, Kansas 67042

American Products, Inc.
Mr. Richard Hornung, Eng. Dept.
P. O. Box 337
Spearville, Kansas 67876

Ankortite Company, Inc.
Mr. Warren Welch
P. O. Box 768
Parsons, Kansas 67357

Associated Industries of Kansas
Mr. Richard Hunter, Exec. Dir.
820 Quincy
Topeka, Kansas 66612

Augusta Unit Step Co., Inc.
Mr. Graydon Triple
P. O. Box 97
Augusta, Kansas 67010

Balderson, Inc.
Mr. C. D. Huggins, Controller
Wamego, Kansas
66547

Barkman Honey Company, Inc.
Mr. Eldon J. Brandt, Gen. Mgr.
Highway 56 East
Hillsboro, Kansas 67063

Barnes Manufacturing Company
Mr. William F. Barnes
117 North Gordy
El Dorado, Kansas 67042

Beech Aircraft Corporation
Mr. E. E. Ulery, Staff Asst. Ad.
P. O. Box 300
Liberal, Kansas 67901

Beech Aircraft Corporation
Mr. Cy R. Jones
9709 East Central
Wichita, Kansas 67201

Big Well Industries, Inc.
Mr. Clarence O. Jenkins, Pres.
1015 East Kansas Avenue
Greensburg, Kansas 67054

The Boeing Company
Mr. Willis E. Meyer, 2-M
3801 South Oliver
Wichita, Kansas 67210

The Bradbury Co., Inc.
Mr. Karl Voth
P. O. Box 67
Moundridge, Kansas 67107

Business Data Research Inc.
Mr. Charles J. Thayer, Pres.
1401 Fairfax Trafficway
Kansas City, Kansas 66115

The Carey Salt Company
Mr. Rune W. Johnson, Personnel Dir.
P. O. Box 1728
Hutchinson, Kansas 67501

Century Plastics, Inc.
Mr. E. S. Schmidt, President
P. O. Box 789
El Dorado, Kansas 67042

Certain-teed Plastics
 Mr. John Heidebrecht
 500 West First
 McPherson, Kansas 67460

Cessna Aircraft Company
 Mr. Ed Doherty
 P. O. Box 1028
 Hutchinson, Kansas 67501

Chamber of Commerce/Independence
 Mr. A. S. Jones
 P. O. Box 386
 Independence, Kansas 67301

Childs Manufacturing Company
 Mr. Kenneth Spring
 1100 South Denver
 El Dorado, Kansas 67042

Coca Cola Bottling Company
 Mr. Ronald Richardson
 1501 North Penn
 Independence, Kansas 67301

Coffeyville Journal
 Mr. Robert L. Prart, Manager
 Coffeyville, Kansas
 67337

Coffeyville Packins Co., Inc.
 Mr. Larry Fischer
 Coffeyville, Kansas
 67337

Cooley's Art & Statuary Mfg. Co.
 Mr. King Cooley
 Rural Route 3
 Augusta, Kansas 67010

Cudahy Packing Company
 Mr. R. H. Turner, Ind. Rel. Mgr.
 2200 North Broadway
 Wichita, Kansas 67208

Didde-Glaser, Inc.
 Mr. Dan C. McClenny, Admin. Dir.
 1200 Graphic Arts Road
 Emporia, Kansas 66801

Eagle Printing & Lithographing
 Mr. Jack Mahan, Production
 310 Pattie Avenue
 Wichita, Kansas 67211

Egan Manufacturing Company
 Mr. Blain Egan
 306 South Main
 El Dorado, Kansas 67042

J. B. Ehrsam & Sons Mfg. Co.
 Mr. John Mann
 Enterprise, Kansas
 67441

J. B. Ehrsam and Sons Mfg. Co.
 Mr. Fred Kohman, Asst. Chief. Eng.
 Third and Cedar
 Abilene, Kansas 67410

Excel Industries
 Mr. Duane Graham
 Hesston, Kansas
 67062

Garnett Church Furniture Co.
 Mr. Merritt McDonald, Finish Dept.
 P. O. Box 388
 Garnett, Kansas 66032

General Electric Company
 Mr. D. E. Gaschler, Manager
 P. O. Box 797
 Arkansas City, Kansas 67005

Gilmore and Tatge Manufacturing
 Mr. Merwin Gilmore
 410 Prospect
 Clay Center, Kansas 67432

Goodyear Tire & Rubber Company
 Highway 24,
 Topeka, Kansas
 66601

Haver-Lockhart Laboratories
 Mr. Warren A. Huff, Personnel Mgr.
 12707 West 63rd
 Shawnee, Mission, Kansas 66201

Hayes Tool and Die Company
Mr. James W. Hayes, Jr.
P. O. Box 94
Olathe, Kansas 66061

Henry Manufacturing Co., Inc.
Mr. Rodney D. Humphreys
P. O. Box 521
Topeka, Kansas 66601

Hesston Corporation
Mr. Nelson Galle, Emp. Rel. Mgr.
Hesston, Kansas
67062

Hutchinson Div. Royal Industries
Mr. Leon B. Mugler, President
P. O. Box 33
Clay Center, Kansas 67432

Jackson County Schools
Mrs. Corinne Richard, Super.
Box 167, Route 3
Holton, Kansas 66436

Kansas Emulsions, Inc.
Mr. Harold Muncy
P. O. Box 1264
El Dorado, Kansas 67042

Kansas Paint & Color Company
Mr. George W. Corcoran, President
132 North Mosley
Wichita, Kansas 67202

Kice Metal Products Company
Mr. Jack Kice
2040 South Mean Avenue
Wichita, Kansas 67211

King Radio Corporation
Mr. Richard G. Johnson
P. O. Box 106
Olathe, Kansas 66061

Kuhn-Neuschaefer Inc.
Mr. John Williams
P. O. Box 1404
Salina, Kansas 67401

Lear Jet Corporation
Mr. Kenneth Ferrell, Ind. Rel. Dir.
P. O. Box 1280
Wichita, Kansas 67201

Loadcraft Division of Allied Prod.
Mr. Don Bower
Augusta, Kansas
67010

Lyons Manufacturing Co., Inc.
Mr. Eldon Schierling, Prod. Mgr.
711 East Main
Lyons, Kansas 67554

Main Electronics
Mr. Dennis Main, President
353 Pattie Avenue
Wichita, Kansas 67211

McNally Pittsburg Mfg. Corp.
Mr. Mayfield Lewis, Dev. Engr.
P. O. Drawer D
Pittsburg, Kansas 66762

Mid-Central Manufacturing Co.
Mr. C. L. McGinty
1426 West Sixth
El Dorado, Kansas 67042

Midland Industries, Inc.
Mr. Louis E. Weiss
8219 West Irving Boulevard
Wichita, Kansas 67209

Mid-West Conveyor Company, Inc.
Mr. Charles M. Heizer, Engr.
450 East Donovan Road
Kansas City, Kansas 66115

Midwest Industry Magazine
Mr. Bob Roter, Managing Editor
4125 Gage Center Drive
Topeka, Kansas 66604

Mobil Oil Corporation
Mr. W. W. McMullen, Manager
Augusta, Kansas
67010

New Age Industrial Corp. Inc.
Mr. Glen E. Brinkman
Rural Route 2
Norton, Kansas 67654

Northern Natural Gas Company
Mr. Elmer J. Taylor, Personnel Admin.
P. O. Box 1319
Liberal, Kansas 67901

Oil Hill Industries, Inc.
Mr. Burton Bowlus
P. O. Box 6
El Dorado, Kansas 67042

Page Milk Company
Mr. Elton Weeks
Coffeyville, Kansas
67337

Panhandle Eastern Pipeline Corp.
Mr. Howard Frankel, Emp. Devel.
P. O. Box 1348
Kansas City, Missouri 64141

Persky Iron and Metal Company
Mr. Nathan Persky
501 South Twentieth
Independence, Kansas 67301

Precision Contours, Inc.
Mr. Noel F. Depew, President
4310 Southeast Boulevard
Wichita, Kansas 67210

Richardson Manufacturing
Mr. Bob Richardson, President
P. O. Box 5
Cawker City, Kansas 67430

Rockwell Manufacturing Company
Mr. Alan G. Linley, Chief Metal.
Atchison, Kansas
66002

Seeber Manufacturing
Mr. Harlan Seeber
P. O. Box 813
El Dorado, Kansas 67042

Sherwin-Williams Company
Mr. R. L. Capps
P. O. Box 855
Coffeyville, Kansas 67337

Simlo Manufacturing
Mr. Francis Sutton
1709 Carolyn Avenue
Clay Center, Kansas 67432

Sinclair Pipe Line Company
Mr. J. A. Jackman
Sinclair Building
Independence, Kansas 67301

Skelly Oil Company
Mr. Harley Speight, Mgr. Ind. Rel.
P. O. Box 1121
El Dorado, Kansas 67042

Speed King Mfg. Co., Inc.
Mr. L. A. Utley
P. O. Box 550
Dodge City, Kansas 67801

W. P. Stark Lumber Co., Inc.
Mr. W. P. Stark, Jr., President
Fairfax Industrial District
Kansas City, Kansas 66115

Tradewind Industries, Inc.
Mr. Leonard E. Wright, Pres.
P. O. Box 96
Liberal, Kansas 67901

Traf-O-Teria System
Mr. Jim Greenbank
124 South Gordy
El Dorado, Kansas 67042

Union Tank Car Company
Mr. Rolland B. Evans
P. O. Box 511
El Dorado, Kansas 67042

Universal Atlas Cement
Mr. A. H. Zimmerman
P. O. Box 428
Independence, Kansas 67301

Vulcan Materials Company
Mr. G. A. Robbins
P. O. Box 545
Wichita, Kansas 67201

Walnut Valley State Bank
Mr. C. W. Stone, President
P. O. Box 1160
El Dorado, Kansas 67042

Western Kansas Manufacturers Inc.
Mr. Herbert Greenstreet
304 Highway 56
Dodge City, Kansas 67801

Western Power and Gas Company
Mr. Jim Oliver
P. O. Box 170
Great Bend, Kansas 67530

Westholt Manufacturing, Inc.
Mr. D. E. McFarland
P. O. Box 1714
Wichita, Kansas 67201

Westinghouse Electric Corporation
Mr. John Laughlin, Engr. Supr.
P. O. Box 918
Salina, Kansas 67401

Whelan's, Inc.
Mr. Fritz Toussaint
715 East Fourth
Topeka, Kansas 66601

Wyatt Manufacturing Co., Inc.
Mr. Harold Westberg
500 West Fifth
Salina, Kansas 67401

APPENDIX B

THE KANSAS INDUSTRIAL EXTENSION JOURNAL

QUESTIONNAIRE--FEEDBACK DEVICE

THE TRI-POINTER

Dear Company Liaison Representative:

As you know, KIES relies on Liaison Representatives to provide a two-way channel of communications concerning needs of Kansas industry. We are interested in determining how KIES can best fulfill the needs of Kansas industry in coverage and types of stories published in The Kansas Industrial Extension Journal. During the past year, a variety of articles has been carried. But, are we succeeding? The only effective way we have of measuring the satisfaction of our readers is through letters and "Action" coupons. However, vague impressions of your interests and needs are only opinion and not fact.

Would you take a few minutes and assist me by responding to the questions on the enclosed Journal Questionnaire? Just check or fill in the blanks where indicated, fold, and mail to:

Managing Editor
The Kansas Industrial Extension Journal
125 Seaton Hall
Kansas State University
Manhattan, Kansas 66502

A copy of the latest issue was recently mailed to you for your review; an extra copy is enclosed for your convenience.

Your assistance will help us to better define our objectives and aid us in developing an effective information services program for Kansas industry.

Very truly yours,

Dean R. Kenny
Managing Editor

DRK:kw

Enclosure

THE KANSAS INDUSTRIAL EXTENSION JOURNAL

Questionnaire

Name _____ Title _____

Company name & address _____

Years employed _____ Employed as _____

Job specialty _____

Number of employees in company _____ Marketing region _____
(regional, national)

1. Have you read other issues of the Journal prior to the one enclosed?
 yes, no. Which ones? _____
2. How familiar were you with KIES before reading the Journal? Not at all, very little, some, quite a bit, great deal.
3. What other newspapers and publications do you read on a regular basis?
 Wall Street Journal, Kansas City Star, Kansas City Times,
 Wichita Eagle, Topeka Capital, Other (specify) _____

4. Did you respond and clip the Reader Action Card on page 8 of this issue? yes, no.
5. Which items did you request (specify) _____

6. Who else looked at your copy of the Journal? no one, other employees, friends, others (specify) _____
7. What did you do with your paper? gave it to someone else, kept it, threw it away, other (specify) _____

8. Would you like other copies of the Journal sent to someone? yes, please send to _____

 no.
9. How much help would you say the Journal is in acquainting you with KIES? none, very little, some, quite a bit, great deal.
10. Is the Journal a paper of professional quality? yes, no.
11. Would you like the Journal to be published more often? yes, no. If yes, how frequently? _____

12. To aid the Managing Editor in planning future editions, I would advise him to decrease the number of pages, increase the number of pages, increase the quantity of information, discontinue the paper, other (specify) _____
13. Do you like the size of the Journal? yes, no. If no, what size do you prefer? _____
14. Please list information you desire about KIES that is not covered adequately in the paper. _____

15. Which articles did you like in particular in the enclosed issue?

16. Which articles did you dislike in the enclosed issue? _____

17. Do you object to clipping and cutting your paper? yes, no.
18. Are you familiar with the KIES "Tri-Point Program?" yes, no.
19. Do you feel the Journal provides a good reference for information resources to aid you in your business? yes, no.

20. In general, I find the Journal very interesting, interesting, not very interesting.
21. List three features or types of articles you read and enjoy most in the Journal _____

22. Which of the following sources do you use to locate the information you need? handbooks, company data files, periodicals, books, data centers, library, // vendor catalogues, colleagues, experts in the field, government sources (specify) _____

23. In what format is technical information usually found? printed article, book, loose sheets, microfilm, computer printout, other (specify) _____
Circle the one format listed above that you prefer.
24. Do you use university or college libraries? frequently, occasionally, seldom, not at all.
25. Have you used material from the Clearinghouse for Federal Scientific and Technical Information? yes, no.
26. Does your company maintain a library/reference center? yes, no.
27. How do you maintain competence in your specialty area? technical journals, trade journals, seminars and courses, technical society meetings, personal contacts, other (specify) _____

28. Would you make use of a "Speaker's Bureau" which included qualified professionals in technical areas? yes, no.
29. Do you know about the research and technical resources available in Kansas colleges and universities? yes, no.
30. Comments: _____

APPENDIX C

INDUSTRIAL EXTENSION LIAISON PROGRAM

FACT SHEET

AN INVITATION TO JOIN

The Industrial Extension Liaison Program

...in bridging the communications gap between the universities and manufacturing firms of Kansas.

...in extending the research and resources from the campus to industry and commerce in Kansas.

The Industrial Extension Liaison Program

What Is It?

The Industrial Extension Liaison Program, sponsored by the Kansas Industrial Extension Service (KIES), is designed to provide an effective channel of communications between Kansas industrial firms and the state institutions of higher learning.

To further relationships between Kansas universities and manufacturing firms, KIES invites representatives from companies as well as state universities to participate in the program by being designated as "Company Liaison Representatives" and "Campus Liaison Representatives" of the Industrial Extension Service.

Objectives of KIES

The Industrial Extension Service, headquartered at Kansas State University, serves as an arm of the Extension Commission of the Board of Regents, which administers and operates the State Technical Services Program of the Department of Commerce.

One of the primary goals is to develop a continuing education and technical assistance program in which the resources of Kansas universities and colleges are made more available to industry and business. KIES also has the mission, under the State Technical Services Act, to disseminate the massive amount of research information and data which has accumulated in government research programs over the past 25 years.

Transferring this technology effectively, however, required a pipeline of communications between an industrial user and a technical expert. The Industrial Extension Liaison Program, consisting of

company personnel with counterparts on university staffs, was designed specifically to "bridge the gap" from research activity to industrial user.

Services offered to Kansas business, industry, and commerce are being developed by these representatives in three major activities, called the "Tri-Point Program" of KIES. These areas are

- 1) Programs of continuing education;
- 2) Technical assistance programs; and
- 3) Technical information and transfer of technology services.

This program offers a fertile opportunity for mutual cooperation between higher education institutions and Kansas industry and commercial firms.

Benefits of Affiliation

Participation in the Liaison Program can mean many things to Kansas firms as well as educational institutions.

A major benefit of the program is the encouragement of frequent, face-to-face communications which can stimulate new ideas and exchange of technical and business information between industry and university representatives.

The Liaison Program can open avenues of commercial interest and provide a way for university and industry personnel to keep in touch with their counterparts engaged in work similar to their own.

Cooperative education programs initiated under the program are as varied as the types of business or industry and the interests of the Liaison Representatives. Representatives are free to focus on engineering

and scientific areas of mutual interest and concern and develop activities within the "Tri-Point Program" of KIES. Freedom and flexibility are the keynote elements in initiating specific cooperative projects.

Universities reap special benefits from industrial contacts. Interest in industry-related research can be stimulated as the result of discussions with industrial scientists. Often a fresh viewpoint can be brought to bear on areas of industrial concern, stimulating a cross-fertilization of ideas between the industrialist and the campus professor.

What Does KIES Contribute?

To provide continuing communication between participants in the program, the following materials and services are supplied by KIES:

- 1) A bi-monthly newspaper, The Kansas Industrial Extension Journal, informs Kansas industry and business of the latest advances in science and technology, advises on methods for using this information, and explains how the universities and colleges in Kansas can be more effectively used in the growth of business and industry. The Journal contains information on results of research and development projects performed by the state and Federal government, and announces a wide variety of classes and short courses that are available to business and industry in Kansas.
- 2) A periodic newsletter, The Tri-Pointer, is published by the Director of Industrial Extension for all members of the program. The publication described sources and new

ideas, and reviews proceedings of meetings and activities of interest to Liaison Representatives.

- 3) A special publication service is offered to Representatives depending on the needs of their respective industry. How-to-do-it publications, entitled KIES Bulletins, are prepared and published by KIES for member representatives.
- 4) A "Regional Selective Dissemination of Information System" (SDI) is being offered to technical personnel in Kansas companies. Each week participants receive notifications of technical articles published in seventeen hundred technical trade journals that are related to their specific technical interests. The program reduces the time needed for searching for technical articles from current trade publications. Cost of participation by Kansas companies is nominal.
- 5) Periodic "Speak Out for Kansas Industry" conferences are scheduled where KIES representatives have the opportunity to discuss day-to-day operations with their campus counterparts, develop plans for ongoing educational programs, and learn more of the activities of KIES.
- 6) Close liaison is maintained by KIES with the following organizations and institutions to promote mutual interests:

Cooperative Extension Service at Kansas State University
Statewide Academic Extension at the University of Kansas
Colleges of Engineering and Commerce at the state
universities

The Research Foundation of Kansas
Commission on Extension
The State Board of Regents; and
Office of State Technical Services, U.S. Department of
Commerce.

Functions of Liaison Representatives

To provide a first-hand exchange of information and a mutual awareness of needs and resources between Kansas companies and the universities, Company and Campus Liaison Representatives are being appointed by KIES. A Campus Liaison Representative is appointed to each firm that has nominated a Company Liaison Representative.

Company Liaison Representative

Each Company Liaison Representative, who is nominated to his position by an executive of his firm, keeps KIES informed of his company's interests and desires for technical information and programs in continuing education. These KIES representatives also provide the "vital link" to receive new technology and research information from KIES and disseminate it to key personnel within their organization.

Specific functions expected of Company Representatives are as follows:

- 1) Work with the assigned Campus Liaison Representative to develop a "Tri-Point Program" for the company by determining projects in the areas of continuing education, technical assistance, and information service in which the company can participate.

- 2) Attend periodic "Speak Out for Kansas Industry" conferences held in the state to learn more of future projects, discuss the specific needs of the company and industry, and review day-to-day concerns with their Campus Liaison Representative.
- 3) Exchange technical information and share ideas with their Campus Counterpart to benefit the company and the educational institution.
- 4) Provide a pipeline for directing faculty inventions and research programs to interested industrial firms in the state and advise university personnel on marketing and manufacturing potential of new products to aid in bringing new products to the market place for the public good.
- 5) Arrange for summer employment of faculty personnel to work on specific technical tasks of benefit to the company (a summer sabbatical-in-industry program).
- 6) Develop or originate a practical problem that can be used for demonstration or education purposes by students in the university classroom.
- 7) Take advantage of the consulting privilege of faculty members as well as develop specific work projects within an individual department using university equipment and faculty resources. The consulting privilege of faculty (one day per week) should be considered a valuable, but also limited, resource for company use.

Campus Liaison Representative

As part of the Industrial Extension Liaison Program, the faculty of the colleges of engineering and the colleges of business and commerce in each of the state universities have been invited to accept appointments as Campus Liaison Representatives and "adopt" one of the Kansas firms who have designated a Company Liaison Representative.

The establishment of a continuous association with a single company insures a more effective relationship for improved communications between the universities and Kansas industry. This continuous association makes it easier for the representative to explore opportunities for specific cooperation on research, technical, or business projects of mutual interests and benefit.

KIES Campus Liaison Representatives are expected to perform the following types of tasks:

- 1) Aid their company counterparts in identifying specific continuing education programs for the company, including short courses, seminars, workshops, or forums, and other educational opportunities using the facilities of the universities and colleges wherever possible.
- 2) Keep the Industrial Extension Service informed of the needs of the assigned company, especially special projects that will assist in planning, developing, and implementing the KIES program.
- 3) Attend periodic "Speak Out for Kansas Industry" conferences held at Kansas State University to learn more of future projects and discuss specific needs of assigned companies.

- 4) Visit the assigned company on a monthly basis and become acquainted with personnel to further relationships between Kansas universities and manufacturing firms. Travel expenses are paid by KIES.
- 5) Invite the Company Liaison Representative to the campus periodically to learn more about the numerous resources and educational facilities that might benefit his firm.
- 6) Alert the Company Liaison Representative to opportunities for admission to symposiums, seminars, athletic or cultural events, and other university facilities and resources, such as computer centers, research laboratories, institutes, university library facilities, microfilm collections, reference, and bibliographic facilities.
- 7) Take advantage of the opportunity to expand fields of interest through discussions with a Company Liaison Representative. This exchange can sharpen a professor's ability to teach and engage in further research. Knowledge of company operations can enable a professor to factor appropriate information into his teaching. Opportunities may also develop for the professor to augment his income through industrial consultantships.
- 8) Schedule trips to the company with students and tour the facilities for a day.
- 9) Make appointments for company officials to visit the campus, tour the college facilities, laboratories, library, classrooms, and learn of specific technical resources and

text equipment available for industry utilization. Emphasis should be placed on becoming acquainted with the total university or college capabilities, providing opportunities for transfer of information and technology.

- 10) Assist the Company in recruiting functions by providing suggestions on how to recruit on campus, as well as establishing opportunities for company speakers to speak to professional student groups.
- 11) Keep the company informed of special workshops and seminars held on campus and invite company personnel to attend seminars on the latest technological developments in areas of company interest.
- 12) Assist Company Liaison Representatives in developing a continuing education program by helping to establish objectives and define an educational program for employees with advanced technology. Campus Liaison Representatives can help to organize and supervise classes using either company employees or university personnel as instructors in local classrooms and facilities, as outlined in the KIES "Continuing Education Formula."

Editorial Advisory Board Appointment

All Liaison Representatives are appointed as members of the Editorial Advisory Board of The Kansas Industrial Extension Journal. Board members are expected to critique each issue of the Journal and offer constructive suggestions, ideas for articles, and information of value to the managing editor to improve the publication and make it more useful to Kansas industry.

Representatives also serve as industry correspondents and reporters to inform KIES of business, industrial, and educational activities within their respective firms and institutions. They are also invited to submit news articles and information for publication in the Journal.

How Do You Affiliate?

Presidents, managers, and owners of businesses and firms in Kansas are invited to nominate an employee within their firm to be designated as a "Company Liaison Representative" to KIES.

Faculty members interested in working with Kansas business and industry are invited to request appointment as "Campus Liaison Representatives." Enclose background data sheets on experience and education so a suitable Kansas firm with a company counterpart may be assigned.

Fill out and mail the attached application form today. Mail to:

Director
Kansas Industrial Extension Service
125 Seaton Hall
Kansas State University
Manhattan, Kansas 66502

INDUSTRIAL EXTENSION LIAISON REPRESENTATIVE APPLICATION

Company Liaison Program

We would like to designate the following employee as the "Company Liaison Representative" to KIES.

Name _____ Title _____

Company _____

Address _____

City and State _____ ZIP _____

Product Line _____

Total Employment _____

Signature _____

Date _____

Title _____

INDUSTRIAL EXTENSION LIAISON REPRESENTATIVE APPLICATION

Campus Liaison Program

I am interested in working with a Kansas business firm. I would like to be appointed as a "Campus Liaison Representative."

Name _____ Position _____

Institution _____

Address _____

City and State _____ ZIP _____

Degrees _____

Areas of technical competence _____

Type of Kansas company or product line interested in _____

Date _____

Signature _____

APPENDIX D
PROPOSED BROCHURE FOR THE
KANSAS INDUSTRIAL EXTENSION LIAISON PROGRAM

A MESSAGE OF IMPORTANCE

Technological changes have produced ninety percent of our growth in recent years and constant innovation is now an essential ingredient for maximum industrial productivity to provide more and better job opportunities for our growing labor force.

But, keeping up with the vast amount of information generated in research laboratories throughout the country presents a real scientific challenge. Moreover, putting this flood of technology to profitable use in Kansas business and industry is particularly difficult for small and medium sized companies which lack the research facilities and technical staff to keep abreast of important technological advances.

To provide a better opportunity for Kansas industry to participate in the benefits of technology, the Kansas Industrial Extension Service has been created to provide manufacturers and industrial firms with ready access to the fruits of the nation's \$25 billion per year research efforts. The job of the Industrial Extension Service is to help you prosper so you can play a part in developing the great industrial potential that exists in Kansas.

I urge you to become familiar with and use the special services described in this folder which are assigned to benefit all business and industry in Kansas.

Dr. Christopher E. Barthel, Jr.
Executive Director
Research Foundation of Kansas

THE NEED FOR INDUSTRIAL EXTENSION SERVICES

The Congress of the United States has declared that "wider diffusion and more effective application of science and technology in industry are essential to the growth of the economy, to high levels of employment...and that the benefits of research must be placed more effectively in the hands of American business, commerce, and industrial establishment."

These goals were expressed in the State Technical Services Act, passed by the Congress on September 14, 1965, which provides a unique channel for Kansas industry to obtain needed technical information and other services.

Through the Act, the Congress recognized the critical problem that has developed during the past two decades--the mass of scientific and technological information resulting from research activities in the United States is growing at a faster rate than our business and industry can absorb it. Each year sixty million new pages of technical data are published. Accumulation of this knowledge will continue at fantastic proportions considering that eighty percent of the scientists and engineers who have ever lived are alive and working today. Of all the world's scientific and technical discoveries, half have been made in the last fifteen years.

As the result of this research and new innovations, thirty percent of today's sales are of products that were not on the market ten years ago. Research will continue to provide the new ideas, new products, and improve processes that will lead to greater sales and higher profits for business in the future. But, unless new procedures are developed for

dealing with this valuable flood of technology, much of the scientific information will go unrecognized and unused by large segments of business and industry.

WHAT IS KIES

The Kansas Industrial Extension Service (KIES) is a long-range program of industrial extension services developed in response to the need expressed by Congress and the industry in the State. Developed under the authority of the State Technical Services Act of 1965, this new State agency provides technical services to business and industry throughout Kansas. The program is designed to help manufacturers and industrial firms improve their productivity by making better use of current technology in their operations.

Hundreds of new technological applications are available to aid Kansas businessmen to run more efficient and more profitable enterprises. Now, all Kansas firms can benefit from the space program, from defense, from health sciences, transportation, communication, electronics, and chemical research. These research results have been microfilmed, microfished, computerized, and stored on tapes and memory discs in the National Aeronautics and Space Administration (NASA), Atomic Energy Commission (AEC), and the Department of Defense (DOD), and other agencies. Transferring knowledge gained from these Federally financed research programs and providing a bridge to the production lines and plants of Kansas industry is the basic goal of the KIES program.

In addition to assisting existing industries in Kansas, KIES is also dedicated to creating, developing, and founding new enterprises

through greater dissemination of scientific and technological information to entrepreneurs and innovators in the State.

KIES ORGANIZATION

As the result of the STS Act, the U.S. Department of Commerce requested each state to identify a State agency or organization to serve as the "designated agency" for the state, through which the operations of the State Technical Services Act at the state level would be performed. The Governor of Kansas assigned this responsibility to the Research Foundation of Kansas.

Under the State Plan, a State Center for Industrial Extension and State Technical Services was established at Kansas State University with field offices to be set up at the six state supported universities and colleges. The task of operating the Technical Services State Program was assigned to KIES, headquartered in the College of Engineering at Kansas State University. KIES reports administratively to the Commission on Extension under the Board of Regents and obtains its financing through the Kansas Research Foundation. This relationship provides for close coordination of all extension activities between the State extension services.

KIES SERVICES

KIES provides services to Kansas business and industry in three major areas--called the "Tri-Point Program":

- 1) Continuing Education
- 2) Technical Assistance
- 3) Information Services and Transfer of Technology

Continuing Education

KIES sponsors a variety of seminars, conferences, workshops, and demonstration programs for Kansas manufacturing and industrial firms. Conducted by the major universities and colleges in the State, these technical education programs are designed to introduce industrial groups to technological advances which can be used to increase productivity, reduce costs, and improve quality of company products.

Continuing education activities, sponsored by KIES, consist only of non-credit special educational programs intended to serve employees in the manufacturing industries of Kansas including technicians, technical workers, production workers, engineers, and managers. Embracing educational courses at all levels, programs are developed at the high school level, the vocational level, the sub-college level, or the post-college level depending on the specific educational needs of Kansas firms. Courses are tailored to expand, modernize, and further develop employee competence in performing the wide variety of tasks required in a modern manufacturing company.

Programs Successfully Completed or Continuing

- 1) Computer Course - University of Kansas
- 2) Automatic Control Systems - Wichita State University
- 3) Structural Design and Analysis - Wichita State University
- 4) Library Workshop - Ablah Library, University of Kansas, Wichita
Public Library
- 5) Company Liaison Conferences - Kansas State University

Programs Being Planned

- 1) Lithography Workshop - Kansas State College of Pittsburg
- 2) Printing Forum - Wichita State University
- 3) Library Workshops - Six scheduled at different libraries
- 4) Electronic Data Processing Workshops - University of Kansas
- 5) Computer Workshops - University of Kansas
- 6) Soil Mechanics Conferences - Kansas State University
- 7) Urban Technology Seminars - Brookings Institution

It is anticipated that additional courses, tailored to meet the needs of Kansas industry, will be developed during the subsequent years of KIES operation. Many of these statewide educational offerings for industry are coordinated, planned, and implemented through The University of Kansas Extension Service, headquartered in the University Extension Building at The University of Kansas in Lawrence.

Technical Assistance

Technical assistance to industry results, of course, from the educational program. In addition, specific tasks are performed, particularly for smaller companies that may not have technical talent.

Referrals to consultants will be made, suggestions for self-study presented, recruiting programs outlined, technical problems discussed, and resources that can be used by the company are defined. The consulting services will not be performed by KIES, but will insure that needed services are available.

Information Service

The Kansas Industrial Extension Journal, a bi-monthly newspaper, is published to announce and describe the various services available under the KIES program. Distributed to all Kansas manufacturers, professional engineers, research firms, and other interested groups, the Journal is the major communications vehicle for information services. Emphasis is given to defining information resources through the State and the country with specific instructions given on how to use these resources. Technology transfer is the basic theme followed editorially in an attempt to introduce new methods and processes into Kansas industry.

KIES has access to many Federal, State, and private sources of research and development information of value to Kansas manufacturers. While some of this information is selectively disseminated to firms based on technical interest and needs which those firms are known to have, KIES will search for and retrieve technical information on specific subjects at the request of individual companies. The services offered are in the form of technical reports, abstracts, digests, bulletins, technical notes, reviews, and other similar scientific, engineering, and business information.

KIES encourages industry use of one of the easiest and most acceptable information resources available--the State college and university libraries. Library workshops, sponsored by KIES, are held periodically throughout the State to teach industry representatives how to use a technical library and where information is available to answer specific industrial applications.

IMPLEMENTATION OF THE "TRI-POINT PROGRAM"

KIES recognizes that technology cannot be transferred effectively merely by delivering information to a potential industrial user. An effective channel of communications is needed to develop the means for an active interchange between an industrial user and the technical expert who can assist in the utilization of the new technology.

To bridge this gap from research activity to application, KIES has established a unique program called the "Industrial Extension Company Liaison Program." Under this on-going program, business and industrial firms in Kansas participate in KIES activities by appointing an employee to serve as an Industrial Liaison Representative for his company. The Liaison Representative provides the "vital link" to receive new technology and research information from KIES and to disseminate this information to key personnel within his organization.

Each Liaison Representative, appointed to his position by an executive of his firm, keeps the KIES informed of the respective needs of his company including programs for continuing education or special projects that will assist in defining, developing, and implementing the Industrial Extension Service program in Kansas.

Company representatives also participate in periodic "Speak Out for Kansas Industry" conferences held throughout the State to learn more of future projects as well as translate specific needs of their companies into KIES action programs.

An Invitation to Kansas Industry

The essential purpose of KIES is to bridge the gap between industry and the numerous sources of Federally financed research and other technology that can aid Kansas firms to become more efficient, more productive, and more profitable. The services of KIES are available to all business and industry personnel in Kansas. Appoint an Industrial Extension Company Liaison Representative for your firm and investigate how KIES can help your enterprise through the application of the latest technology.

Address Inquiries To

Mr. Kenneth Razak, Director
Kansas Industrial Extension Service
125 Seaton Hall
Kansas State University
Manhattan, Kansas 66502
Phone AC 913, 532-6173

Questions and Answers About KIES

IS KIES A FEDERAL PROGRAM?

President Lyndon B. Johnson signed into law the State Technical Services Act in September 1965. The Act provides a national program to encourage the state in setting up a technical service program that is similar to the successful agricultural extension programs in concept, but devoted entirely to business and industrial needs. The Kansas STS program is administered by the Research Foundation of Kansas, the designated agency appointed by the Governor. Operational responsibilities for the program are assigned to the Extension Commission of the Board of Regents. KIES is the principal action unit, located on the campus of Kansas State University, to stimulate the flow of scientific and engineering information into industrial and manufacturing firms in Kansas.

DOES KIES PERFORM CONSULTING SERVICES?

No, KIES will provide counseling assistance only and does not compete with privately owned and operated service companies. KIES will not duplicate services which are readily and economically available from private sources, or any program or activity readily available from Federal or state agencies, including publically supported institutions of higher learning. Whenever possible, requests for technical assistance will be referred to competent private consultants, business service organizations, or university faculty members.

WHO IS ELIGIBLE TO RECEIVE SERVICES UNDER THE STS PROGRAM?

Any business, industrial, or commercial firm in the State of Kansas.

IS THERE A CHARGE FOR THESE SERVICES?

For enrollment in KIES-sponsored seminars, conferences, workshops, and other continuing education activities throughout the State, modest fees are charged to defray the cost of materials and facilities. Services in the area of counseling assistance, information dissemination, or referral services are provided at no cost to the firm.

HOW IS KIES FINANCED?

The State Technical Services Act provides funds to the states on a matching basis for programs which will make science and technology available in a usable form to Kansas industry. One half of KIES funds are provided from State sources with an equal amount provided through Federal grants through the U.S. Department of Commerce.

HOW DOES KIES HANDLE "PROPRIETARY INFORMATION"?

Proprietary information submitted to KIES during the course of providing counseling services or technical assistance is held in complete confidence for a client company.

HOW DOES A COMPANY REQUEST TECHNICAL ASSISTANCE?

A simple letter request or a personal visit to the Kansas Industrial Extension Service offices will initiate a response. Owners and executives of manufacturing firms in Kansas are invited to nominate an employee to serve as a Company Liaison Representative for their organization to provide a continuing channel of communications between the two organizations.

IS "TECHNICAL" SERVICE CONCERNED ONLY WITH AREAS SUCH AS SCIENCE AND ENGINEERING?

KIES encourages firms to use scientific methods and procedures throughout the entire business process including accounting, finance, management, marketing, and labor relations. Although science and engineering are vital technical service areas, business must be concerned with adapting technology to these other areas as well. The STS Act provides for sponsorship of technical services strictly related to science and engineering. However, KIES can furnish information on these other areas and refer a client company to someone who can provide the needed services.

DOES KIES PERFORM RESEARCH AND DEVELOPMENT WORK ON ITS OWN?

Since KIES is primarily concerned with developing ways in which current technology can be profitably utilized by industry in Kansas, it is not engaged in, or responsible for, the actual development of new technology or the performance of R & D contracts.

WHAT ABOUT GOVERNMENT CONTROL OF KIES-SPONSORED PROGRAMS?

Continuing education programs, information service, or technical assistance projects are initiated by KIES to meet the specific needs of local Kansas firms. The Federal government participates only in the funding of the overall KIES program each year. The secret of success for KIES-sponsored activities lies in the stimulation of initiative, the resources, and the participation in local leadership within individual communities and client companies.

WHY IS THE KANSAS INDUSTRIAL EXTENSION SERVICE LOCATED AT A UNIVERSITY?

A basic aim of the program is to develop closer coordination and understanding and to make available to Kansas industry the technical resources and knowledge available in the state colleges and universities as well as public and private agencies. Since academic institutions play a vital role in developing new technology and disseminating knowledge, the KIES program is dedicated to insuring that qualified institutions assume a primary responsibility for the development and execution of technical service programs in Kansas. Many of the KIES-sponsored programs under the "Tri-Point Program" will be centered around or provided through the universities and colleges in Kansas.

WHEN DID KIES START FUNCTIONING?

The first annual program plan was approved by the U.S. Department of Commerce and funded in September 1965.

HOW IS THE INDUSTRIAL EXTENSION ACTIVITY EVALUATED TO INSURE CONSISTENCY WITH THE STS ACT AND THE NEEDS OF KANSAS INDUSTRY?

Each year the Governor appoints an Advisory Council to review each annual technical services program and evaluate its progress in accordance with the Act. Current members are from manufacturing firms, consultants, management, and organized labor. The Advisory Council serves without pay.

WHAT TYPES OF ASSISTANCE ARE AVAILABLE FROM KIES?

Under the "Tri-Point Program," KIES offers the following services: continuing education programs, information services, and technical assistance. KIES also maintains a "Roster of Expertise" which lists individuals throughout the State who are qualified to provide consulting services to industry.

DOES KIES CARRY OUT EDUCATIONAL FUNCTIONS?

KIES should be considered primarily as an educational organization, since heavy emphasis is placed on sponsorship of industry seminars, workshops, field demonstrations, conferences, and other continuing education activities. These educational programs are designed primarily to solve specific technological problems, update employees in the newest techniques and methods of technology, or introduce new technology into Kansas firms.

IS KIES CONNECTED WITH ANY OTHER STATE AGENCY OR ORGANIZATION?

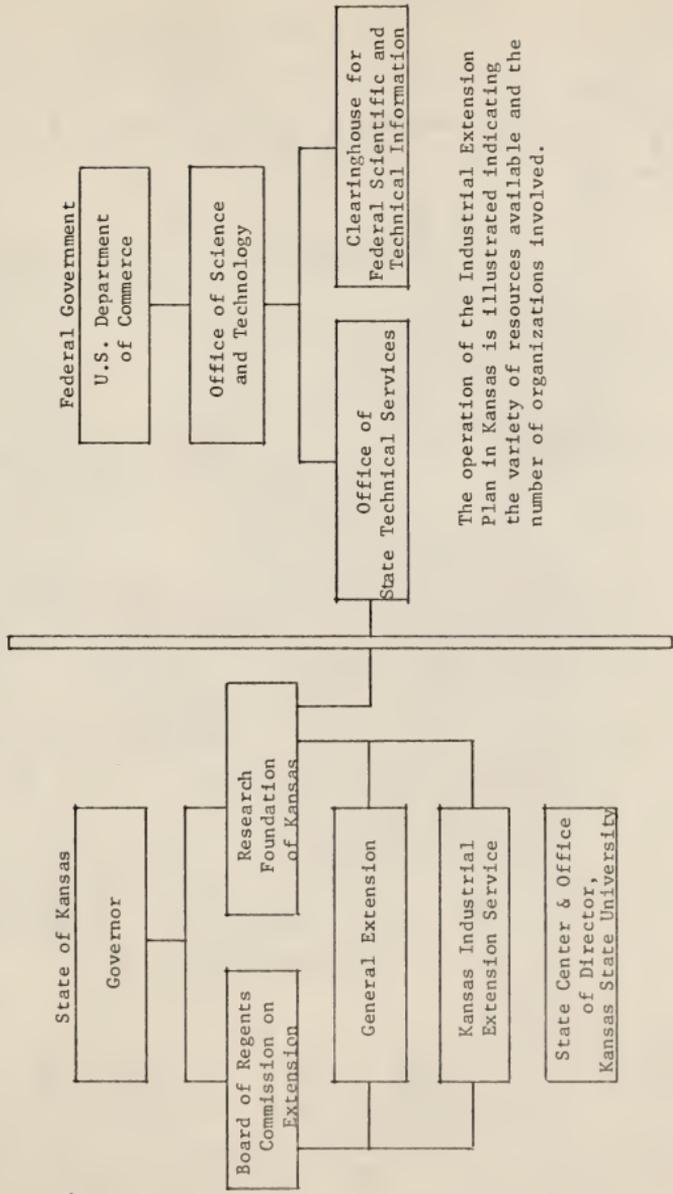
KIES acts as the principal action center for the Research Foundation of Kansas which administers and coordinates the STS program for Kansas. KIES cooperates with and coordinates its programs with many other groups and State agencies.

Purpose of the State Technical Services Act...

..."To promote commerce and encourage economic growth by supporting State and interstate programs to place the findings of science usefully in the hands of American enterprise."

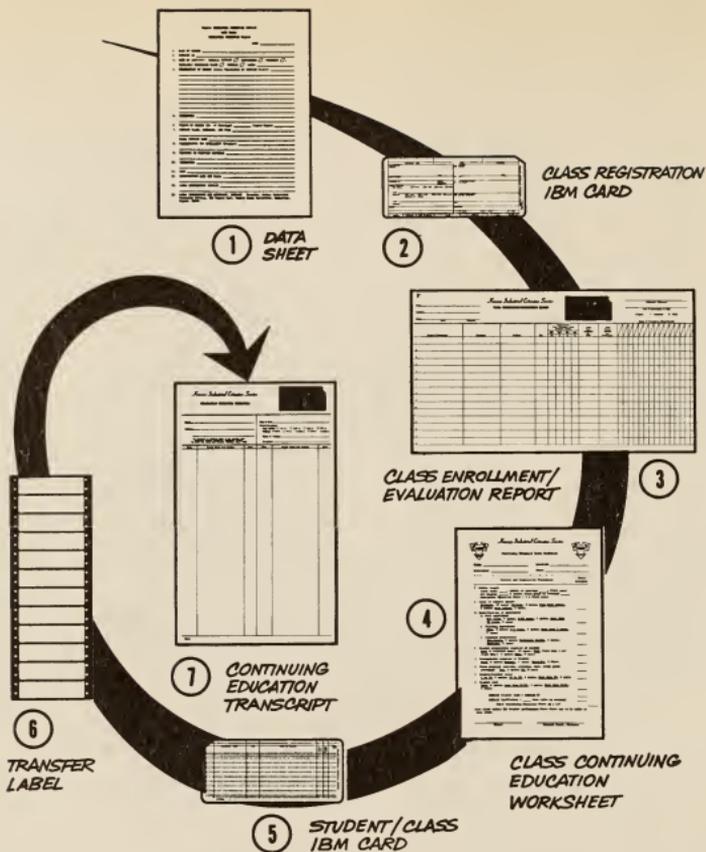
President Lyndon B. Johnson, on the occasion of signing Public Law 89-182, the State Technical Services Act of 1965, September 14, 1965, said: "This bill will do for American Businessmen what the great Agricultural Extension Service has done for the American farmer. It will put into their hands the latest ideas and methods, the fruits of research and development."

FIGURES



The operation of the Industrial Extension Plan in Kansas is illustrated indicating the variety of resources available and the number of organizations involved.

Figure 1.--Organizational Relationships--Kansas Industrial Extension Service.



KIES TRANSCRIPT PREPARATION/RECORDING PROCESS

Figure 2.--Diagram showing KIES Transcript Preparation and Recording Process.

Ask Firms To Appoint Liaison Representatives

Businesses and industrial firms in Kansas are being invited to participate in the program of the Kansas Industrial Extension Service by appointing an employee to serve as an Industrial Extension Liaison Representative for the company, according to Kenneth Razak, director.

Razak said that an effective Industrial Extension program requires a two-way flow of communications so that industry becomes aware of the capabilities of the Kansas Industrial Extension Service, and at the same time, the Extension Service is alerted to the needs of particular businesses and industries in the state.

"The Company Representative will serve a valuable role in providing an important channel of communications between the Extension Service and the personnel within his company," Razak added. "A first-hand exchange of information is vital in achieving a mutual awareness of respective needs, a necessity in developing action programs for industry and commerce."

Goal Is Education

According to Razak, the prime goal of the Extension Service is to develop a continuing education and technical assistance program in which the resources of Kansas universities and colleges are made more available to industry and business. In addition, under the State Technical Services Act, the Extension Service is also responsible for disseminating the massive amount of research information and data which has accumulated in government research programs over the past 25 years.

As an Industrial Extension Liaison Representative, a company employee would provide the vital link to receive new technology and research information from the Industrial Extension Service and disseminate it to key personnel within the company.

"The Company Representative will also be requested to keep the Extension Service informed of the needs of his company," Razak noted, "especially programs for continuing education or special projects that will assist in planning, developing, and implementing the Industrial Extension program for Kansas."

Discuss Specific Needs

As presently visualized, these company delegates will be invited to attend Industrial Ex-

ACTION

1. Presidents, managers, and owners of businesses and firms in Kansas are invited to nominate an employee within their company to be designated as an Industrial Extension Liaison Representative for the Kansas Industrial Extension Service.

2. WRITE on company letterhead to: Director, Kansas Industrial Extension Service, 125 Seaton Hall, Kansas State University, Manhattan, Kansas 66502.

ension meetings held periodically throughout the state to learn more of future projects as well as enter into discussions regarding specific needs of their companies or industries.

The management of many Kansas firms is being contacted by individual letter invitations to appoint Industrial Extension Liaison Representatives for their companies. Initially, each representative will be placed on the mailing list to receive copies of the JOURNAL to obtain an idea of the program and determine those projects in which their companies can participate.

Figure 3.--Journal Article Recruiting Company Liaison Representatives.

Office of State Director
125 Seaton Hall
KANSAS STATE UNIVERSITY
Manhattan, Kansas 66502

I am pleased that you have been appointed as a Company Liaison Representative for your company. The basic purpose in requesting your services as a Liaison Representative is to give us a single information point within your company. As we work together, I hope we can make it possible for your company to better utilize the many excellent resources of the universities and colleges in Kansas.

As a Liaison Representative for your company, I hope you will serve as a focal point through which your company's needs can be made known to our Extension Service so that we may determine whether an educational plan, technical assistance, or some other service can be developed to meet your needs.

Initially, you will receive copies of The Kansas Industrial Extension Journal; the current issue is enclosed. Please read each issue carefully and route those items of value to appropriate departments and sections within your company. We will send you as many copies of the Journal as you can use. I hope that you and others within your organization will take advantage of as many "Action Items" and resources as possible.

Again, my congratulations on your appointment as a Liaison Representative for your company. I solicit your suggestions and recommendations and look forward to working with you in the future.

Very truly yours,

Kenneth Razak, Director

Enclosure

KR:kw

Figure 4.--Letter of Congratulations to Company Liaison Representatives.

Rep Program Expands; Includes Campus Profs

Faculty of the three colleges of engineering in each of the state universities are being invited to serve as "Industrial Extension Campus Liaison Representatives" to business firms in Kansas which have appointed Company Liaison Representatives.

According to Kenneth Razak, KIES director, the expansion of the Liaison Program to include campus as well as company representatives will provide a personal two-way channel of communications between Kansas industries and the state universities.

"We are inviting university professors to act as representatives of their institutions and KIES, and 'adopt' one of the companies which are members of the Company Liaison Program," Razak added. By maintaining a continuous association with a single company, a more effective relationship can be established and it will be easier to explore opportunities for specific cooperation on research and technical or business projects of mutual interest, he said.

56 Companies Participate

Last summer the Industrial Extension Service established the "Company Liaison Representative Program" in Kansas, which provides business and industrial firms an opportunity to participate in Industrial Extension activities. To date, 56 companies have appointed representatives.

To further relationships between Kansas universities and manufacturing firms, the Campus Liaison Representative is expected to visit the company on a monthly basis and become acquainted with personnel, products, and facilities. The Company Liaison Representative of the firm, in turn, will be invited to the campus to learn more about the numerous resources and educational facilities that might be utilized to benefit his organization.

"By our representatives becoming better acquainted," Razak noted, "I am sure that we will see many opportunities for specific cooperation, particularly in the area of educational programs for industry."

Professors To Benefit

Specific benefits can be expected to accrue to faculty who serve as members of the Liaison Program. "A knowledge of the day-to-day operations of manufacturing companies will enable

ACTION

Faculty members interested in working with Kansas business and industry are invited to request appointments as "Campus Liaison Representatives." WRITE: Kenneth Razak, KIES Director, 125 Seaton Hall, Kansas State University, Manhattan, Kansas 66502. ENCLOSE background data sheet on experience and education so a suitable Kansas firm may be assigned.

the professor to factor appropriate information into his teaching," Razak clarified. "In some cases, augmentation of his income is also possible through industrial consultantships."

Resources Offered to Industry

Resources of potential interest to industry representatives might include better utilization of library facilities, including microfilm collections, reference and bibliographic facilities. Through his campus contact, a Company Representative can be alerted to opportunities to obtain admission to symposiums and seminars, athletic or cultural events, as well as other available facilities like computers, research laboratories, and institutes.

The Liaison Program can also serve to provide a pipeline for directing faculty inventions to interested industrial firms. "Industry can play a significant part in advising university personnel on marketing and manufacturing potential new products and aid in bringing new products to the market place for the public good," Razak explained. "Research programs, which may originally be developed in university laboratories, can provide a springboard for generations of new technology and industry of great potential to commercial enterprise in the state."

Office of State Director
125 Seaton Hall
KANSAS STATE UNIVERSITY
Manhattan, Kansas 66502

TO: Dean Ralph G. Nevins

FROM: Kenneth Razak

DATE: December 29, 1967

The attached is a list of the companies who have appointed an Industrial Liaison Representative to the Kansas Industrial Extension Service. The prime purpose of this Liaison Representative Program is to acquaint individual companies with universities and colleges in considerable detail (as well as the inverse).

I am wondering if some of the faculty of engineering would be interested in "adopting" three or four of these companies and visiting them on a regular basis, say not less than once a month. If a faculty member made successive visits to one company, it is my judgement that a positive relationship could be set up and the act of talking together on a continuing basis would definitely improve the possibility of interaction between the University and the company.

I'd be glad to discuss this idea at a department head meeting if you think it has merit.

Figure 6.--Invitation letter to College Deans.



(Editor's Note: This column reports on the activities of men appointed as Company and Campus Liaison Representatives in Kansas. It is hoped that the activities and programs described will stimulate ideas and opportunities for developing similar programs in other companies as well. Representatives are requested to forward a brief explanation on the progress of their plans and programs for publication in this column.)

Industrial Extension Liaison Representatives had an opportunity to talk with their counterparts at the last 'Speak Out for Kansas Industry' conference held April 23 in Wichita. Theme for the conference was 'Definition of Specific Tasks for Company and Campus Liaison Representatives.' As the result of the day-long discussions, a list of specific tasks, appropriate to developing an effective 'Tri-Point Program' in each company, was developed. The following tasks for Liaison Representatives are recommended by KIES:

1. Liaison Representatives should become acquainted with the respective fields of interest of each other and establish a continuing working relationship. Plans should be made to meet at least once each month to review specific topics.

2. Campus Representatives should schedule trips to the company with their students and tour the facilities for a day.

3. Campus Representatives can make appointments for company officials to visit the campus, tour the college facilities, laboratories, library, classrooms, and learn of specific technical resources and test equipment available for industry utilization. Emphasis should be placed on becoming acquainted with the total university or college capabilities, providing opportunities for transfer of information and technology.

4. Campus Representatives can assist the company in recruiting functions by providing suggestions on how to recruit on campus, as well as establishing opportunities for company speakers to speak to professional student groups.

5. Company Representatives should keep the company informed of special workshops and seminars held on campus and invite company personnel to attend seminars on the latest technological developments in areas of company interest.

6. Campus Representatives should assist Company Representatives in developing a continuing educational program by helping to establish objectives and define an educational program for employees with advanced technology. Campus Representatives can help to organize and supervise classes using either company employees or university personnel as instructors in local classrooms and facilities.

7. Campus Representatives can use information and knowledge gained from industry exposure in curricula planning activities at the university.

8. Company Representatives should arrange for summer employment of faculty personnel to work on specific technical tasks of benefit to the company (a summer sabbatical-in-industry program).

9. Company Representatives can develop or originate a practical problem that can be used for demonstration or education purposes by students in the university classroom.

10. Company Representatives should take advantage of the consulting privilege of faculty members as well as develop specific work projects within an individual department using university equipment and faculty resources. The consulting privilege of faculty (one day per week) should be considered a valuable, but also limited, resource for company use.

11. Liaison Representatives are invited to attend periodic 'Speak Out for Kansas Industry' conferences held throughout the state to learn more of future projects, discuss the specific needs of the company and review day-to-day concerns with KIES personnel.

Figure 7.--Journal Article Defining Tasks for Liaison Representatives--June 1968.



Pointers

for Industrial Extension Liaison Representatives

(Editor's Note: This column reports on the activities of men appointed as Company and Campus Liaison Representatives in Kansas. It is hoped that the activities and programs described will stimulate ideas and opportunities for developing similar programs to other companies as well. Representatives are requested to forward a brief explanation on the progress of their plans and programs for publication in this column.)

The June issue of the Journal tabulated specific suggestions or tasks for Company and Campus Liaison Representatives that are considered appropriate to developing an effective relationship between Kansas industry and universities and colleges. To further clarify methods for developing a "Tri-Point Program" for a Kansas Liaison Company, the following guidelines are furnished for consideration by Liaison Representatives.

1. *Liaison Representatives should become acquainted with the respective fields of interest of each other and establish a continuing working relationship. Plans should be made to meet at least once each month to review specific topics.*

Frequent face-to-face communication between Campus and Company Representatives will stimulate new ideas and exchange of technical and business information. Travel expenses of Campus Representatives will be reimbursed by KIES.

Company Representatives should invite their campus counterparts to the company to see the overall functions of the operation, get to know key company personnel, and assist the Campus Representative to expand his field of interest.

Campus Representatives are expected to reciprocate and invite their Company contact to the campus periodically to learn more about the numerous resources and educational facilities that might benefit his form.

2. *Campus Representatives should keep the company informed of special workshops and seminars held on campus and invite company personnel to attend seminars on the latest technological developments in areas of company interest.*

The Campus Representative should also invite his assigned companion to campus professional meetings, research seminars, or student conferences to become more intimately acquainted with university educational and research activities. In like manner, the Company Representative can include his university contact in company meetings and professional business and trade association activities.

3. *Campus Representatives can make appointments for company officials to visit the campus, tour the university facilities, laboratories, library, classrooms, and learn of specific technical resources and test equipment available for industry utilization. Emphasis should be placed on becoming acquainted with the total university or college capabilities, providing opportunities for transfer of information and technology.*

The Company Representative should be alerted to opportunities for admission to university activities, athletic or cultural events, availability of computer centers, research laboratories, university microfilm collections, reference, or bibliographic facilities. He should be introduced to key technical personnel on the faculty who might assist in the areas of company interest. The Campus Representative should introduce him to the Placement Service Office, Registrar's Office, Engineering Departments, Librarian, Extension Directors, or any other campus operation that might be of potential use to the company.

Figure 8.--Journal Article Defining Tasks for Liaison Representatives.

**KIES SURVEY RESULTS OF 501 KANSAS
MANUFACTURING FIRMS**

Total employment of companies interviewed	16,000 employees
Number of engineers employed	186
Employees with college degrees	Less than 500
Educational requirements for 60% of the jobs	Eighth grade education or less
Educational level of 92% of employees employed	High school education or less
Ongoing education or development programs for employees	Conducted by less than 8% of companies
Plans to develop employee knowledge or skills	Less than 8% of companies
Company employment preference	Great majority of companies prefer older persons with low educational backgrounds. "Produced a more stable labor force."
Shortage of "skilled" personnel in their area	62% of companies said "yes"
Adequate supply of "unskilled" labor	80% of companies said "yes"
Companies performing basic research	Less than 4%
Company long-range corporate plan written	Only 20% of companies
No interest expressed in employee educational programs	Over 60% of companies
Type of educational program desired by companies	Minor interest in engineering, science, and mathematics. Primary interest in vocational level courses, classes in business and management.

Figure 9.--Results from KIES Kansas Industry Profile Surveys.

		1st	2nd	3rd	4th	5th	6th
Study No. 1	Technical/Trade Journals						
	Technical Meetings						
	Personal Contacts						
	Seminars						
	University Courses						
	Non-Periodicals						
Study No. 2	Company Files						
	Periodicals						
	Vendor Catalogues						
	Experts						
	Trade Associations						
Study No. 3	Institutes & Confs.						
	Consultants and Agencies						
	Trade Associations						
Study No. 4	Trade Journals						
	Periodicals & non-Periodicals						
	Consultants						
	Suppliers						
	Schools						
Study No. 4	Libraries						
	Non-periodicals (short printed)						
	Magazine Articles						
	Newspaper Articles						
Study No. 4	Radio & TV						
	Seminars & Short Courses						
	Non-Periodicals						
	Lectures & Seminars						
	Field Consultations						
Study No. 4	Periodicals						

Figure 10.--Comparison of Information Sources Used by The Small Businessman--Five Studies.

Study No.	Description
1	D. R. Kenny. Industrial Extension Planning Questionnaire. <u>The Kansas Industrial Extension Journal</u> , May 1967. Kansas Industrial Extension Service, 1967.
2	Zenon S. Malinowski and Wm. N. Kinnard, Jr. "Use of External Assistance by Small Manufacturers." School of Business Administration, University of Connecticut.
3	L. J. Crampon and S. F. Schweizer. "Use of Outside Information in Small Firms." Bureau of Business Research, University of Colorado.
4	Richard F. O'Brien, editor. "What Small Manufacturers Read and Why." Missouri Division of Commerce and Industrial Development, Jefferson City, Missouri.
5	L. J. Crampon. "Communicating Information to Small Businessmen." Bureau of Business Research, University of Colorado.

Figure 10.--Ledger for Comparison of Information Sources Used by The Small Businessman--Five Studies.

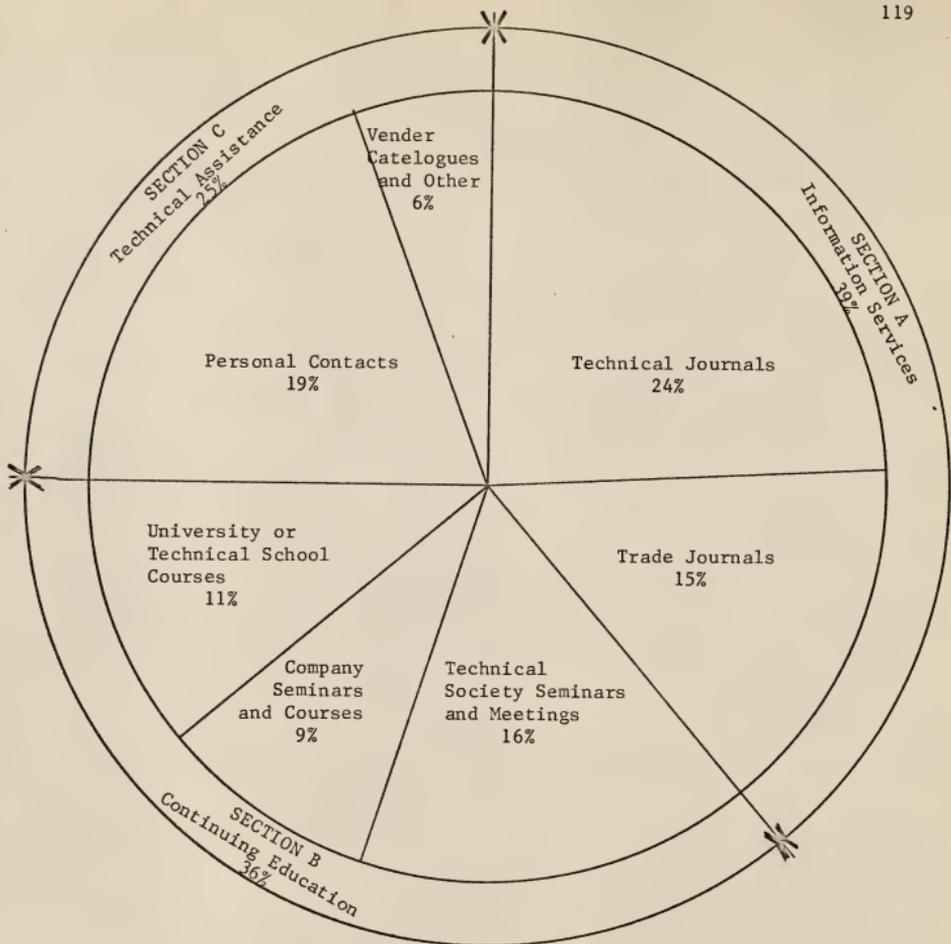


Figure 11.--How Kansas Businessmen Maintain Competence in Their Specialty Area--Journal Questionnaire.

Diffusion Process	First	Second	Third	Fourth
Adoption Stage 5	Self communication (reinforcement and followup to confirm decision)	Neighbors and friends	Government agencies and mass media	Salesmen and dealers
Trial Stage 4	Neighbors and friends (representatives and other companies)	Government (Tri- Pointers)	Mass Media (Journal)	Salesmen and dealers
Evaluation Stage 3	Neighbors and friends (liaison reps)(trade associations)	Government agencies	Mass Media	Salesmen and dealers
Interest Stage 2	Mass Media (Journal)	Government agencies	Neighbors and friends	Salesmen and dealers
Awareness Stage Stage 1	Mass Media (maga- zines, newspapers, r radio, and TV)	Government agencies (Tri-Pointers)(SBA, CofC, KIES)	Neighbors and friends	Salesmen and dealers

Figure 12.--Communications Techniques Used During Diffusion Process Stages.

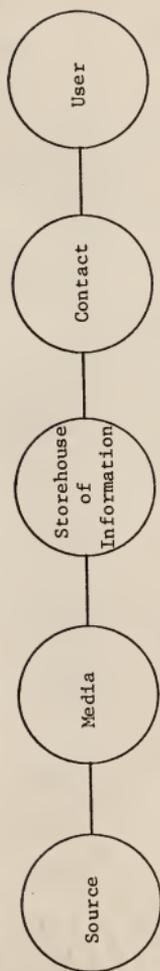


Figure 14.--"Source-User" System.

The Kansas Industrial Extension Journal

A PUBLICATION OF THE KANSAS INDUSTRIAL EXTENSION SERVICE

VOLUME 3, NUMBER 3

MANHATTAN, KANSAS

OCTOBER 1968

New Classes Organized In Coffeyville and Salina

Two additional classes in toolmaking for Kansas industries are being organized in the state using procedures outlined in the KIES continuing education formula, announced Kenneth Reasch, KIES director.

A class entitled "Basic Toolmaking" is set for Coffeyville industry with a class in "Tool Design" scheduled for industries in the Salina area. The first class in this series, "Toolmaking, Jigs, and Fixtures," was organized earlier this summer for industries in the Dodge City area (see Journal article, August issue, page 1).

The Coffeyville class, to be tailored after the Dodge City program, is scheduled to run three hours each Saturday morning for a period of 30 weeks. Classes will be held in the Dodge City Voc-Tech School. Mr. S. S. Barjasalo, machine shop instructor at the school, will be the class instructor. Professor Claude J. Woodard, continuing education coordinator, will continue to serve as the campus advisor fulfilling the function established by the KIES continuing education formula (see Journal article, August issue, page 4).

Class Content Varied

Topics to be covered during the courses include blueprint reading, selection of material for toolmaking, basic metallurgy, and heat treating. An intensive period is scheduled for laboratory work in four basic machine areas including engine lathes, shapers, milling machines, and grinders, according to Woodard. Toward the end of the course the class will be divided into small teams. Each team will be assigned one or four trainees. They will have an opportunity to demonstrate their capabilities by designing and constructing a simple tool that would be of direct value to their respective firms. With the approval of the instructor, construction of the tool will include design, selection of material, heat treatment, and final testing.

No prerequisite have been set for the class except for a need by trainees to profit from the practical training. Fee for the class is \$100 for each participant.

Salina Class Planned

A third class in the series, entitled "Elements of Tool Design," is being planned for in-

dustries in the Salina area. Woodard said. To be held in conjunction with the local Voc-Tech School, the 42-hour course is scheduled to begin sometime in October.

John Nicholson, machine shop instructor in the Voc-Tech program, will teach the 3-hour sessions two evenings each week. Cost of the class is set at \$100.00 per registrant, plus cost of a test.

In carrying out the KIES formula for developing a continuing education class, Professor Woodard will assist the instructor in organizing and teaching the class. Woodard, who is an assistant professor of industrial engineering at Kansas State University, has been developing this series of classes throughout the state during this past summer. In addition to 20 years of teaching experience in physical metallurgy, nondestructive testing, welding, and machine shop practice, Woodard has a Ph.D. from the University of Missouri. A member of numerous honorary and professional societies, he has special research competence in the areas of X-ray diffraction at

(Continued on page 4, column 2)

READER NOTICE

Only One More Issue Will Be Mailed Unless We Hear from You!

The Kansas Industrial Extension Journal is limited in the number of copies that can be mailed each issue. This is the best to last issue that will be mailed to you unless you indicate your interest to continue receiving the Journal. To remain on the IEM mailing list of the Journal, please check the appropriate statement on the Reader Action Card in the upper right-hand corner of page 3. If an Action Card is not received on this issue, the December Journal will be the final one delivered to you.

Clip the Action Card now and mail it in to the KIES office today. Only one more issue will be mailed without your notification!

Managing Editor

In Six Kansas Cities

Computer Classes Teach EDP Methods

Interested in learning new methods to speed up and expand the handling and analysis of business information in your firm? Need to obtain a better indication of profitability, liquidity, solvency, and overall health of your company on a periodic basis?

Two-day conferences are being scheduled at various locations throughout the state to attract representatives of manufacturing concerns in ways and means of satisfying these needs through effective use of computers in electronic data processing (EDP) operations. The ten-day four course, entitled "Use of Computer-Based Records," will be offered in Wichita, Dodge City, Hays, Topeka, and Chanaw. It is the coming month, according to Kenneth Reasch, KIES director.

Computer Is Used

KIES has contracted with Central Computing, Inc. of Wichita to offer the specially designed workshops to show manufacturing organizations how a computer can be useful in annual budgeting, cost accounting, inventory control, and financial analysis.

The sessions will be held in alternate weeks and be designed toward programming and internal theory of computers, but will emphasize procedures which a company needs to

establish in order to furnish the data a computer requires. Reasch said. The participants will be

KIES-Sponsored Computer-Based Record-Keeping Systems

City	Date
Wichita	Oct. 22-23
Dodge City	Nov. 22-23
Hays	Dec. 19-20
Salina	Dec. 22-23
Topeka	Jan. 19-21
Chanaw	Jan. 24-25

instructed on the type of documents an organization would have to use—such as work-in-process cards, material requisitions, ledger of accounts payable and accounts receivable, as well as the current method in get this data.

Participants to the conferences will be able to show the data a computer can deliver on a periodic basis to a company. This information includes personnel and check writing, as well as accounting analysis, covering 35 different business ratios that give manufacturers an indication of the current status of their business.

Computer "print outs" of the financial information can be delivered to a computer user delivered on a daily, weekly, bi-monthly, or monthly basis, depending on the plant's location from the computer operator.

Computer-Based Records "This is not a conference on how to program a computer," Reasch clarified, "but an intensive" (Continued on page 1, column 4)



PEST INSPECTION—Industry employes from manufacturing firms in the Dodge City area got a first-hand inspection of the machines they will use in the class "Basic Toolmaking" during the first session held in the Dodge City Area Vocational Technical School. Jack Patton (center), a spokesman for Speed King

Corporation, is instructor for the 40-hour continuing education class which is co-sponsored by KIES and the Western Kansas Manufacturers Inc. (WKMI). Professor Claude Woodard (right), assistant professor of industrial engineering at Kansas State University, is director of the course.

El Dorado Industry Employees To Receive Corrosion Course

"Corrosion: Causes, Prevention, and Control" is the title of a new continuing education course being offered to industrial employees in the El Dorado area beginning October 22.

The course, to be presented in cooperation with the Butler County Community Junior College, will provide basic information on the mechanics of corrosion, the factors affecting the rate of corrosion, and ways of controlling and limiting corrosion. Pipeline operators, power plant people, water plant operators, refinery operators and metallurgists, painting contractors, well drillers, design engineers, process engineers, and many other specialists will profit from the course, according to Dr. William H. Hoesford, KIES technical field representative.

The 20-hour course will meet for eight consecutive Tuesdays,

beginning October 22. Each meeting is from 7:30 to 10:00 p.m. Prerequisites for the course will be high school chemistry or its equivalent. The registration fee is \$20.00. A textbook will be available; sale and purchase of the book are optional.

The course will be taught by William H. Hoesford, chief chemist for the Mobil Oil Refinery at Augusta. Hoesford has an M.S. degree from The University of Kansas and has spent 35 years with Mobil Oil largely working on corrosion problems. He has consulted for all the Mobil Oil refineries in the United States, England, and Italy in the general area of corrosion.

ACTION

REGISTER your employees for this course to benefit your firm and save considerable costs. For descriptive literature and forms, WRITE: Dr. William H. Hoesford, Kansas Industrial Extension Service, 1251 Easton Hall, Kansas State University, Manhattan, Kansas 66505.

According to Hoesford, corrosion costs over \$5.3 billion annually in the United States. The shut down of various units in oil refineries, the loss of product and the cost of maintenance, decreased efficiency of pumps, transfer lines and heat exchangers because of corrosion, the contamination of products with metallic elements and the replacement of corroded parts are ways in which corrosion costs industry money. "The intelligent use of the knowledge available about corrosion control and prevention can reduce this cost," Hoesford said.



Figure 15.--Front Page of October 1968 Issue of the Journal.



The Tri-Pointer

A PUBLICATION OF THE KANSAS INDUSTRIAL EXTENSION SERVICE

IN COOPERATION WITH THE OFFICE OF STATE TECHNICAL SERVICES, U.S. DEPT. OF COMMERCE



Figure 16.--The Tri-Pointer Letterhead.

Monday, November 6, 1967

Industrial Firms to Hear Of State Technical Help

Special to The Eagle
MANHATTAN, Kan. —
"Speak Out for Kansas Industry" is the theme of the first Industrial Extension Liason Conference Saturday on the campus of Kansas State University here.

Sponsored by the Kansas Industrial Extension Service (KIES), the conference is designed to review the interests of Kansas manufacturing firms and provide company liason representatives with an understanding of the State Technical Services Program, said Kenneth Razak, KIES director.

KANSAS
Iola Register

FEB -2 1967

State to publish a newspaper for businessmen

MANHATTAN, Kan. (AP)—A new tabloid-size newspaper, The Kansas Industrial Extension Journal, has made its debut.

The newspaper, to be published every two months, was designed as an aid to business and industry.

The editorial approach, Kenneth Razak, director of the Kansas Industrial Extension Service said, will be to specify the exact procedure that a business or industry can follow to utilize fully the information and educational resources of the state and federal governments.

Features, programs and personnel at each educational institution will be described to acquaint business and industry with these resources.

Editor is Dean R. Kenny, staff member of the Division of Information at Kansas State University.

neth Razak, KIES director.

THE MORNING session will include a discussion by Razak on the nature of Kansas industry, and a review of the State Technical Services Program. Other topics will include an explanation of the functions of the industrial, academic and co-operative extension programs in Kansas.

Following a noon luncheon, industrial liason representatives will have an opportunity to "speak out" concerning the interests of their respective companies and help outline the role KIES can play in assisting manufacturers to better utilize the resources of Kansas universities and colleges.

The KIES liason program recently was established to provide an important channel of communications between the extension service and personnel within Kansas industry, Razak said.

"THE CONFERENCE will provide a first-hand opportunity for us to exchange information which is vital in developing action programs for industry and commerce," he said.

The liason personnel attending will represent diverse manufacturing firms throughout

the state. Each representative has been appointed to act as a single channel through which new clinical information can be disseminated to his firm, Razak explained.

Business and industrial firms in Kansas are invited to nominate company employes to serve as industrial extension liason representatives and request reservations for this first conference, said Razak.

Information on all activities are forwarded to each representative through the Kansas Industrial Extension Journal, a bimonthly newspaper, Razak added.

KANSAS
Abilene Reflector-Chronicle

FEB -2 1967

New Paper to Aid Business

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Features, programs and personnel at each educational institution will be described to acquaint business and industry with these resources.

Editor is Dean R. Kenny, staff member of the Division of Information at Kansas State University.

Figure 17.--Examples of News Releases of KIES Activities.

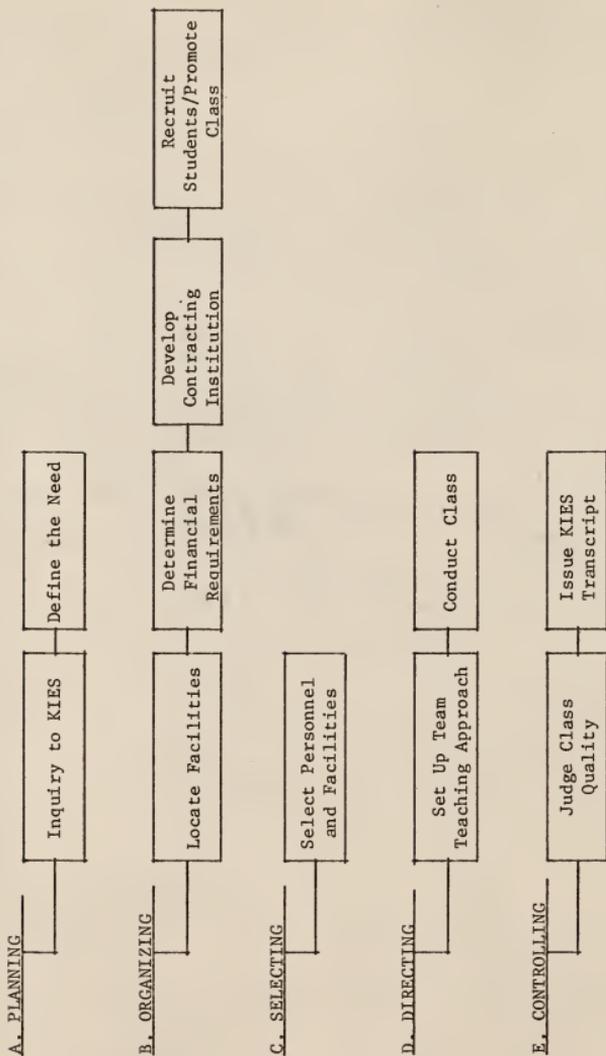


Figure 18.--KIES Continuing Education Class Flow Chart.

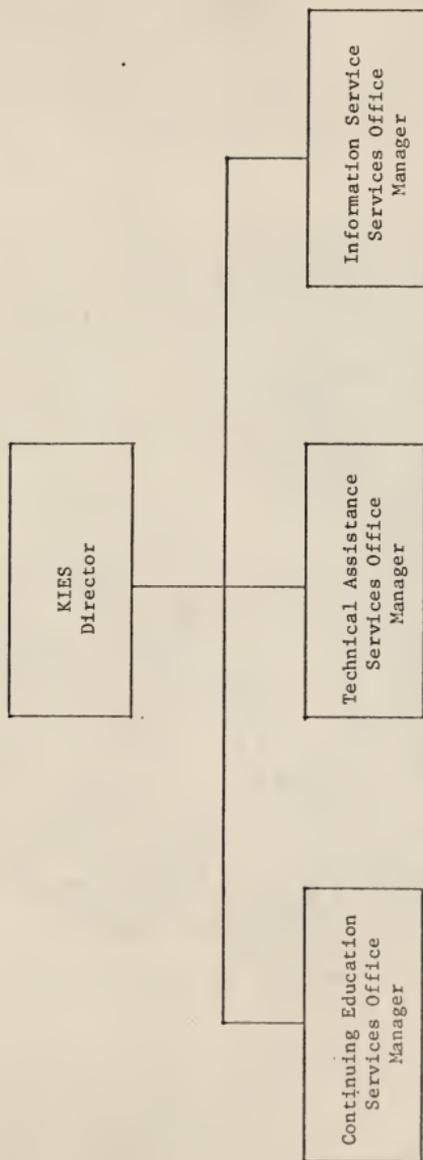


Figure 19.--Proposed KIES Marketing Organization--Three Service Offices (SO).

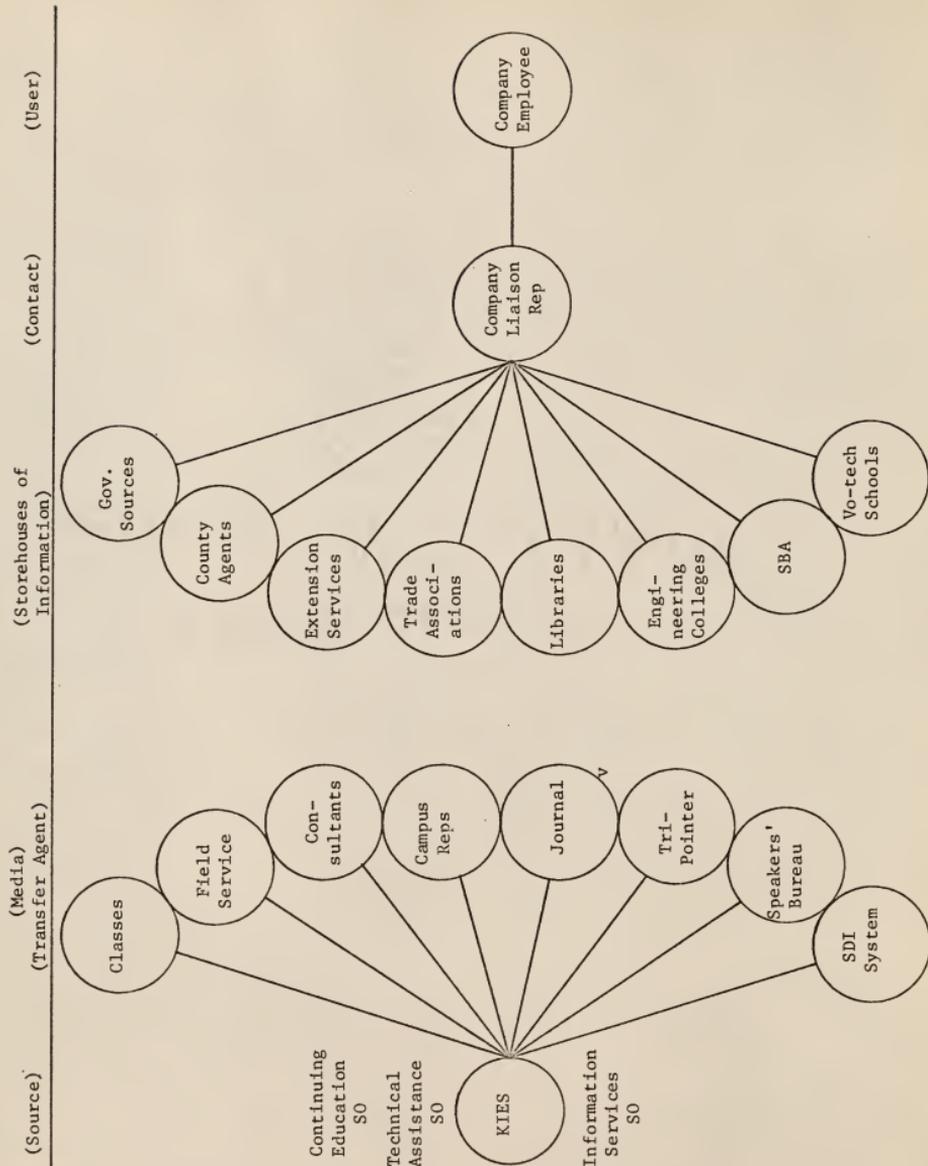
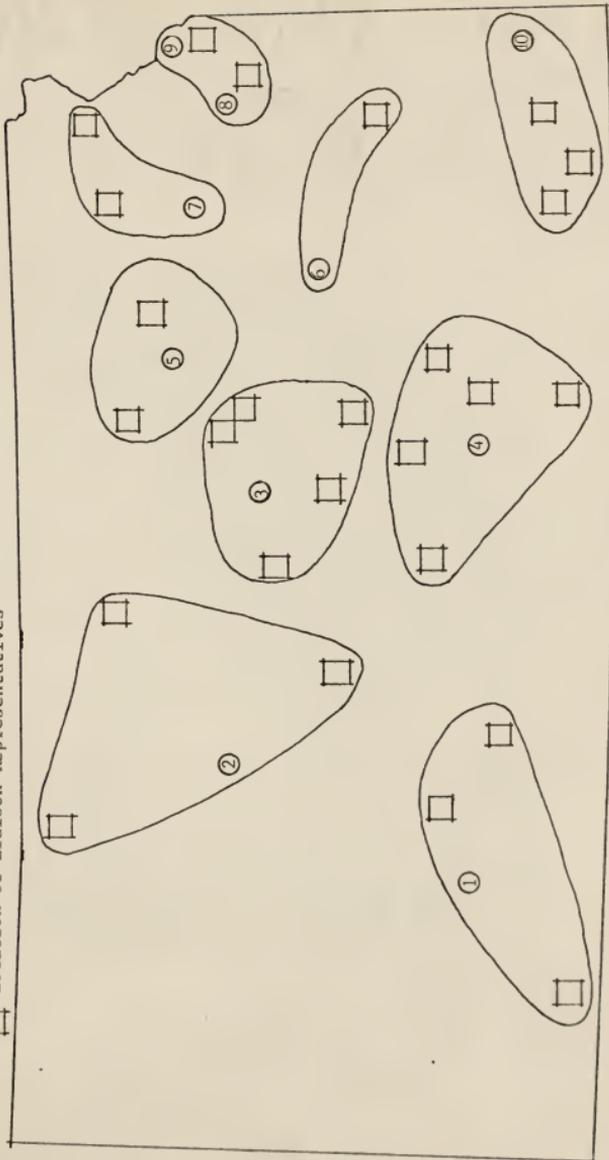


Figure 20.--Proposed KIES Storehouses of Information System.

○ Designated Library "Storehouse of Information"
 □ Location of Liaison Representatives



- | | | |
|-----------------------------------|--------------------------------|-----------------------|
| 1. Dodge City Public Library | 6. William Allen White Library | 9. Linda Hall Library |
| 2. Forsyth Library | Kansas State Teachers College | Kansas City, Missouri |
| 3. Fort Hays Kansas State College | 7. State Libraries of Kansas | 10. Porter Library |
| 4. Salina Public Library | State House in Topeka | Kansas State College |
| 5. Wichita Public Library | 8. Watson Library | of Pittsburg |
| 6. Farrell Library | The University of Kansas | |
| Kansas State University | | |

Figure 21.--Proposed KIES-Sponsored "Business/Industry Technical Information Service Centers."

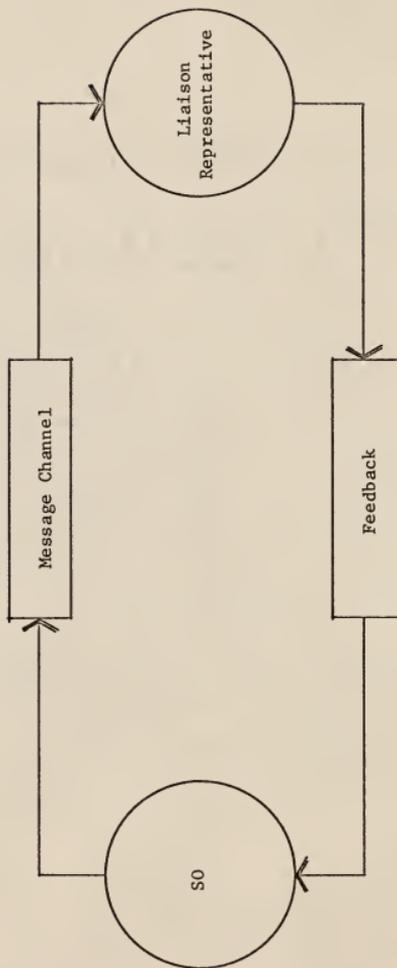


Figure 22.--Communications Flow Providing for Feedback.

KIES LIAISON PROGRAM VISIT REPORT

Representative _____ Date _____

Company visited _____

Persons visited _____
_____What elements of the "Tri-Point Program" appear to be of most value?

_____Why? _____

_____Questions or Comments _____

(Signature)

Class Evaluation Questionnaire

The course you have completed has been offered by the Kansas Industrial Extension Service as part of the State Technical Services program in Kansas. To determine the value of this class and to obtain an indication of new courses desired, students are requested to evaluate the class just completed. Your cooperation in furnishing the following information will be appreciated.

1. Name of class _____
2. Location of class _____
3. Name of student _____
4. Subject matter of course was A review of material taken _____ years ago; Background information; New to me; Gave specific working information.
5. Course level was Too low for me; Okay for me; Too high for me.
6. Meeting times were Convenient; Inconvenient.
7. Would you take additional courses of this type? Yes; No.
If yes, what topics? _____
8. What was your primary objective in taking this course? _____
9. Was it achieved? Yes; Mostly; Partially; No.
10. Suggested changes or improvements in the class: _____
11. Comments on instruction: _____
12. Other comments: _____

(Use back of page for additional comments)

KIES Information Utilization Questionnaire

Name of Company _____ Date of Inquiry _____

Address _____ Description _____

Requestor _____

Type of Request Literature Search Technical Assistance Call Referral Service Consulting Service Publication Loan Photo Copy Service

1. Did you find the information of use to your operation? yes, no
Why? _____

2. Was the information complete and of sufficient detail to be helpful?
 yes, no

3. What specific benefits or opportunities did the information provide to you? Cite specific examples.

4. Do you require additional information on which to base a technical or business decision in this area? yes, no. What additional questions do you have?

(Date)_____
(Signature)

Figure 25.--Technical Information Utilization Questionnaire.

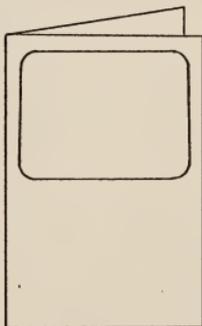
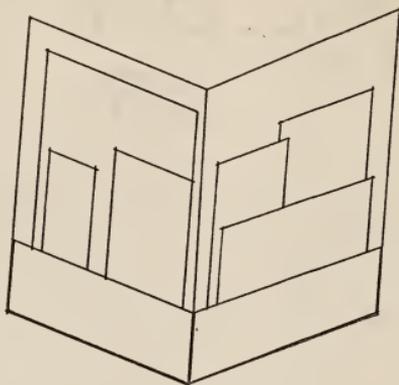


Figure 26.--Liaison Program Information Folder.

TABLES

TABLE I. GOALS OF THE STS PROGRAM AND KIES IMPLEMENTATION

STS Goals (Ten-Point Program)	KIES Strategy (Needs Defined)	KIES Tactics (Specific Tasks)
1. Encourage the examination of technological and economic conditions state by state and the development of sound plans on a broad base of participation, aimed at improving the local economy through introduction and application of new technology.	Develop industry profiles and conduct surveys of manufacturing firms in the State to determine needs and interests of specific companies (Industry Profiles.)	Western Kansas Survey Wichita Survey Survey of Printing Industry
2. Similarly, to support the identification of interstate, regional, or national problems of special significance and the action programs designed to resolve such problems or to diminish the unfavorable conditions they cause.	Initiate a Southeast Kansas Project to improve manufacturing and educational opportunities in an Economically Depressed Area (EDA).	Develop a Wood Utilization and Manufacturing venture in conjunction with numerous state and Federal extension agencies on a regional basis.
3. Increase the ability of scientists, engineers, technical managers, and business administration personnel to acquire and make use of new science and technology by assisting in the establishment of, or helping to strengthen programs of continuing professional education.	Sponsor a variety of continuing education programs of a professional nature to upgrade technical knowledge and skills. Develop and organize a variety of professional classes to meet specific needs of manufacturing employees	Highway Capacity Workshop Workshops on Use of Technical Libraries Workshop on Introduction to Computers for Engineers Conference on Subsurface Exploration for Engineering Purposes Workshop on Technical Problem Solving with Computers (Fortran) Automatic Controls Course Foundation Engineering Conference Urban Technology Seminars Management of Small Business Class, Columbus, Kansas Applied Descriptive Geometry

TABLE I. Continued

STS Goals (Ten-Point Program)	KIES Strategy (Needs Defined)	KIES Tactics (Specific Tasks)
<p>4. Encourage State-university-industry cooperation. Included in this objective are inter-institutional relationships and interstate activities. Broaden the base of institutional participation in assisting local industry to apply new scientific and technological discoveries to their own purposes.</p>	<p>Conceive of the Industrial Extension Liaison Program consisting of a company and campus representative.</p>	<p>Design and Analysis of Aircraft Structured Workshop Forums and Workshop on Printing Technology</p>
<p>5. Increase the ability of industry broadly to gather and assimilate the pertinent aspects of the scientific and technical report literature for potential applications through the general introduction of many specialized methods of literature search, abstracting services, microfilm techniques, computerized storage and retrieval of information, and making greater use of consultants and other locally available sources of enterprise and information services.</p>	<p>Encourage campus professors to assist industry with technical problems or refer to engineering consultants in the State.</p>	<p>SDI proposal to all Liaison representatives and key companies in State as well as participation in regional planning meetings with CIRAS and other state STS personnel.</p>
	<p>Publicise and promote a Selective Dissemination of Information (SDI) System on a regional basis based on a program originally developed at Iowa State University--called CIRAS.</p>	

TABLE I. Continued

STS Goals (Ten-Point Program)	KIES Strategy (Needs Defined)	KIES Tactics (Specific Tasks)
6. Generate a complete exchange of information among the states concerning their respective technical services programs so that all participants may learn through the example of others.	Plan and produce a bi-monthly newspaper, The Kansas Industrial Extension Journal, as a medium of information exchange between industry, the State, and publics outside the State.	Elevel newspaper issues published to date with circulation of over 7000 copies each issue.
7. Assist in the development of local, state, regional, and national resources, particularly in terms of bringing the best available skill to bear upon the problems identified through these objectives.	Implement a technical referral consultant system in the State developed by the Research Foundation of Kansas.	Refer specific problems to key technical experts located on college campuses, and consulting firms in the State.
8. Encourage innovation and entrepreneurship as recognized driving forces behind economic development.	Develop specific articles and feature stories in the Journal to illustrate these forces.	A variety of articles published in the Journal to date.
9. Study the processes by which technology is transferred, identifying those factors which assist and those which impede such transfer, and develop more positive means of obtaining the desired objective of technology transfer by participating in the establishment of linkages between the generators and the potential users of new knowledge.	Conceive and implement the Liaison Program as a valuable communications link between KIES, companies, and institutions of higher learning in the State.	Over 80 companies affiliated with more than 20 professors serving as counterpart representatives in the State.

TABLE I. Continued

STS Goals (Ten-Point Program)	KIES Strategy (Needs Defined)	KIES Tactics (Specific Tasks)
10. Work with educational institutions, professional and technical societies and other government agencies at all levels in achieving the above objectives, without overlap or gap, while bringing the best available resource to bear on each problem identified.	Analyze and develop interface relationships with a variety of agencies and institutions in the State.	Good working relationships established with Coop Extension, Academic Extension, Kansas Department of Economic Development, Vo-Tech schools, trade associations, colleges, and universities in the State.

TABLE II. LIST OF "THE TRI-POINTER" NEWSLETTERS

Regular Issues	Subject	Date Mailed
1	Mailing addresses for college catalogs	12/20/67
2	Summary of Kansas Industrial Extension Service sponsored programs	1/11/68
3	Proceedings of first "Speak Out" conference	2/20/68
4	Proceedings of second "Speak Out" conference	2/20/68
5	Selective dissemination of information	3/20/68
6	Announcement of Hesston College class	3/7/68
7	Question of the month	3/25/68
8	Tasks to implement the "Tri-Point Program"	6/13/68
9	List of Liaison Representatives	7/16/68
10	Special Class Announcement	7/18/68
Special Issues		
	Announcement of Third "Speak Out" conference	4/5/68
	Soil mechanics and technology seminar announcement	7/15/68

TABLE III. OFFICES OF CONTINUING EDUCATION

Organization	Office
1. Statewide Extension Services	<p>A. Kansas Industrial Extension Se-vice Director Kenneth Razak 125 Seaton Hall, Ks. State Univ. Manhattan, Kansas 66502</p> <p>B. Cooperative Extension Director Robert Bohannon 122 Umberger Hall, Ks. State Univ. Manhattan, Kansas 66502</p> <p>C. Academic Extension Director Howard Walker 645 North Hampshire Lawrence, Kansas 66044</p>
2. Kansas State University	<p>Continuing Education Director Norman Harold 301 Umberger Hall, Ks. State Univ. Manhattan, Kansas 66502</p>
3. The University of Kansas	<p>Division of Extension Director Howard Walker 645 North Hampshire Lawrence, Kansas 66044</p>
4. Wichita State University	<p>Continuing Education Director Helen Crockett 102 Morrison Hall, Wichita St. Univ. Wichita, Kansas 67208</p>
5. Kansas State College	<p>General Extension Director Clifford Long 215 Russ Hall, Ks. State College Pittsburg, Kansas 66762</p>
6. Kansas State Teachers College	<p>Continuing & International Education Director Robert McAdoo 309b Plumb Hall, KSTC Emporia, Kansas 66801</p>
7. Fort Hays State College	<p>Field Services Director Ralph Huffman 209 Picken Hall, Ft. Hays St. College Hays, Kansas 67609</p>

TABLE IV. THE ABC'S OF DEVELOPING A "TRI-POINT PROGRAM"

Purpose of Liaison Representatives

1. Get acquainted with Kansas industry and universities
2. Teaching function
3. Agents to transfer new technology in companies

A. Specify Company Goals

1. Personal Communications

- a. Campus Representative visits the Company Representative (travel paid by KIES)
 - 1) Meet personnel
 - 2) Become familiar with products, operations, level of technology
- b. Company Representative invited to campus
 - 1) Meet educational personnel
 - 2) Become acquainted with educational programs and technical resources and equipment at university

2. Conduct a Survey of Company Interests

- a. Define specific goals of the company (related to employees, product, technology improvement, and sales)
- b. Inventory the educational requirements of the company (at all levels, any subject matter)
- c. Tabulate available educational courses or programs in Kansas that will satisfy the requirements (extension classes, workshops, seminars, Vo-Tech programs, correspondence courses)

B. Define a Program for Company

1. Develop and Suggest Methods and Techniques to Transfer and Use New Technology in the Company

- a. Campus Representatives act as a transfer agent
- b. Campus Representatives do not solve problems
- c. Suggest new information resources needed by company
- d. Recommend needed technical assistance services or professional technical consulting or management consulting

2. Recommend Company Classes (to train employees to make use of new technology)

- a. Prepare and submit a project proposal to KIES for funding and approval

TABLE IV. Continued

- b. Initiate plans to offer proposed classes to companies within the region
 - c. Consider opportunities for development of technology days or field demonstrations of new technology
- C. Implementation of the "Tri-Point Program"
- 1. Participate in classes (from planning of class with KIES and Campus Representative through completion of class)
 - 2. Continue liaison visits to Company and Campus

A COMMUNICATIONS PROGRAM FOR THE KANSAS INDUSTRIAL EXTENSION

LIAISON PROGRAM

by

DEAN RICHARD KENNY

B. A., University of Iowa, 1953

AN ABSTRACT OF A MASTER'S THESIS

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The Kansas Industrial Extension Service (KIES) has developed a program to transfer technology to businesses and industries in Kansas as part of the State Technical Services Program in the state. This study investigated the background and operation of the Industrial Extension Liaison Program and suggests ways to improve communications between KIES and the companies participating in the program.

The overall objectives of the STS Program are outlined along with the goals established for Kansas by the KIES director. The accomplishments of the Liaison Program as a major device to implement the objectives of the STS Program are reviewed.

The characteristics and information needs of the Company and Campus Liaison Representatives as well as Kansas industry are described. To provide better understanding of communication requirements, a study of the types of information preferred by the average businessman is presented. In addition, a discussion concerning how businessmen accept new ideas and the techniques that can be used to stimulate them to participate in the KIES program are included.

Finally, a variety of recommendations are offered to improve communications with the Liaison Representatives. As a result of the study, the author advises that the overall program be viewed in a "marketing" perspective, where the management challenge is related to the selling of specific products and services to companies affiliated with the Liaison Program. Three specific product lines are identified which are part of the KIES "Tri-Point Program"--continuing education, information service, and technical assistance. In order to effectively market these technical information areas to the Liaison Companies,

three product line offices (PLO) under the direction of sales managers are proposed. Several new information services are suggested as part of the PLO operations including Technical Information Service Centers to improve availability of business information to Kansas companies. Development of a qualified field service staff, including KIES personnel who are regarded as "salesmen of technology," is also recommended. Developing an effective continuing education program in each Liaison Company is encouraged so that Liaison Representatives may assist company employees in raising the technical capability level within their firms.

In improving the communications program with Liaison Representatives, suggestions are made to develop and improve the motivation and incentives for Liaison Representatives participating in the program. The Liaison Program is viewed as an important channel of communications to be used by the managers of each of the proposed product line offices.

Several appendixes are included with exhibits and illustrations of a variety of communication devices of potential value to representatives affiliated with the Kansas Industrial Extension Liaison Program.