GOWN-TOWN SCIENCE TRANSFER: THE UNIVERSITY OF OKLAHOMA-CITY OF OKLAHOMA CITY URBAN TECHNOLOGY SYSTEM EXPERIMENT

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The article outlines an experimental plan which has the objective of exploring the potential of the University of Oklahoma for providing technical support to Oklahoma City public agencies.

The University of Oklahoma-Oklahoma City urban technology system experiment matches University resources to technological City problems. City problems may range from rehabilitating municipal sewers or meeting 1977 federal water quality standards, to improving municipal court scheduling. While addressing Oklahoma City problems, the experiment will also examine two dimensions of the University-City relationship. The first is the range of City agency problems in which innovative technology can be potentially employed. The second is the University as a technology resource center for local public agencies. In this regard, the experiment represents timely evaluation of the adjunct public service role increasingly expected of a university and its teaching faculty. The purpose of this paper, however, is merely to briefly introduce the 1975-76 experimental program between the University and Oklahoma City. Findings in the experiment will be reported elsewhere.

BACKGROUND

The University of Oklahoma-Oklahoma City urban technology system experiment is one element in a nation-wide experiment known as the Urban Technology System (UTS). The national UTS is a four-year, $10,000,000 technology transfer experiment partially funded by the National Science Foundation and conducted by Public Technology, Inc.

The national UTS experiment entered its operational phase in July 1974 with the assignment of a "Technology Agent" in each of 27 medium-sized American cities. The Technology Agents serve directly under a city's chief administrative officer. Each city also has been assigned a "Back Up Site" to serve as a technology resource center. Fifteen Back Up Sites, including six universities, one federal agency, one not-for-profit consulting firm, and seven for-profit firms, support one or more cities. The University of Oklahoma is paired with Oklahoma City.

The first year of the University of Oklahoma-Oklahoma City program (July 1974-June 1975) included the Technology Agent surveying, analyzing and defining a range of City problems, and with the aid of the University of Oklahoma Back Up Site Representative, identifying and involving individual faculty members in specific problems. Problems were limited to those with a technological basis and those that could be addressed in ten days or less of a faculty member's time. Within this relatively limited format four problem or topic areas were studied:

a. project development and control procedures within the City's data processing department,
b. the potential commercial sale of methane gas from a City sewage digester,
c. techniques for making house sewer connections if plastic liners were slip installed in sewer mains, and
d. the potential of energy recovery from solid waste.

In summary, the first year of the University-City urban technology system experiment resulted in some City problems being addressed; however, in the process a range of institutional problems were encountered which has led to a reorientation of the program.

THE 1975-1976 PROGRAM

The 1975-1976 experimental program represents four program thrusts. These include: (a) testing ways of bringing City agency administrators and University resources together, (b) examining the University's technology support role to local governments, (c) translating the experimental program experience into a graduate seminar in technological innovation, and (d) evaluating and documenting the program. Elements in these program areas are described below.

Problem reconnaissance workshops

The concept of the problem reconnaissance workshops is to bring City agency administrators, University faculty members, and other advisors together in one room for a intensive one-day problem-oriented meeting. Focus and meaning are given to the workshop by (a) organizing the workshop around a specific decision that must be made in the near future by attending City administrators, and (b) limiting workshop discussion to evaluating the potential application of a specific new technology to the decision at hand. In the workshop format, the University is providing an inter-institutional and interdisciplinary forum within which a City agency administrator can receive comprehensive expert opinion.

At this writing several problem areas and alternative technologies have been identified for the workshop approach. Among others, these include:

a. The City must improve its sewer lagoon effluent in order to meet 1977 EPA water quality standards. The decision to be made is whether to utilize existing chemical or mechanical tertiary treatment systems or to utilize fish aquaculture, which is a biological treatment alternative that potentially offers significant cost savings.

b. The City is confronted with the pressing need to rehabilitate 200 to 300 miles of City sewers. The decision to be made is whether to excavate and replace, the traditional approach, or to plan to utilize evolving polyethylene slip liner technology, which purportedly offers significant savings.

Faculty quick query service

The service will work as follows. A specific technical question will be identified by the City's Technology Agent while monitoring City Council or department head meetings. He will refer the question to the University's Back Up Site Representative who will solicit, by phone, opinion responses from University faculty members and summarize the responses in a memorandum to the City official.

Administrator/ faculty luncheon program

The intent of the program is to introduce and bring together agency administrators and University faculty members to discuss, during a series of informal luncheons, aspects of agency operations of mutual interest. The broader objective of the approach is to establish working, person-to-person relationships between individual agency administrators and faculty members.

Technology awareness seminars

The objective of the seminars is to share visitors to the University, generally prominent faculty members from other schools, with City administrators.

Analysis of University, resource referral services

Several special-purpose University resource referral services exist or are under development by University agencies. The intent of this program element is to examine the utility of these services to operational City administrators and to tender constructive suggestions.

Analysis of base-line University-to-City support activity

An underlying objective of the national UTS program is to explore and stimulate an expanded university support role to local government. The intent of the activity analysis is to document recent, independent (*i.e.*, non-UTS) University support activity to Oklahoma City agencies with the objective of defining base-line activity against which the current experiment can be measured.

Graduate seminar development

The intent of the graduate seminar is to translate the UTS research experience and

the growing experience from other technology transfer research efforts into a practical introduction to local public sector innovation. The seminar will examine impediments to technology innovation in local public agencies, explore necessary prerequisites and effective methods for effecting innovation, and exercise students in initiating innovation using Oklahoma City agency problems as a laboratory.

Program evaluation and documentation

The program's evaluation and documentation process will include both participant evaluation of the approaches described above and follow-up examination of subsequent City action taken. Dissemination of experimental findings will be of two types. Information about applicable technologies such as those reviewed in problem reconnaissance workshops will be disseminated by newsletter to local agencies. Observations of the innovative processes and approaches tested will represent the basis for introspective examination of University programs, graduate seminar study, and technical reports to the research sponsors.

1975-76 PROGRAM OBJECTIVES

In summary, the 1975-76 experimental urban technology system program has three underlying objectives. In general, they are as follows:

1. *Testing of alternative University faculty support-to-City staff mechanisms.*

Four different mechanisms bringing University faculty members in support to City agency staff have been described. These are:

a. formally structured, decision-oriented, inter-institutional workshops,
b. a structured, question-specific faculty quick query service,
c. an informal, open-ended, relationship-building administrator-faculty luncheon series, and
d. informal, informational technology awareness seminars.

The objective of the current program is to test and evaluate the potential of these alternative approaches toward initiating or supporting local technology transfer and innovation.

2. *Practical agency application of new technology.*

The operational objective of the experiment is to effect City agency adoption and application of some new technologies towards better and lower-cost city management and improving the quality of life in Oklahoma City.

3. *Institutionalization of University mechanisms for technology support to urban public agencies.*

In addition to meeting the contractural requirements of the experiment, the local experiment has another objective. This is to explore and formulate institutional arrangements within the University towards extending the University's traditional service role. It is anticipated that through the experiment an effective program can be developed for active consideration by the University and recipient cities.

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