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THE LEGISLATOR AS INFORMATION USER

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THE LEGISLATOR AS INFORMATION USER

(By Robert L. Chartrand, Congressional Research Service)

An assembly must be informed before it can act. The understanding and conscience of every member should be clearly satisfied before he can vote. Information is to be had only by debate, and examination of evidence. Any man may see that this must be attended with difficulty; but no man, who has not seen the inside of such an assembly, can conceive the confusion, uncertainty, and procrastination of such proceedings.

—John Adams.

A Defense of the Constitution of the Government of the United States, Vol. I, final chapter.

Perhaps at no point in time in the history of the Republic has the need of senior governmental decisionmakers for useful information been more acute. The 1970 decade has been characterized by an unprecedented array of critical domestic problems—air and water pollution, transportation snarl, crime prevention and administration of justice, housing for the nonaffluent, and substandard education and welfare services—which require measured judgment by officials at all levels of government.

Within the Congress, functioning under a charter established long ago, the search for greater efficiency and effectiveness has been intensified in recent years. The Legislative Reorganization Act of 1970 (Public Law 91-510) provided guidance and procedures in certain key areas, including an emphasis on types of information support essential to the legislative and administrative operations of the Congress. Budgetary and fiscal data, so critical to the congressional oversight role, are to be collected, maintained, and analyzed in an executive branch computer-supported system. This information resource hopefully will enhance the ability of responsible congressional elements to make “more meaningful comparisons between the costs of Federal programs and their benefits” while permitting “the extraction of many other types of specialized information about the fiscal aspects of Federal activities.”¹

Another thrust of this measure goes to the heart of member, committee, and staff needs for the type of research and interpretive commentary support provided by the Congressional Research Service. Several new duties were defined which encompass both a refinement of analytical and advisory services and a clear implication that more carefully structured and maintained files, better tools allowing selective retrieval of needed data from those files, and the fulsome use of available advanced technology would be required:²

1. Assist committees in analyzing, appraising, and evaluating advisability of enacting legislative proposals and alternatives

¹ U.S. Congress. House. Committee on Rules. Legislative reorganization act of 1970. Report of the Committee on Rules on H.R. 17654. (91st Cong., 2d sess., H. Rept. No. 91-1215, 1970.) Washington, D.C., U.S. Govt. Print. Off., 1970, p. 11.

² Kravitz, Walter. The Legislative reorganization act of 1970: Summary and analysis of provisions affecting committees and committee staff of the House of Representatives, Washington, D.C., Legislative Reference Service, Library of Congress, Dec. 28, 1970, p. 64-65.

thereto and estimating their probable results; maintain continuous liaison with committees.

2. Inform committees of programs and activities scheduled to expire in the current Congress.

3. Provide committees with lists of subjects and policy areas suitable for analysis in depth.

4. Upon request, prepare concise legislative histories of measures upon which committee hearings are to be held.

Such "user requirements" reflect the serious thinking which has been undertaken by those seeking to ease the burdens so long carried by members and their staffs. Above all, time is of the essence where the member's allocation of his personal and staff resources is concerned. Fulfilling, as he does, a multiple role—legislative conceptualist and debater, key determinant in the deliberations and recommendations of his committees, and ombudsman serving his constituents—he should be able to identify, modify as required, and periodically evaluate the information that his office *must* have to function effectively.

MEMBER INFORMATION NEEDS THROUGH A PRISM

As the busy congressman and his staff endeavor to provide the range of services implied by his multi-faceted role, they continue to search for ways to "work smart." Always there is the need for *information*—facts, quotations, statistics, citations, guidelines, pro's and con's, precedents, research summaries—information that is accurate, as comprehensive as possible, timely where necessary, and above all, *relevant*. In many quarters of government today, there are references to "the white plaque," the plethora of paperwork that threatens to engulf the bureaucrat, the top echelon decisionmaker, and the populace at large.

Members have enunciated on numerous occasions, both informally and in survey interviews, their awareness of the "information problem." For the most part, they stress that the problem is not one of lacking specific information, although that obviously may arise from time to time. More often, the dilemma is which information to use, how to screen out the spurious or less useful data from the nuggets of truth. Each decision to be made is arrived at by a process which involves logic, hard facts, expert interpretation, a comparison of alternatives, political acumen, a "gut reaction," and a consideration of the real world situation as the member sees it. How much reliance must he place upon his own staff or external resources in obtaining the information that he has to have? Indicative of the member's incredibly diverse information needs is this typical calendar:

- 7:30 a.m. Breakfast with constituent group
- 8:45 a.m. Review speech draft with Administrative Assistant
- 9:00 a.m. Discussion with two colleagues of terminology in a bill up for debate
- 9:30 a.m. Telephone conversation with staff member in district office about pressing local problem
- 9:50 a.m. Meeting with visiting constituent who has a distressing problem involving an executive branch agency
- 10:15 a.m. Go over background material on upcoming subcommittee session with legislative assistant

- 10:30 a.m. Subcommittee meeting, including appearance of witnesses requiring member questioning
- 12:00 noon Luncheon with lobbyist group representatives seeking support on approaching vote

Even the most cursory examination of this truncated schedule reveals the variety of research, staff interaction, and decisionmaking which must take place. And all of these actions must occur against a backdrop of "drop-in" visitors' inquiries, official and constituent correspondence, and the omnipresent telephone.

Listen to the comments of the members themselves as they reflect upon their information needs. Their candor is an indication of the importance attached to obtaining better information.³

<i>Subject</i>	<i>Comment</i>
Information that is current and reliable on the content and status of proposed legislation	"I want to find out when hearings are to be held; who are the witnesses; can other witnesses be scheduled or programmed?"
Floor action on a bill	"We don't know what's going to happen on the floor. Trying to follow the whip notices, and what is happening on the floor; there is a slight difference as to what takes place."
Information about Federal grants, loans, projects, and contracts—programs in existence, and status of individual applications by constituents	"We stumble across a program that is being used badly in a district . . . The money is available but it is just sheer luck if we find it."
Information for evaluation of Federal programs, especially funding ramifications	"Congress ought to move on our own initiative to develop some sort of capacity to make our own budget analysis."
Information on the scope and nature of Federal programs throughout the country	"It is not uncommon to have to place 7 or 8 calls to get through to the right bureaucrat."

Great stress continues to be placed within the Congress on attaining a heightened capability for budget analysis and program evaluation. Legislative proposals introduced during the 93rd Congress call for the creation of legislative branch offices to perform these essential tasks in a way that will allow the legislators to carry out their prescribed review.

Just as the member has his hour-to-hour quandary about which set of facts to ask for, much less use, so the administrative and legislative assistants, the special caseworkers, the committee staffers also must know how to exploit their information contacts. At the member's hurried request, these unlabelled information specialists must be able to ferret out the latest White House utterance, editorial comment, or recommendation by an esteemed "think tank." And such information must then be readied for the member for use in a variety of ways: press

³ U.S. Congress. House. Committee on House Administration. Second progress report of the Special Subcommittee on Electrical and Mechanical Office Equipment. Prepared by the working group on automatic data processing for the House of Representatives. (91st Cong., 2d sess., committee print, October 1970). Washington, D.C., U.S. Govt. Print. Off., 1970, pp. 6-9.

release, comment over coffee with a colleague or in chamber debate, reflection during a "meet the press" interview, or as a possible amendment to a bill being considered in committee session. Ideally, members would like to be given an "executive brief" in corporate parlance or a "daily estimate" as prepared for many senior military commanders. A number of members has asked the Congressional Research Service to look into the feasibility of establishing an "issue briefing system" which would furnish the essential elements of information on a wide range of topics before the Congress, either by displaying them on videorecording terminals or in printed form.

Patterns of handling the myriad information needs of Congress and its constituents are shifting, as the volume and variety of requests proliferate. Committee staffs today find themselves being asked to fulfill member's constituent problems. The expertise required to cope with many of the current domestic and foreign issues must be sought outside the member's personal or committee staff resources. Such factors as these necessarily affect the types of persons selected for the congressional staffs, and the degree of reliance on external support groups.

ROLE OF "SECOND-HAND" INFORMATION SERVICES

As the Congress has come to realize that it no longer can depend solely upon its in-house staffs and some of the traditional information resources elsewhere in government and the private sector, a twin-pronged effort has been initiated to ensure acquisition of ever better information. Information systems groups skilled in the use of computer and microform technology have been created within the House and Senate, and are offering such services or products as electronic voting (in the House), addressing and mailing (in the Senate), legislative calendar preparation, storage of campaign expenditure data, bill status information, and voting record information. But in addition, a major look is being taken at what exists in the Federal executive branch and beyond.

The members and committees of the Federal legislature have always funneled many types of requests to the Federal executive establishment. In the recent volume *Both Your Houses*, the author points out that:⁴

. . . ready access to legitimate facts on the cost and performance of the Defense Department can be of incalculable value to an increasingly questioning Congress, which will have to be on the alert for any attempt to cloak routine information with a security blanket.

An inquiry from a Congressman to the executive branch usually is routed through designated liaison officers who will seek to expedite responses. Regardless of the effectiveness of this channel, however, the Congressman who would demand for himself or his committee salient budgetary or planning information must be prepared to do certain things.⁵

1. he must define very precisely his information requirements;

⁴ Weaver, Warren, Jr. *Both your houses: the truth about Congress*. New York, Praeger Publishers, 1972, p. 172.

⁵ Chartrand, Robert L., *Congress, computers, and the cognitive process*. In *Planning and Politics: Uneasy Partnership*. (Thad L. Beyle and George T. Lathrop, ed.) New York, The Odyssey Press, 1970, p. 183.

2. he must see that compatible formats and procedures for accepting, transmitting, and utilizing the data are prepared;

3. he must have available to him those devices and staff capabilities which will allow him to use the data from the executive branch, and;

4. he must be able to guarantee, through a system of protective legal and data processing procedures, the confidentiality of the incoming information, where that is a factor in its being made available.

With the advent of computerized data bases, many agencies and departments have established a special type of "upon request" service. As may be imagined, the kinds of action enumerated above become particularly critical when attempting to procure and *use* computer-generated products. It is not enough simply to obtain, for example, the magnetic tape containing a given file. One must also make sure that the computer configuration to be used is compatible with that for which the data was originally designed to be processed, and that the "software" (computer program) is available to direct the machine in its step-by-step manipulation of the data.

Computerized repositories of subject data are on the increase, and many of these are proving to be of worth to the Congress. For those congressional elements seeking assistance in deriving legal type information, the United States Air Force in Denver maintains its Project LITE (Legal Information Through Electronics), allowing a search of the full text of the U.S. Code and the published Comptroller General's decisions. A similar service, but accessible "on-line" via vide screen terminals, is under development by the U.S. Department of Justice. Many types of bibliographic files have been computerized. The National Library of Medicine continues to refine its Medical Literature Analysis and Retrieval System (MEDLARS), while the U.S. Department of Commerce has developed a National Technical Information Service (NTIS), a central source of government-sponsored research and development reports which are described in 300,000 abstracts which may be searched for inclusion in custom bibliographies. Through the use of such "systems" as these, traditional information support by executive branch subject specialists and libraries is being augmented by services featuring quick, selective access to priority information.

Within the legislative branch, all three support elements—the General Accounting Office (GAO), Government Printing Office (GPO), and Library of Congress—are using advanced information technology in offering improved support to the Congress. The General Accounting Office's "watchdog" role is well known, and in recent years the thoroughness of its massive detailed analysis of governmental operations often has been sharpened by the use of computers in processing key statistical data. With the strengthening of the Systems Analysis Section of the GAO Office of Policy and Special Studies, less reliance has had to be placed upon utilizing industrial or other governmental analysts. At present, strenuous efforts are being made to implement the requirements relating to budgetary and fiscal information contained in the Legislative Reorganization Act of 1970,⁶ including the creation of a "standardized information and data processing system," "standard

⁶ An act to improve the operation of the legislative branch of the Federal Government and for other purposes. Public Law 91-510, 91st Cong., H.R. 17654, Oct. 26, 1970, pp. 28-29.

classifications of programs, activities, receipts, and expenditures of Federal agencies," and making available to committees or joint committees "information as to the location and nature of data available on such Federal agencies" and related summary table of such data.

The Congressional Research Service (CRS) of the Library of Congress, a fixture on Capitol Hill since 1914, has broadened its non-partisan research and reference services to include more in-depth support of committees and the placement of timely data—showing, for example, where bills and resolutions are in the legislative process—in computerized files. As early as 1967, content and status information on all newly introduced legislation for both the House and Senate has been stored in the Library's computer. While initial emphasis was placed on using special typewriter terminals to input, recall, and edit these data for later GPO publication in the *Digest of Public General Bills and Resolutions* or CRS issuance of the multilithed report entitled "Major Legislation of the 93rd Congress," an "on-line" service which would provide this information directly to congressional elements via a video-screen display now is being tested. Another service to the Congress, from a computerized file, has been the so-called "Current Awareness" notification of recent literature acquisitions. Each week, descriptive cards are sent to users on the basis of "profiles" of interest terms selected by the congressional clientele. Then, if a congressional committee user wishes to see the original documents, a request to that effect will be honored by CRS. Consideration now is being given to making such bibliographic data available as a videoscreen presentation at the user site. In providing "second-hand" services to the Congress, the CRS also is bringing the resources of the private sector to Capitol Hill. A special videoscreen terminal linking CRS to the New York Times Information bank now is being tested. Quickly accessible to researchers are all of the news and feature items appearing in the *Times* and nearly 70 other newspapers and magazines from 1971 to the present; this data file is being added to and expanded retrospectively.

Several private firms are establishing data bases which may prove to be of value to the Congress. Recognized as a valuable aid to committees and members alike is the Congressional Information Service "CIS/Index," which abstracts and indexes hearings, reports, committee prints, and other congressional papers. In addition to the 10,000 abstracts, issued on a monthly basis, all public laws enacted during a Congress are described (with legislative histories). Microfiche copies of all original documentation treated in the Index are maintained in a special library. The type of information access offered by the New York Times Information Bank, the "CIS/Index," and other non-government groups have helped raise the level of awareness and acceptance toward the role of modern information technology as it applies to congressional operations. In his book *Congress and the New Politics*, Dr. John S. Saloma III notes that:⁷

. . . Congress is a relatively open system, and it is unlikely to escape such fundamental changes as the computer will in-

⁷ Saloma, John S. III, *Congress and the New Politics*. Boston, Little, Brown and Co., 1969, p. 245.

troduce in American society, social organization, and education itself.

He then goes on to note that several "competitive dimensions" are likely to accelerate congressional acceptance of innovations in decisionmaking, such as:⁸

- the built-in tension between authorizing and appropriations committees both eager to control program decision
- the publicity incentive for committee and subcommittee chairmen generally to identify themselves with innovations and to push for their implementation
- the perennial fear of Congress that it is yielding initiative and authority to the President
- party competition
- the generational divide between activist and high-seniority congressmen

As the members' perception of what information *might* be available to them, and in what different forms, improves, certain decisions can commence to be made regarding source selection. *Timeliness* of the data in any system, whether computerized or not, and the *depth of coverage* provided may sharply limit the options open to congressional committees and members needing selected narrative and statistical information. In some instances, where definitive material could be recovered and synthesized if time were no factor, the Congressman may have to accept less perfect information with which to make his decision. And while many of the traditional periodicals such as the *Congressional Quarterly* still are used heavily, congressional aides look longingly at any service which allows them optimum flexibility in "browsing" through and selectively retrieving from a given collection of information.

INFORMATION MANAGEMENT AND ACCESS

In creating an "information system" for the Congress, every precaution must be exercised to ensure that its spectrum of services and products is responsive and reliable. This connotes some form of management or, at the very least, coordination role by some authorized mechanism. Such things should not be left to chance. While the individual chambers—as well as their committees and members—unquestionably have unique information needs, there are other categories of legislative and administrative functions common to the House and Senate. Several questions intrude upon the conscience of those who seek and those who provide information support. Dr. Charles R. Dechert poses there:⁹

The problem of congressional access to information might be better defined as a problem of information management. What specific elements of information are needed to make what judgments? Where are these elements located? How are they to be

⁸ Ibid.

⁹ Dechert, Charles R., *Availability of Information for Congressional Operations*. In *Congress: The First Branch of Government*. Washington, D.C., American Enterprise Institute for Public Policy Research, 1966, pp. 172–173.

retrieved? And how should they be presented in order to be meaningful?

Add to these the questions which any member must ask himself:

Will the projected change in procedure, that is the relocation or restructuring of certain information, actually benefit me?

If a change is made, how will this affect the functioning of my staff?

How much will it cost, in terms of staff involvement, communications and computer charges?

Can the improvement in services rendered be measured?

If constituents hear of my using a computer, will this "impersonalize" our relationship?

When a member talks about having access to information files—his own, the committee's, some centralized chamber file, or those external data at a remote location—he may actually be saying, "Who else can get at that information?" "If I store some confidential information what assurance is there that someone else won't be able to retrieve it?" During the past quarter-century, the effective "life" of computer technology, numerous safeguards have been developed, which merit attention. These are equally applicable in the case of a Congressman's personal files, those maintained by the Congress or an executive branch agency, or automated libraries operated by private sector groups. The goal: to prevent any unintentional disclosure of information:¹⁰

1. Legislative and administrative regulations, already in effect in some agencies, could be augmented and strengthened.
2. Establishment of uniform, multi-agency criteria controlling "need to know" both for government and other data users.
3. More explicit explanation of the scope and nature of the data available, thus reducing the number of unnecessary or illogical requests by users.
4. Creation and uniform use of classification and coding systems, to include the assignment of unique accession codes and indicators to privileged data elements.
5. Establishment of an expert in-house group for receiving, transcribing, and refining the request for information from the system according to the needs of the users and existing regulations.
6. Employment of "a number of servicing procedures based upon computer technology that can satisfy the needs of the user in most cases without violating disclosure regulations."
7. In some instances, data reduction by design can be performed, thus transforming absolute figures to percentages, increments to gross and vice versa, etc.
8. Anonymous sampling, with the removal of identifying data elements already has been used; here again the need for a uniform Federal set of procedures and criteria is apparent.

Many of these considerations will not touch the member directly, but the extreme sensitivity of certain planning and performance data has led to artificial, albeit often necessary, barriers to executive-legis-

¹⁰ Chartrand, Robert L., *The Federal Data Center: Proposals and Reactions*. In *Law and Computer Technology*, vol. 1, n. 10, October 1968, p. 18.

lative information exchange, even when all involved would benefit from a more open posture. It is important that the legend of great masses of machineable data *of value to the Congress* which supposedly reside in diverse departments and agencies be examined carefully. The only known (one-time) inventory of a score of agencies' holdings, conducted in 1965,¹¹ revealed some 600 repositories of data comprised of approximately 30,000 computer tapes and 100 million punched cards. This was limited to data relevant to economic research, and included great volumes of survey and special report information of no possible value to the Congress. It may be postulated that not only is much of the data of limited, at best, value, but that the computer or punched card equipment programs for handling it are not available. Also, much of the one-time data is meaningless without solid comparative data.

For those looking at congressional use of computerized or micro-filmed data, which poses special problems above accessing conventional paper files, there are several service alternatives where member or committee utilization is involved. First, "on-line" access to files can be arranged technically, but must be justified thoughtfully; there is an option here for direct member office access via its own terminal to a computerized file or by calling a special center which has its own terminals—as in the case of the House of Representatives' bill status system—operated by skilled cadre who format all inquiries and then transmit back to the member the derived information. Secondly, it may be possible to request the physical transfer of magnetic tapes or disks, from an executive agency for example, to a legislative branch computer for subsequent retention and utilization. Thirdly, and this has been done in a few instances, members have arranged for staff personnel to travel to an external computer and there process a file (e.g., member surveys of constituents have been handled in this fashion). Fourthly, a given application can be turned over "lock, stock, and barrel" to a service bureau corporation which takes *all* responsibility for creating, massaging, and updating both the substantive data file and the software necessary to ensure its maximum utilization. Finally, computer "runs" by executive department data processing units or other organizations controlling computerized files may be requested either through official channels or on an informal basis—here the result may be of the type several times honored by Project JURIS (Justice Retrieval and Inquiry System) for congressional subcommittees, where all citations in the U.S. Code on a given problem area are located and listed.

It might almost be said that the Congress is afloat in a veritable sea of information, with all of the hazards, flotsam and jetsam, buoys, and lighthouses attendant in such a situation. The information currents or flow are very real, and seldom subject to major change. Just as Mark Twain had to learn how to read the vicissitudes of the mighty Mississippi River, so the congressional wayfarer must study the complexities and nuances of the Capitol Hill world of information.

¹¹ U.S. Congress. House. Committee on Government Operations. Special Subcommittee on Invasion of Privacy. *The Computer and Invasion of Privacy. Hearings before the Special Subcommittee.* (89th Cong., 1st sess., July 26-28, 1966), Washington, D.C., U.S. Govt. Print. Off., 1966. Appendix 1, pp. 209-253.

STATE LEGISLATURE USE OF COMPUTER TECHNOLOGY

The Congressman's impatience with the shortcomings of the information system supporting him often stems from an awareness of technological achievements, no matter how distorted in the popular literature, contact with people in "the industry," or experience in a state legislature where computers have been employed. Federal and state legislators perform many identical or similar functions, hence sharing a need for:

Assembly of salient facts and data, independently developed, accurate, as complete as possible, of maximum currency, and readily available for use.

Access to and an understanding of the executive branch planning, budgeting, and program performance data required for effective review of governmental operations.

Assistance in analysis of policy problems, which requires the additional capability to assess and apply policy-relevant information.

The contemporary state legislator must be knowledgeable in many areas, with an appreciation of problems of regional, statewide, or local importance. In most states the growing legislative workload has resulted in longer sessions, permanent staff expansion, improved pay for the legislators, and significantly increased use of consultants. By 1972, more than half of the state legislatures had successfully applied computer technology to one or more key legislative functions. Then legislative applications have widely employed computer technology, and each of these should be of high interest to the Federal legislator:

1. Bill drafting and statutory revision
2. Statutory retrieval
3. Status of pending legislation
4. Legislative histories
5. Index of pending legislation
6. Digest of bill contents
7. Fiscal-budgetary information
8. Legislative printing
9. Electromechanical voting
10. Political redistricting

There is a realization on the part of many Congressmen that lessons could be learned and benefits derived from the states' investments in these priority application areas. The Joint Committee on Congressional Operations commissioned the Congressional Research Service to prepare a detailed analysis entitled "Modern Information Technology in the State Legislatures."¹² This study identifies the alternative paths the states have followed in developing and managing their new information capabilities. It is recognized, of course, that Congress' requirements for information systems and services differ from those of the state legislatures, just as the requirements vary from state to state. But it was believed that this 50-state survey could point up the benefits and limitations discovered in the use of this technology by the states.

¹² U.S. Congress. Joint Committee on Congressional Operations. Modern information technology in the state legislatures. Prepared by the Automated Information Services Section, Congressional Research Service, Library of Congress. (92d Cong., 2d sess., committee print, June 9, 1972. Washington, D.C., U.S. Govt. Print. Off., 1972. 137 p.

An overview of the status of computer-supported services' development in the major applications' areas noted above reveals the following:¹³

Application	Operating	Under development	Planned
Bill drafting and statutory revision	11	6	12
Statutory retrieval	25	2	9
Status of pending legislation (which may include legislative histories, index to bills, bill digests)	25	4	6
Fiscal-budgetary information	20	3	3
Legislative printing	10	7	7
Electromechanical voting	35	1	
Political redistricting ¹	19	(2)	(2)

¹ Chartrand, Robert L. "Redistricting in the 1970's: The Role of the Computer." In *Law and Computer Technology* vol. 5, No. 3, May/June 1972. Pp. 72-73.

² Not known.

As the comments and supporting factual data were derived from the discussions with and material provided by key state legislative officials and their technical (systems development) cadre, it became apparent that all of the caveats, admonitions, and guidelines which have been raised in the several explorations of how the Congress should proceed with its evolution advanced information were encountered by state system developers.

ESTABLISHING NEW INFORMATION SERVICES: A RATIONALE

In the years since the Second World War, when planning and implementing sophisticated information systems seemed to require the creation of a new cult of technocrats—accompanied by often drastic revisions in the thinking of managers and operating personnel everywhere, a great deal of sober experience was gained about this process. Regardless of the approach employed—working within the grand strategy of a "total system" or developing individual applications piecemeal without reference to such a master plan—it became *de rigueur* that successful installation and use of the new tools and techniques would require, at a minimum, the following:

Recognition that three distinct elements within the legislature must be accommodated: the leadership, standing and *ad hoc* committees, and the individual members.

Willingness on the part of key leadership to explore alternative approaches to improving a given legislative service or function.

Establishment of a legislative oversight group (either a "commission," "task force," or "committee") to determine specific needs of individuals legislators, committees or leadership.

Recruitment of a professional staff, responsible to the legislature, to provide the necessary technical support for information system modification.

Establishment by the legislative oversight group of priorities for activities requiring improvement.

Analysis in detail of alternative ways of providing better legislative support, either through adjusting manual procedures or using computer and microform technology.

¹³ Ibid., p. 17.

Experimentation with a "pilot" project—in a top priority area—to permit management to assess technological feasibility and user reaction.

Evaluation of the "pilot" project prior to any decision to develop a fully operational system.

In recapitulating the advantages and disadvantages connected with applying computer technology to identifiable legislative activities, it must be stressed that the effectiveness and responsiveness of any such information system will depend basically upon the managerial competence and political astuteness of those who establish the policy and procedures governing its operation. If members or staff complain that a given service or product is not being delivered within the time frame or form required, then most likely the fault lies not with the "machine," but with those who have designed and are responsible for operating the system.

In establishing a list of pro's and con's for using automatic data processing, the experience derived from developing congressional and state legislature applications has been *underscored*, but for the most part such considerations will appear in the "automation" of any similar business or governmental information system. The following listing, while not all-inclusive, should prove helpful to those who would shape the future, since it is based on the "hard" experience of legislators, systems technicians, and those who must create useful information from a welter of random written material:

Advantages

1. High-speed arithmetical processing of selected data.
2. Flexibility in storage of key data: on cards, disk, tape, drum, with possible tie-in to microform.
3. Selective retrieval of narrative or graphic material, in display or print-out form at a user (on-line) station or the ADP center.
4. Cost savings, particularly in reducing clerical tasks and preparation of copy for printing.
5. ADP offers capability to "massage" preselected data at various levels of aggregation, and can produce multiple correlative options.
6. Rapid fulfillment of users' requests may allow improved committee and member functioning; also allows interactive "homing in" on a difficult question.
7. Decisionmakers are more easily provided with critical data which may be presented in various "sets" (combinations).
8. As the top decisionmaking level learns how to use the ADP tool, new demands for more sophisticated data presentations may result.

Disadvantages

1. Limitations, at times, on form in which data are stored.
2. Immediate visual access to certain data may be delayed due to retrieval procedures.
3. Retrieval may be constrained due to software limitations, placing an increased burden on the user to think of "proper" key terms.
4. Increased costs for quick-response service may not be justifiable in the light of user needs.
5. "Soft" (inexact) data may be arbitrarily excluded from consideration because of automatic data processing limitations.
6. "Instantaneous" access to data may upset the "measured" procedures traditional within the legislature; electronic voting tends to create similar perturbations.
7. Once data elements are decided upon and a routine established for their ADP conversion, it may be difficult to change the *modus operandi*.
8. If the decisionmakers are to be limited to ADP-type "thinking," bad judgments may result from having insufficient or imbalanced data.

In summary, the legislator who is a user of information systems—simple and advanced, present and future—can never be a passive recipient of the products and services emanating from that system. In his own way, directly and through his staff, he will be instrumental in molding the structure, operation, and responses of that information support mechanism. For if useful information is to be provided the Congress, the “customers” of the system will dominate the “feedback loop,” without which any service will founder. It has been proven that there is a role for this technology to play within the legislative milieu—it remains for the legislators themselves to delineate the precise nature and scope of this critical support, and provide the resources requisite to its attainment.



