Decision Support For Human Rights: A Case Study

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Abstract

A computerized system has been developed for the preparation and dispatch of telegrams by the Amnesty International USA Urgent Action Network. The system includes automation of billing procedures, funds receipt management, and membership management for a 2000 volunteer database. The system currently produces and sends an average of 1000 telegrams, world-wide, each month. This paper describes the decision tasks and the tools created to aid decision-making for the Telegram Pledge Program.

Introduction

Joel Moitse, lecturer in economics at the National University of Lesotho at Roma, was arrested at his campus home on 26 May 1989. He was detained under the Lesotho Internal Security (General) Act of 1984, allegedly for criticizing the ruling Military Council and the King of Lesotho. The arrest occurred on the day a national newspaper, *The Mirror* published a letter by Joel. This letter reiterated criticism of the ruling Military Council which had appeared earlier in the same newspaper. Amnesty International classified Joel Moitse's arrest as an urgent action case on the 5th of June 1989. Within hours a set of telegrams left the United States followed by hundreds of letters expressing concern over his detention, seeking assurances for his personal health and safety, and requesting he be allowed access to legal counsel. These telegrams, from US citizens to high government officials of Lesotho (The King, the Minister of Justice, Chairman of the Military Council), originated at the Urgent Action Network of Amnesty International USA. (Amnesty [1], 1989)

Amnesty International USA maintains its Urgent Action Network (UAN) in Nederland, Colorado. One of the prime functions of the network is to dispatch telegrams to government officials concerning alleged human rights violations. Each telegram is sent in the name of a Telegram Pledge Program (TPP) member who has loaned their name to Amnesty and agreed to reimburse the UAN for the cost of the telegram.

Pledge memberships exist in four categories by telegram type and payment method. Two types of telegrams can be sent: letter telegrams at a \$10.00 rate or full rate telegrams at a \$20.00 rate. Pledges may select to reimburse Amnesty monthly for telegrams sent or they may prepay on an annual or semiannual basis. A pledge member may also specify support for or

against specific categories of human rights violations. For example, a pledge may wish to support telegrams only in cases involving educators, religious rights, or medical personnel. Or, regardless of the violation, a pledge may support or deny support in capital punishment cases. The majority of the 1500-2000 pledges select to support the UAN without reservation. This results in an average of 1000 telegrams sent world-wide, monthly.

The judgments necessary to match pledges with each unique urgent action case coupled with a host of simple funds calculations, reports generation, and housekeeping tasks makes the TPP a good candidate for decision support system aid. (Keen and Morton, 1978) This article explains the decision processes for the program and shows how those processes were linked to decision support on a microcomputer. It proceeds on the premise that DSS design must separate a decision environment into two major parts: the judgmental arena provided by the human decision maker and the logical/computational arena provided by the machine. The machine must be able to accept judgmental input and change its analysis to reflect this input. Thus DSS design, while it requires the standard data gathering techniques of MIS design (forms collection, questionnaire, interview, observation, etc.), also requires the identification of decision points. These decision points are those places in information processing which require human judgment in place of logic or calculation. Their DSS displays contain the necessary information to aid judgment and provide for input/processing of that judgment.

Telegram Pledge Program System Telegram Production

Telegram production is the time critical function of

the TPP. Telegrams need to be produced and sent in a minimum time following receipt of an Urgent Action Request. Decisions concerning telegram production include the following.

Decision Point 1 - Number of Telegrams:

The number of telegrams to send in a particular case varies dependent upon the specific nature of the case, the number of government official addressees, the number of available pledges, and the number of cases requiring telegrams anticipated during the month. Each of these decision variables is judgmental except the number of available pledges. At this decision point the computer side of the DSS will require a counter of used versus unused pledges. The display of this data can be coupled with acceptance of input for the number of telegrams.

Decision Point 2 - Pledge Selection:

The specific pledges selected for a case depend on the nature of the case, the match between the case description and pledge categories, and the number of available pledges. Pledges are selected in arbitrary groupings from a flat-file database. This database outputs an ASCII file of pledge names and addresses to be manually merged with telegram text and government official addressees in Microsoft Word. Pledge selection operates under a set of decision rules.

1. All available pledges should be used each month. The counting mechanism for decision point 1 supports this rule.
2. Pledge category desires and telegram rates should be matched if possible. The decision maker judges whether a case is life threatening (immediate telegram at \$20.00) or not (overnight telegram at \$10.00). The DSS needs to be able to accept this judgmental input as well as the appropriate category for the case. Then, the DSS computer component will excel at searching the database to match pledge rates and categories.
3. A pledge should not send a telegram to the same country two months in a row except for follow-up cases. A history field in the DSS database can keep track of the country to which the last telegram was sent. The computer side of the DSS can then reject selection based on a match between the current country code and the value of this field.
4. Pledges should be used randomly month to month but pledge selection by name is required for follow-up cases. A randomized list of eligible pledges can be computer produced at the beginning of each month and updated after each telegram selection process. The number of pledges remaining in a month can be stored

as the first data item in this list.

5. Any randomly selected pledge should be rejectable by name. While machine based random selection produces a valid set of pledges in the majority of cases, exceptions to heuristic decision rules nearly always occur. Therefore, the DSS should present its list of selectees for judgmental edit by the decision maker. This display would allow rejection of a selected pledge by name with either random replacement or by-name replacement.

Decision Point 3 - Telegram text and Telegram addressee:

The text of a telegram is case specific. It must be available to both the telegram transmission and the billing notice processes. The UAN has a series of starter texts for cases of harassment, fear of torture, disappearance, etc. stored in boiler-plate word processing files for quick development of case specific texts. Detainee names are recorded as XX to be inserted as a search and replace operation. Further, it is not necessary to develop a different text for each addressee. The same telegram text may be sent to more than one government official.

The government official addressees for a case are provided with the case description. While some addressees are unique and must be manually entered, boiler-plate address files by country are also stored in the word processor. And, just as one text may be sent to many different officials, one official may receive many telegrams each from a different pledge with different text.

To produce each telegram the decision maker manually merges the specific telegram official addressee, telegram message, and pledge sender in the word processor. This completed telegram is saved as an ASCII file and sent via modem to an independent telegram relay office.

There is no reason to change the basic process mechanisms of telegram production other than to automate them. At this decision point the DSS design problem becomes one of integrating familiar processes into the larger support system while increasing automation. The DSS can contain a word processor and a database management system integrated for telegram text and address processing through ASCII files. The word processor can produce ASCII addressee addresses and telegram text while the database manager produces pledge sender addresses. A simple merge program can automatically create the telegrams for electronic transmission which, in turn, can be merged into ASCII billing notices.

Funds Management

Decision Point 4 - Billing:

The funds management tasks of the TPP are routine. Billing is spawned manually from the pledge selection to send a telegram. One of eight boiler-plate billing notices is selected to fit the conjuncture of pledged rate, telegram cost, and payment method. The notice is then manually merged with the telegram text in the word processor. The pledge address labels for these billing notices, however, are produced by a separate database system requiring its own maintenance. An inefficient and unnecessarily redundant setup which generated significant error. The billing notice informs the pledge of the case action taken. The specific amount of the billing lets the pledge know whether a payment is due or a prepaid amount has been debited. A manual pledge ledger is then debited. This billing process contains no judgmental interfaces and therefore is subject to complete automation within the DSS. The only decision to be made is whether to create billing notices as soon as the telegrams have been sent or to delay billing notice production. The press of a number of cases arriving simultaneously or the need to use shared printing facilities often delayed billing. The DSS can accept a decision to delay billing and create a billing control file for later implementation.

Decision Point 5 - Funds Receipt:

The funds receipt tasks of funds management require manual posting of the pledge ledger and a check register. The UAN does not deposit funds rather, it mails the checks received to Amnesty USA for deposit. This mailing is controlled via the check register produced during funds receipt processing. The posting of funds received provides a reasonable time to review a pledge's account status. The need for judgment then manifests itself in an unbalanced account; annual pledged values may have been exhausted or a negative balance may show up. At this point the decision maker must be able to view sufficient information to decide: (1) to change an account from annual to monthly or the reverse if such a request arrives with payment; (2) to tag an account for special consideration under Membership Management; and (3) to drop a pledge with a large negative balance. These actions, which alter the automatically updated pledge database, need to be judgmentally executable as part of the funds receipt process.

Membership Management

Decision Point 6 - Membership Management:

Membership management is both routine and default decision oriented. Routine additions to the pledge

database take care of the entry of new pledges and specialized update of pledge records (name, address, change of category, etc.). Default decision oriented processing is necessary to manage pledge accounts in arrears as well as to produce special letters to pledges. These tasks, accomplished by manually searching a pledge ledger under the existing system, call for the DSS to provide both information and the ability to take action. A full-fledged database management system with letter production capabilities can meet the requirements for automating membership management within the DSS.

TPP Decision Support System

As in many cases of this sort, the current system gets the job done. It is, however, unwieldy, heavily dependent on personal memory, and virtually incapable of further growth. The UAN's volunteer labor is limited and needed for tasks external to the TPP. Therefore, a decision support system (DSS) was designed to automate production and management for the TPP system.

The DSS facilitates telegram production, funds management, and membership management. It automates data flow and information production and, it provides the necessary interface for decision actions. It has been specifically designed at the user interface to minimize training for volunteers. (Sprague, 1980)

The TPP DSS is made up of eight separate computer programs tied together by a DOS batch file which directs program execution.

Five of these programs, unique to the system, are written in QuickBASIC version 4.5. The remaining three programs are commercial. Microsoft Word handles telegram official's addresses and message production while contributed shareware from ButtonWare: PCLabel and PCFile+ provide a database management system.

File: MENU.BAT

The DOS batch file MENU ties the eight system programs together so that the TPP user moves seamlessly from one to the other. File NEXT.BAT is generated by system BASIC programs to execute the proper segment of MENU.BAT.

Program: AIUAR

The QuickBASIC program, AIUAR, handles primary system integration tasks via menu selection as well as system set up.

Figure 1

COMPUTER PROGRAM HIERARCHY

HARDWARE: COMPAC DeskPro 286
640K RAM using DOS 3.2
20 MB Hard disk
Okidata and HPDesk Jet Printers

Program: SELTEL

The pledge selection program, SELTEL, provides the decision interface for case parameter entry and pledge selection. It outputs the pledge address file for telegram merge, updates the PCFile+ pledge database selection status (country, use code, and funds status), and produces a billing control file. It allows random or by name pledge selection based on parameter match.

Program: Microsoft Word

The production of telegram text and government official addresses is centered around Microsoft Word. This word processor provides a boiler-plate environment for quick telegram composition. Separate non-formatted (ASCII) files for officials and messages are saved to disk for automatic merge with pledge sender addresses

extracted from the database management system by program SELTEL. These same message and officials ASCII files are later merged with PCFile+ billing letters.

Program: MERGET

The MERGET program merges the separate telegram message files and officials files produced by MS Word with the pledge address file produced by program SELTEL into the ASCII format for electronic transmission of telegrams. MERGET automatically selects the first [T] telegram message texts and the first [A] official addresses from the edited boiler-plate MS Word files for the merge with [TxA] pledge senders.

Program: FUNDS

The funds management program interacts directly with the pledge database defined by PCFile+; changing selected data item values and indexes as necessary to post funds status.

Program: PCFile+

The TPP pledge membership system is centered around the database management capabilities of PCFile+. This database management system handles all standard data maintenance and storage functions, and most pledge data input. It also provides a simple text composition and storage capability for funds management letter production. The simple and open architecture of PCFile+ makes it a prime database candidate for integrated DSS development.

Program: BILLING

Pledge billing processes are implemented using a program which selects the appropriate billing letter (produced by PCFile+) and merges it with the ASCII telegram message and officials address text from MS Word. Program BILLING then links to PCLabel for production of billing address labels.

Program: PCLabel

ButtonWare's PCLabel handles the single task of mailing label production for the entire TPP system.

Conclusion

The Telegram Pledge Program DSS pulls together files, data, and decision actions from two personal computer databases, a number of document files, a wall chart of pledges used, and a manual ledger. It automates the telegram production process, debits the appropriate pledge account, records pledge status, and sets up automatic billing and funds control. It puts a twenty one field pledge data record under database management procedures replacing a word processor address file, a separate database address file, and a manual ledger. Both system use and system management have been streamlined to free time for the critical telegram production process.

Suggestions For Future Research

A mechanism for identification of decision points, as defined by this article, provides an avenue for future research. It is often not easy to separate the need for human judgment from processes subject to machine algorithms. Human decision makers do not readily admit to the ability of a machine to replace their "thought processes." Yet, the success of some artificial

intelligence programs demonstrates that, what was thought of as a complex decision process can be expressed as a machine process. The identification of decision points for the Telegram Pledge Program arose from a combination of interview, extensive observation, pointed questions, and the production/testing of example program modules. The development of a formal method for separating a judgmental process from one subject to a machine algorithm would be beneficial to DSS design.

*****Postscript*****

Joel Moitse was released from detention, subject to restrictions that affected his university employment, on 16 June 1989. Amnesty International continued to monitor his case. Amnesty [2], 1989)

*****References*****

1. Amnesty International Urgent Action Request, AI Index: AFR 53/18/89, UA 160/89, 5 June 1989, Amnesty International Secretariat, 1 Easton Street, London, WC1X8DJ, United Kingdom.
2. Amnesty International Urgent Action Request, AI Index: AFR 33/03/89, 29 June 1989, Amnesty International Secretariat, 1 Easton Street, London, WC1X8DJ, United Kingdom.
3. Keen, Peter G.W., and Morton, Michael S. Scott, *Decision Support Systems: An Organizational Perspective*, Reading, Massachusetts, Addison-Wesley, 1978.
4. Sprague, Ralph. "A Framework for the Development of Decision Support Systems." *MIS Quarterly*, December 1980, pp. 1-26.