

PERCEPTIONS OF SELECTED MANUFACTURERS TOWARD  
UNIVERSITY EXTENSION SERVICES

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## CHAPTER I

### INTRODUCTION

Two divergent factors joined to create the problem that prompted this study. The first factor was the nationally accelerated growth of education and training in industry in the United States in the twentieth century and the corresponding competition for this business among suppliers which include higher education. The second factor was the desire of Oklahoma State University (OSU) University Extension in Oklahoma City to fully realize its service potential to manufacturers in Oklahoma City.

Knowles (1969) pointed up the urgency of higher education to supply the services needed by industry and nose out other competitors when he discussed current trends and issues in higher education as part of a study for the Committee on Higher Education in 1969:

The ultimate issue confronting higher adult education in the 1970s is that of survival. The pressure of societal need for massive, relevant, and dynamic programs for the continuing education of adults is becoming so great that if it cannot be satisfied within our institutions of higher education, it will be satisfied outside them. University adult educators are increasingly apprehensive over competition from big business (p. 46).

Robert Kost (1979), Director of Marketing Education Services for General Motors Corporation, saw a quality gap and innovation lag by higher education in meeting industry's needs. He also emphasized the competition industry generated, saying:

Industry is not only a major consumer of continuing education provided by others; it is also a major provider of continuing

education, with large in-house training staffs and facilities. If competition is conflict, then industry is a source of conflict in continuing education, competing directly with other providers and pitting provider against provider as bidders for its continuing education dollars (p. 37).

That industry was a "major consumer of continuing education" was a fact. Robert F. Risley (1967), Dean and Professor of the New York State School of Industrial and Labor Relations, Cornell University, said:

In some of the larger corporations more is spent on education than is spent in many city school systems and colleges. It is likely that more adults are involved in some phase of the business and industry program than in any other type of adult education today (pp. 200-201).

It was estimated that what United States companies spent annually for higher education rivaled expenditures of the federal government (Watkins, 1980). Four out of five companies with 500 or more employees offered opportunities for formal education to their employees. This was in addition to any specific job related training or education. Obviously here was a large market for higher education; the question was, would industry utilize higher education to meet its educational/training needs?

Being aware of OSU's mission as a land-grant university, and of Oklahoma City's population level and economic base, OSU University Extension was not serving the Oklahoma City area to the extent it desired. The University Extension Needs Assessment Report 1980 gave the present population of Oklahoma City at 850,000 people, projected to top one million by 1990. The 1976 employment level was 315,378 jobs and the predicted level for 1981 was 364,227 in the working force. The combined total University Extension enrollment in the Oklahoma City area for fiscal years 1974 through 1979 was 1610. Adding the 2120 participants from Tinker Air Force Base for this same period gave a total

of 3730 people served, although one of the competition factors OSU University Extension had to deal with in offering its services to Oklahoma City was that three other universities serve the Oklahoma City area. The report showed several potential possibilities for more service. One of these possibilities was manufacturing firms.

#### Statement of the Problem

The specific problem of this study was the lack of information or understanding regarding the low level of utilization of OSU University Extension services in Oklahoma City by manufacturers.

#### Need for Study

Considering Oklahoma City's population level and economic base, OSU University Extension services utilized from 1974 to 1979 in Oklahoma City, and OSU's mission as a land grant university, manufacturers in Oklahoma City were not utilizing OSU University Extension resources at a desired level. A good beginning point for increasing utilization of OSU University Extension resources by manufacturers was to determine what perceptions, or level of awareness, they held of OSU University Extension. Hence a perceptual study was decided upon. This study would then be helpful in determining a future course of action to bring about the desired increase in resource utilization.

#### Purpose of the Study

The purpose of this study was to determine how manufacturers in Oklahoma City perceived OSU University Extension.

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## Objectives

The objectives of this study were to determine:

1. The general feelings and practices of each firm concerning the use of higher education for education and training.
2. The general and specific perceptions of each manufacturer about OSU University Extension.
3. The extent of past utilization by each manufacturer of OSU University Extension.
4. Possible avenues for future service to each manufacturer.
5. If differences existed in perceptions and utilizations among the manufacturers based on size.

## Scope

The scope of this study was:

1. Manufacturers with 50 or more employees located in Oklahoma City and its surrounding suburbs. The employee level was limited to 50 or more due to the interview technique used to collect the data.
2. The questionnaire was given to the personnel director, training director, or lacking one of these, the person in the manufacturing company most knowledgeable about the company's educational/training programs and policies.

## Limitations

The limitations for this study were as follows:

1. The information on the questionnaires may have been biased by the unconscious prejudices of the spokesman for each manufacturer.

2. Perceptions apply only to manufacturers in Oklahoma City and results may not be generalized to include other areas.

3. The source for the population, Manufacturers in Oklahoma City, 1980, was not meant to be a commercial directory but rather a reference, and therefore some manufacturers may have been overlooked.

4. The stratified random sample collected did not necessarily represent the same percentage of each employee-size classification.

#### Definition of Terms

University Extension: The third major function of a university, including all educational activities of the university other than traditional campus teaching and research devoted to the education of young people. In this study when used in a general sense, university extension included both cooperative and general extension; when spoken of specifically as OSU University Extension, it included only general extension.

Education: "The imparting or acquisition of knowledge, skill, etc." (Barnhart, 1959, p. 383). It had the connotation of a broader area of learning than training in this study.

Training: "The making proficient by instruction or practice of some skill, art, trade, etc." (Barnhart, 1959, p. 1284).

Industry: Trades or manufactures as a collective group.

Manufacturer: One who makes goods or wares by machinery. This range of goods is infinite, so long as machinery production is involved, i.e., jewelry, food items, car parts, cars, clothing items, storm windows, building supplies, etc.

Higher Education: Institutions of learning offering education above the high school level.

Inside (in-house or internal) Resources: Those educational/training resources existing within the manufacturing company, such as the company training function, the company training materials, company training personnel.

Outside (out-of-house or external) Resources: Those educational/training resources existing outside (not related to) the manufacturing company, such as higher education institutions, private consultants, union training programs.

### Organization of the Study

Chapter I introduces the study, presenting the problem, need for the study, purpose of the study, objective, scope, limitations and definition of terms. Chapter II includes a review of related literature concerning the history of University Extension, the history of OSU University Extension, the relationship between higher education and industry, the future for higher education and industry, related studies, and a summary. Chapter III describes the design of research for this study, including the population and sample, the data-gathering instrument, data collection procedures, and analysis of data. The findings of the study are reported in Chapter IV. Chapter V concludes the study with a summary, conclusions and implications for research and practice.

## CHAPTER II

### REVIEW OF LITERATURE

The problem of this study was a lack of information or understanding regarding the low level of utilization of OSU University Extension services in Oklahoma City by manufacturers. The review of literature supporting and explaining this problem is presented thus: (1) A History of University Extension; (2) OSU University Extension History; (3) The Relationship Between Higher Education and Industry; (4) The Future for Higher Education and Industry; (5) Related Studies; and (6) Summary.

#### A History of University Extension

University extension was a culmination of many efforts, both English and American. Creese (1941) described this when he likened university extension history to that of a typical American family, originating in England and having its first American settlement somewhere between Philadelphia and Baltimore. On the English side, university extension viewed such relatives as study circles, mechanics institutes, the Wesleyan Movement, public extension lectures to women and laborers at Cambridge originated by James Stuart, and circuit riding professors. The American family tree included mechanics institutes; the American Lyceum (1826), a lecture system and public forum; farmers' institutes; Chautauqua (1874), a blending of religious and educational evangelism; short courses; correspondence study; library

centers for lectures and study such as those for workers at John Hopkins University in Boston; public lectures; the "Chicago movement" (1892), where university extension as a function of the University of Chicago was first viewed as an "integral part of the university and not a sideline;" and in the "Wisconsin Idea" (1906), a most effective and significant effort by a state university to take the university to the people (Shannon, 1965, pp. 8-14).

The growth of industrial education can clearly be seen in tracing the history of university extension. From the beginning industrial education was present, in the mechanics' institutes, in James Stuart's lectures at Cambridge to railway workmen, in Johns Hopkins' extension center for industrial communities in the late 1800s, in the extension work of Dean Louis E. Reber at the University of Wisconsin in the early 1900s (Morton, 1953).

University extension experienced a lean period from the early 1890s until the birth of the "Wisconsin Idea" at the University of Wisconsin in 1906. Here was the turning point for university extension, with the establishment of a ". . . service agency with responsibility for helping to meet the needs of government, agriculture, industry and the adult public . . ." throughout the state (Knowles, 1969, p. 10). From that time, through two world wars and a depression, university extension continued to grow. Morton (1953), in a study for the National University Extension Association in 1953, pointed out that it was during the early 1900s that university extension took organized form and gained official status in the university. Shannon (1965) emphasized this official "establishment" by noting the emergence of a major third university function, extension. (The other two functions



were teaching and research.) Shannon also delineated four primary functions of university extension:

1. The direct transmission of regular university courses of study to people unable to come to campus.
2. The transmitting of regular university instruction to meet the "intellectual, cultural or vocational needs" of youth and adult, originally as a remedial function, now more as a refresher function for college graduates.
3. The placing of university departments into a direct and consultive relationship with public associations (i.e., schools, industry, state and federal agencies).
4. The creation of new university agencies attuned to public needs (p. 28).

The growth of university extension was greatly affected by several important pieces of federal legislation. The first of these was the Morrill Act of 1862, which provided grants of land in return for the establishment and support of land-grant colleges. The Morrill Act of 1862 specified that the college should teach, without excluding scientific and classical studies, ". . . such branches of learning as are related to agriculture and the mechanic arts" (Creese, 1941, p. 101). Further, these colleges were established ". . . to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life" (Creese, 1941, p. 101). In 1890 a second Morrill Act was passed, which broadened the curriculum to include the English language, and the various branches of mathematical, physical, natural, and economic sciences. Though agriculture was to be the dominant extension service for many years, here was the mandate for land-grant colleges to establish not only agricultural extension, but also general extension.

In developing the background of general university extension, Morton (1953) pointed up the importance of agricultural extension on

the general university extension movement. Shannon (1965, p. 43) described agricultural extension as ". . . the most effective adult education activity in the United States, one of the oldest, probably the largest, and certainly the most developed." Agricultural extension was greatly bolstered by two pieces of legislation, the Hatch Act of 1887 and the Smith-Lever Act of 1914, both of which gave federal assistance to agricultural extension services. In addition, the Smith-Lever Act fostered the birth of the Cooperative Extension Service. As the complexion of the United States changed in the last half of the 20th century from predominantly rural to predominantly urban, general university extension grew as a recognized sister service function to agricultural or cooperative extension.

#### OSU University Extension History

As with so many university extension histories, that of OSU was tied in closely with agricultural extension. Roberts (1979, p. 121) summarized the importance of agriculture in early Oklahoma extension when he said, "In the Constitution of Oklahoma, the design was made up pretty much for the benefit of the dirt farmer and the people of the soil." Oklahoma A. & M. was established by the first legislature of the Oklahoma Territory in 1891, when the legislature voted to accept the provisions of the Morrill Act and establish a land-grant college. Agricultural experiments and research began immediately in this new agrarian economy of early Oklahoma, to be aided by the Hatch Act and the Smith-Lever Act. The Cooperative Extension Service was active in the traditional areas of home economics, agriculture, and 4-H youth work (Roberts, 1970). Though the Cooperative Extension Service,

agricultural extension, was the dominant force in OSU extension for many years, the ground work for general university extension was laid with the establishment of a land-grant university, whose mission included not only agricultural education but non-agricultural areas such as engineering and technology as well.

There was a great change in extension at OSU in 1965 with the arrival of Dr. J. C. Evans as new Dean and Director of Extension. Evans viewed extension as a function flexible enough to meet all the changes happening in our culture and as a function responsible for promoting the idea of lifelong learning (Roberts, 1970). Consequently, Evans created "University Extension," which included under its umbrella all areas of extension, i.e., agriculture, business, engineering, home economics, arts and sciences, etc. Then in 1975 a second structural change was made, separating the traditional organization, Cooperative Extension, from the non-traditional, General University Extension (Hannah, 1979). The non-traditional organization was called OSU University Extension.

#### The Relationship Between Higher Education and Industry

The relationship between higher education as a supplier of services and industry as the consumer was clarified by examining some specific perceptions these two held of each other. Robert L. David (1977, p. 6), in a speech to the Adult Continuing Higher Education Conference in North Carolina, said industry had begun to view education as ". . . an overexpanded, underproductive but overproducing business pouring out graduates in such numbers that they cannot all be absorbed into the

labor force." David went on to say that higher education's greatest competitors as suppliers of education/training were its former benefactors, such as large corporations and government who were getting into the education/training "business." For example, General Motors, International Telephone and Telegraph, and the Central Broadcasting System had their own vocation schools; many corporations sponsored college credit courses.

Peter Chapman (1975), a spokesman for Shell Oil Company, said Shell Oil Company viewed continuing education strictly pragmatically and offered little or no support for continuing education on philosophical grounds. Beverly McQuigg (1980), staff supervisor of the Training and Development Department of Chesapeake and Potomac Telephone, Bell System, echoed this when she said:

Non-business-oriented motives for training--e.g., dedication to the concept of education solely as a means of upgrading a work force--are rare. Corporate motives for training tend to be short-term, functional, and mission-oriented (pp. 324-325).

Robert Kost (1979), a spokesman for General Motors, said the same thing--General Motor's principal objective in continuing education was pragmatic. Kost drew all three statements together when he said he didn't view higher education as responding to the specific pragmatic needs of industry, or as taking the initiative to go after industry's education/training business.

A stereotype of industry from many educational viewpoints was of "the international corporation as a vast monolith, built upon oppression, motivated by greed, and ultimately leading to Armageddon" (Healy, 1979, p. 273). Just as important as this perception of industry by educators was their perception of the branch of extension serving industry.

Shannon (1965, p. 68) said this aspect of extension, the functional side, produced the most qualms among educators. Some educators perceived functional extension as turning a campus into ". . . a nonintellectual drugstore and quasi-academic repair shop." Others said that the concept of the "utilitarian university," as envisioned when Van Hise started university extension at the University of Wisconsin in 1906, if ever valid, no longer was in the face of the private and public agencies now providing these services.

These contrasting perceptions of each other by industry and higher education hit upon a key dilemma for higher education as competitors for industry's educational/training needs: pragmatic education versus liberal education. A comparison of education in industry and in school showed that in industry education was pragmatic by necessity, not a public concern, and success was measured by profitability (DeCarlo, 1966). In school, education held a long tradition of liberal learning, was a public concern and the success measures were very elastic.

#### The Future of Higher Education and Industry

There were several concepts concerning the future relationship between these two forces. One possibility was the establishment of degree programs offered by higher education in conjunction with industry. John T. Yantis (1979), Director of the Institute for Personal and Career Development at Central Michigan University (CMU), said since its establishment in 1971, this institution had an average of 9000 adult students per year participating and cooperative arrangements were made with dozens of industries and government agencies throughout the

Western hemisphere. He listed particular steps CMU followed in serving the corporation, and most of these steps involved using corporate input and making the courses not only appropriate to the corporation but as convenient as possible. Nadler (1970, p. 322) noted this trend when he commented in the Handbook of Adult Education on the use of university faculty and special "training companies" of the university by industry.

The next concept was an idea championed by many current leaders of the adult education field--lifelong learning. Liveright (1968, pp. 7-16), using as a basis the demographic, occupational and vocational, social and economic trends he delineated, deduced that ". . . a life-long, integrated program and process of learning must be developed" and that students of all ages must "learn how to learn." Hutchings (1969) noted that industry as well as schools had recognized this need for continuing education, as much for self-preservation as any other motive. No man could any longer learn one skill that would serve him for his entire lifetime. DeCarlo (1966) took this one step further and said there was a need for modern company training to encompass some general, liberal education to serve for lifelong learning. He said the modern worker must have an education that will enable him to transfer acquired knowledge to new situations and to continually acquire new knowledge.

Another school of thought was the mutual need industry and higher education had for each other. DeCarlo's (1966) explanation of this was, first, that industry would benefit greatly in developing the more formal educational programs changing technology demanded by closer cooperation with their counterparts in education who had already done much work and development of continuing education programs. Higher education's benefit would come in finding new and practical approaches

to financing once industry viewed education as an "investment." Healy (1979) addressed this same situation, saying higher education needed industry, not only for the financial support, but also because the business community helped form public opinion, which could damage education via legislation and the ballot box. Industry needed higher education because higher education was in the process of preparing people to live in the free enterprise system.

Shane (1979, pp. 1-4) drew much of this together when he predicted what business could expect from education in the 1980s. He predicted more emphasis would be put on business and industry oriented preparation of university graduates; less emphasis would be on the traditional higher education approach and more on functional or vocational education; a closer linkage would exist between education and industry; and there would be more competition for higher education with curricula now developed "beyond school walls."

#### Related Studies

The author was not able to find any directly related studies of industrial perceptions of university extension. Several perceptual studies were found which provided good general background for conducting a perceptual study (see bibliography, i.e., Kroeker, Shultz, Noeth). In addition, two indirectly related studies were found which had significance for this study.

The first of these was an unpublished Ed.D. dissertation by Hannah (1979), "A Comparison of Internal and External Perceptions of the Urban Extension Agent's Role at Oklahoma State University." This perceptual study was undertaken to determine any differences in perceptions of the

duties of the OSU University Extension Representative by three different groups of people associated with the Extension Representative. The study proved support ". . . for the idea that one of the major difficulties in academic organizations is that role definitions and perceptions vary considerably from one person to the next" (Hannah, 1979, p. 62). In addition, this study showed more congruence among off-campus participants than on-campus in relation to the Representative's perceived duties. The implications of Hannah's research to this study were the variety of perceptions to a particular aspect of university extension the study revealed. In addition, this wide range of perceptions came from people who had knowledge of university extension.

A study undertaken by Cosner et al. (1980) at Oklahoma State University entitled "The Awareness of the General Public of Oklahoma of the Instruction, Extension, and Research Components of the Division of Agriculture at Oklahoma State University" used a telephone survey to determine perceptions or awareness. Of interest to this study was the fact that Cosner's perceptual study showed a high level of awareness by the public for Cooperative Extension, the sister service function of OSU University Extension.

#### Summary

This study traced the genealogy of university extension, including its beginnings with industry. The modern functions of university extension and their development, and the growth of university extension as the third major function of the university were discussed. Two factors significant to the history of university extension and this study were the creation of land-grant colleges, and the agricultural extension



movement and the federal legislation supporting this movement.

The history of OSU University Extension was traced from the early days of Oklahoma A. & M. and the Cooperative Extension Service to the current structure of Cooperative Extension (traditional) and General University Extension (non-traditional). The mission of OSU as a land-grant university to serve all the people in Oklahoma in non-traditional as well as traditional areas was established.

The relationship between industry and higher education was examined in light of the perceptions these two held of each other. These perceptions led to a key dilemma between the two, pragmatic education versus liberal education.

The future of the relationship was examined by considering current concepts about the direction the future would take. The first of these was the concept that higher education should establish degree programs to be conducted within industry, or create their own "education companies" to deal with education/training in industry. Next was the idea of lifelong learning as the only answer in a society where technology changed daily. An extension of the lifelong learning approach was the idea that some liberal education was needed for this lifelong learning, in order to equip the learner with necessary skills, abilities, and knowledge. A third concept was the mutual need industry and education had for each other. The fourth concept involved predictions about the relationship in the 1980s, forecasting a closer linkage between industry and education, more emphasis on the pragmatic side of education and less on the liberal side, and more competition than ever for education from sources other than schools.

Two specific related studies with indirect significance for this study were cited. Both studies dealt with forms of university extension perceptions.

## CHAPTER III

### METHODOLOGY

The purpose of this study was to determine how manufacturers in Oklahoma City perceived OSU University Extension. This chapter is a description of the design of research to achieve this purpose. The population and sample are described, followed by a review of the instrument, data collection procedures and analysis of data.

#### The Population and Sample

The population was 172 manufacturers employing 50 or more individuals in Oklahoma City and surrounding suburbs. The population was determined by using the Manufacturers in Oklahoma City, 1980 directory, published yearly by the Economic and Community Development Division of the Oklahoma City Chamber of Commerce. Information for the directory was obtained through a special survey conducted by the Economic and Community Development Division. This directory was compiled as a reference and not a commercial directory; however, with its listings of 898 manufacturers, classified not only by number of employees but by Standard Industrial Classification Major Groups and market areas, it was one of the most complete resources available in Oklahoma City.

The random sample for this purposive study was stratified by groupings based on the number of employees in the manufacturing company, using nine manufacturers from each of four employee-size classifications

or groupings: Group A, 50-99 employees; Group B, 100-249 employees; Group C, 250-499 employees; and Group D, 500 or more employees. These employee-size classifications produced groups which did not contain an equal number of manufacturers; in fact, the classifications ranged in size from 17 to 80 manufacturers. (See Appendix A for complete information on population and sample size.) Hence the nine manufacturers used as a sample for the group with 80 manufacturers would not be as representative as the nine manufacturers used as the sample for the group with a total of seventeen manufacturers in it. However, the minimum representative sample for any group was 11 percent of that group, and the total sample was 21 percent of the population. Van Dalen (1979) stated a 10 to 20 percent sample was often used for descriptive statistics.

A random sampling was determined for all four groups of manufacturers by using Kendall and Smith's Table of Random Numbers (Popham, 1973). Groups A and B each had four manufacturers refuse to participate in the study; Group C had one manufacturer refuse and Group D had none. In the event of a refusal, another manufacturer was randomly selected by the method previously described.

#### The Data-Gathering Instrument

The instrument used for this study was a questionnaire designed by the author. The author designed the questionnaire based on a study of other perceptual data-gathering instruments and the objectives outlined for this study. The validity of the instrument was then tested by the "jury method," gathering input from a panel of ten "jurors" or experts. (See Appendix B for list.) These experts were persons

knowledgeable in one or more of these fields--adult education, education in industry, or university extension. Suggested changes were considered and acted upon to produce the final form of the questionnaire. A copy of the final questionnaire is included in Appendix C.

#### Data Collection Procedures

The data was collected by a combination interview/written questionnaire method. The appropriate person in each manufacturing firm was initially contacted by telephone and an appointment was made by the researcher. The questionnaire and a cover letter (see a copy of the cover letter in Appendix D) were then mailed in advance, with the respondent having the option of completing the questionnaire prior to the visit. In all cases the researcher, at the beginning of the interview, answered any questions about the questionnaire and briefly discussed the items on the questionnaire with the respondent. All of these interviews were conducted by the same person following the same procedure in order to provide the greatest continuity possible for collection procedures.

#### Analysis of Data

Questionnaire items were reviewed and summarized in both narrative and chart form, using percentages. Comparisons by employee-size classifications were also made where deemed appropriate by the researcher. The results of the "comments" questions were summarized and reported in narrative form.

## CHAPTER IV

### PRESENTATION OF FINDINGS

The purpose of this study was to determine how manufacturers in Oklahoma City perceived OSU University Extension. This chapter presents the findings of the study in this order: (1) Training Practices; (2) Identity Perceptions of OSU University Extension; (3) Knowledge and Utilization of OSU University Extension; (4) Perceptions of Higher Education Institutions; (5) Additional Comments from Manufacturers; and (6) Observations from Conducting Interviews.

#### Training Practices

The first item of the questionnaire dealt with the number of individuals employed by each company. This information was used to place the results of each questionnaire in the appropriate employee-size classification. The sample population (n) for this study consisted of 36 manufacturers, randomly selected in groups of nine from each of four employee-size groupings: Group A, 50-99 employees; Group B, 100-249 employees; Group C, 250-499 employees; and Group D, 500 or more employees. When discussing some results, Groups A and B were combined to form small manufacturers (50 to 249 employees), and Groups C and D were combined to form large manufacturers (250 or more employees).

Table I shows manufacturers' utilization of internal resources for their training/educational programs. Responses were expressed as a percent of programs that used internal resources. Twenty-seven of the 36 companies reported that 75 percent or more of their training programs utilized internal resources. There was no large differentiation among the four groups.

TABLE I  
PERCENT OF PROGRAMS USING INTERNAL RESOURCES

	None	25%	50%	75%	100%
Group A ( 50- 99)	1	0	1	3	4
Group B (100-249)	0	0	2	4	3
Group C (250-499)	1	2	0	1	5
Group D (500+)	<u>0</u>	<u>2</u>	<u>0</u>	<u>8</u>	<u>0</u>
Total n	2	4	3	15	12

Companies utilizing outside resources for some percentage of their training programs indicated use of a variety of outside resources as shown in Table II. Technical institutes, being utilized by 42 percent of the manufacturers, were the most frequently utilized, though as the table shows, distribution of use of all resources was very even among the manufacturers. One resource not listed on the questionnaire was reported by 17 percent of the manufacturers: professional associations.

TABLE II  
OUTSIDE RESOURCES UTILIZED

	Group A n	Group B n	Group C n	Group D n	Total n	(%)*
Private Consultants	1	2	1	4	8	(22%)
Technical Institutes	3	5	2	5	15	(42%)
Four Year Colleges	1	4	2	5	12	(33%)
Two Year Colleges	0	2	1	7	10	(28%)
Other Companies	3	4	3	2	12	(33%)
Other: Professional Associations	1	2	2	3	8	(22%)
Miscellaneous	1	1	0	2	4	(11%)

\* Percentages total more than 100% due to multiple answers by manufacturers.

Sixty-six percent of the sample population said that they did have an employee performance appraisal or evaluation as shown in Table III. There was a notable difference in the use of formal appraisals among the four groups: Group A manufacturers used the employee performance appraisal less frequently than manufacturers in the other three groups.

Only twenty-one percent of the 24 manufacturers who used performance appraisals reported that they never used the appraisals to determine



training needs. Seventy-nine percent reported that they used appraisals "sometimes," "usually," or "always," The results are shown in Table IV.

TABLE III  
UTILIZATION OF EMPLOYEE PERFORMANCE APPRAISAL

	Yes n	No n
Group A ( 50- 99)	4	5
Group B (100-249)	6	3
Group C (250-499)	7	2
Group D (500 +)	<u>7</u>	<u>2</u>
Total n, (%)	24 (66%)	12 (34%)

TABLE IV  
FREQUENCY OF USE OF EMPLOYEE PERFORMANCE APPRAISAL  
TO DETERMINE TRAINING NEEDS

	Always n	Usually n	Sometimes n	Never n
Group A ( 50- 99)	1	1	1	1
Group B (100-249)	1	1	3	1
Group C (250-499)	3	2	2	0
Group D (500 +)	<u>0</u>	<u>0</u>	<u>4</u>	<u>3</u>
Total, n (%)	5 (21%)	4 (17%)	10 (41%)	5 (21%)

Table V illustrates the utilization of outside resources to accomplish regulatory training requirements such as the Occupational Safety and Health Act or the National Electric Code. Seventy-four percent of all companies reported they used outside resources for this purpose "sometimes" or "usually." Twenty-six percent reported they never used outside resources to meet regulatory training requirements.

TABLE V  
UTILIZATION OF OUTSIDE RESOURCES TO MEET  
REGULATORY TRAINING REQUIREMENTS

	Always n	Usually n	Sometimes n	Never n
Group A ( 50- 99)	0	2	4	3
Group B (100-249)	0	1	6	2
Group C (250-499)	0	1	5	3
Group D (500 +)*	<u>0</u>	<u>1</u>	<u>6</u>	<u>1</u>
Total n, (%)	0 (0%)	5 (14%)	21 (60%)	9 (26%)

\* One manufacturer in this group did not respond to this question.

#### Identity Perceptions of OSU

##### University Extension

Identity perceptions of OSU University Extension by manufacturers are illustrated in Table VI. Nineteen companies or 53 percent of the

TABLE VI  
MANUFACTURERS' PERCEPTIONS OF THE IDENTITY OF  
OSU UNIVERSITY EXTENSION

	Group A n	Group B n	Group C n	Group D n	Total n	(%)*
OSU at Stillwater	1	1	0	0	2	(6%)
Service function of OSU concerned with educational needs of students who can- not come to campus	4	2	6	7	19	(53%)
Service function of OSU concerned with agricultural and home economics needs of Oklahoma City residents	1	0	0	0	1	(3%)
Two year technical institute	3	5	2	2	12	(33%)
Other: Unimportant to distinguish	0	1	1	0	2	(6%)

\*Totals more than 100 due to rounding.

sample population responded with the perception deemed appropriate by the researcher: "a service function of OSU concerned with the educational needs of students in Oklahoma City who cannot come to campus." Twelve manufacturers or 33 percent responded that University Extension was a two year technical institute. Looking at the responses by groups, 33 percent (6 out of 18) of the small manufacturers (Groups A and B) perceived University Extension appropriately. This showed less awareness of the identity of University Extension than the large manufacturers (Groups C and D), who had 72 percent (13 out of 18) respond appropriately. The small manufacturers had eight companies (44 percent) perceive University Extension as a technical institute. The large manufacturers had four companies (22 percent) make this response.

#### Knowledge and Utilization of OSU

##### University Extension

The questionnaire gave a definition of University Extension to respondents for the purpose of answering the remaining questions. This definition was "a service function of OSU concerned with the educational needs of students in Oklahoma City who cannot come to campus."

Thirty-four manufacturers or 94 percent of the sample responded that they were aware that Oklahoma City had an OSU University Extension office. Table VII shows these results.

Table VIII lists the methods by which respondents became aware of an OSU University Extension office in Oklahoma City. The largest percentage, 39 percent, responded "brochures, catalogues, or other printed materials," and the next most frequent answer with a 31 percent response was "word of mouth." Under "other methods" four manufacturers responded

TABLE VII

MANUFACTURERS' AWARENESS OF AN OKLAHOMA CITY  
OSU UNIVERSITY EXTENSION OFFICE

	Yes n	No n
Group A ( 50- 99)	8	1
Group B (100-249)	8	1
Group C (250-499)	9	0
Group D (500 +)	<u>9</u>	<u>0</u>
Total n, (%)	34 (94%)	2 (6%)

TABLE VIII

HOW MANUFACTURERS BECAME AWARE OF AN OSU UNIVERSITY  
EXTENSION OFFICE IN OKLAHOMA CITY

	Group A n	Group B n	Group C n	Group D n	Total n	(%)*
Brochures, Catalogues, Other Printed Material	1	3	5	5	14	(39%)
OSU Extension Representative	0	2	1	4	7	(19%)
News Media	0	1	0	0	1	(3%)
Word of Mouth	2	3	3	3	11	(31%)
Other: Personal Knowledge	2	0	3	0	5	(14%)
Drive Past OSU University Extension	3	1	0	0	4	(4%)

\* Percentages total more than 100% due to multiple answers by manufacturers.

that they became aware by driving past OSU University Extension, and five respondents said they became aware through "personal knowledge" such as having a relative attend a University Extension offering, or growing up in the area close to OSU University Extension

Given a list of OSU program areas, respondents were asked which areas offered services through OSU University Extension in Oklahoma City. Of the six areas listed--Arts and Sciences; Business; Education; Agriculture; Engineering, Technology and Architecture; and Home Economics--all but Agriculture actually offered University Extension services. Results in Table IX indicate that Engineering, Technology and Architecture and Business were the areas most known to the manufacturers, with each having been selected by 17 manufacturers. Sixteen manufacturers (44 percent) indicated Agriculture offered OSU University Extension services in Oklahoma City.

When comparing the results by large and small manufacturers, the small manufacturers were less aware of the areas in which OSU University Extension programs were offered than large manufacturers. Table X shows these results. Engineering, Technology and Architecture and Business were the two areas showing the largest differences in awareness between large and small manufacturers.

Table XI deals with the same program areas but shows those areas in which manufacturers viewed OSU University Extension as having expertise. The results showed 20 manufacturers (56 percent) viewed Engineering, Technology and Architecture as an area in which OSU University Extension had expertise. Agriculture, which as stated previously does not offer OSU Extension services, was named by 14 manufacturers (39 percent) as an area in which OSU University Extension had expertise. Table XI indicates

TABLE IX  
MANUFACTURERS' KNOWLEDGE OF OSU UNIVERSITY  
EXTENSION PROGRAM AREAS

	Group A n	Group B n	Group C n	Group D n	Total n	(%)*
Arts and Sciences	1	2	2	1	6	(17%)
Business	1	4	7	5	17	(47%)
Education	1	2	3	4	10	(28%)
Agriculture	2	5	4	5	16	(44%)
Engineering, Technology, Architecture	2	4	6	5	17	(47%)
Home Economics	2	2	3	2	9	(25%)

\* Percentages total more than 100% due to multiple answers by manufacturers.

TABLE X  
KNOWLEDGE OF OSU UNIVERSITY EXTENSION PROGRAM  
AREAS BY SMALL AND LARGE MANUFACTURERS

	Small Manufacturers (Groups A and B)		Large Manufacturers (Groups C and D)	
	n	(%)*	n	(%)*
Arts and Sciences	3	(17%)	3	(17%)
Business	5	(28%)	12	(67%)
Education	3	(17%)	7	(39%)
Agriculture	7	(39%)	9	(50%)
Engineering, Technology, Architecture	6	(33%)	11	(61%)
Home Economics	4	(22%)	5	(28%)

\* Total is more than 100% due to multiple answers by manufacturers.

there were no large differences in perceptions of expertise for the various program areas within the four groups.

TABLE XI  
MANUFACTURERS' PERCEPTIONS OF EXPERTISE IN OSU  
UNIVERSITY EXTENSION PROGRAM AREAS

	Group A n	Group B n	Group C n	Group D n	Total n	(%)*
Arts and Sciences	0	1	2	1	4	(11%)
Business	1	3	3	5	12	(33%)
Education	0	0	2	3	5	(14%)
Agriculture	3	5	3	3	14	(39%)
Engineering, Technology, Architecture	4	6	6	4	20	(56%)
Home Economics	3	3	3	1	10	(28%)

\* Percentages total more than 100% due to multiple answers by manufacturers.

Sixty-four percent of the surveyed manufacturers indicated they had not used OSU University Extension services in the past five years, as shown in Table XII. Thirty-one percent had used these services and five percent did not know if their company had utilized these services. This table shows a difference of use between the small manufacturers (Groups A and B) and the large manufacturers (Groups C and D). Three of the small manufacturers (17 percent) indicated a positive response as



compared to eight large manufacturers (44 percent). Two manufacturers in the study who did not know about past usage were in the small manufacturer group.

TABLE XII  
MANUFACTURERS' UTILIZATION OF OSU UNIVERSITY  
EXTENSION DURING THE PAST FIVE YEARS

	Yes n	No n	Don't Know n
Group A ( 50- 99)	1	7	1
Group B (100-249)	2	6	1
Group C (250-499)	5	4	0
Group D (500 +)	<u>3</u>	<u>6</u>	<u>0</u>
Total n, (%)	11 (31%)	23 (64%)	2 (5%)

Of the 11 manufacturers using OSU University Extension in the past five years, nine manufacturers, or 82 percent, indicated they used public seminar services. Table XIII also shows 36 percent used in-house programs, nine percent used consulting services, and 18 percent used other miscellaneous services, listed as general information.

Table XIV describes the frequency of responses to reasons for using OSU University Extension services by the 11 manufacturers who had used OSU University Extension services during the past five years. Manufacturers were asked to select a first and second choice. In listing the responses, all ratings were treated the same to show overall

TABLE XIII  
TYPES OF OSU UNIVERSITY EXTENSION SERVICES USED

	In-House Seminar n	Public Seminar n	Consulting Services n	Other n
Group A ( 50- 99)	0	0	0	1
Group B (100-249)	1	1	1	0
Group C (250-499)	1	5	0	1
Group D (500 +)	<u>2</u>	<u>3</u>	<u>0</u>	<u>0</u>
Total n, (%) <sup>*</sup>	4 (36%)	9 (82%)	1 (9%)	2 (18%)

<sup>\*</sup> Percentages total more than 100% due to multiple answers by manufacturers.

TABLE XIV  
FREQUENCY OF RESPONSES TO REASONS FOR USING  
OSU UNIVERSITY EXTENSION SERVICES

	Group A n	Group B n	Group C n	Group D n	Total n	(%) <sup>*</sup>
Program or services not available elsewhere	0	0	0	0	0	(0%)
Quality of instruction/ services offered	0	0	3	3	6	(60%)
Prestige of Oklahoma State University	0	1	0	0	1	(10%)
Time at which program was offered	0	0	0	1	1	(10%)
Location of program/services	0	1	5	0	6	(60%)
Cost of services	0	1	0	1	2	(20%)
Topic of services	0	1	2	1	4	(40%)

<sup>\*</sup> One manufacturer who had utilized OSU University Extension services did not respond to this question; hence percentages are based on ten respondents.

frequency. Sixty percent of the manufacturers indicated that quality of instruction and/or services offered and location of program/services were their reasons for using OSU University Extension services.

#### Perceptions of Higher Education Institutions

The remaining tables of this study deal with manufacturers' perceptions of higher education institutions and OSU University Extension specifically. When comparing results, "strongly agree" and "agree" responses were combined as a positive response; "strongly disagree" and "disagree" were combined as a negative response.

Thirty-one manufacturers or 86 percent agreed that higher education institutions have resources for meeting the training needs of industry. Table XV shows the responses by groups. With such a high percentage of all manufacturers agreeing, there was minimal variance in responses with Groups A, B, C and D.

TABLE XV

#### MANUFACTURERS' PERCEPTIONS OF HIGHER EDUCATION INSTITUTIONS HAVING RESOURCES FOR MEETING THE TRAINING/ EDUCATIONAL NEEDS OF INDUSTRY

	Strongly Agree n	Agree n	Neutral n	Strongly Disagree n	Disagree n
Group A ( 50- 99)	3	4	1	1	0
Group B (100-249)	5	3	1	0	0
Group C (250-499)	2	5	0	1	1
Group D (500 +)	3	6	0	0	0
Total n, (%)	31 (86%)		2 (6%)	3 (8%)	

Table XVI indicates that 24 manufacturers or 67 percent agreed that higher education institutions are interested and responsive in working with industry to meet industry's needs. Seven manufacturers, 19 percent, indicated a neutral response; five manufacturers, 14 percent, disagreed.

TABLE XVI

MANUFACTURERS' PERCEPTIONS OF HIGHER EDUCATION  
INSTITUTIONS BEING INTERESTED AND RESPONSIVE  
IN WORKING TO MEET INDUSTRY'S NEEDS

	Strongly Agree n	Agree n	Neutral n	Strongly Disagree n	Disagree n
Group A ( 50- 99)	2	4	3	0	0
Group B (100-249)	3	4	2	0	0
Group C (250-499)	2	3	1	2	1
Group D (500 +)	2	4	1	2	0
Total n, (%)	24	(67%)	7 (19%)	5	(14%)

Table XVII shows manufacturers had no definitive response to the flexibility of higher education institutions in meeting industry's needs. Sixteen manufacturers, 45 percent, agreed that higher education institutions are flexible enough to meet specific training/educational needs of industry; eight or 22 percent neither agreed nor disagreed (neutral); 12 or 33 percent disagreed. The manufacturers' responses were evenly distributed within the groups, with seven of the smaller manufacturers

(Groups A and B) agreeing, five neither agreeing nor disagreeing, and six disagreeing. This was compared to the responses of the large manufacturers (Groups C and D), where nine agreed, three neither agreed or disagreed, and six disagreed.

TABLE XVII

MANUFACTURERS' PERCEPTIONS OF HIGHER EDUCATION  
INSTITUTIONS BEING FLEXIBLE ENOUGH TO MEET  
SPECIFIC NEEDS OF INDUSTRY

	Strongly Agree n	Agree n	Neutral n	Strongly Disagree n	Disagree n
Group A ( 50- 99)	2	0	3	4	0
Group B (100-249)	1	4	2	2	0
Group C (250-499)	1	3	2	3	0
Group D (500 +)	<u>1</u>	<u>4</u>	<u>1</u>	<u>3</u>	<u>0</u>
Total n, (%)	16 (45%)		8 (22%)		12 (33%)

Questions 18 through 22 of the questionnaire were concerned with perceptions only from manufacturers who had used OSU University Extension services. Therefore the pertinent results were from the 11 manufacturers who indicated in Table XII that they had used OSU University Extension services in the past five years. The other manufacturers responded "N" for not applicable and their responses were not used.

Table XVIII indicates the responses of the 11 manufacturers to whether or not the services received from OSU University Extension were satisfactory. Ten manufacturers or 91 percent agreed that the services were satisfactory, three of them strongly agreeing. One had no opinion.

TABLE XVIII

MANUFACTURERS' PERCEPTIONS THAT SERVICES RECEIVED FROM  
OSU UNIVERSITY EXTENSION WERE SATISFACTORY

	Strongly Agree n	Agree n	Neutral n	Strongly Disagree n	Disagree n
Group A ( 50- 99)	0	0	1	0	0
Group B (100-249)	1	1	0	0	0
Group C (250-499)	1	4	0	0	0
Group D (500 +)	1	2	0	0	0
Total n, (%)	10 (91%)		1 (9%)	0 (0%)	

The reasonableness of cost for services from OSU University Extension is reported in Table XIX. Results show ten manufacturers gave a positive response, indicating they perceived the cost as reasonable. Five of those agreeing did so strongly.

The overall program quality of OSU University Extension was rated satisfactory by nine manufacturers or 82 percent of the sample; two manufacturers neither agreed nor disagreed. Table XX shows that three of the nine who gave a positive response strongly agreed.

TABLE XIX

MANUFACTURERS' PERCEPTIONS THAT OSU UNIVERSITY EXTENSION  
COSTS ARE REASONABLE FOR SERVICES OFFERED

	Strongly Agree n	Agree n	Neutral n	Strongly Disagree n	Disagree n
Group A ( 50- 99)	0	0	1	0	0
Group B (100-249)	1	1	0	0	0
Group C (250-499)	2	3	0	0	0
Group D (500 +)	<u>2</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total n, (%)	10 (91%)		1 (9%)	0 (0%)	

TABLE XX

MANUFACTURERS' PERCEPTIONS THAT THE OVERALL PROGRAM QUALITY  
OF OSU UNIVERSITY EXTENSION IS SATISFACTORY

	Strongly Agree n	Agree n	Neutral n	Strongly Disagree n	Disagree n
Group A ( 50- 99)	0	0	1	0	0
Group B (100-249)	1	1	0	0	0
Group C (250-499)	1	3	1	0	0
Group D (500 +)	<u>1</u>	<u>2</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total n, (%)	9 (82%)		2 (18%)	0 (0%)	

Table XXI shows that six of the responding manufacturers or 54 percent gave positive responses to the flexibility of OSU University Extension operations in meeting specific training needs. Five manufacturers, 45 percent, neither agreed nor disagreed.

TABLE XXI  
MANUFACTURERS' PERCEPTIONS THAT THE OPERATIONS OF OSU  
UNIVERSITY EXTENSION ARE FLEXIBLE IN TRYING  
TO MEET SPECIFIC TRAINING NEEDS

	Strongly Agree n	Agree n	Neutral n	Strongly Disagree n	Disagree n
Group A ( 50- 99)	0	0	1	0	0
Group B (100-249)	0	1	1	0	0
Group C (250-499)	0	2	3	0	0
Group D (500 +)	<u>2</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total n, (%) <sup>*</sup>	6 (54%)		5 (45%)	0 (5%)	

<sup>\*</sup> Percentages total less than 100 due to rounding.

The responsiveness of OSU University Extension in meeting manufacturers' expressed needs is reported in Table XXII. Ten of the eleven manufacturers, 91 percent, agreed that OSU University Extension was responsive in meeting expressed training/educational needs. One manufacturer neither agreed nor disagreed.



TABLE XXII

MANUFACTURERS' PERCEPTIONS THAT OSU UNIVERSITY EXTENSION IS  
RESPONSIVE IN MEETING MANUFACTURERS' EXPRESSED  
TRAINING/EDUCATIONAL NEEDS

	Strongly Agree n	Agree n	Neutral n	Strongly Disagree n	Disagree n
Group A ( 50- 99)	0	1	0	0	0
Group B (100-249)	0	2	0	0	0
Group C (250-499)	0	4	1	0	0
Group D (500 +)	<u>1</u>	<u>2</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total n, (%)	10 (91%)		1 (9%)	0 (0%)	

Additional Comments from Manufacturers

In response to the "comments" portion of the instrument, the answers to the question, "What were your greatest problems in dealing with OSU University Extension" were as follows: Groups A and B listed no actual problems in dealing with OSU University Extension, other than a personal shortage of time. Group C had a comment that it was sometimes a problem to apply the information from OSU University Extension to the business world. The only problem from Group D was that OSU University Extension had too many different contact and authority points and this led to coordination and communications problems.

Groups A and B had no response to: "What do you perceive as the greatest strengths of OSU University Extension?" Groups C and D both listed quality of instructors, and Group D also listed cost, location and convenience of services.

All four groups had suggestions for the improvement of OSU University Extension offerings and services (see Appendix E for complete list). The four groups expressed a desire for more offerings of a vocational or pragmatic nature. These suggestions ranged from a general desire for "more vocational education" to suggesting specific desired offerings, such as trades training or an open entry/open exit program for secretarial skills.

Group A had suggestions for more business offerings, especially to help small businesses. Related to this was a suggestion for a course on how to select business insurance. In addition, there was a request for OSU University Extension to publish factual data on all aspects of manufacturing, i.e., new manufacturing techniques, insight into local manufacturing trends, new manufacturing markets, etc. Group B also had requests for some business related courses, such as a course on the techniques of credit collection, and a course to update managers on regulatory law changes.

Groups C and D had some administrative suggestions for OSU University Extension. One was the need for OSU University Extension instructors to remain current in industrial training practices and theories. Another suggestion was that OSU University Extension establish better coordination with sister institutions operating in the same area.

#### Observations from Conducting Interviews

Because the interview technique provides additional information and insight that does not appear on the written report, it is important to present general observations gleaned from the interviews. Some

impressions are as follows below:

1. Smaller companies (Groups A and B) were more difficult to make appointments with and more reluctant to participate in any study than large companies (Groups C and D). After conducting all the interviews, it was the opinion of the researcher that this difficulty was definitely related to the size of the company. Small companies did not have a training director, or usually even a personnel director. These small company interviews were usually with the company owner or manager, who had little time for the interview.

2. All respondents were cooperative during the actual interview. This included those respondents who expressed reservations during the initial phone call about participating in the study.

3. Respondents were very open in expressing their opinions, whether positive or negative, to the researcher. Therefore the researcher felt the responses obtained were true perceptions and not what the respondents thought the researcher wanted to hear.

## CHAPTER V

### SUMMARY, CONCLUSIONS AND IMPLICATIONS

This chapter concludes the study. It begins with a summary and discussion of findings. The findings reported in Chapter IV will be summarized here in two parts: first, the overall responses from the 36 manufacturers in the sample; second, the responses by employee-size classifications where there was some notable difference among the groups. This will be followed by the author's conclusions and implications for research and practice.

#### Summary

The problem of this study was a lack of information or understanding regarding the low level of utilization of OSU University Extension services in Oklahoma City by manufacturers. The purpose of the study was to determine how manufacturers in Oklahoma City perceived OSU University Extension. This perceptual study would then be helpful in determining a future course of action to bring about the desired increase in resource utilization.

The population for the study was manufacturers employing 50 or more individuals in Oklahoma City and surrounding suburbs; the stratified random sample was four employee-size classifications of nine manufacturers each. The data-gathering instrument was a questionnaire designed by the researcher; the data-gathering procedure was a

combination interview-written questionnaire technique. Results were reported in chart and narrative forms, utilizing percentages.

### Analysis of Overall Responses

Part of this study was concerned with some specific training/educational practices of Oklahoma City manufacturers. Most of the 36 manufacturers interviewed reported utilization of internal resources to supply 75 percent or more of their training programs. Though technical institutions were named most often, manufacturers reported using a variety of outside resources for their training programs. Sixty-six percent of the manufacturers utilized an employee performance appraisal. Seventy-four percent of the manufacturers utilized outside resources to meet regulatory training needs at least sometimes.

Manufacturers' perceptions of the identity of OSU University Extension showed that a majority, 53 percent, appropriately perceived the identity of University Extension. However, 33 percent confused University Extension with a technical institute. The researcher surmised that manufacturers were confusing OSU University Extension with OSU Technical Institute specifically. Both institutions, in addition to sharing the OSU name, share the same location in Oklahoma City.

Ninety-four percent of manufacturers were aware of OSU University Extension's office in Oklahoma City. The method by which the largest percentage became aware was brochures and printed materials, followed by "word of mouth."

Business was tied with Engineering, Technology and Architecture as the most frequent responses given by manufacturers in indicating

which of the OSU program areas listed on the questionnaire offered University Extension services. Engineering, Technology and Architecture was the single most frequent response indicating in which OSU program areas manufacturers viewed OSU University Extension as having expertise. The second most frequent response to both of these questions was Agriculture. No OSU program area was recognized as offering OSU University Extension services by more than 47 percent of the manufacturers.

The frequent responses by manufacturers to Agriculture for both of these questions suggested a major misperception on the part of manufacturers, since OSU University Extension program areas did not include Agriculture. It may be that this misperception came from assuming that University Extension would have agricultural offerings because of the agricultural offerings on the OSU main campus at Stillwater, or from confusing OSU University Extension programs with OSU Cooperative Extension programs. As was the case with the OSU Technical Institute, OSU University Extension and OSU Cooperative Extension share the same name and same location in Oklahoma City.

A majority of manufacturers, 64 percent, had not utilized OSU University Extension in the past five years. Of those who had utilized the services in the past five years, the service most used was the public seminar.

There was strong agreement among the manufacturers on two of the three perceptions about higher education institutions, namely, that higher education institutions have the resources and are interested and responsive in meeting industry's needs. Manufacturers who had used OSU University Extension showed very positive perceptions (82 to 91

percent agreeing) to OSU University Extension services in terms of services received, cost, overall program quality, and responsiveness to meeting expressed needs. Fifty-four percent of these manufacturers showed a positive response to OSU University Extension's flexibility in meeting industry's needs.

Manufacturers' response to the third perception about higher education institutions, the flexibility of higher education institutions to meet industry's needs, was not definitive. This same reaction to the perception of flexibility seemed to carry over to the perceptions of OSU University Extension's flexibility. Although a majority of manufacturers using OSU University Extension services agreed that the operations of OSU University Extension were flexible in trying to meet specific needs, this was by far the least positive of the perceptions on OSU University Extension.

The one "comments" response received from all four groups was for more vocationally oriented or pragmatic types of offerings from OSU University Extension. The fact that technical institutes were named most often by manufacturers as an outside resource for training emphasizes manufacturers' interest in practical, immediately applicable offerings.

#### Analysis of Responses by Groups

The notable differences in responses among the employee-size classifications began with the issue of formal appraisals. Fewer Group A manufacturers used employee performance appraisals than manufacturers in the other three groups. This was probably because of the differences in numbers of employees; the fewer the number of employees,

the easier to use an informal appraisal system.

There were differences in group responses to perceptions of the identity and program areas of OSU University Extension. Small manufacturers showed less awareness of the identity of University Extension than large manufacturers. Small manufacturers were also less aware of the OSU program areas which offered OSU University Extension programs.

Utilization of OSU University Extension in Oklahoma City during the past five years indicated that two and one half times as many large manufacturers had used OSU University Extension services as small manufacturers. In addition, the only two manufacturers unaware of OSU University Extension in Oklahoma City were small manufacturers.

### Conclusions

The conclusions drawn from this study were as follows:

1. Oklahoma City manufacturers' perceptions were positive toward higher education institutions as suppliers of training/education for industry. Manufacturers who had utilized OSU University Extension services held positive perceptions of OSU University Extension.
2. The low level of use of OSU University Extension services reported by Oklahoma City manufacturers in the past five years supported the need for this study. The level of usage was lower among small manufacturers than large.
3. There were misperceptions among manufacturers as to the identity (functions) of OSU University Extension and as to the program areas offered by OSU University Extension. This confusion was greater among the small manufacturers than large.
4. Ninety-four percent of the manufacturers in the sample knew



that Oklahoma City had an OSU University Extension office. Therefore it may be that the low level of usage is more because of manufacturers' lack of knowledge of, or misperceptions about, the identity, functions and program areas of OSU University Extension than because of lack of knowledge of the existence of OSU University Extension in Oklahoma City.

5. Oklahoma City manufacturers who had utilized OSU University Extension services expressed satisfaction with these services. Therefore it may be that the low level of usage is more because of manufacturers' lack of knowledge of, or misperceptions about, the identity, functions and program areas of OSU University Extension than because of the content, quality or format of the services themselves.

6. Based on comments from Oklahoma City manufacturers, these manufacturers desire more pragmatic offerings from OSU University Extension.

#### Implications for Research and Practice

The findings of this study have implications for research and practice. Some of the more important implications are as follows:

1. A replication of this study should be made to a much broader sample of manufacturers in Oklahoma City to see if trends noted in this study hold true.

2. A replication of this study could be made in other places in the state, including Tulsa.

3. A replication of this study could be made to other types of businesses or organizations besides manufacturers in Oklahoma City and other places in the state.

4. OSU University Extension should conduct a study to determine the best means of communicating to manufacturers in Oklahoma City the identity, functions and program areas of OSU University Extension. This should be an effort not only to market programs but to convey to Oklahoma City manufacturers the appropriate "image" or identity of OSU University Extension. Emphasis should be given to the best methods of reaching the small manufacturers.

5. Further study of the program format needs of Oklahoma City manufacturers is indicated to determine if flexibility in trying to meet specific training needs is a problem for OSU University Extension in Oklahoma City.

6. OSU University Extension needs to consider Oklahoma City manufacturers' requests for more practical offerings when planning programs for the Oklahoma City area. Some specific requests from manufacturers were:

- a. A course on how to select business insurance,
- b. A course on techniques of credit collection,
- c. Publication or presentation of factual data on various aspects of manufacturing--current costs, new techniques, local trends, new markets, etc.,
- d. A seminar to update managers on regulatory law changes, and
- e. Open entry/open exit training (classes) in secretarial skills.

7. Further study might be indicated to consider the current structure of OSU University Extension, which has many contact and authority points.

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## APPENDICES

# APPENDIX A

## POPULATION AND SAMPLE SIZE

Group	Number of Manufacturers in Group	Number of Manufacturers in Sample	Percent Sample is of Group
A (50-99 employees)	80	9	11%
B (100-249 employees)	56	9	16%
C (250-499 employees)	19	9	47%
D (500 + employees)	17	9	53%
	Total Number of Manufacturers (Population)	Total Number of Manufacturers in Sample	Percent Total Sample is of Population
	172	36	21%

## APPENDIX B

### PANEL OF EXPERTS

Mr. J. O. Grantham	Director, OSU University Extension
Dr. R. Michael Hannah	Urban Agent - Oklahoma City OSU University Extension
Dr. Harvey N. Nigh	OSU Representative - Tinker AFB Oklahoma City OSU University Extension
Mr. Max L. Minor	Urban Agent - Tulsa OSU University Extension
Dr. Wayne B. James	Assistant Professor School of Occupational and Adult Education Oklahoma State University
Dr. Linda M. Vincent	Assistant Professor School of Occupational and Adult Education Oklahoma State University
Dr. John L. Baird	Associate Professor School of Occupational and Adult Education Oklahoma State University
Mr. Phillip W. Offill	Manager Human Resources Development Center School of Occupational and Adult Education Oklahoma State University
Mr. Larry D. Ferree	Vice President, Employee and Community Relations Macklanburg-Duncan Company Oklahoma City, Oklahoma
Mr. James Strong	Training Director Hinderliter Energy Equipment Corp. Tulsa, Oklahoma



APPENDIX C

QUESTIONNAIRE

1. How many individuals does your company employ? \_\_\_\_\_
2. What percentage of your employee training and/or education program utilizes inside resources?
  1. none \_\_\_\_\_
  2. 25% \_\_\_\_\_
  3. 50% \_\_\_\_\_
  4. 75% \_\_\_\_\_
  5. 100% \_\_\_\_\_
3. If you answered question number 2 with answers 1 through 4, please indicate outside resources you have used for company employees' training and/or education (check as many as apply):
  1. private consultants \_\_\_\_\_
  2. technical institutions \_\_\_\_\_
  3. four year colleges or universities \_\_\_\_\_
  4. two year junior colleges \_\_\_\_\_
  5. training programs from other companies \_\_\_\_\_
  6. other (please name) \_\_\_\_\_
4. Does your company have an employee performance appraisal (evaluation)?
  1. yes \_\_\_\_\_
  2. no \_\_\_\_\_
5. If "yes," do you use the results to determine training needs?
  1. always \_\_\_\_\_
  2. usually \_\_\_\_\_
  3. sometimes \_\_\_\_\_
  4. never \_\_\_\_\_
6. Does your company use outside resources to meet their regulatory training requirements (i.e. OSHA, EEO, etc.)?
  1. always \_\_\_\_\_
  2. usually \_\_\_\_\_
  3. sometimes \_\_\_\_\_
  4. never \_\_\_\_\_
7. What does "OSU University Extension" mean to you?
  1. Oklahoma State University at Stillwater \_\_\_\_\_
  2. A service function of OSU concerned with the educational needs of students in Oklahoma City who cannot come to campus \_\_\_\_\_
  3. A service function of OSU concerned with the agricultural and home economic needs of Oklahoma City residents \_\_\_\_\_

4. A two year technical institute located in Oklahoma City \_\_\_\_\_  
 5. Other (please name) \_\_\_\_\_

For the purpose of answering the remaining questions, OSU University Extension will mean a service function of OSU concerned with the educational needs of students in Oklahoma City who cannot come to campus. (RESEARCHER'S NOTE: On the actual questionnaire administered to respondents, question number seven was at the bottom of the first page and this statement was at the top of the second page, so that the response to question number seven could be made without influence from this clarifying statement.)

8. Are you aware that OSU has a University Extension Office in Oklahoma City?

1. yes \_\_\_\_\_ 2. no \_\_\_\_\_

9. If "yes," how did you become aware?

- |   |  |
|---|--|
| 1. brochures, catalogs or other printed materials _____ | 3. news media (radio, T.V., newspaper) _____ |
| 2. OSU Extension Representative _____                   | 4. word of mouth _____                       |
|   | 5. other (please name) _____                 |

10. Which of the following OSU program areas offer University Extension services?

- |   |  |
|---|--|
| 1. Arts and Sciences (i.e. earth sciences, government, languages) _____ | 5. Engineering, Technology, and Architecture (i.e. fire service training, fluid power, technology including National Electric Code, principles of drilling, radiation) _____ |
| 2. Business _____   | 6. Home Economics _____  |
| 3. Education _____  |  |
| 4. Agriculture _____  |  |

11. Check each area in which you view OSU University Extension as having expertise:

- |                            |   |
|----------------------------|---|
| 1. Arts and Sciences _____ | 4. Agriculture _____                              |
| 2. Business _____          | 5. Engineering, Technology and Architecture _____ |
| 3. Education _____         | 6. Home Economics _____                           |

12. Have you used any services of the OSU University Extension in the past five years?

1. yes \_\_\_\_\_ 2. no \_\_\_\_\_ 3. don't know \_\_\_\_\_

13. If "yes," what were they?

- |                                      |                              |
|--------------------------------------|------------------------------|
| 1. in-house program _____            | 3. consulting services _____ |
| 2. public seminar or work-shop _____ | 4. other (please name) _____ |

14. If you have used OSU University Extension services, please indicate from the following possible motivations for using these services, the primary two reasons you used the services. Give the number one to the principal reason you used these services and the number two to the secondary reason.

- |   |
|---|
| 1. program or services not available elsewhere _____    |
| 2. quality of instruction and/or services offered _____ |
| 3. prestige of Oklahoma State University _____          |
| 4. time at which program was offered _____              |
| 5. location of program/services _____                   |
| 6. cost of program/services _____                       |
| 7. topic of program/services _____                      |
| 8. other (please name) _____                            |

Please respond to the statements below by circling your response:

- |                        |  |
|------------------------|--|
| STRONGLY AGREE (SA)    | If you strongly agree with the statement.                                |
| AGREE (A)              | If you mildly agree with the statement.                                  |
| NEUTRAL (N)            | If you neither agree nor disagree with the statement, or not applicable. |
| DISAGREE (D)           | If you mildly disagree with the statement.                               |
| STRONGLY DISAGREE (SD) | If you strongly disagree with the statement.                             |
- 
- |                       |  |
|-----------------------|--|
| (SA) (A) (N) (D) (SD) | 15. Higher education institutions have resources for meeting the training/educational needs of business/industry.  |
| (SA) (A) (N) (D) (SD) | 16. Higher education institutions are interested and responsive in working with industry to meet industry's needs. |
| (SA) (A) (N) (D) (SD) | 17. Higher education institutions are flexible enough to meet specific needs of industry.                          |
| (SA) (A) (N) (D) (SD) | 18. The services your company received from OSU University Extension were satisfactory.                            |

- |                       |   |
|-----------------------|---|
| (SA) (A) (N) (D) (SD) | 19. The OSU University Extension costs are reasonable for the services offered.                             |
| (SA) (A) (N) (D) (SD) | 20. The overall program quality of OSU University Extension is satisfactory.                                |
| (SA) (A) (N) (D) (SD) | 21. The operations of OSU University Extension are flexible in trying to meet your specific training needs. |
| (SA) (A) (N) (D) (SD) | 22. OSU University Extension is responsive in meeting your expressed training/educational needs.            |

Comments:

- a. What were your biggest problems in dealing with OSU University Extension?
  
  
  
  
  
  
  
  
  
  
- b. What do you perceive as the greatest strengths of OSU University Extension?
  
  
  
  
  
  
  
  
  
  
- c. In what ways can OSU University Extension in Oklahoma City improve its services and offerings to manufacturers here in the city?

APPENDIX D

COVER LETTER FOR QUESTIONNAIRE

November 7, 1980

Mr. John Smith, Training Director  
Oklahoma City Manufacturing Company

Dear Mr. Smith:

In order to provide continuing education/training services to better meet your specific needs, the OSU University Extension in Oklahoma City is conducting a perceptual survey of all Oklahoma City manufacturers with 50 or more employees.

Your time investment in answering this survey should be minimal (approximately 5 to 10 minutes), and your response to the questions on the enclosed questionnaire invaluable in providing information for this study. I hope you will consider it worthy of your time and thoughts, and participate through the completion of the questionnaire.

Please be assured that your answers will be kept confidential. Neither individuals nor specific companies will be identified; all findings will be reported in aggregate form.

The questionnaire is enclosed for your perusal; if convenient, feel free to answer it prior to my visit. I look forward to meeting you and answering any questions you may have about the questionnaire or OSU University Extension. I will collect the survey at our meeting on November 12, 1980, at 11:00 a.m.

I greatly appreciate your participation and assistance with this survey and look forward to visiting with you.

Sincerely,

Cindy Bell  
Graduate Assistant  
OSU University Extension

Enclosure (1)

## APPENDIX E

### COMMENTS FROM MANUFACTURERS

Listed below are responses by size groups from manufacturers responding to the question "In what ways can OSU University Extension in Oklahoma City improve its services and offerings to manufacturers here in the city?"

- Group A (50-99 employees) : More vocational education.  
More business offerings, especially for small companies.  
A course on how to select business insurance.  
Factual data on manufacturing costs, new manufacturing techniques, production scheduling; insight into local trends in manufacturing, new manufacturing markets, etc.
- Group B (100-249 employees) : Seminars to update managers on regulatory law changes.  
A course on techniques of credit collection.  
A course on drafting and blueprint reading for construction of pressure vessels to comply with regulatory codes.
- Group C (250-499 employees) : OSU University Extension representative made periodic "needs" checks with training manager or company.  
More "trades" training (i.e. machinists assemblers).  
Continual instructor update on educational practices and theories in industry.

Group D (500 + employees)

: Work with the Oklahoma City Chapter of the American Society for Training and Development for better contact with local trainers.

Open entry, open exit training in secretarial skills.

Establish better coordination with sister institutions in the area; make sure of advanced clearance of offerings with the State Board of Regents.

2  
VITA

Cynthia Bridges Bell

Candidate for the Degree of  
Master of Science

Thesis: PERCEPTIONS OF SELECTED MANUFACTURERS TOWARD UNIVERSITY  
EXTENSION SERVICES

Major Field: Occupational and Adult Education

Biographical:

Personal Data: Born in Birmingham, Alabama, December 26, 1945,  
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Education: Graduated from Lanier High School, Montgomery, Alabama,  
in June, 1964; received a Bachelor of Science in Education  
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quirements for the Master of Science degree, with a major in  
Occupational and Adult Education, at Oklahoma State University,  
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Professional Experience: Junior High School Special Education  
Teacher, Fayetteville, North Carolina, 1969-70; English  
Instructor, GED Program at Ching Chuan Kang Air Force Base,  
Taiwan, 1971-72; English Instructor, Wayne Community College  
Continuing Education Program, North Carolina, Spring, 1975;  
English and Social Studies Instructor, Wayne County Schools'  
Program for Teenage Mothers, North Carolina, 1975-76; Grad-  
uate Assistant, Oklahoma State University Extension in  
Oklahoma City, Fall, 1980.

Professional Organizations: Adult Education Association