

ICT IN PARLIAMENTS CURRENT PRACTICES, FUTURE POSSIBILITIES

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INTRODUCTION

Information and communication technologies (ICT) have become essential in supporting the work of legislative bodies throughout the world. As these technologies have matured and grown in sophistication, they have acquired the necessary flexibility and capabilities to assist legislatures in their most important responsibilities: making the laws that guide the nation; conducting oversight of the executive as it carries out its mandates; and communicating with the citizens, who determine who shall represent them. In today's "wired world" parliaments must capitalize on the benefits of ICT to function effectively, to interact with the public, and to collaborate with other parliaments around the world.

As parliaments employ new technologies, they must address many of the issues that are inherent in the global effort to achieve an equitable and inclusive information society that strengthens the democratic process. These include ensuring all citizens access to information, harnessing the newly emerging tools for participation, and maintaining a transparent legislature whose actions and decisions can be known and understood in a timely way. The ways in which parliaments apply technology in their own environment will reflect their commitment to these ideals and influence the nature of the information society within their country. It will also impact on their ability to cooperate with other parliaments and to contribute to global efforts to promote a people-centered information society.

To achieve these goals, and to build a technical infrastructure that is directly supportive of the work of the parliamentary body in a global world, there must be a shared vision and strategic plan that encompasses the goals and objectives for the legislature's use of ICT. This vision and plan must be endorsed by the key stakeholders in a parliament - the members, officials, chairs of committee, and the secretariat - and must be managed effectively by the legislature's highest officials.

Sound judgment is also needed. There are risks when technology is pushed as an end in itself without adequate consideration of the issues it will address for the legislature. At the same time it must be employed creatively; otherwise it merely becomes a more modern way of doing the work of the legislature, perhaps more efficiently but not necessarily more effectively. And to be truly transforming, as some hope, it must be used with a full understanding of the complex nature of the legislative process and of the positive changes it may bring about.

In today's world, ICT in parliaments is becoming both a collaborative and an international enterprise. In that respect it resembles the legislative process itself which requires communication and cooperation from the different parts of the legislative body to achieve effective results. In addition, collaboration facilitates common approaches, advances open standards, and enables parliaments to learn from each other's experiences.

This discussion paper describes briefly the history of ICT in legislative bodies, summarizes current practices, assesses the potential impact of some of the newest technologies and trends, considers some of the key requirements for the successful introduction and management of ICT, and underlines the importance of ICT in furthering the international presence of parliaments and in fostering communication and exchange of information with other legislatures and with citizens.

ICT IN PARLIAMENT: BEFORE THE INTERNET

Before the Internet, ICT was useful to parliaments for certain basic operations, but it was not critical in conducting their most important functions. As it did for many other institutions, ICT improved the efficiency of a number of administrative tasks such as managing payroll and maintaining personnel information. Computers also became useful in printing operations, leading to the more rapid and efficient publication and distribution of bills, agendas, Hansards, and other official documents.

The development of multi-tasking computers and operating systems in the late 1970s led to some of the earliest and most rudimentary forms of knowledge management, such as the online retrieval and display of limited numbers of brief text records that could be used to track the status of bills. This also allowed for the development of some of the first versions of alerting services, in which paper or cards containing the newest information about bills or related policy information that had been entered into the computer could be mailed, through the traditional manual delivery system, to recipients who requested such notifications.

Computers also began to be useful for managing correspondence, and in this way they helped some legislators keep track of, and respond to, letters and other communications received from their constituents. The earliest email systems, however, supported communications only with others who used the same system. Email services offered by different vendors could not communicate with each other.

As helpful as these technologies were, they suffered from the limitations of being proprietary and were seldom interoperable. They required large amounts of computing power, highly centralized control, and costly development efforts for returns that were not always easy to quantify or justify. Computers were expensive and communications between them were slow.

The advent of the personal computer (PC) changed some of the dynamics of control and lowered some of the costs of development, but still did not have the impact that was to come with the Internet and the Web. It is true that the PC made technology more directly accessible to individuals and became essential for performing many “personal” tasks. But for ICT to have a fundamental effect on the work of legislatures, which demanded high speed, seamless communication and computing power that provided ready access to people, information, and ideas, the Internet and the Web had to be invented.

THE STATE OF ICT IN PARLIAMENT TODAY

The Internet and the Web changed everything. Communications became rapid and interoperability significantly improved. While many systems continued to be proprietary, the exchange of documents and information became easier. The personal computer, which had been primarily a local device, became a tool that allowed world-wide access and, in some cases, world-wide exposure. These changes in the underlying technical infrastructure led to the development of systems and services that have become critical for legislative bodies.

Preparing and Managing Documents

Printed documents, such as drafts of proposed legislation, amendments, committee reports, and the text of debates, are the core records of legislatures. These documents must be prepared quickly, efficiently, and accurately. They must be distributed easily and then amended, revised, and redistributed just as easily. Modern ICT enables this to occur in a way that provides Members and committees more time and flexibility to consider and to craft their proposals and their reports.

Good drafting systems, with their associated document management systems, are a fundamental requirement for legislatures. ICT provides a number of options that can be developed to accommodate requirements based on a legislature's specific procedures (for example, where does proposed legislation originate, who can amend it, who prepares the final version?) and practices (is there a drafting office, can Members prepare their own amendments, is the final text codified into the existing body of law?). Increasingly important are the variety of intended uses of the texts and the markup symbols used to "tag" the text so that its content and structural elements can be more accurately interpreted by computers.

There is a concerted effort within the ICT community and some legislatures to use open standards such as XML (eXtensible Markup Language) to prepare text so that it can be processed more readily by more systems. The use of open standards is an important goal because it extends the accessibility of legislative documents, not only within the parliament, but between the legislative and the executive powers, between parliaments and the civil society, and internationally among parliaments. There are several significant challenges, however, that must be addressed in achieving this goal.

First, drafting systems that can accommodate open standards are not yet as easy to use as more common word processing software. There is good progress in this area, but the extensive installed base of older proprietary software can act as a constraint on the implementation of newer systems and standards.

Second, open standards such as XML require an investment of time and effort by key stakeholders to agree on the format of official documents and on the tags to be used to mark them up. This can sometimes be an easier task for legislatures that do not already have an investment in an existing drafting system. Regardless of whether a new or a replacement system is being developed, however, it is important to take note of the effort needed to reach agreement on how the standard will apply.

Third, drafting systems and their associated document management systems must sometimes be tailored to meet the procedures and practices of a particular legislature. Customization enables efficiency but may add to cost in both the development phase and subsequent updates.

Despite these challenges, however, there is significant long term value in adopting open standards such as XML for preparing legislative documents. And as this use of open standards becomes more wide-spread in both the public and private sector, this value will become even more important for parliaments.

Supporting Committees

A system for preparing and managing documents is a key building block for supporting committees, which in many legislatures are the "policy workshops" where bills are closely reviewed, debated, revised, and initially approved or disapproved. Committees may also prepare reports that summarize their deliberations and recommendations regarding specific proposals.

A critical requirement for committees, therefore, is a drafting and document management system that supports the editing of bill texts, the preparation of amendments, and the final report of the committee. This system should produce and manage documents so that they can be easily incorporated into or linked to other documents, distributed to Members of the committee and to the public, and reported to the full legislature.

In the course of their deliberations, committees may also hold hearings that involve witnesses, some of whom can be located in places other than the hearing room; the taking of testimony, both written and oral; and the receipt of evidence or testimony in a variety of formats. Committees need systems that support all of these modes of information input and the preparation of a report that permits both verbatim reporting and summarization.

Committees are increasingly turning to audio and video technologies to make their deliberations available in real time. This can include the use of TV and satellite channels as well as webcasting. With sufficient technical and staffing resources, some are also able to maintain an electronic archive that allows on-demand access after the event. Audio and video webcasting and the maintenance of an archive are more costly methods of providing a record of committee activities than printed documents. But the ability to observe committees at work without being present in the room is increasingly valuable to staff, the press, and others in the civil society. Many parliaments are seeking to do more in terms of real time webcasting and providing on-demand access.

Finally of note is the use by committees of websites to provide their own Members and the public with access to their Membership lists, areas of competence or jurisdiction, schedules, agendas, webcasts of meetings, records of activities, and copies of legislation and related documents within their purview. Websites are becoming important resources for the committees themselves and for citizens, civil society groups, the press, government agencies, and others who follow their work.

Supporting Plenary/Floor Activities

The technologies required to support plenary or floor activities are much the same as those needed by committees. There must be a verbatim record of debate and a record of votes and of other actions that occurred during a session.

A number of legislatures broadcast and/or webcast their proceedings for themselves and for the public at large, and provide archival access. Some offer text summaries of floor actions in near real time using sophisticated recording and transcription technology; others have reduced the time of publication of verbatim debate to as little as two hours. Many parliaments use technology to prepare and publish within a day, or at least a few days, an official record of the debate and actions taken in plenary session.

The votes of individual Members are important in many legislatures, and technology is used by some to support electronic voting. This use of ICT can make the process more efficient, more visible when the votes are displayed on a large screen, and easier to record and maintain as an official record. Some parliaments have considered allowing remote or offsite voting, but this does not appear to be widespread at this time.

Knowledge Management: Informing the Legislator

Personal computers, public and private databases, and the Web have significantly improved access to timely and authoritative information as well as to research and analyses relevant to policy issues. Yet the Web opens a world of knowledge that can be both enlightening and overwhelming. This knowledge must be organized by librarians and information specialists in ways that are helpful to legislators. Experts in law, economics, natural resources, foreign affairs, and other disciplines can use the tools of ICT to bring their knowledge to bear on policy issues through a variety of approaches that range from gathering data from world-wide sources to building sophisticated economic and simulation models to aid in anticipating some of the potential impacts of new laws.

These tools can help ensure that law makers are better informed about what has been done before and about some of the possible outcomes of their decisions. Through its capacity to support communication with experts, wherever they may be located, ICT can significantly expand the scope of information, knowledge, and experience brought to bear on an issue. Nevertheless ICT-based decision support tools can never replace the role of the elected representative in making challenging and often difficult choices.

To make this knowledge available, some parliaments use an internal network, or intranet, which is not accessible to the public. This network can be used for a variety of important purposes, such as transmitting confidential requests for information, providing additional security for private emails, and managing working documents that are still being

revised prior to release. This knowledge management tool can be an important asset during periods of negotiation and political compromise.

Public Legislative Websites

A number of legislatures maintain tracking systems and websites that integrate the information generated by all of the systems described above. These websites provide access to the text and status of a bill, links to related documents, the history of committee and floor actions, and recorded votes on proposed measures. The vast majority also provide the history and a description of the operations of the legislature; information for visitors; lists of Members, committees, and officers along with ways to contact them; material for students and teachers; and other items of interest.

Members and their staff now routinely use legislative websites themselves to view or obtain copies of agendas, draft legislation, proposed amendments, debates, and votes. The importance of this function, which supports the daily work of legislatures, can sometimes be overlooked. However, it has become an integral and often essential tool that facilitates the efficient operation of the entire body.

Similarly many citizens, civil society organizations, the press, businesses, and other public and private organizations have come to rely on legislative sites to track proposed legislation and the activities of specific committees and Members. Some also find webcasting of committee and plenary sessions to be a valuable supplement to the printed report. The press and others who closely follow legislatures find that archives of webcasts can be especially useful.

Some of these sites are also beginning to offer, or are experimenting with, methods for enabling the public to register their views on policy issues and proposed bills. These efforts are based on trends within the information society that foster user generated content and user forums.

A major challenge confronting parliaments is how to make the information they provide understandable to those outside the institution. The user's need may be for something as straightforward as "What is my representative's email address" to something as complex as "What is the parliament doing to make sure we have a steady supply of natural gas?" The former request is relatively easy to satisfy; the latter is more complicated, and the criteria for satisfaction may vary with each user.

In addition, legislative systems can be difficult to understand because they present information about procedures that can be obscure, even to those who use them. These procedures have evolved over many years to ensure efficiency and fairness in the legislative process, but as a consequence they may create a less transparent process in the eyes of some citizens.

Describing procedures clearly can present a particular challenge when they involve votes. In political systems in which the votes of individual Members are recorded, it can be difficult to know what a particular vote means, and therefore what a Member intended by voting yes or no. For example, a Member who is opposed to the expansion of nuclear power may vote in favor of a government study of the options for nuclear energy because approving a study may be a method for delaying the building of more plants.

The actual text of legislative proposals can be difficult to understand because they often are written using complex legal terms that modify existing laws. Therefore, they cannot be fully understood without reading the text being amended. In these instances, the fact that the text of a proposal is available on a timely basis is of limited benefit if it is not accompanied by an explanation that clarifies its meaning and provides some context for understanding its intent.

Finally, there is the fact that users vary greatly in their own knowledge of legislative processes and their ability to understand the texts of proposals. They may be Members,

staff, party whips, academics, lobbyists, the press, representatives of civil society organizations, and of foreign governments, or simply citizens inquiring after their own interests. Building a legislative system that enables such diverse users to find useful information quickly and with confidence is a formidable task.

The ways in which parliaments address these challenges can have a significant impact on the transparency of their work and the development of an open and equitable information society. There is a risk that ICT can exacerbate the impact of the digital divide on the legislative process by providing sophisticated tools that can be used effectively only by those who already have the knowledge and means to influence public policy. If this occurs, then technology will serve to further disenfranchise the have-nots and likely augment the power of the haves.

At the same time, ICT tools can help to alleviate many of these problems. There are sources that explain or provide background material on proposed legislation that can be linked directly to a bill on a legislative website. Many of these have been created with ICT tools and can be readily integrated with a variety of similar sources to provide the user with easy access to a more comprehensive picture of a bill. Achieving this requires a political and managerial decision to make the website more comprehensible, a technical design to make it possible, and the time of a Web developer. Most important is a commitment by the parliament to make its website more understandable to the public.

Member Websites

As more citizens turn to the Web for information about the work of their governments, their legislatures, and their elected officials, they expect to find authoritative and understandable information, and, increasingly, to be able to communicate their own views on policy issues.

The websites of Members, therefore, have become a potentially important resource for the public. As is true for the websites of the legislature as a whole, Member websites face a number of challenges. There can be a tendency by some to use the website as an electronic newsletter which serves primarily as a political advertisement. Studies have indicated, however, that constituents want more focused information that informs them about policy issues and the Member's views and actions in addressing them. They also want information tailored to different needs of citizens with different levels of understanding of the legislative and policy making process.

These studies have shown that Member sites that meet these needs are seen as relevant and useful to citizens. In their efforts to be more understandable and focused on the needs of their constituents, they also advance the objectives of transparency, inclusiveness, and more equitable access. This can help to further the goal of a more informed and engaged electorate.

An interesting recent development on Member sites has been the use of the newest Web technologies to communicate with constituents. Some representatives have begun to express their views through blogs or place video clips on services such as YouTube to present their ideas through new media. Several are also testing the value of Web-based social networks, particularly some of those who are involved in election campaigns. These are exploratory efforts, but the resulting experiences should prove interesting and informative.

As technology makes legislators themselves more accessible, however, it can also pose significant challenges. Citizens expect to be able to use email and other methods of electronic communication to express their views to their representatives, and many of them expect to engage their Members in a dialog. Yet, the volume of email can become overwhelming, especially when it is used in orchestrated campaigns to influence Members and committees. And as a result of being so ubiquitous, it risks losing its power to influence. This can result in a negative spiral that causes further disengagement of the electorate even

at the very moment when some look to technology to help reinvigorate the political process. Methods for addressing a number of these concerns have been identified and are beginning to be evaluated and tested in research and development centers. The results of these efforts may very well improve the tools for communication between Members and citizens.

NEW DEVELOPMENTS AND EMERGING TRENDS

The most recent developments on the Web have brought new tools for creating and sharing information. Technical innovations, however, can have unanticipated consequences, and the hype that accompanies them can sometimes exceed their ultimate utility. The effective use of new technologies requires knowledge of their strengths and limits and an understanding of the most important needs of legislatures.

Interactive Technologies and Web 2.0

The newest Web technologies encourage user generated content and participation. The Web is no longer just a vehicle for the passive receipt of information. In many areas, and especially in politics, it is becoming an important means for citizens to express their views and exchange ideas.

A number of parliaments and Members are using or testing methods to enable citizens to register their opinions on issues. This can take a variety of forms, such as electronic petitions, discussion forums, online polls, and blogs. While some believe that these technologies hold great promise for re-engaging people in the political process, they have not been in use long enough to assess their true value. As they have been adopted by more parliaments, a number of issues have arisen.

One concern is the issue of how generally representative the comments received may be. In some online groups, many follow the discussion but do not contribute their own views. Conversely, discussions are sometimes dominated by a few who have strong opinions on an issue. This can pose a challenge to Members trying to understand to extent to which the views expressed reflect the larger constituency.

A similar concern relates to online polls. This technique for surveying opinion can be a convenient means for constituents to express themselves, but Members would need to be cautious in relying on the results because of the difficulty in ensuring a sound representative sample.

Forums intended for the exchange of ideas can sometimes lead to a hardening of positions. One outcome can be the formation of separate discussion groups in which the participants all share the same basic values, affording little opportunity for growth and a better understanding of other perspectives.

Finally, there is the issue of how well informed the participants in an online forum may be about the issue they are discussing. Some may know a great deal and see the forum as an opportunity to lobby for their view; others may be complete novices but may have formed an opinion on the basis of a small piece of information or on a comment or observation that supports an existing prejudice.

All of these concerns, however, have not discouraged the desire to test and employ these new means of creating more interaction between citizens and parliaments. This is the case in part because many have recognized the great value of enabling individuals to express their opinions directly to their representatives. The dramatic growth in the number of lobbying groups who regularly convey their preferences on pending legislation to Members and committees, may, in some cases, have the unexpected effect of making the voice of a single constituent more valued.

Based on the positive experiences of a number of parliaments, it is likely that citizen participation in the political process and engagement with legislatures through the Web will continue to grow and be of increasing importance. The sustained level of interest among citizens and Members has led to major research initiatives to assess interactive technologies to determine how they can be improved to the benefit of all.

It must also be noted that with the increasing availability of legislative data, civil society organizations have already begun to make use of this information for their own purposes. A number have developed applications that go well beyond what parliaments and Members may wish to or are willing to undertake, such as tracking voting records on specific issues or combining records of campaign donations with other information about Members. Some of these uses are clearly too politically sensitive to be undertaken by parliaments. Others, however, involve things such as a more effective presentation of certain types of public information or the linkage of sites that provide political commentary. Some of these techniques may be worth considering for inclusion in parliamentary websites. In the interest of supporting the transparency of the legislature, parliaments may, at a minimum, wish to encourage the continued development of such sites by ensuring the availability of legislative documents in open standard formats so that they can be more efficiently incorporated into other systems.

Open Standards and Open Source Software

Proprietary systems and software will remain in operation for some time, but there is a strong movement toward the use of open standards and the sharing of open source software. This bodes well for the public sector and especially for legislatures without a long legacy of ICT use.

There is an important distinction between open standards and open source software. Open standards, especially for data, are overseen by international standards setting bodies and are widely accepted. Even many commercial vendors are supporting them in their products. Open source software depends on voluntary collaboration among a variety of individuals and organizations to contribute to its development and maintenance.

The open source approach can be particularly attractive to parliaments because it allows ICT departments to create software incrementally through individual efforts as well as through collaboration with others. With sufficient cooperation, the skills of technical staffs that are trained to use this type of software can be pooled to provide highly effective and useful products. While some public institutions are not yet prepared to rely on open source software, others see it as very reliable, cost effective, and one of the best options for legislatures with limited resources for ICT.

Both open standards and open source software rely on the emerging trend of collaborative development.

Collaborative Development

Collaborative development of ICT can be difficult but highly effective when it can be achieved. The challenges are as often political and organizational as they are technical.

One of the basic problems is that institutions may be cautious about investing in and accepting systems and software to support their most important functions if they are not developed and maintained under their direct control. Some also claim that differences in procedures and practices among parliaments force them to develop their own customized applications of ICT. However, others point out that the basic activities of parliaments are more common than they are unique and that modern software is sufficiently flexible to accommodate a reasonable range of customization.

There is little doubt that the development of the applications needed to support parliaments, such as bill drafting, the publishing of committee documents, and preparing

verbatim accounts of plenary debate can require substantial time and money. When these costs are multiplied by the number of parliaments who choose to develop each of these systems on their own, it is easy to see how expensive this can be when the costs of all the parliaments working independently are added up.

It can be difficult, however, to undertake collaborative work when one or more of the participating legislatures already have an ongoing group of applications that needs to be upgraded or replaced. This can be further complicated by differences in the underlying technical infrastructure if it is composed of proprietary hardware, software, and operating systems. Over the long term, open standards and the open source approach to software has the potential to make this process less painful.

Collaborative development requires a long term commitment. Cooperating parliaments must reach consensus on the objectives of the initial development project and they must also work together on the planning, scheduling, and completing of subsequent system improvements.

Collaboration can be organizationally challenging but financially beneficial. Given the long term costs of building and maintaining systems, this approach can prove highly useful and cost effective. It is an increasingly attractive option, especially with the latest tools that support cooperative projects.

The Mobile Legislator

ICT allows legislators to be more mobile. Cell phones, lightweight portable PCs, small hand held computers such as personal digital assistants and email devices, coupled with the increasing ubiquity of the Web, enable Members to conduct their work from many locations and with many people. While this kind of mobility may create some challenges to traditional legislative processes (for example, should remote voting be permitted?) it opens a wide range of possibilities for Members and committees to be in touch with citizens and with each other and to conduct their work more effectively. Ongoing research efforts are examining the strengths and limitations of this use of ICT in parliaments.

Developments outside the National Parliament

It is worth noting the growing use of ICT by regional and local legislative bodies.

The ubiquity of the Web and the decreasing cost of hardware and software have enabled some regional and local legislative bodies to become successful and innovative users of ICT. A number have begun to develop creative ways of informing and engaging citizens on local issues. Others have been able to focus on a particular type of application that is important to them and to develop it in ways that merit consideration by other legislative bodies at whatever level.

The success of these efforts is likely to put additional pressure on national parliaments to adopt some of the same approaches in their use of ICT. Further impetus will come from newer Members of parliaments who have had positive experiences with new technologies at the local level.

THE INTERNATIONAL IMPACT OF ICT IN PARLIAMENTS

The use of ICT in parliaments has important external as well as internal implications. Parliaments gain significant visibility by having a presence on the Web and providing information about the work they undertake. In today's globally connected environment, parliaments risk being marginalized if they fail to take full advantage of the opportunities offered by ICT. While it is understandable that parliaments with limited resources may not be able to make major technology investments, having basic services like a parliamentary website can demonstrate that legislatures are major players in the information society.

Technology investments in parliaments can provide benefits beyond improving efficiency of operations and increasing transparency. Once a technological infrastructure is in place it can be leveraged to enable greater cooperation between parliaments. For example, white papers and information about laws and pending legislation can be exchanged with other legislative bodies so that all can learn from the experiences of others. ICT makes it possible to have video conferencing among Members and between Members and subject experts, virtual networks of staff, and common distance learning/training. Having access to such information and to such technologies significantly increases the capacity of staff and Members of Parliament to address complex policy issues and develop effective legislative proposals.

MANAGING ICT IN LEGISLATURES

Vision, Management, and Resources

ICT has become a strategic and vital resource for parliaments. The challenge is not only to apply new technologies to improve the traditional tasks performed by legislative bodies, but to use the full potential of ICT to take legislatures and their members into the twenty-first century. Exploiting the opportunities offered by ICT will enable parliaments to be active participants in the global information society and to reap the benefits that such participation makes possible. To realize these objectives, however, effective management and sustained support from parliamentary leaders are essential.

Effective management involves a number of critical components. First, there must be a vision on how ICT should be used to support the work of the parliament and a management mechanism for implementing that vision. The vision should lead to the formulation of a strategic plan that includes the most important goals and objectives. And both the vision and the plan must be supported by the key stakeholders within the parliament, including Members, chairs of committees, officials, and the Secretariat.

These groups must work together with an understanding of their interdependence and a respect for each other's responsibilities. Each needs the knowledge required to carry out its oversight and management functions. They must have the interest and commitment to see that the ICT programs and projects most appropriate to the work of the legislature are undertaken and successfully completed. And they need to be aware of the risks of pursuing the latest trends in technology for their own sake while remaining open to new technologies that can enhance, and in some cases even transform the legislative process for the better.

Once these key components are in place, the resources needed for the successful implementation of ICT can be deployed more efficiently and on a more cost effective basis. Resources are always limited, and strong management, operating with a clear vision and a realistic strategic plan, is pivotal for ensuring that whatever resources are available are allocated to the highest priority projects and that costs are controlled.

Centralized and Decentralized Models

In its earliest days, ICT was a novelty in legislative bodies. Its potential was not fully understood, and it often fell to interested Members or the Secretariat to undertake initiatives designed to improve basic operations. As the value of technology became apparent, more groups within the parliament lobbied for ICT resources. In the private sector, control of ICT continued upward within the organization, and it became a mission critical tool for many companies. In some legislative bodies control has followed a similar path to centralization; in others it has remained decentralized and shared among Members, committees, the secretariat, and the office of the President. In bicameral legislatures this has often resulted in separate departments and systems for each chamber, each competing for resources.

The centralized and decentralized approaches are both viable models if they are well managed, if systems are designed to interoperate efficiently, and if there is cooperation between separate chambers. In a legislative body there is a significant degree of independence among its constituent components. This can sometimes lead to inefficiencies, but it more closely mirrors the true nature of legislatures. The argument can be made, in fact, that legislatures are purposefully difficult to manage because their fundamental mode of operation is more suited to negotiation and compromise than top down control. This can create challenges in optimizing the use of technical resources. While recognizing that a centralized approach may not be viable in many legislative settings, it is important to develop effective mechanisms for cooperation among the key players in order to reduce redundancy of systems and staff.

A number of situations demand a greater degree of integrated control, regardless of whether a centralized or decentralized approach is used.

1. The implementation of parliament-wide standards. This is necessary for critical requirements such as establishing and maintaining security and ensuring that communication can take place within the parliament, between citizens and the parliament, and with other parliamentary bodies.
2. Implementing large scale systems that require a greater degree of centralized management. This can usually be addressed by placing the authority, responsibility, and resources under the control of the primary stakeholder, often the Secretary General.
3. Making parliaments more transparent to the public. This can be more difficult to address because there are many coequal stakeholders and there are likely to be more divergent ideas about how to make parliament more transparent.
4. Coordinating the dissemination of authoritative parliamentary documents and information about parliamentary actions. While ICT serves as the vehicle for distributing this information, ICT units must depend on the various responsible components within a legislature for providing the source material. Developing strong relationships among information providers and systems developers is essential.

Resolving Conflicts

Regardless of which model is used - centralized, decentralized, or a hybrid - effective management requires mechanisms for resolving conflicts. Political compromise - the most common approach in a legislative body - is not necessarily the best solution when deciding among ICT priorities and options. A variety of approaches are possible, but one of the keys to success is the willingness to make clear choices and distinctions that make good business sense rather than "splitting the difference" in ways that may make good political sense. The fundamental question to be addressed is: What is the best way to ensure a more effective and a more transparent parliament?

Conclusion

Parliaments in today's world have an unprecedented opportunity to capitalize on the benefits of ICT to enhance their efficiency and their effectiveness in performing their constitutional functions. Seizing such an opportunity will also help them play a major role in shaping the information society of tomorrow. To do so requires the development of a vision and a plan for innovation and the application of ICT within the parliamentary setting and the effective management of its implementation. Yet, the active involvement of Members of Parliament, parliamentary officials and other concerned stakeholders will be essential for achieving these goals.