New Technology in the Human Services

Incorporating

Computer Applications in Social Work

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Up Front

New Developments at Home and Abroad

Packaged with this issue of New Technology in the Human Services is a questionnaire, circulated by a Dutch computer consultant, Hein de Graaf, in association with HUSITA (Human Services Information Technology Applications) and the Government of the Netherlands. It has its origins in a meeting on the final day of the HUSITA 87 conference in Birmingham, when those attending charged a small group to undertake a feasibility study about the possible formation of an International Association for Human Service Information Technology. The small group spent some time raising funds for the study, and eventually met in Denver in May 1988. Out of this meeting came the decision to draft and circulate, as far as possible on a world-wide basis, a preliminary statement about the structure and objectives of an International Association (more of this later), and a questionnaire to gather information about the extent of human service computing activities, as well as views about the idea of setting up a linking organisation.

Hein de Graaf asks in the cover note with his questionnaire that you complete and return it to him in the Netherlands. If anyone prefers to send it to the Editor of this journal, we will ensure that it is passed on. Please try to find a few minutes to answer the questions. Our knowledge base of what is already in place, and what new developments are under way, is at best sketchy. A good response to the questionnaire will provide the first overview of world-wide activities, and give a clear indication of whether we are all moving broadly in the same direction, or developing systems which are unique to specific cultures and geographical areas. Hein expects to analyze the survey returns and produce a report during the course of 1989. This journal will both publish a summary of the findings, and give information about ways of obtaining the full report.

Returning to the statement issued from the Denver meeting, this is printed in the current issue. It has already been published in North America in Computer Use in Social Services Network (CUSSnet), volume 8, number 3, along with the questionnaire. Again feedback is vital, so please let us have your views.

Human Services Software Distribution

CUSSnet is run by Professor Dick Schoech from the University of Texas at Arlington. He feels that there is now enough PC based software of direct relevance to the human services to warrant setting up a disk copying and distribution service, and his current list contains 43 programs. Some of these are programs currently in agency use: others are specifically designed for training purposes. Some are demonstration copies only: a few are full working versions, but with the expectation that if you decide to use the program an additional purchase sum will be paid: many are Freeware or Shareware. The list is printed later in this issue, and arrangements are being made to provide the disk copy service through the Editor of New Technology in the Human Services, Bryan Glastonbury. Although the distribution cost has not yet been finally calculated, the provisional price for disks is £9 for a single disk program, plus £5 for each additional disk in the program, VAT, post and packing included. Most on the list are single disk programs.

CTI Centre for Human Services

CTI stands for Computers in Teaching Initiative, and is the name given by the Computer Board for Universities and Research Councils to a scheme to promote the development and use of computer courseware in a wide range of subject areas. A number of CTI centres have been established in British Universities, with 3 year funding from April 1989. The Centre for Human Services is being located at the University of Southampton, with Bryan Glastonbury as Director. A background paper appears in this issue of the journal. As well as cataloguing available computer courseware, the Centre will aim to provide detailed software reviews, selected field trials, and a distribution service (for which the CUSSnet link is a starter). As the background paper indicates, although the initiative is based in a university, strong links must and will be forged with the rest of the tertiary education sector, with personal social service agencies, and with developments outside the UK. New Technology in the Human Services will include regular information about the Centre's activities and services.

HUSITA Papers

The organisers of HUSITA 87 gave an undertaking to try to find publishers for as many of the conference papers as possible. Some papers have appeared in this journal, and there are still a few more scheduled. Two volumes have been prepared, both edited, and with introductory and concluding chapters, as well as linking material, by Walter LaMendola, Stuart Toole and Bryan Glastonbury. The first was published in the UK at the end of 1988 by John Wiley, so is already available through bookshops. It contains most of the major British and European contributions to the conference, as well as material from several other countries. The reference, if you wish to place an order, is Glastonbury.B, LaMendola.W and Toole.S.K (eds), Information Technology and the Human Services, Wiley, 1988.

The second volume is being launched in New York about April 1989. The reference is LaMendola.W, Glastonbury.B and Toole.S.K (eds), A Casebook of Computer Applications in the Social and Human Services, Haworth Press, New York, 1990. Haworth do have a UK office, so their output is available through bookshops in the normal way. This volume is set up specifically as a student text. In addition to several linking chapters, the editors have incorporated a sequence of class or seminar discussion topics, which will allow the text to be used as the basis for a teaching course without the necessity of providing a teacher with specialist knowledge.

Themes for Issue 4.2

It will be clear to anyone who has read so far that one theme for this issue of *New Technology in the Human Services* is the development of software, with particular emphasis on the training dimension. In addition to material about the *Centre for Human Services*, and the CUSSNet software list, there is an article from Peter Sharkey about his experiences in seeking to initiate some meaningful computer teaching on a social work course.

The second theme is the international standing of information technology in the human services. As well as the HUSITA statement, we feature papers by European authors. Tapio Salonen writes about the computerized information systems of two Swedish municipalities, in which the social services departments handle the equivalent of social fund payments as well as the more usual services. Erik Van Hove's analysis of the establishment of a computerized information and agency management system in Antwerp is especially challenging at a political level, with its attack on elaborate and pretentious social workers who complicate the job of systems developers. Pieter van Hoogstraten discusses some of the social implications of new technology, as viewed from the Netherlands. Lastly, Hans Brinckmann, from West Germany, draws our attention to some conculsions we might draw from a study of workers in the wider framework of service provision.

Bryan Glastonbury

INTRODUCING COMPUTING ON A SOCIAL WORK COURSE

Peter Sharkey

In their recent study *New Technology and Information Exchange* (1987) Jan Forrest and Sandra Williams found a general impression of negative attitudes amongst social workers towards computing and office automation. The following negative attitudes were especially prominent (p72):

fear and ignorance of the unknown;

embarrassment of making mistakes;

distrust both of the reliability of the system and the accuracy of the information;

perception of new technology jargon as a foreign language;

maintaining confidentiality of personal client information is seen as problematic;

clients cannot be standardised and reduced to statistics;

Forrest and Williams noted that these attitudes were largely a continuation of fears and anxieties based on previous computer experience. They wrote, 'The overwhelming impression was that few social workers had an understanding of office automation or an appreciation of how it could benefit their information handling activities' (p72).

Training is crucial and there are important issues of where it is done, when it is done and how it is done. Forrest and Williams note that quite a lot of hand-holding may be necessary (p67). In-service training is important but it has its limitations (p68). Full time social work training courses obviously have a role to play in breaking down some of the negative attitudes and generating some discussion and insight into the role and purpose of computers within social work settings. Often there is the time available on full time courses to try to overcome some of the *keyboard fear* which many social workers seem to have. On the other hand there may not always be the machinery or staffing to do this.

This article is a sharing of what is included in an introductory course in computing for Liverpool Polytechnic's post-graduate CQSW students. It has been developed piece-meal by staff who are *learners* rather than *experts* and is described in the hope that it will stimulate others to share their experiences.

Electronic Mail

In their survey of Social Service Departments in April, 1986 Forrest and Williams found that around 16% were already using some form of electronic mail and that a further 38% had plans to introduce an electronic mail service. In the departments which they looked at in their case studies the following benefits of electronic mail were identified;

speed and ease of distribution;

reduction in telephone time;

reduction in photocopying time because information is available on the screen and memos to a range of people only have to be produced once and are accessible to all those authorised;

reduction in paper, photocopying and postal costs;

certainty of arrival of messages;

relief of pressure on telephone and postal systems;

provision of essential links between staff in geographically dispersed offices and headquarters.

Liverpool Polytechnic has a DEC 20 mainframe computer and the Social Work Department has easy access to rooms of 15 terminals. After learning how to "log in" to the mainframe, using the electronic mail system is quite an enjoyable way for students to find their way around the keyboard and build up some confidence. A member of staff can send a message to all the students at the same time, asking for a reply. Students then begin to send messages to each other around the room. Messages received can be forwarded on to others. Quite a buzz of activity can develop. As the messages are often humorous (or silly) then the session can be quite fun, which is not a bad way to start a computing sequence - helping to reduce feelings of fear and apprehension. Obviously this system can be used when appropriate

during the course for communication between staff and students - at least where staff and students are known to be regular users.

As a social worker I certainly found it frustrating trying to get hold of other social service workers over the telephone. With an electronic mail system, one can presumably send off some messages first thing in the morning, go out on visits and (hopefully) have a good few replies on one's return.

Letters, Essays and Curriculum Vitae

The DEC 20 has a text editor system (called EDT) which enables one to create or modify files. This really operates like a word processing system. In a teaching session I illustrate how the student can create a file which contains a letter or something similar. It makes sense to choose an example of work which will appear relevant and potentially useful to the student. When completed and laid out as required this file can be printed out on computer paper in the same room. If good quality printing is required then a simple instruction will print it out on a letter quality printer. Unfortunately this printer is located in another part of the Polytechnic so this copy has to be delivered to the student's pigeon hole by old-fashioned internal mailing.

On the mainframe there is a Computer Assisted Instruction package which can teach students at their own pace the intricacies of EDT. After an initial introduction, they can control their own progress on this and then make use of the EDT facilities as much as they wish whilst they are on the course.
We are fortunate to have access to another room where students can be introduced to personal computers. These PC's have the Open Access II word processing package on them with letter quality printing possible alongside them. We have arranged introductory sessions on this package which is probably the best way for students to produce their essays if they wish.

Data Storage and Retrieval

One of the main uses of computers by social workers in the future will be in the area of the storage, presentation, and analysis of various aspects of the agency's data. For example, this might be concerned with records of the variety of resources in the geographical area; up to date records of vacancies in residential, day care or fostering situations; or with aspects of client records. On this Tom Wilson has written, 'Data storage and retrieval is probably the main function people think of when considering the application of computers to social service tasks. From the point of view of the fieldworkers, easy access to client records, records of foster parents, adopters and information on the current capacity of residential establishments, are seen as vital for the effective performance of tasks' (1986, p21).

I built up a data base of possible practical work placements. These were simply placements which had been used by previous students. Some software on the mainframe computer (*Demand* and *System 1022*) was available to create the database. I designed a form which could contain the information which had previously been recorded on a card index system held by the Department's secretary. The form had the following headings - agency, location, address, telephone number, placement type, client group, and the last tutor to visit. Other headings could have been added, but the intention was that the student would see the tutor named if more details were required, or for a subjective evaluation of the agency concerned. Details from each card on the index were put on the computer, resulting in a total of over two hundred and fifty records. As a novice in this area, learning how to design the form did take some time; so, of course, did typing in the records. Once established, however, the data base was relatively easy to correct, delete or add to.

Students can gain access to the placement file and then call up each record in turn if they so wish. An important aspect is that they can type in the particular attribute which they are interested in and selectively view a particular group of placements. For example, under *client group* students can type in *alcoholics* and the computer will search and select out very quickly those records with that particular attribute. Students are then able to see

quickly what potential placements might be available involving alcohol abuse. Whereas it would take a tutor or student several minutes to sort through a card index system in order to find the alcohol treatment centres, the computer can do it in a second. Any placement details which are of particular interest can be printed out in the terminal room and taken away by the student.

Database management systems store, change and display information on command. They can sort and select data which is specified very quickly. The placement file is one example of the sort of database which social workers will increasingly use in their work. Experimenting with this one at college is hopefully a means towards knowing something about them and building up confidence in using them in the future.

Computer Assisted Learning

The Department purchased two computer-assisted learning packages from Manchester University. Called ADMIT-ONE and ADMIT-TWO they test knowledge of the 1983 Mental Health Act. The first one is composed of true/false questions and the second is composed of multiple choice questions. Oliver and Huxley have developed them and used them on training courses for approved social workers. They describe the process of using the exercises as follows; 'Once in the main programme, the student is presented with a series of 50 questions for each of which there is only one correct answer. If the correct answer is entered at the first attempt, the student is notified, reinforced by a statement of approval, awarded 2 percentage points and moved on to the next question. If an incorrect answer is given, the student is notified and given additional chances to enter the correct answer. In this instance, however, no statement of approval appears and no points are awarded. At the end of the exercise, the student is informed of the final score and given the opportunity to repeat the exercise or to try other similar exercises' (1986, p103).

This type of computer-assisted learning package clearly has value as a teaching aide for the future. When I was able to co-ordinate this session with the law teaching on mental health it was seen to be a useful and helpful exercise by most students. Timetabling does not always make this easy.

"Hands-off" Experience

The above description is as far as we have gone with *hands on* experience. No doubt many readers will note what is absent, but I would argue that one has to start somewhere. I also believe that there is a need for sessions away from the terminals - if only to cover some of the gaps! There is a need for group discussion of the impact of new technology. Often some members of the group have some knowledge and it is useful to draw on this. Literature is available on computing in general and increasingly related to Social Services (such as this journal) which can be mentioned or discussed. Video material on new technology is worth considering. Some of the ways in which the new technology can be used with client groups, especially as aids to living for physically and mentally handicapped people, is most exciting and we have tried to give this some coverage.

Conclusion

I cannot pretend that it is plain sailing. It is hard enough to convince teaching colleagues that we should take some steps down this road let alone persuading students of its value within the curriculum. Getting started certainly presents a challenge and requires some determination. The subject area is also a challenge in the sense of trying to approach it in such a way as to increase confidence and reduce the psychological barriers. Graham Turnbull is surely correct to argue that social work education must play a role in diffusing knowledge on information technology amongst social workers. He writes, 'Social work education has yet to accommodate to the arrival of IT. Students should have an opportunity actually to work on computers during social work courses and should be made aware of the particular ethical and professional questions raised by computer use' (1986, p45).

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Peter Sharkey teaches social work students at Liverpool Polytechnic.

USING INFORMATION SYSTEMS IN SWEDISH MUNICIPALITIES

Tapio Salonen

Introduction

This paper is about the use of computers in social work to keep systematic track of and follow up events and steps taken. Traditionally a lot of time and attention has been given to supervision and control of the people we meet while working as professional helpers. History is filled with this top-down perspective. The meeting between social worker and client is surrounded by myth and prejudice. The question is, can computerisation bring any useful change in this scene? Can the computer schemes already installed help us produce valuable information about vulnerability and inequality in our societies? Can this push away from an individual and symptom focused perspective, towards a more preventive and broadly based approach within social work?

These questions cannot be answered in a simple way. With the development of the techniques within the human care area, we need to take a stand and ask the question - what is the intention and in whose interest is all this done? This is a responsibility that should rest on all social workers and perhaps on the clients themselves. As a contribution to this I will mention certain experiences from Sweden. I will start with a short presentation of the conditions of social work in Sweden - conditions that are helpful to know when it comes to comparing the situation in other countries. That will be followed by a summary of the history of computerisation within Swedish social work. Thereafter I will look specifically at supplementary benefits, and their role when it comes to generating knowledge in social work.

In some Swedish municipalities a research project is going on to analyse what effects computer applications can have on documentation about people's dependency on economic assistance.

Social Work in Sweden

Providing social services in Sweden has traditionally been the duty of the 284 municipalities, which have populations ranging from about 5,000 to 700,000. The average population in a municipality is about 15,000. The social services department in the municipality is often divided into three sections:

> individual and family care
> child care
> old age care

Here we shall be focusing on individual and family care, though acknowledging that child care and old age care, are normally the dominating areas in the social welfare services. For example, in Sweden over half of the children aged 0-6 receive day care - in nurseries or in family homes. Within the care of the elderly there is a high standard

of home help services and different types of homes for elderly people. All care is in the hands of the statutory section. The voluntary or the private section in this area is insignificant in Sweden.

Contrary to their colleagues in the UK for example, Swedish social workers also deal with economic assistance. Advisory service is given on questions such as bringing up children, the problems of living together, drug or alcohol abuse. Individually oriented interventions dominate. Measures designed to impact on overall social structures are rather modest within the social work carried out in Sweden.

Social Assistance - A Strategic Area of Knowledge

Sweden, like many other western countries, has experienced a dramatic increase in means tested economic assistance (Supplementary Benefit). This has been the case since the beginning of the 1980s. Fully half a million inhabitants were, during 1986, forced to live on this type of help - for a shorter or longer period. This means that every twentieth inhabitant in Sweden needs this economic help. This is especially the case for youths on their way into adult life.

This dramatic increase has brought up the question of the lack of knowledge surrounding supplementary benefits. To many this is the most visible sign of the incompleteness of Sweden's welfare society. The pattern of economic assistance can tell us a lot about living conditions in Sweden, and a few years ago the Swedish Government has appointed a special committee in to analyse the increase in economic assistance. The committee presented a final report in 1987, though despite the subsequent debate, there is a great need to deepen knowledge about the reasons behind the need for economic assistance and its effects.

Limits in Official Statistics

The present official statistics about economic assistance leave room for a lot of speculations. The statistics that the municipalities are obliged to register have, in substance, not been subjected to any change since 1939. These give a somewhat unclear and rather superficial picture of the dependency on social welfare assistance. The municipalities give figures of how many households receiving help during the year, the size of households, number of months that the help was given, and the amount paid. This gives valuable information about the extent of social welfare assistance and can, for example, show any change between different population groups. But it cannot help answer such questions as:

1. Changes amongst households. Is it the same household that receives help year after year, or is there a big change? Increasingly the official statistics have been criticized for not showing the dynamics of social welfare assistance.

2. How importance is help for each household? Is it a marginal reinforcement or does it dominate the family economy as the main income?

3. The official statistics have been most criticized for not showing the reasons behind the need for economic assistance. The Social Services Act of 1982 stated that information about reasons for seeking help, or other information that can be used to judge the individual, are not to be registered. As a result municipalities often do not register unemployment or the lack of other social insurances as a reason for the need to seek help.

The picture of the person receiving economic assistance is therefore very unclear. In response to these weaknesses the municipalities have felt the need to do their own studies of the development of social welfare assistance. This has usually taken the form of cross-section investigations covering payments made in one particular month, using random sampling as well as total populations. There have been great variations in the quality of the material, and the municipalities have often found the exercise expensive and time-consuming in relation to the results, so the question arose as to whether computerized systems could do better.

Computerisation in Swedish Municipalities

In Sweden the development of computer schemes for municipal social welfare has been dominated by one company - *Kommundata* (Municipality Data). The company is owned by the Swedish municipalities, and until a few years ago almost had a monopoly within the social services. With the exception of the

three biggest municipalities, most of the medium sized and larger municipalities have been connected to the system. In many of the smaller municipalities there has been no computer support at all.

Computer uses in the 1970s employed a batch method, so were not interactive. Front line practitioners gave forms to the office staff who registered the information at some distant computer. The result of this was often that when the information finally returned to where it originated it was already old and not of much value. The information also had a very low credibility - too low to be acceptable to social workers. Any credit was on the administrative side, to be used for book-keeping, etc.

In pace with the introduction of new computer solutions during the 1980s, new opportunities have opened for social services departments, and demand for a direct system, easy to adapt, has grown. Several competing purpose-designed computer systems for the social services can today offer interactive and user-friendly solutions. Beside the bigger main frame schemes, alternatives emerged that are based on communication networks and single personal computers. We are still in the early stages of such a development in Sweden.

The computer systems available in the two municipalities that are studied in our research project offer on-line access. In each team of social workers, mostly 3 social workers and 1 office clerk, there is at least one computer on line during all office hours. The scheme was introduced during 1984 and 1985.

The functions are as follows:

Main Functions	*Support Functions*
Client files	Payment - allowances
Case decision register	Decision - follow up
Resource register	Official register of documents
	Municipality resident register

The system also has scope for users to work on stored information. In every working place some of the staff have received training in the scheme's question language - QUERY. This allows the user to write his/her own instructions, and thereby have a flexible system for using statistical documents.

New Knowledge with New Technology

In connection with the introduction of new technology in the two municipalities, Lund and Landskrona, in the southern part of Sweden, there was interest in starting a development project. Together with the School of Social Work in Lund a plan for a three year project was made, then supported by the Swedish Ministry of Health and Social Affairs, Commission for Social Research.

The aim of the project, which started in 1986, is to methodically develop and test the documentation ability of the register. How, with computer help, can the best analysis of the existing register be made? What is the credibility and the knowledge value of the different types of information? Is there a need to register new types of information? Is there reason to change the way information is handled?

The early part of the project, which is reported here, has focused on four points for in-depth analysis, longitudinal data, causal connections, problems faced by the receivers of economic assistance, and the importance of economic assistance for the recipient.

Longitudinal Data:

The aim is to develop a longitudinal data set showing the pattern in the welfare dependency - information that usually does not show in the exisitng municipality statistical register. How many households keep receiving assistance year after year? The system will store the information on-line for the last five years. As an immediate result it showed that half of the total households receiving assistance during 1986 also received help during 1985. There is also a need to keep constantly up to date with any changes in the overall pattern.

Causal Connections:

After permission from the Government Committee on Computer Policy, variables have been added to data collection showing the living situation of the clients. What connection, if any, does the client have to the labour-market and/or to other social insurances? For how many is the benefit received as a supplement to other income? Early results, for July 1987, showed:

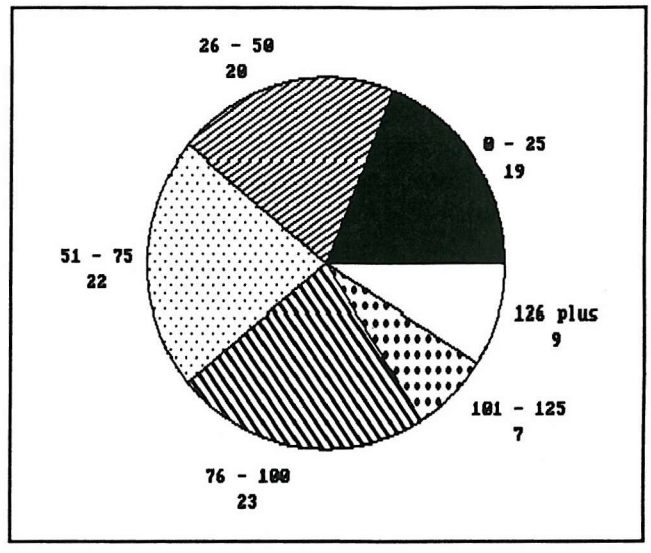
	Lund		Landskrona	
	n	%	n	%
Supp. other income	46	5	48	9
Await other income	277	28	46	9
Out of work	346	35	224	44
Not looking for work	63	6	26	5
Supp. social ins.	148	15	88	17
Refugees	73	7	10	2
Other	49	45	67	13
Totals	1002	100	509	100

Problems of Receivers of Economic Assistance:

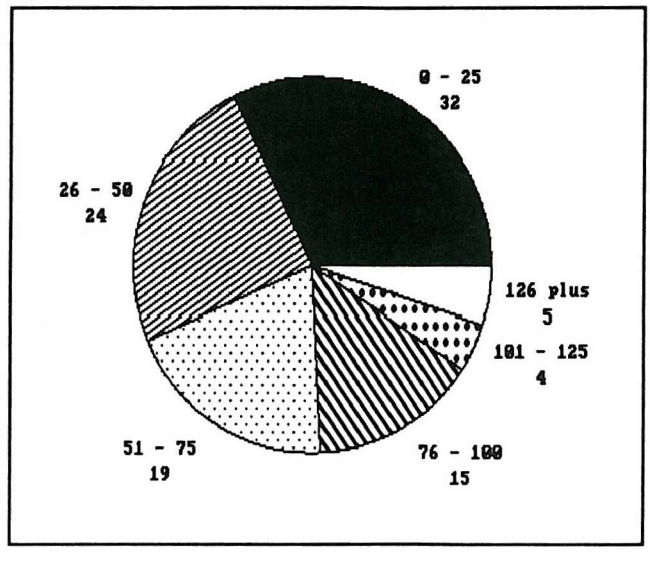
Is the household receiving economic assistant in any way different from the rest of the population? Is there a higher level of disturbances in the relations, isolation or drug problems? Has the household objected to other types of intervention from the social services department? The new computer system makes it possible to answer all these questions. In the two municipalities mentioned, about 75-80% of the receiving households are getting economic assistance only. Are they a special risk group?

Importance of Economic Assistance for the Receiving Household:

The data system has an index relating to living and housing costs. If a household has received the maximum amount of assistance and money for rent during the month, the benefit code 100 will be registered. If a family receives a smaller amount, the index figure will be set correspondingly below 100. In this way the importance of the economic assistance, in every single case, will be documented. By looking at, for example, a selected 12 month period, quick information is given about dependency on economic assistance:



Lund



Landskrona

(Range = index of amount received: value = %age within range)

The approach is far from its final design. Given here are only a few examples of the possibilities for analysing the information system with the help of the new computer capabilities.

Tapio Salonen is from the Research Division of the School of Social Work at Lund University.

THREE LESSONS FROM AUTOMATING SOCIAL SERVICES IN BELGIUM

Erik A. Van Hove

Introduction

Amongst the major frameworks within which social work is organized in Belgium are the *Public Centres for Social Well-Being*, independent agencies established in each municipality. These agencies are largely funded by local government but have their own Board of elected members. Their mandate has developed from discretionary poor relief to securing the right of each inhabitant of the municipality to a basic minimum income, and improving the general well-being of all. Besides running public hospitals and other forms of residential care, they provide services like home assistance for the elderly, *meals on wheels*, and various financial assistance schemes. Within the larger cities these *public centres for social well-being* have developed into large scale social services agencies. From the City of Antwerp this agency runs 12 general hospitals, 10 nursing homes and homes for the elderly, has an extensive home care programme, and has a Social Services Department employing about 120 social workers.

This paper will reflect upon the automation project embarked upon on 1981 for the Social Services Department of this agency. Several problems motivated the large scale introduction of computers at that time.

1. A perceived need for systematic data on clients for policy purposes.

During the two previous years we had carried through a registration project on the agency's clients. When using data extracted from the paper files on clients, it became impossible, for the first time, to analyze topics like client profile, workload and services mix, and the spread of clients over the city. To provide such data in a permanent way implies automated records. The experience of the project, when such data had to be collected through cumbersome post factum extraction from elusive files, proved to be very expensive.

2. To secure easy access to client data for everyone in the organization at all times.

The existing client files were extremely unstructured and within each file information was difficult to locate. Furthermore, the single copy of the file could be at any place within the circuit and difficult to track down by anyone needing information from it. The idea of a well structured file which could be called up for any legitimate request at all times was very appealing.

3. To sustain a programme of decentralization while maintaining final control by the Board.

Two legal measures have greatly enlarged the scope of the agency. First, in 1976 the objectives of such local welfare agencies were redefined and enlarged to cover not only the welfare of the needy but to secure the well-being of the whole population. A basic minimum income has become a right for everyone. Second, a reform of local government doubled the territory of the city of Antwerp, as a consequence of which the agency had to integrate seven smaller agencies. These reforms made it no longer possible to maintain the old organizational structure which was highly centralized both geographically and in decision making. As part of the research project already mentioned we developed a decentralization plan for the agency, computing optimal location for branch offices throughout the city, based on the actual spread of clients.

To maintain final control by the Board in such a decentralized system and with extensive delegation of authority, automation of client files was indicated. A feasibility study on automating client files was launched in November 1980, resulting over the following year in four reports discussing several aspects of the problem.

The first report covers the existing structure of client files, with an inventory of information elements needed for different types of services, and concludes with a proposition for a unified and systematic file on clients. The second report analyses the procedures followed by the agency to reach decisions. The logic of those procedures was tested and a clean-up proposed of the inconsistencies. The third report covers the organizational structure of the social services department and the administrative implementation of decisions. The final report details the options for automation open to the agency, with an indication of which of the problems encountered in the previous reports were resolved by which option. Finally the choice was made for fully automating the client information but not to use computers to establish client acceptability.

Logical Design

The goal of the agency is to secure the well-being of citizens by intervening in situations of need with social benefits. The whole of the service therefore can be seen as a production process which converts persons in need into serviced clients. This process can be broken down in three stages or sub-systems:

1. The production of proposals - the translation of a situation of need into proposals for services by the social worker.

2. The production of decisions - the proposal are transformed through the decision making process into decisions to help.

3. The production of benefits - execution of the decisions, resulting in financial or material aid to clients.

Each of these sub-systems is a stage in the automation project. To perform the analysis and establish a logical design, a project team was established which gathered people from the Department and the Computing Centre, in all six people: from the Computing Centre one system analyst and two senior programmers, from the Department one sociologist, one senior social worker and one external consultant.
We will now given an overview of the global logical design as it developed over the time. In fact some elements of this model were worked out when the first stage had already reached implementation.

Stage 1: The production of proposals

One of the difficulties encountered with the manual files on clients was the necessity to repeat the same basic information time after time in the social reports, as there was no formal framework to guide the user through the ever growing files on clients.

A radical change was therefore proposed on how reporting to the Board would be organized in the future. Three components now constitute the case presentation to the Board or its delegated authority:

1. A synthesis of the formalized basic information on the clients;

2. A short text giving special and exceptional information on the clients if needed;

3. A formalized list of aid proposals made in these cases.

This procedure implies a thorough formalization of client files in structured records, each made up of a well defined number of information fields. After long deliberation and consultation with the social workers, this has developed into a complex database structure fed by a system of about 150 different entry screens, selectively to be filled out by the social worker on terminals positioned in all the different work sites.

A logical distinction is thereby made between the client as a household, the object of services, and the persons who make up the household. One individual can appear in several client-household files, but information on him/her is registered only once. The client file in the strict sense covers information on the group, the free text reports, and the social services history.

Both the formalized information and the free text reports are entered by the social worker assigned to the case on terminals provided in the neighbourhood centre. As a consequence, all relevant information is available at all times and everywhere in the system. Control of to whom information is made available, and monitoring by the

security system, is much tighter than with paper files.

Regarding essential social worker activity, the translation of a situation of need into propositions for help is not automated. This step was explicitly excluded for two reasons: to avoid a routine approach to clients and to overcome social worker resistance to the new system. Social worker activities, such as interviewing clients, making house calls, or reporting and formulating proposals for help are not changed; only the technology of communication of this information is adapted.

2. The production of decisions

Proposals made by social workers have to transformed into decisions. To this end the social worker transfers a case to the senior social worker responsible for his centre. He does this by putting the file in the computer register of appointments of his supervisor. When the supervisor logs in he automatically gets an overview of the cases he has to check and process.

It is the senior social, again using the automatic system, who then sorts the proposals into three types:

1. Proposals which can be acted upon by him and released for implementation;

2. Proposals which need approval by one board member;

3. Proposals which need the approval of the full Board.

These three levels of decision making correspond to the delegation rules laid down by the board. For items of decision level two and three a printout of the case is generated which is submitted to the correct decision making authority by a central office. This central office introduces the decision made in the client file and transmits the file, again through the agenda function, to the administration for processing.

3. The production of benefits

According to the type of benefit, implementation will follow different routes. Most of the help proposals are translated into financial aid. The general tendency is to move away from services in kind, which are perceived as paternalistic. For example, it used to be that the agency provided hot meals to clients in need of such a service. This was changed some years ago into a programme of subsidies for meals provided by external catering services to clients. The last step is taken now: the subsidy is given to the client who can make a choice on how and where she/he gets meals. The same thing happened to services like coal in winter, Christmas presents, school uniforms, etc. The last service in kind still organised and provided by the agency is home help for the elderly and home nursing care.

The central core of implementing decisions is therefore the financial system. Again, after long consultation, a completely new payout system was designed. A distinction is made between the credits which are generated for a client by execution of the proposals, and the actual payout. An internal account is set up which allows the grouping of credits from different benefits. The actual payout system can be adjusted to the client: spread over time, over several members of the household, repayment of debts, prepayment of rent, and so forth. What should be done for a specific client is formulated by the case worker in a special proposal.

It is in this stage that the automation project generates substantial savings. More than half the administrative staff (about 50 employees) become available for redeployment.

Present state of implementation

The project planning established in 1981 provided a total development time of about 17 person-years by a team of six. In theory the project was supposed to be operational in 1985. In fact stage one became operational in October 1983, but the implementation encountered serious technical problems. The staffing to convert paper files was reduced and the computing power to run the large network was not installed in time. Other computer applications within the agency, like patient billing in the hospitals, was given priority as they affected immediately the financial position of the agency. Only by

late 1987 was stage one fully implemented over the whole system. By that time stage two was implemented in about half the centres, and the first field trials of stage three started.

Three Lessons

1. The problem of communication

Automation and social work are two separate worlds. In this case this manifested itself not so much in unwillingness to understand each other: co-operation in the development team was excellent and extensive rounds of consultation we held. Rather the opposite happened: there was so much reticence on the part of systems analysts to question the elaborations made by social workers, or to put limits on the demands made, that the application became overloaded with unnecessary detail.

The structure of the automated client file is a clear example. In the preliminary consultation rounds the social workers vied with each other in creativity to indicate information which in some special cases could be considered relevant. The systems analysts have converted these endless lists into a complex data system of over 150 screens, eager to prove that anything could be handled by computers. The end result is an application where more than half the panels are never used, which is more cumbersome in use and more costly in computer resources than necessary.

The underlying problem is the lack of a clear paradigmatic approach in social work. Social workers tend to believe that each relation of client to case worker is unique. The help-relationship they establish with their clients makes use of the resources of the agency, but is considered by them to be further reaching, and not limited to the provision of services.

On the contrary, the model underlying the automatization project is much more mundane. The person in need may be unique or not, but in any case the job of the social worker is to translate the situation into the categories used by the agency. The social worker translates persons in need into clients who fit within the scope of the goals of the agency.

Uniqueness of the client-social worker relationship is often claimed, we believe, to mask the confusion and lack of precision in the language of social work. This state of confusion lets social workers muddle on without a sense of direction, goals are not clearly defined, and an evaluation of effectiveness becomes impossible.

2. The myth of computer efficiency

Computers are often introduced in situations of confusion and disarray in the belief that the mere introduction of this high technology will resolve those difficulties. Furthermore, the faith in these machines is so large that one tends to forget that the people who have to make them work are more important than mere computer power.

Public agencies have difficulty in attracting the right skills in systems engineering, analysis and programming, needed to make full use of the available computer power. To make up for the lack in trained staff there is the tendency to install even more computing power. The end result is an over-equipped computing centre with poor performance and scores of frustrated end users.
Our agency followed this pattern, led on by a large computer manufacturer who was left free to install whatever he considered necessary, not checked by independent experts within the agency. When starting out on this project, we took two aspects of resources into account, forgetting a crucial third. The development team was established, and this team functioned relatively well. The hardware was available, the processing power, the communication network and terminal numbers. We forgot about production, however, and the expertise needed to run a large mainframe computer, the day to day tuning and monitoring skills required to keep such a thing running. Taking this aspect for granted has cost us dearly, both in goodwill on the part of the social workers, the end users, and in money. Indeed, to alleviate the problems of frequent breakdowns, slow response times, and loss of data, the agency

had to hire very expensive outside help for several years. It is only in the last year that things start improving after hiring and training sufficient production staff.

3. Worthwhile automation involves thorough reorganisation

It is possible to do a careful analysis of the procedures and data needs of an organization and automate the system as it is. In that sense automation is neutral or, in the parlance of the field, transparent. A project carried through in this fashion, however, is a waste of opportunity for worthwhile change. As our project moved along we became more and more aware of this. As the expertise in the team grew over the years, we evolved from timid automators into very active agents of change in the agency.

A first level of a more active approach is reached when measures are introduced to secure consistency within the agency, through provision of guidelines for all centres and decision makers. A second level is reached when changes are proposed which improve the efficiency of the organization. We established a clear typology of the help measures the agency sees as its tools, and the conditions which rule their applicability. This allows social workers to propose help for their clients in a less haphazard way and assist their clients to the maximum. We simplified the procedures which have to be followed to secure approval of these proposals by cutting away a lot of dead wood: special conditions at one time or another imposed and still applied in the best bureaucratic tradition. We were thus able to adjust the workload of social workers on the basis of more objective criteria.

A third level of active intervention by the project team was reached when we started rethinking the tool set of the agency itself, with the objective in mind of promoting independence of clients and doing away with all traces of paternalistic meddling both by individual social workers and by the agency as a whole. We established the principle that a client should never be dependent for help on his assigned case worker only. Every file is checked by a senior social worker who evaluates the action the case worker proposes. We promoted the tendency to do away with help in kind in favour of financial aid, as little as possible encumbered with conditions to be fulfilled.

In this process the project team has to move carefully and strategically: the Board, the ultimate authority, cannot be pushed too hard or too far; the social workers have a tendency to claim professional privilege which limits openness in the client - case worker relationship.

From its original definition as a technical and temporary working group, the project team evolved into a policy formulating committee with an implicit mandate to digest policy relevant data as they become available from the automated system. It looks like the work of this project team will never end.

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SOCIAL WORK NEWSLETTER

Dec. 1988 saw the launch of a new social work magazine in the USA. It is free, and it is available *only by electronic mail!* The Editor is Walter Hudson of the Arizona State University and the Walmyr Publishing Co., who says he will be pleased to add to his mailing list for *SWNL*, providing you can be reached via *Bitnet*. Walter Hudson's Bitnet address is - AIWWH AT ASUACAD. *Janet* users can get through via the Janet to Bitnet link at RL.EARN.

The Social Dimensions of Home-Interactive Technologies:

A Viewpoint from the Netherlands

dr.ir Pieter van Hoogstraten

The strategic significance of new technology for Europe.

There is a growing conviction that a strong emphasis on technological innovation is of strategic significance to Europe's position in the world. In each individual European country, government and parliament spend a great deal of money on encouraging new technology inside the national borders. The European Community also has programmes costing millions of ECUs, given suggestive acronyms such as *RACE, BRIGHT* and *ESPRIT.*

The underlying idea is that the success of such programmes is the determining factor for the political and socio-economic independence of Europe, and will to a large extent also influence the future quality of our daily lives. And yet the acknowledgement of the key role played by new technology by no means removes anxiety as regards the social effects of the technological revolution we find ourselves in. There are many fears - of polluting nature and the environnment: damaging anything from the landscape to the biosphere and consequently threatening the continuation of mankind: of exhausting natural resources: of isolation and alienation through automation: and of a too strong dependence on technological systems and their possible failure. Fully deserving a place on this list is also the fear of losing jobs and job content.

Technological innovation is therefore a subject matter which not only has its bright side but also a darker one.

The introduction and generalisation of information technology is a diffuse process.

Information technology plays a central role in technological innovation in society. Information is a particularly diffuse process. It lacks possibilities for direct and central control over the form in which, and the speed at which, introduction takes place: the decision to introduce information technology is taken by a great many actors, each in his own field, and with a great diversity of motives.

There is no longer mention of just one, or a few innovations (the computer, for example), followed by a one-dimensional diffusion thereof in one branch of industry or segment of society. Instead there is a complex multiplicity of technological possibilities based on micro-electronics, which in each different situation is shaped differently each time, and by a specific method. It is a *pervasive technology* on all fronts. Each situation is unique, and it is definitely not the case that the maximum application of information technology will always be the best solution. In a production company the choice of technology should be dependent on a range of factors, including the company's own optimal production organisation, the educational level of the employees, aspects of the company's culture, the organisation of the pre- and post-linked steps in the production process, the organisation of transport, etc. Obviously this applies to applications in other sectors of society too.

In other words, the quality of automation in any context needs to be fought for again and again, continually, both in companies and in homes.

Technical limitations in the application of information technology are not so much to be found in the processing of information as in the development of adequate sensors and motivators, and much depends on the degree to which activities can be translated into a language understood by computers.

However, it is my opinion - an opinion which, by the way, is shared by a great many others - that the non-technical limitations are far more important and much more difficult to

comprehend. I am referring to the manner in which an organisation and the relevant people within that organisation are able to take advantage of the possibilities offered by technology and to appropriate those possibilities.

Technical innovation is closely related to social innovation. Experience has taught us that in an industrial context, the social aspects of automation are given less attention than the technical ones. I feel that the unfulfilled expectations and even the negative effects of the modernisation of production technologies can be attributed particularly to the continuation of obsolete ideas in the field of production organisation, and not to technology as such.

There are many examples in support of the hypothesis that information technology is shaped on the basis of the expectations and ideas to which it is trying to respond. If this is so, then the impact of information technology on performing tasks, on organisations and people (and on the environment), are more likely to be the effects of these expectations and ideas than of technology in the narrow sense., The latter can be regarded more as a means of implementing the pursued objectives: it increases the possibilities which people and organisations are able to create for themselves.

'THE' information technology does not exist.

The information technology does not exist, though we do make a differentiation between the different generations of applications, to show the stages we have passed through, or expect to reach. For example:

data batch-processing, using punched cards and tapes;

databanks, in which enormous amounts of data are stored within the secure walls of the data processing centre;

office automation at the place of work, linked with telecommunication;

image and sound recognition and processing as input in information technology;

artificial intelligence.

We are now firmly in the third generation of this list, that of office automation. Here, in contrast to the case in the two prior generations, information technology is also at the disposal of less sharply defined tasks, as well as offering opportunities for linked developments. In particular, recent years have given us the chance to assess the experiences gained in companies and services, for potential application in the home environment.

The NOTA Programme.

The main lines of NOTA, the *Netherlands Organisation for Technology Assessment* programme, can be explained in three parts:

1. *Investigating future developments.* Not only the trends in hardware and software, but rather the changes in socio-cultural relations and in the acceptance of new technology. Technological forecasting is only a small, and definitely not the most interesting part of this. The emphasis is on the objectives, expectations and motives lying at the basis of the Research and Development effort. Particularly these latter facets are decisive for concrete forms of development and applications of information technology, such as those indicated in previous paragraphs. A thorough knowledge of the recent past is most important in this context.

2. *Constructive technology assessment.* The traditional aims of technology assessment are towards gaining insight into the (future) effects of new technology in society. In this vision, technological developments function as options, chosen in response to the outcomes of more broadly based assessments. Nevertheless, technology itself is by no means static, but may be regarded as a process in which choices are continually being made with regard to form, function and use. This applies in particular to the initial phase in which the precise form and characteristics of the technology, and consequently its potential applications as well, are continually changing.
On this latter point, the traditional methods of technology assessment tend to fall short: they are simply not equipped for this sort of procedural approach. The objective of

influencing transformation processes is more ambitious than that of the traditional study of non-technological aspects; but it is more realistic too. It is more ambitious, because attention shifts to encompass both the (external) effects of technology on society to the (internal) development of technology itself. It is more realistic, because experience has taught us that it is usually more difficult to introduce substantial changes at the leading edge of technology without a very carefully balanced approach to both technological and non-technological issues. This form of technological assessment is directed at processes in which new technologies are constructed: Constructive Technological Assessment (CTA).

The challenge for CTA is to search for new forms of direction for design and application of technology. CTA is thus more a programme than a recipe. The basic principle of this is the broadening of design, implementation, application and diffusion of technology. In addition to criteria such as technical and cost effectiveness, aspects of security, quality of labour, influence on democratic relations, the burden on the environment, user-friendliness, and the like, will also play a role.

Additional to the product or production process itself, attention will also be devoted to the application of the product, to clarify who uses it, in which way and for what purpose, and to the introduction of production processes with their consequences for decision-making, employment, quality of labour, etc.

3. *The design and evaluation of the technology introduction, and the spread of information technology into the various facets of daily life.* Studies are traditionally directed towards the effects of information technology in the past and recommendations for the future. I do not wish to imply that this is to the detriment of such evaluations of successful and less successful introductions of information technology: I still think that these are very important. However, the problem is - to paraphrase Kierkegard - *technology can only be understood backwards, but must be lived forwards*. This implies an argument in favour of the development of strategies for the application of information technology (*Anwendungskonzepte*): attempts to narrow the gap between technological possibilities and societal objectives. Science plays a major role in the development of these concepts. It means the search towards concepts geared to the present generation of information technology.

Forced Social Innovation.

There is also talk of the *technologization* of society in the Netherlands. How the lines will progress is uncertain: yet it is taking place. One way or another, technology will make a more forceful impression on society. The most significant argument in this concerns the strategic significance of new technology in an international context, already referred to earlier. Trade and industry (or segments of trade and industry) are the pillars of this. A great deal of their product and product development is *technology pushed*: the challenge to reach higher, be better, faster, more precise, be smaller and bigger. But it is society that will have to take it up and accommodate to it.

Generally speaking, the term *innovation* is restricted to technology. The world of the *social* and *cultural* in this concept is seen more as a late developer or a nuisance: the trade unions who refuse to go with the times, the traditional broadcasting system as an obstacle to the quick introduction of the possibilities offered by the *new media*, etc. And yet I would not like to make such a sharp division between the world of *private* and *public*, of *economic* and *socio-cultural*, or of the *material* and the *ideal*. There is less talk in the Netherlands of an independent cultural dynamism than there is in California, for instance. And yet there is a carry-over in social and cutural areas from, for example, new technology. This carry-over can be described as *forced social innovation* as a consequence of technology. These are the reactions to the forms of automation dictated by international competition.

Social Experiments.

In recent years we have seen a strong

emergence of *field experiments* with information technology. Although they have all been brought under the same heading, what we are talking about here is a wide range of social and commercially oriented strategies which reflect very different societal interests. An analysis of these experiments can be based on a classification of the different interest groups:

> the government: experiments as an intrument for planning the introduction of information technology systems;
>
> groups of the population: experiments as an instrument to defend, or expand the quality of daily life;
>
> trade and industry: experiments for the development and testing of specific technology and services under realistic societal conditions.

Within the framework of the FAST programme, concerned with communication, Lars Qvortrup drew up a list of experiments underway at present, and embarked on an attempt to interpret them. In doing this he defended the evaluative hypothesis that social experiments are relevant both in a social and an economic context, because they are processes through which socially useful forms of the application of new technologies can be brought out into the open in society as a whole (and not only in those companies directly involved). These experiments are also relevant in an economic context, seeing that a reasonably powerful instrument thus becomes available for the evaluation of production and the improvement of advanced information systems. Qvortrup argues that 'The carry-over of experiments with regard to the socio-cultural acceptance of new technology is the adjustment of the supply of technology to the demand from society; it is an attempt to escape from the logic of production based on financial economic grounds alone, and to promote democratic control on the introduction of new technologies'.

Social experiments can arise from very different backgrounds:

> in the form of model-activities on the part of government or companies. An area is demarcated - defined as a social laboratory - and through research and development a product slowly emerges until it is ripe for a wider application in the market (Viditel and Girotel, for example).
>
> as an instrument for social movements;
> private companies experiment - with or without government funding - until they reach a finished product (Ditzitel, KKZ, etc).

The characteristics of the different experiments are also extremely diverse: sometimes a new technology or service is tested, sometimes a potential demand is mapped out.

On which specific, realistic existing contstructions are the experiments based, or solutions are supported, and how can highly developed technology best be utilized? Sometimes the experiments are reactive: intended to counteract threats, such as unemployment, illiteracy, neglect in rural areas, etc. Others are pro-active: setting an example of the idea that new forms of information technology are not necessarily synonymous with private consumption, so serving as a prelude to new forms of society.

Social experiments thus form a micro-level expression of the dialectic relationship developing between social and information-technological innovation in the context of influencing society at macro-level.

Information technology compels reaction. It is brought into relationship with the great changes occurring in many aspects of daily life. It has the potential to reorganize many established practices in a pro-active manner, and these can play a role in the realization of new forms of society: the integration of home and work, new qualities in our existence. New technology makes the modernization of society more urgent day by day. Social experiments are linked with the inherent, and in actual fact, unsolvable value conflicts of modern society. It is in this context in which the parameters of significance to social experiments must be located. Without adequate strategies for social innovation, wherein account is taken of the pro-active possibilities, new technologies will give rise to serious issues with regard to social justice and economic progress.

Social experiments with information technology are specific forms of the implementation of information technology:

in which the primary objective is to effect new forms of societal organisation which make use of the possibilities offered by information technology;

in which activities and the respective resulting socio-technological products can be used as models for a wider use (although naturally continually adapted to another context);

and whereby independent researchers describe and evaluate the results of the implementation process in question.

However, it is certainly not the case that these experiments will be able to serve as a universal remedy to all problems.

Traditionally, it is the market that serves as the intermediary when formulating the needs of society. This is not, however, always the case as regards new technology, both because there is no advance awareness of possibilities for meeting specfic demands (ie. of necessary market knowledge), nor is existing technology necessarily of assistance in the recognition and acknowledgement of relevant demands.

The strongly developed social structures in Europe form an environment full of prospects for the development of socially advanced information systems and also for allowing social experiments to take place. Qvortrup formulates two normative preconditions to which social experiments with information technology must comply:

technological innovation must be a catalyst for democratic control at micro-level;

the resulting technological and social improvements must extend to society as a whole.

I would like to argue for a policy aiming towards the stimulation of such experiments. The objective of such a policy must be the development of a framework within which room is created for creativity in concentrating technological innovations on a wide field of social activities.

The *automation concept* has not reached its limits in industrial and service sectors alone, but new forms of co-ordination will need to be developed in the area of home-interactive technology in order to be able to cope with the introduction of new forms of information technology. These emphasize the technical infrastructure and the issues linked with its introduction. I think that the important points to which we should devote our attention are:

the technical and organisational basic training of all users;

the provision of professional support and advice;

the resolution of juridical issues;

the realization of the rights of users as regards manufacturers.

It is also essential that we record the significance and exact content of social experiments, so that we can reflect upon experiments as such, and seek to view them as a part of the search towards concepts which are in keeping with the possibilities of the present generation of information technology.

The author is part of NOTA, the Netherlands Organisation for Technology Assessment.

RISE OR FALL OF THE EXPERT:

the Position of the Service Worker in a High Tech Environment

Prof. Dr. Hans Brinckmann, West Germany

Introduction

Information technology is the key technology of the often discussed post-industrial society, the information age, and the service society. All these theories of the fundamental changes in our industrial society within the next decades share the perspective that we will

have both more demand and better supply in the field of services. The social, economical, and political importance of knowledge will rise - faster than in the past - as simultaneously will the position of those who produce knowledge, who have access to knowledge resources and to the methods and the instruments to transform knowledge into information for distinct situations and decisions.

Human services consist of direct help (like medical care) and of the application and distribution of information. For the context of this paper it is not necessary to discuss the role of direct help in the context of the knowledge aspect in one or the other field of human services: all service workers are more or less experts in their special field, and deploy knowledge which is not easily obtainable by the client. They know how to find the way to knowledge resources, how to combine elements of knowledge to meet the needs of an individual client in a special situation, and how to prepare knowledge in a way it is useful and processable for special authorities, like filling a form for a client of the social insurance. So service workers are experts of information processing including all steps and all media.

My question in this paper is: will the service worker as an expert be affected by a technology promising the same service to the client as he/she does? Will information technology in the near future represent a neutral instrument for all aspects of expert knowledge or is there a tendency to give different support to different service fields? What will the widespread use of information technology mean to the clients and their needs? Can they expect a better consideration of their needs, will more knowledge be available for them, will the presentation of better information and different alternatives of action and decision add to clarity? Moreover, will the new technologies be an instrument for lay persons to find their autonomous way to the necessary knowledge, to a more self-service-oriented meeting of their demands? Will information technology be the first step towards jeopardising the social position and the gate-keeper function of the expert, or will it stabilise or even expand the position of experts in human services?

Research in the Quest for Answers

I would like to discuss these questions on the basis of empirical research in different fields of human services: the architect, the insurance agent, the tax consultant and the general practitioner. Our survey in these fields within the Federal Republic of Germany shows that there is no principal boundary for the use of information technology. We found important differences in the speed of diffusion and the number of applications both between and within these fields, but the low level of applications does not seem to be a matter of generally insufficient technical products.

Our field studies concentrate on four types of human services:

a) The architect has to translate the wishes and needs of the owner into a plan, and to get it approved by the local building authorities; he has to supervise the constructing process and the workmanship of the different companies on the site. The architect's position is in the centre of an informational network. He has to transform oral into written information, speech or text into graphics; he has to produce drawings or to alter and correct them. A whole bunch of different - seemingly useful - applications of modern information technology are awaiting the architect to assist his/her production ranging from text-processing to computer-aided design, from calculation to telecommunication, from expert systems with financial or technical knowledge basis to the use of product-data banks. But up to now only 10 to 20 per cent of architects, and usually those who do not work in small but in large partnerships, make use of a more elaborated form of technology. In the normal workplace of an architect, working in small business organisations from one up to six or eight, people do not make much use of computers: a pocket calculator and a telephone are the common applications of information technology.

b) The insurance agent in West Germany is self-employed but usually co-operates with only one insurance company. Only 10 per cent of these agents, usually in larger agencies, and usually with a special clientele in business and industry, have the possibility to offer contracts with different insurance companies. The insurance agent has to advise clients about their risks and the different insurance schemes, and is usually faced with tax problems and investment requirements. We found different types of policies in the use of information technology; while in most cases companies enforce a top down structure, the autonomous efforts of single agents succeeded in just a few bottom-up structured applications. Some companies apply their strategy in a way that enhances the autonomous position of the agent as a more or less independent expert in the field, to give him/her better access to central information and processing facilities. The opposite strategy of companies tries to use the new technologies as an instrument of central regulation and control. In this case the agent

will get technical support by the central information system of the insurance company, but has to feed his/her information into the system, to make it available to the company's management.

Beside these trends towards an integrated use of technology with different stages of development, one will also find single stand-alone office technology, like PCs for text automation or calculation, but very few more sophisticated systems.

c) The tax consultant is our third field. He/she has to mediate between the tax payer and the tax authority, has to prepare forms and additional documents for the tax declaration. Tax payers, especially those with higher incomes, want advice on how to evade or to reduce taxation. Normally the tax conslultant is also the book-keeper of his/her clientele, especially for small companies and self-employed professionals, and is therefore involved in the preparation of all necessary information for taxation including social security and other purposes of the personnel administration.

Book-keeping, accounting, and personnel administration is a very traditional field of computer application. Nearly all of these service workers are computer users. For the purpose of tax declaration they use programs similar to those used in the tax authorities. More than 50 per cent of tax consultants are organised in a highly centralised computer service organisation, the DATEV eG, a non-profit co-operative, which provides all the necessary hard and software, and which does most of the processing and printing work in a huge computer centre connected on-line or off-line with all the users. However, the company strictly excludes the tax consultants' clientele. This organisation offers a lot of very special services, like a legal data bank, graphic output, and form filling. This type of structure for the supply of computer services is unique, and is certainly the main reason for the comparatively high level of information technology application in the field of tax-consulting.

d) Completely different from the others is our fourth field, that of general practitioners, who presently do not show any significant computer application. Even in office work, maintenance of client files, word processing, the scheduling of clients and so on, one will find computers in less than 5 per cent of the practices. One reason for this is to be found in special service organisations for the presentation of accounts (the medical clearing service) and for settlements with the social insurance (panel systems) which are highly computerised. The same applies to social insurance. So from this viewpoint there is no direct need for an additional system for GPs, and thus no pressure is placed on them and their staff to get involved directly with the kind of information technology that usually represents an entry point to computerization.

On the market we found a lot of different systems, specially developed for people like GPs, becuase this was expected to be a very fast growing and profitable field for computer application. But up to now all these developments have turned out to be a failure on the market.

Factors promoting computerization

Comparing these stages of information technology application in the field of predominantly self-employed service experts, usually working with a small staff, partly by themselves, sometimes in partnerships with a few colleagues, the differences are surprisingly high. Certainly there is more than one reason for these differences, but it would be impossible to discuss all aspects in this paper, so I will concentrate on the connection between types of services or elements of services and the intensity of IT applications. Let me summarise our findings in this way: the higher the degree of regularity and repetitivity, the more quantification instead of quality measurements, the lower the level of complexity and uncertainty, then the more likely is the integration of technology into the service tasks.

This simultaneously expresses an idea of the dominating types of information technology applications which can nowadays be encountered in our field: the computer is used in the tradition of the calculating machine or the typewriter. Information technology is not yet seen so much for the aspects of communication, interaction, and information management. At the first glance the most widely used information technology applications seem to represent the close relation between the potential of technology to meet the needs of a certain type of human services: the computer fits into bureaucracy, and growing bureaucracy means growing computer use and vice versa.

But we have to consider that there is more than one way to provide certain types of service, and to create and mobilise expertise. Whether a service is structured in a bureaucratic way or otherwise is not an intrinsic quality of the service, but the result of a tradition, a political or professional decision, or conscious rationalisation within a service unit. The social problems or the needs of the clients are a very long way from being the determining criteria.

So my first conclusion will be: wherever and whenever a human service is structured in a bureaucratic way - highly formalised and standardised, working with rules and forms - service workers will find on the market a good supply of useful information technology applications. They will also find a lot of examples in various workplaces, where they can learn how to make use of information

technology and how to avoid failures. These types of services are the focal points of practical interest, of research, and of professional discussion.

It follows, and this is my second conclusion, that in other fields service work has to be restructured and adapted to the requirements of the hard and software offered on the market. Such adaptations, however, imply crucial changes in the nature and method of the provision of services and their quality, because it is not very likely that a specially designed technology will be found on the market.

Possible changes in the organisation of services towards more bureaucracy are engendered by the IT systems, and by the way these systems are implemented in the organisations and in the workplaces. Whenever a technical instead of an organisational or service-oriented approach is favoured - what seems to be a regrettable rule in larger institutions - such changes are not in the best interest.

The common way to examine an organisation before choosing and implementing hard and software is system analysis. But system analysis and all closely related methods are not neutral ways to analyse an organisation and to describe its needs, inputs, throughputs, and outputs. All these methods have difficulties in assessing the less structured elements and the informal aspects of co-operation and communication. *Consequently my third conclusion is: system analysis supports the tendencies towards more formalisation and standardisation, which in turn reinforces traditional methods of choosing and implementing hard and software in service organisations.*

The single service worker or the small service institution will not have sufficient influence to carry through their interests in the use of information technology and/or the restructuring of their work. The chances of do-it-yourself adaptations of computer applications are relatively poor - as our research shows. The development of a specific supply of IT facilities for special purposes in a service branch has the prerequisite of a concerned agency willing to promote such an approach. Only in such circumstances are well adapted applications and the preservation of autonomy likely to be accomplished. An opportunity for individual choice and control over information technology can only be found in limited sectors of simply adaptable standard software, being used for uncomplicated duties.

During our empirical studies we found two types of small service agencies making a widespread use of computers: one type - the insurance agency - is dominated by big insurance companies and the mainly used applications of information technology are those which form a part of the companies' information technology strategy. The user depends on the inherent philosophy of these systems. Regarding the other type, the co-operative approach tries to meet the interests and the requirements of the participating service agencies. This is a fairly good example of self-help, but the introduction of this approach to other fields of human services requires a look at the preconditions for the success of this method. Considering the potential for transfer, three specialities of this field seem to be important: accounting and tax assessment is a highly regulated duty. Consequently there are only slight differences between the demands of potential participants in an information technology co-operation. The main difference we found in this sector was the timing of the first introduction of computer use, and therefore different stages of technology and varying utilisation of the range offered by the co-operative.

Secondly we have to consider the special view of tax consultants. They see their clientele as people who need figures, forms, quantities, and calculations, above all success in reducing tax liability. They demand the best of a computer system.

The third reason is money: both the tax consultants and most of their clientele are ranking rather high within the scale of personal income, so can afford to be well served.

My fourth conclusion is: service workers with a clientele interested in well structured and

fairly regulated services will be able to make wide-ranging use of information technology, and to rationalise their service production accordingly. They will find on the market a reasonable choice of suitable information technology to cover their demands, and despite competition they will find a lot of colleagues to co-operate with.

Many human services, such as social work, have to fulfill less structured duties and services, and are confronted with altering needs of very different clients, who prefer or need individual approaches to service production and will have little money to pay for their expert service. For such circumstances we will not, today and in the near future, find a sufficient supply of useful information technology application on the market. At the same time, only very few of them will be able to adapt standard systems themselves, and they will not have the chance for broader co-operation with others working in the same field, due to the small number of computer users. This means, that the gap between the different types of services will widen. Some service workers will participate in the development of information technology, and will therefore be able to extend their services, to rationalise their way of service production and to cut the costs. All the others will in the near future not get any such opportunity. Thus they will not be able to expand their supply of services, and they will have no possibility to rationalise the service production and to increase their personal income.

What does that mean to the client who needs expert services, who is interested in improved services, in comprehensive advice, and in the provision of actual information. One point I think we can easily agree upon: the growing importance of knowledge in both individual and social life. This means that there is an expanding demand for qualified sources of knowledge, and therefore a rising interest in all technologies promising a better access to the processing of knowledge.

The future will possibly provide the public with easy access to knowledge resources, with telecommunication lines to all data banks, with an easy to handle software for information retrieval, and with cheap offers to process information in all necessary or desirable ways. Consequently, one dream of the information age is that the further development of information technology implies for the client at least more transparency in the services provided, an improved control, the enlargement of his/her autonomous action and decision space. If this comes true, however, the development might ensure the decline of the expert position. As the clients will be able to handle their problems by using all types of information technology by themselves, they will achieve a new level of action space and autonomy.

Notwithstanding such forecasts, our findings show that the computer-wise service worker is more likely to extend and strengthen his/her position vis-a-vis the client. The main reason for the slight chance of self-service is to be seen in the growing complexity of computer use. As this is a typical feature, the high-tech-world will not get easier, but even more difficult to understand.

So my fifth conclusion is: the use of information technology bears the chance of a better access, presentation,and processing of knowledge to meet growing demands. But there is a widening gap between a general ability of the public to make use of information technology and the growing offer of increasingly efficient technical systems. The presentation of a wider range of services coincides with a sophisticated use of information technology, but is resulting in a need for broader qualifications amongst potential users. This fact and the costs of investment and maintenance will favour larger institutions. Therefore in the future we will find a larger number of specialised agents for computerised services. As experience shows they are likely to gain the image of progressiveness and therefore will gather the more profitable share of the market. On the clients' side this tendency could intensify social differences as to the attainment of services.

Let me return to the headline of my paper: the rise or fall of experts. What I have tried to show is that we can neither say that information technology will leave the quality of human services produced and delivered by

experts unimpaired, nor can we find any hints of a tendency for experts to become superfluous. On the contrary: complex applications of information technology will be useful to meet specific service demands. They will not be used by the clients themselves, but by those experts, who are experts in both a technical and work-specific sense, it will mostly be applied by larger firms or specialised organisations and less by small service agencies.

So my sixth and last conclusion is: the expansion of information technology applications in the field of human services will mainly support the interests of the more highly structured sector of human services. It will give priority to the interests of the larger and economically stronger agencies, acting in the interest of the economically sound sector of human services, and mainly in the interest of the clientele that can afford higher expenditure for services. This may be enough to prove, that information technology is not the *dream come true* of the service-oriented society.

Prof. Dr. Hans Brinckmann is from the Forschungsgruppe Verwaltungsautomation, University of Kassel.

CTI CENTRE FOR HUMAN SERVICES

The Computer Board for Universities and Research Councils has taken a number of actions in recent years to spread the use of information technology within higher education. One such venture is **CHEST** - *Combined Higher Education Software Team* - which is probably most widely known for its directory of software available with educational discounts. Another is **NISS** - *National Information on Software and Services* - a service developed at the Universities of Bath and Southampton to provide a shell on JANET (Joint Academic NETwork) for bibliographic database and bulletin board in a range of subject areas. A third is **CTI** - *Computers in Teaching Initiative* - with the linked Support Service, **CTISS**. The latest development under the CTI is the formation of subject area Centres in a number of British universities, one of which is the Centre for Human Services.

The Centre for Human Services is being set up by Bryan Glastonbury of the Department of Social Work Studies, at Southampton University, with the aim of collecting and disseminating computerised courseware and other relevant material and information for subjects coming under the umbrella of the Human Services.

University context:

The term *human services* has a long established and widespread usage in North America, though has only recently started to find a foothold in the UK. In the context of British universities there is activity at undergraduate and post-graduate levels, but the primary feature is the provision of professional training (qualifying and post-qualifying) for staff in a range of social services. Human services staff are responsible for educational programmes and training for professional qualifications in:

Social work
Probation and other aspects of the care of offenders
Community nursing
Health visiting
Occupational therapy
Speech therapy
Educational psychology
Counselling in various settings
Youth and community work

The discipline is well defined in relation to working practices and the skills/knowledge base needed by qualified staff, but is somewhat fragmented within the university system, where it is to be found in social science faculties, medical schools, and adult education or extra-mural studies. It also has a strong base, mainly for post-qualifying and refresher courses, in continuing education.

General context:

Human service teaching within British universities, particularly in relation to the role of information technology, has a context in which two other sectors play a central part.

As many readers will know, the agency or clinical setting in which human services are provided has an extensive range of educational activities, many of them relating directly to teaching and research within universities. Education leading to a professional or post-professional qualification is based on a partnership between the educational institution and the agency/clinical setting, whereby, in crude terms, the university provides a theoretical and the agency a practical input. The majority of agencies also have their own in-service training provisions, often operating in parallel with universities. The main agencies referred to here are health authorities, local authority social services and education departments, probation services, and a few voluntary organisations which have a pioneering role in their specific areas of activity.

Other UK institutions (polytechnics, colleges of FE) have important human service teaching programmes, but the educational centres which have led the way in computer usage are primarily North American universities. There have been major initiatives at Denver (Walter LaMendola), Texas (Dick Schoech), Arizona (Walter Hudson) and Toronto (McFadden et al.), as well as on other campuses and in service organisations. The development of an effective data base at a British university will be given a flying start as a result of North American progress.

The Role of Computers in Human Service Teaching:

Three categories of computer usage can be identified:

1. Standard usage for such purposes as word processing and data base development (eg. bibliographies).

2. Curriculum content.

3. Aids to teaching/learning.

No further comment is needed in relation to the first of these.

The *hands on* teaching of computing as part of curriculum content relates to the way computers are used in agencies, where in many instances professional staff are now expected to have some computer skills. Major uses (in addition to standard office uses) are for:

Client records.

Service provision records.

Resource records (eg. waiting lists and selection criteria for scarce resources, availability of service capacity).

Communications network.

Decision support programs to aid professionals.

Expert systems for specific purposes (eg. organisation of the Home Help service).

Alongside teaching and demonstrating such uses, a professional course curriculum is also likely to include material related to social, political and ethical issues of computing (eg. confidentiality, patient/client access to records, data reliability and accuracy).

One important use of computers as an aid to teaching will relate to the ability to provide *hands on* demonstrations of professional uses such as those listed above. Additionally many educators are concerned to develop simulation material, so that a student does not have to approach difficult aspects of the professional task by moving direct from classroom discussion to real situations. Both educational demonstrations and computerised simulation form part of a wider concern, especially amongst human service staff employers, to facilitate access to teaching material on disk or network. The impetus for such a development stems from the combination of the need to provide staff training (from basic qualifying to refresher courses or presentations of new developments), coupled with the difficulty of releasing more than a small number of staff at any one time to attend a course. Teaching made available on computer (perhaps in the longer term linked to videodisc) can be handled much more flexibly.

Plans of the CTI Centre for Human Services:

1. Collect a library of computer software of value for human service teaching, drawing together material from the UK, North America, Australia, and Europe (Scandinavia, Netherlands).

2. Provide a reviewing and quality assessment service for the most important library items.

3. Collect material relating to teaching methods employed in computer based teaching.

4. Make information covered in 1, 2 and 3 above available through conventional communication channels, including JANET and (for North America and Europe) BITNET.

5. Provide a regular newsletter via JANET/BITNET, through mailing to all British universities, and in each issue of New Technology in the Human Services.

6. Develop, maintain and disseminate a list of all persons interested in this activity, including agency/clinical personnel and North American contacts.

7. Seek to obtain support resources from outside the university sector both to ensure the Centre's long term viability, and to promote the development, distribution and growing use of computerised courseware.

Comment:

Human service educators have often been slow to realise the potential of computers and information technology. The reason, perhaps, lies in the nature of the services - the provision of help to people in need or distress, and the importance of a human relationship between professional and client in the way help is given - which has caused scepticism about the value of something seemingly so mechanistic as a computer. However, attitudes have changed fast in the last decade, leading to a conviction that effective computerisation in areas like education and training can serve to reinforce the humanity of service rather than undermine it.

Bryan Glastonbury

CTI Centre for Human Services - Software Catalogue

The software listed here is all North American, and represents the range currently offered by Dick Schoech of the *Computer Use in Social Services Network* (CUSSNet). Please place orders with Bryan Glastonbury, Department of Social Work Studies, The University, Southampton, SO9 5NH. As stated in the Editorial, final prices have not yet been negotiated, but will be close to £9 for a one disk program, £14 for a two disk program, and increasing in increments of £5 per disk for three and four disk programs. This includes VAT, postage and packing for the UK. Bulk or overseas orders by arrangement.

At present neither the *Centre for Human Services* nor the editorial staff of *New Technology in the Human Services* have much direct knowledge of the content of the programs, but in due course we will be offering reviews, arranged through the auspices of the *Centre for Human Services.*

Definitions of software codes:

(D) = Demo - Software that highlights a product and/or gives you the feeling of how the actual product operates.
(F) = Freeware - Full working version; no restrictions on use.
(L) = Limited Use Version - Lets you examine the product, but limitations prevent continued use.

(U) = User Supported Shareware - Full working copy; you are expected to register and pay the vendor if you use it.
IBM-PC = Will run on the IBM personal computer and compatibles.
(HD) = Indicates a hard disk is required.

Note: Disks are direct from the vendor and copied with vendor permission. Thus, disks are free of computer viruses.

All disks are guaranteed to work. However, disks may get damaged in the mail. If you have a problem, do a PrtSc of the problem and return it with your disk for a new copy.

Developmental Disabilities:

AUGMENT (1 disk) - Information on augmentative communication readiness (F) IBM-PC (no copy charge).
Provides teachers, parents and caseworkers with information about a client's unique situation regarding augmentative communications technologies and provides skill building exercise and resources. Distributed free by the Texas Planning Council for Developmental Disabilities.

McDSC (1 disk) Community Residential Services Demo MIS from Micro Decision Support Center (D) IBM-PC.
This demo introduces a software package to manage community residential services for citizens with severe handicaps.

DD Connection (1 disk) - Illustrates a Developmental Disabilities (OPUS) bulletin board (D) IBM-PC (no copy charge). This demo illustrates the DD Connection, a local bulletin board and database for persons with Developmental Disabilities which is operated by the Nat. Assn. for Retarded Citizens of the U.S. Distributed free by the Texas Planning Council for Developmental Disabilities.

1-Finger (1 disk) - Handicapped Keyboard Enhancer from Trace Research & Developmental Center (F) IBM-PC.
1-Finger allows someone using only one finger, a mouth stick or a head to hold down two keys at the same time and to delay the automatic repeat feature.

Stickey (1 disk) - One finger or stick program with keylock for people using a stick access device from C-CAD(U) IBM-PC. Allows someone using only one finger or a stick to better access the computer. Also contains PowerMenu from Brown Bag Software.

Education/training:

AMS (1 disk) - Academic Merit System - Automatic merit review process from WALMYR Publishing Co. (L) IBM-PC.
AMS is an automated merit review system for use by faculty and Personnel Committee for evaluating faculty performance.

BASIC Professor (1 disk) - An interactive BASIC tutorial from Eagle Software (U) IBM-PC.
An interactive tutorial for teaching novices how to use the computer language BASIC.

GRADES+ (1 disk) - Course grading program from Penguin Computing (D) IBM-PC.
GRADES+ tracks and analyzes the results of a single test, combines several score columns to computer a semester grade, or assigns letter grades.

SCREE (1 disk) - Sequential Criterion Referenced Educ.Evaluation System from WALMYR Pub.Co. (L) IBM-PC.
SCREE helps you create, print, score, analyze and graph test scores for one or more courses.

TAS (1 disk) - Teacher Assessment System from WALMYR Publishing Co. (L) IBM-PC.
TAS produces individual faculty reports and overall summaries based on student responses to the Arizona State U. designed "Teaching Evaluation Form."

TUTOR.COM (1 disk) (Ver 4.4) DOS Tutor from Computer Knowledge (U) IBM-PC.
Provides 9 interactive tutorials on the computer and the basics of DOS.

Health:

AMIS (1 disk) - Hospital Social Work/Discharge Planning demo from King Associates Ltd. (D) IBM-PC.
AMIS contains patient registry, discharge planning, and resource management modules which provide for the timely completion of necessary tasks and the renewal of applications to continue service and entitlements and to control length of patient stay, quality of patient care and hospital cost.

Medical Rehabilitation Manager (2 disks) - Demo from Easter Seal Society (D) IBM-PC (HD).
Allows the rehabilitation professional to collect, store, evaluate and use patient data drawn at every stage in the rehabilitation process.

Vocational Rehabilitation Manager (1 disk) - Demo from Easter Seal Society (D) IBM-PC.
Manages client payroll and maintains detailed client records.

Mental Health:

Agency Simulation (1 disk) - Agency simulation source code and reports for DEC 10 (F) IBM-PC.
This disk contains the source code, sample data, output reports and documentation. The simulation will run on any DEC 10 computer running Tops 10. The Community Mental Health Center simulation was developed using the language SIMULA at the U. of Washington in 1987 under a NIMH grant.

CAS (3 disks) (Ver 5.2) - Clinical Assessment System from Walmyr Publishing (L) IBM-PC.
CAS helps assess client problems and monitor treatment progress over time. Useful for counsellors who must produce outcome measures for accreditation and insurance reimbursement.

DIS (1 disk) - Demo of client self-administered Diagnostic Interview Schedule from U. of Wisconsin (D) IBM-PC.
The Diagnostic Interview Schedule (DIS) is a computerized structured interview used to obtain data required for most adult Axis I psychiatric diagnoses. The version of the DIS on this demo is designed so that the patient can take the interview with minimal assistance from the clinical staff.

Hamilton Depression Assessment (1 disk) - from Grant Fair (F) IBM-PC.
Administers, stores, retrieves, scores and prints the result of a modified Hamilton Depression Scale consisting of 19 questions.

Help-Software (1 disk) - Demo of self-help software for assertiveness, self-esteem and stress from CATSco (D) IBM-PC. This sampler acquaints you with three client administered self-help software programs. Help-Assert increases assertive communication. Help-Esteem enhances self-esteem. Help-Stress helps control and manage stress.

MMPI (1 disk) MMPI scoring demo from Applied Innovations (D) IBM-PC.
Produces MMPI data quickly, accurately, and inexpensively.

PsyMed (2 disks) - Guide to psychotropic medications from Psych Soft Inc. (U) IBM-PC.
PsyMed provides condensed indications, adverse reactions, dosage, and visual identification information for over 130 medication definitions commonly needed by Mental Health professionals and others.

Management:

Bernie Cares (2 disks) - I&R demo from Central Referral Service, Inc. (D) IBM-PC (HD).
Illustrates the Bernie Cares information and referral system designed for an I&R agency.

Community Services Locator (1 disk) - I&R demo from Pinkerton/Galewsky (D) IBM-PC.
Illustrates The Locator which tracks caller activity, maintains a program database, searches and retrieves community resources, and prints reports and queries.

Donor Network (3 disks) - Shareware donation and pledge tracking system from A & M Software (U) IBM-PC (HD).
Detailed pledge and contribution transactions, including matching gifts, with the ability to pinpoint specific funds or projects. Over 50 reports available including mailing labels and phone directories.

EZ-Forms (1 disk) - Forms generator and manager from EZX Corp. (U) IBM-PC.
Helps design, store and print master forms. Forms can also be filled in on the screen, printed and stored. Over 100 pre-designed, modifiable forms are available.

Fixed Asset Manager (2 disks) - Shareware Fixed asset system from A + M Software (U) IBM-PC (HD).
A fixed asset system that handles multiple depreciation methods.

Fund Accountant (2 disks) - Shareware fund accounting system from A + M Software (U) IBM-PC (HD).
Handles 9999 Accounts, 99 funds, 26 checkbooks and unlimited projects. Statements by organization, fund, or project. Automatic posting of receipt and disbursement entries.

Fund Accounting (1 disk) - Demo from Easter Seal Society (D) IBM-PC.
Presents the highlights and data entry screens from different module of two versions.

Fund Accounting Manager (2 disks) - Demo from Easter Seal Society (D) IBM-PC.
Designed to handle the complete accounting requirements of health and human service organizations.

HSS (1 disk) - General Ledger demo from Great Lakes Behavioral Research Institute (D) IBM-PC.
The Human Services Software General Ledger is one part of a fund accounting package.

In-site Billing (1 disk) - Demo from Applied Innovations (D) IBM-PC.
Addresses the billing and accounts receivable needs of individual practitioners.

MIS Manager (2 disks) - Shareware computer inventory tracking system from A + M Software (U) IBM-PC (HD).
Detailed depreciation journal entries each time depreciation is taken. Over 100 difference reports available including inventory labels.

MPB (1 disk) - Multi-Provider Billing System demo from Applied Innovations (D) IBM-PC.
Meets the billing, accounts receivable, and financial data base needs of group practices or clinics.

Painless Accounting (3 disks) - Office accounting system from Painless Accounting (U) IBM-PC (HD).
Provides a generic office accounting system that can be set up for an individual or small group practice.

Professionals' Billing System (2 disks) Clinical Practice Billing System from S.Shapse (U) IBM-PC (HD).
Handles the bookkeeping and administrative aspects of a clinical practice.

Volunteer Network (3 disks) - Shareware for tracking and scheduling volunteers from A + M Software (U) IBM-PC (HD). Regular schedules and special assignments. Automatic updating year-to-date and total hours with each work entry. Ability to search for volunteers with particular skills and experiences and print about 200 reports.

Statistics:

CRUNCH (1 disk) - Demo from Crunch Software Corp.,(D) IBM-PC.
Crunch is a general purpose statistical package for the social sciences.

SPPC (4 disks) - Statistics Package for the Personal Computer (student edition) from WALMYR Publishing Co. (F) IBM-PC.
SSPC student edition is a free "student" version of the complete SPPC statistical analysis software package.

Welfare:

Child Abuse (1 disk) Intake Prioritization Expert System demo from Dick Schoech (F) IBM-PC.
A BASIC expert system shell along with rule sets for guessing animals, diagnosing a TV, and for prioritizing child abuse intake. Used to illustrate how an expert system works, see Computers in Human Services Vol.1 No.1.

Miscellaneous Packages and Utilities:

Book Maker (1 disk) from WALMYR Publishing Co. (L) IBM-PC.
Book Maker enables you to print small to huge manuals, monographs, or books by collecting and printing any number of ASCII text files as a single integrated volume.

Disk Protector (1 disk) from WALMYR Publishing Co. (L) IBM-PC.
With Disk Protector, your PC will require a password upon bootup, thus preventing unauthorized access.

EXSYS (2 disks) Expert System Shell demo from EXSYS, Inc. (D) IBM-PC.
The EXSYS demo includes the shell for creating a 25 rule system, a tutorial, and a manual. Good for understanding expert systems.

Pen Pal (1 disk) from WALMYR Publishing Co. (L) IBM-PC.
Pen Pal correspondence and encryption system helps keep private interviews, letters, questionnaires, etc., very confidential.

To receive copies of this software contact:

Bryan Glastonbury
Department of Social Work Studies
The University
Southampton, SO9 5NH

Do you already subscribe to New Technology in the Human Services? If not, think about joining, and receiving regular software lists and reviews from the CTI Centre for Human Services. Subscription rates and details are inside the front cover.

Report of the HUSITA International Working Group

Reason for this report

At the September, 1987 HUman Service Information Technology Applications (HUSITA) conference in Birmingham, England, the final day was devoted to international concerns, including the forming of an international body for human service information technology activities. The approximately 100 persons who were present at the international meeting requested that a small Working Group comprised of Hein de Graaf (Netherlands), Walter LaMendola (USA), Dick Schoech (USA), and Stuart Toole (U.K.) determine the feasibility of establishing an international body concerned with technology and human services.

This Working Group communicated by electronic mail and finally met in Denver, Colorado for three days in May 1988 to continue their deliberations. Bryan Glastonbury (U.K.) functioned as recorder. Funding for the Denver meeting of the Working Group was arranged by Hein de Graaf through the Government of the Netherlands.

The following document is the result of the Denver meeting. It is being submitted to the general human service community for comments and suggestions. The complete minutes are available from any of the participating members.

Background of the report

US: The Computer Use in Social Services Network (CUSSN) was founded in the U.S. in 1981. It is a group of human service professionals in several countries who are interested in computer applications.

England: CASW (Computer Applications in Social Work) started in the U.K in 1984 as an informal group to setup and run national conferences and to publish the CASW journal (which is now retitled "Information Technology in the Human Services"). Based on the success of two U.K. conferences, Stuart Toole contacted Walter LaMendola and other members of CUSSN about a 1987 International HUSITA (Human Service Information Technology Applications) conference. Support for HUSITA 87 was sought from a variety of sources by Stuart and Walter, the conference co-chairs. In order to provide the organisational, legal, and budgetary framework for setting up the HUSITA 87 conference, CASW became the limited company called CASW Ltd. HUSITA to date is solely a name which was used for the first international conference.

The Netherlands: Following HUSITA 87, Hein de Graaf helped the Netherlands hold a series of gatherings (called WELCOM) designed to increase the knowledge and understanding of information technology in the Dutch human services. (See the accompanying report from Hein in issues of the CUSSN Newsletter and the CASW Journal)

The basis of the Netherlands funding of the HUSITA Working Group was the production of a feasibility report which would be valuable to the Dutch Government as well as the Working Group. The report will discuss:

- the establishment of an international communications network, using a variety of channels (conferences, electronic, publications).
- the developments of international projects.
- the possibility of an International conference.
- the feasibility of establishing a "Centre for Information Technology" in human services.

The first phase of this report will be finished in December 1988. A questionnaire is to be sent to HUSITA participants and others to help obtain feedback on these issues.

Assumptions of the Working Group

The working group felt it important to document the assumptions under which they approached the feasibility of an international body. These assumptions are as follows.

- Enthusiasm for information technology applications will grow as awareness and familiarity with technology grows.
- There is a set of values and principles underlying human service technological developments.
- Human service technology must be under the control of the human service community.
- Those working with human service technology have important knowledge and ideas to offer both the general human service community and the information technology community, and both of these communities have much to offer us. At present the level of communication between these communities is inadequate.
- Human service technology cuts across cultural and national boundaries and those involved with its development and use have much in common and something to offer each other.
- It is desirable to strengthen and increase international, crosscultural and multidisciplinary networks.
- The getting together of human service technology personnel from around the world has a synergistic effect.

Identified needs and issues

If HUSITA is to be an ongoing entity, there must be a set of needs for it to address. It must also address the major technology issues facing the human service community. The Working Group identified the following needs and issues for those in the human service community who are concerned with information technology. These needs and issues are listed in the form of questions.

- Where do you get information on information technology e.g., how do we get education and training?
- How can information on technology be transferred from one user to another?
- How do I find and evaluate the information technology I need?
- How do you find out about people who are doing things in information technology?

- What are the processes one goes through when using technology, and how do I find out about them?
- How do I adapt information technology to my culture, language and value system, e.g., protect my values of security, privacy and confidentiality?
- How can I offer my own ideas, projects and products to others?
- How can we develop the knowledge to control our own information technology progress, without having to reinvent the wheel?
- How can I integrate professional values with information technology developments?
- How do we promote fellowship and support amongst the dispersed advocates of human service information technology?
- If we need a support system, what is the nature of that support system?
- How do we promote progress in less developed communities?
- How do we promote research in this subject?
- How do we promote coordination and continuity?
- How do we establish relevant multidisciplinary networks, involving technologists and other service professionals?
- How do we identify the "somebody" when we say "somebody needs to develop this"?
- How do we interface with users, whether direct service workers or clients?
- Do we need to help users handle the psychological stress and issues raised by computerisation?
- What mechanisms will help us pursue this list of needs?
- How can we make judgments about the future of information technology and its impact?

Objectives and possible projects

Part of the startup of HUSITA as an entity should be a clear statement of objectives, structures, and mode of operation. Three groups of participants can perhaps be identified in establishing the objectives which meet identified needs:

1) those who have no knowledge of and possibly little motivation to use information technology;
2) those who have knowledge of and commitment to use information technology, and who hold a middle position in giving and receiving expertise;
3) those who are acknowledged experts about the design and use of information technology and whose primary role is to give.

Clearly this classification is volatile, but if HUSITA is to play a part in meeting the needs listed above, then it must have the active involvement of people in the third group, and a procedure for offloading those who show themselves more interested in taking than giving or who are going through a phase of inability to give. HUSITA must be a giving organisation as far as resources permit, and always an enabling and enthusing body. Implicit in its mission is that HUSITA needs both credibility within the information technology and human service worlds and an appropriate level of resourcing.

The following objectives and projects were identified and rated A, B and C priority, where:

A = An objective/project which deserves immediate attention;
B = An objective/project of the same level of importance as A, but which, for a variety of reasons, cannot be treated with the same urgency.
C = High priority, but needing more preparatory analysis before being advanced for action.

- Facilitate international cooperation in human service technology (A). As a route to achieving this, attention must be paid to the role and potentials of the interim steering group (A).
- Encourage standards for making human service technology culturally independent (C).
- Encourage international research efforts (B).
- Encourage human service technology development (A).
- Survey software needs annually(B); Present awards for outstanding software(B); present seed-money for software (B); evaluate human service software (B).
- Collect and disseminate information on human service technology (A); encourage the development of an international software clearinghouse and registry of "who's doing what" (A).
- Organize workshops, conferences and other gatherings (B); encourage the development of training material (B); establish a clearinghouse for training materials. (A).
- Encourage electronic and human networking on human service technology, including tackling the problems of language translation (A).
- Provide technical assistance in human service technology (B); encourage Third World involvement (B).
- Stimulate international discussion on key human service technology issues and encourage position papers in areas such as security/privacy/confidentiality, curriculum content and teaching methods, and ethical issues in system/software development and use (A).
- Develop the capacity of a steering committee to undertake the goals and objectives of HUSITA through face-to-face meetings and electronic networking (A).
- Encourage publications about human service information technology (A).

Discussion of the Objectives

The Working Group took a systematic approach by discussing where we had been, our needs, where we wanted to go, and our assumptions. During our discussions, we often diversed into the details of potential future operations. This part of our report summarizes some of these discussions.

Lessons from HUSITA to date

AT HUSITA 87, we realized many common concerns (if not common levels of development) across the world. This took tangible form in the extensive building of networks and joint activities during HUSITA 87. The outcome of HUSITA 87 has been the broadening of knowledge and information, improvements in exchange arrangements, cross-fertilization in the context of applications, and a considerable volume of written material, much of which has been or is about to be published. We

had the experience of meeting together and appreciating the pleasure and stimulus which follows.

On the negative side HUSITA 87 was clearly a first attempt at an international conference, with attendant organisational problems. Resourcing was a major concern throughout, and persons with information technology expertise were diverted into organisational matters. Future conferences of the size of HUSITA 87 will need professional organisation, though a different approach may be more appropriate for smaller meetings, gatherings and workshops.

Future conferences

The experience of HUSITA 87 was that the organisation of an international conference required substantial resources and organisational skills. CASW Ltd. may wish to promote more conferences on the basis of its growing national and international experience. However, the international body of HUSITA could be responsible for the content of a conference, but should not get involved in either the conference organisation or the financial arrangements.

This Working Group feels that a future international conference would be desirable, as long as a 24 month lead-in time is provided (i.e., Autumn 1990 or Spring 1991). Any HUSITA member or linked group is invited to submit a proposal for such a conference, giving outline material on content, location, time and estimated cost per person. HUSITA will circulate the proposal on all available networks, requesting responses and offers to help in such a project. Dependent on the responses, HUSITA will then invite the proposer to go ahead and seek the necessary financial sponsorship. Once this is obtained and HUSITA is satisfied as to the proposed arrangements, the conference will be given the HUSITA approval. A contract can be signed between proposer and sponsor(s), and a subcontract between HUSITA and sponsor under which HUSITA specifies its role in the conference content planning. A condition for any such conference will be a clear public distinction from the start between HUSITA's responsibility (for conference content, etc.) and the proposer/sponsor's responsibility (for conference budgeting and organisation, etc.). HUSITA will need to be satisfied that any HUSITA sponsored conference organisation is in professional hands.

Communications

The central role of HUSITA, whether for steering group or anyone wanting access, has to be communication. Face-to-face and written contacts are important, but the geographical spread and required networking places an emphasis on electronic communication. Persons wanting to participate in all but locally based projects will require access, directly or indirectly, to electronic mail and/or a bulletin board.

The emphasis on communication illustrates that a HUSITA association will have several roles, like communications, which cut across projects and tasks. These roles could be called executive roles, although executive does not mean centralized. Since some executive roles will have attached costs, a budget and accounting procedure will be needed.

In addition to executive roles, HUSITA will require enabling roles, e.g. facilitating conferences with HUSITA support, promoting special interest groups, and promoting nationally or regionally based groups. The Working Group is presently investigating organizational structures which will allow these roles to be carried out through many geographically remote projects.

Developing structure

There appears to be no need, especially when resources are limited, for any kind of centralised office or secretariat. The need is for a representative **HUSITA Steering Committee** to be established. This Steering Committee will perform a mixture of executive and enabling roles which were mentioned previously. Members of the Steering Committee would have clear responsibilities for specified roles and tasks, and for group activities (e.g. voting). Given the complexity of selection of a Steering Committee, we would propose that the existing Working Group continue as an interim Steering Committee to present and canvass widespread opinion on these proposals, after which an "open access" Steering Committee would be formed. That is to say, interested persons would be invited to join the Steering Committee, subject only to meeting criteria.

The criteria for membership on the Steering Committee would be access to electronic mail in English, and a commitment to undertake executive and enabling tasks. Non-performance over a specified period would automatically terminate membership from the Steering Committee.

The Steering Committee would coordinate, authorize, or sponsor many projects. One project of the Steering Committee would be to publicize and invite interested persons to set up or participate in special interest groups, or locally based geographic groups. General members of the HUSITA organization would then volunteer to take on these roles without Steering Committee involvement. Encouragement for people to volunteer, either to be linked generally with HUSITA or be part of a specialized or local group, would stem from the access to communications and database material which participation in HUSITA would open up. Some areas may not attract volunteers, and a task for the Steering Committee would be to assess if any gap is so important that executive action must be taken to fill it.

Geographic location

At present, the group does not want a physical base (i.e.,. a building and secretariat), but may need one or more points where HUSITA can be contacted and can make links with other organisations, such as European Economic Community, and the United Nations. It is anticipated that the Steering Committee will spend about a year on the setting up phase. We then feel that sometime during the following 2 years (maybe at a next HUSITA conference) the whole structure and activities should be reviewed.

Signed:

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