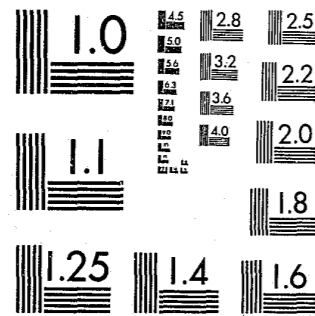


National Criminal Justice Reference Service



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A network based research Consortium

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In 1979 the National Criminal Justice Information and Statistics Service (now the Bureau of Justice Statistics) (BJS) awarded a contract for the redesign of the National Crime Survey (NCS). The NCS is a continuing sample survey of 60,000 households representing the noninstitutionalized civilian population of the United States over 12 years of age. The purpose of the National Crime Survey is to determine by personal interview people's experience with criminal victimization. Each household in the sample is interviewed at the beginning and at six month intervals up to three years to determine whether the household as a whole or any of its members have suffered criminal victimization. Results of the NCS have received much publicity and have been used as both a supplement and a foil for the Uniform Crime Reports.

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The NCS, which is conducted for the Bureau of Justice Statistics by the Demographic Surveys Division of the Census Bureau, is complex and expensive. Shortly after its results first appeared, the NCS was subjected to criticism from a variety of academic, statistical, and criminal justice sources. The combination of the high desirability of such a social indicator and the criticism of the NCS led BJS to fund a project for the reconceptualization of victimization statistics and a redesign for the National Crime Survey.

Organization

The NCS has an ambitious research agenda that requires the coordinated efforts of several geographically dispersed research organizations with expertise in areas of sampling, instrument design, field procedures, criminology, and cognitive psychology. It was decided that such a complex and dispersed project could not be coordinated through the usual means of telephone and mail. Accordingly, the project was from the outset designed to be coordinated through a computer based conferencing and message system. This report describes the membership, organization, and operation of the Crime Survey Research Consortium (CSRC), its successes, failures, and prognosis.

Participants

At its largest, the Consortium has consisted of two government agencies, three research institutes, and four individual research teams. The government agencies are the Bureau of Justice Statistics, the Contract Monitor; and the Bureau of the Census, the Contractor for the National Crime Survey. Participating research organizations are the Bureau of Social Science Research, Washington D.C., the prime contractor; the Survey Research Center, University of Michigan; and the National Opinion Research Center, Chicago Illinois. Individual consultants and their associated research teams are located at Yale University, Carnegie-Mellon University, Northwestern University, Rutgers University, and Indiana University.

Resources

The main electronic resources of the research Consortium are a pair of computing facilities and a telecommunications system.

Computing facility. The Consortium's computing facility includes two large Amdahl computers located at the University of Michigan in Ann Arbor and Wayne State University in Detroit. Both computers support the Michigan Terminal System, a versatile interactive and batch operating system presently in use at seven universities. MTS provides a "public utility" computing environment which includes several hundred documented public programs, data bases, and archives. The Consortium has made use of MTS facilities for the support of on-line conferences, information retrieval systems, document formatters, statistical systems, and project planning systems. In addition, the Consortium has made use of the data archive of the Inter-University Consortium for Political and Social Research (ICPSR) which is also a customer of the University of Michigan Computer.

Telecommunications Systems. The computing facility is reached through three separate telecommunication systems. The Wayne State and the University of Michigan machines are attached through the Merit Computing Network, maintained by a consortium of Michigan University. Merit provides for close electronic communication between Michigan hosts, interactive and batch file transfers, and administrative and consulting help for remote users. The Bureau of Social Science Research (BSSR) is connected to the Wayne State and University of Michigan machines by two

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dedicated leased lines running between Detroit, Ann Arbor, and Washington. The leased lines provide the Washington users with dial-up ports on both machines and with a remote job entry station.

The Merit Network also serves as a host to Telenet, a nationwide data common carrier network. Telenet maintains dial-up ports in more than 160 locations throughout the United States, as well as linking to networks in Canada, Europe, and Asia. Consortium members located outside of Washington or Ann Arbor use Telenet to communicate with the Consortium's on-line conference, located on the University of Michigan Computer.

Operation Of The Consortium

The Consortium's operations are heavily dependent on a variety of programs running on the Michigan Terminal System. Programs most central to Consortium operations are CONFER II, a document processing system, and an information retrieval system.

On-line conference. The Consortium's operations are primarily mediated through an on-line conference open to all members. On-line conferences supported by the Confer II[1] support messages, but are based around a form of communication called an item. An item is a public communication with an author, title, and optional reference list I. The item is open to viewing by all members of the conference, who may append responses to it. The responses in turn are available for viewing and further comment by members of the conference. Figure 1 shows an example of an item from CSRC, the Crime Survey Research Consortium On-line Conference. The conference serves several technical and administrative purposes. It is primarily a seminar for the discussion of research issues and research design and the presentation of findings. The system permits the continuous cataloging of these discussions in a fashion that facilitates the production of final and interim reports as well as professional publications relevant to the surveying of victims. The conference also serves as a Newsletter, scheduling device, and builder of consensus. Meetings are announced in the conference and people allowed to publish and juggle their schedules as a group rather than in telephone calls to the organizer. Deadlines can be published in the conference for public acceptance or demurrer.

The conference is also used by the contract monitor as a medium for authorizing the initiation of tasks and approving reports of progress and completion. It is also used as a reporting medium for members of the Consortium who file monthly and quarterly progress reports as items.

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Document processing system. The Michigan

Item 652 10:41 Oct07/81 16 lines
Sally Hoover
Victimization of older persons issues cont.

Continued interest in the victimization of older persons and possible memory loss with age has led me to send Jim Lynch articles relevant to these two issues. Please contact him if you are interested in obtaining copies of your own. "Selective Anticipation for Events in Old Age" "A Fresh Look at Changes in Reaction Times in Old Age" "Age and Responses to Sequences of Repetitive and Interruptive Signals" "Talking to the Old" All of these are authored by Dr. Patrick Rabbit of the Univ. of Oxford. In addition I have sent Jim a copy of personal correspondence from Dr. rabbit to me in which he discusses the folly of a weighting factor for the victimization rates for older persons.

Discussion votes
Albert D. Biderman: Sally, Have you looked at Leonard W. Poon, *et al.* (Eds.) *New Directions in Memory and Aging* (Lawrence Erlbaum Assoc., 1980)?

Figure 1: A CONFER item.

Terminal System supports a variety of text formatting and editing programs. Many MTS clients use text editors and document formatters to produce reports. Several geographically separated members of the Consortium have used the systems communication and publication facilities to collaborate on the authorship of a document. The first author keys and edits a file of text. After finishing with the file, the first author permits it for access by the second author, who is then notified via the message system. The second author makes his own copy of the file, modifies and adds to it, permits it for access by the first author and send his own completion message. The first author then runs both files through a comparison program which prints side-by-side copies showing the second author's modifications to the original file. The first author makes his own copy of the second draft, and the cycle continues with the authors arguing as necessary via the message system.

Completed documents are usually permitted for reading by all members of the Consortium and are announced by an item in the on-line conference. Comments concerning the document appear as responses to the announcement item, as further items in the conference, or as messages to the authors.

Bibliographic systems. Micro a relational data base system was used for the construction of a bibliography of project documents and of other

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materials relevant to survey research and to research on victimization. The bibliographic system is available to all members of the Consortium but has received little use interactively. Most requests for bibliographic assistance are directed to librarians at BSSR who perform the on-line searches. Using Micro may have inhibited direct use by participants since it required learning an additional processing language, but it permits more flexible categorization and hard copy presentation of bibliographic material.

Statistical work. There has been relatively little data processing or statistical computing on either of the Consortium's machines. Much of the statistical work to date has involved longitudinal files which were not available on the system. Consequently, most statistical work has been done at Yale and Carnegie-Mellon using the computer facilities of these institutions. A major data processing project has been the construction of a three year longitudinal hierarchical file of victimization data. The quarterly files from which the longitudinal file was constructed were obtained from the data archive of ICPSR. The ICPSR archive, located at the University of Michigan, made it possible to access the public use copies of NCS files without the necessity of mailing tapes. Reports documenting the construction of a longitudinal file were produced and circulated electronically. Two other major papers (and more than eight items) have used the ICPSR data. More statistical analysis is planned for the next phase of the Redesign.

Successes

The coordination of the Crime Survey Research Consortium via an electronic communication system has shown some reasonable successes. Perhaps greater success is the centralization of the project's work, making formal and informal communications immediately available to all interested parties. This capability encourages extended dialogue on complex redesign issues. The ability to present complex ideas in written form and receive almost immediate reaction in written form has been an important stimulus to creative work. Moreover, the ability to categorize and store continuously drafts and reactions in agenda categories facilitates summarizing arguments for interim and final reporting. Without this capability it would be impossible to order the Consortium's extensive and evolving research agenda. A second success has been in the use of store and forward messages for scheduling complex tasks and meetings. The project has learned much about the electronic storage and indexing of documents, since all of its major documents originated in machine-readable form. Finally, as the project continues, it has the unique advantage of having its entire corpus of reports, proceedings, and transcripts available for reference and archival purposes.

Failures

The major failure of the electronic interaction system was the low participation rate of many Consortium members. There appeared to be little of a middle ground in participation; people either kept up on a continuing basis or tended to drop out making only the most nominal of contributions. It is not clear whether or not such differences in participation reflect some special characteristic of the electronic environment or whether the environment simply makes manifest what is true of all complicated enterprises.

One factor which may have tended to exacerbate the difference between high and low participation was the inability of certain members to gain sufficient facility with the available tools. It does appear that one factor which exacerbates differences in participation rate is people's familiarity with the operation of the system. Those with low participation rates never gain a level of skill sufficient to allow them to check for messages with any reasonable degree of ease. Low participation rates thus result in difficulty in use, which in turn depresses participation rate. Those senior investigators with the highest rates of participation have entirely circumvented the problem of skill with the computer system by delegating all computing tasks to secretaries. The secretaries, having no choice but to learn the system, soon develop a level of skill sufficient to allow them to function in their proxy capacity.

It is not clear that the electronic system has resulted in significant savings. While it might be used to reduce the travel of some principals with high participation rates, it is still necessary to hold occasional face-to-face meetings to make visual presentations and to include the participation of those who can not or will not use the electronic system. The word processing expenses entailed in using a remote mainframe computer are considerable, but it is impossible to tell how much has been accomplished by the availability of electronic dissemination. In addition, use of the computer has allowed access to a Xerox 9700 Page Printer — a device capable of yielding considerable savings in the production of moderate number of copies. While the cost saving effects of the system are not manifest, the productivity multiplying effects are quite manifest.

Reducing the amount of connect time involved in word processing would lead to considerable savings in computer costs. BSSR has experimented briefly with a "bubble" memory for entering long files, with encouraging results. A word processing system that would permit the transfer of large text edit files to the main frame

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computers with a minimum of connect time would make the Consortium more efficient.

Conclusion

The use of an electronic system for managing a geographically dispersed consortium of researchers is showing a mixed pattern of successes and failures. Overall, the successes probably tend to outweigh the failures. The system is more of a productivity multiplier than a means of saving money. The system tends to make manifest the differences in participation rates, and may contribute to differentially high and low participation. In particular, those with the highest participation rates tend to be technical employees whose duties require a high rate of participation or principals who participate entirely through technical proxies. The situation therefore speaks to the desirability of technical innovations which will reduce the difficulty of interacting via an electronic system.

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