

Chapter 5

From Paper Documents to Digital Information: Managing Parliamentary Documentation

INTRODUCTION

Systems for managing documentation in digital formats make parliamentary operations more efficient and help support transparency. These systems need to encompass the entire lifecycle of documents, from the time they are *sent* to the parliament, for example as draft bills from the government, or *created* by the parliament itself, such as committee reports and verbatim records of plenary sessions, until the time they are permanently *archived*. In between these actions, an effective document management system (DMS) must be able to support a range of important functions relating to document processing, including: editing by various “authors”; exchanging with different organizations and systems; transforming for a variety of purposes, such as searching or displaying; validating and certifying via digital signatures; rendering in various modes, including on paper and on multiple digital devices; and, integrating with other documents.

Box 5.1

Good practices: 1. Adhering to file/folder structures, naming conventions of files, profiling of documents; 2. Central storage, access and editing of documents in digital format; 3. Effective version control of documents; 4. Establishing information ownership.

Comment by a respondent to the 2012 Survey

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The nature of what should be considered parliamentary documentation is also expanding. Audio and video formats are increasingly available, enriching and diversifying the records of parliamentary activities. Because of the current state of the technology, most parliaments manage written and audio/video records through parallel but separate systems. However, some progress is being made in integrating these different formats. For example, an increasing number of parliaments are able to link specific parts of the text of a plenary report to the related audio and/

or video portion of that report. While this chapter focuses on the technologies for creating, managing and preserving documentation in written formats, future reports will need to take a more integrated perspective¹.

Box 5.2

We are currently working on converting all our verbatim recordings, which are in analog film format, into digital format.

Comment by a respondent to the 2012 Survey

¹ As one example, the Global Centre for ICT in Parliament is finalizing a handbook on *Technology Options for Capturing and Reporting Parliamentary Proceedings*. The handbook is expected to be published before the end of the year.

The increasing efforts among legislatures to provide members and the public with digital versions of parliamentary records, combined with the increasing use of mobile technologies, are placing new demands on document management systems. They must now support permanent and easy access to all plenary and committee documentation on a variety of mobile devices that have different screen sizes. Some parliaments have already adopted a “paperless” approach to plenary activities by providing members with tablets for viewing documents that are under consideration in the session, as discussed in Chapter 4. Effective use of a document management system can enable the parliament to continue to provide paper copies on demand when needed or if preferred by some members, while still relying primarily on digital versions displayed on mobile devices used by most members in plenary. Document management systems can also allow members to create their own personal libraries or electronic dossiers containing documents that only they can access.

The growing diversity of parliamentary documentation and the fact that digital formats enable parts of a “document” to be integrated with other documents, presented in different styles, edited by more than one person, and used for a variety of purposes, means that the concept of what a digital document represents needs to be understood somewhat differently from that of a paper document.

Parliamentary documents *on paper* have a structure, a form, and an intellectual integrity that have served and will continue to serve an essential role in the life of a society. Parliamentary documents *in digital formats* offer more flexibility because they can be easily restructured and reformatted. Yet they must maintain the same referential and intellectual integrity as their paper versions if they are to be considered valid and useful. It is for these reasons, and because the political records of a country are increasingly digital in their origin, that this chapter is entitled “From paper documents to digital information; managing parliamentary documentation”.

All of these developments make open documents standards a critical requirement in the parliamentary environment. For a parliament to continue to reap the full benefits of these technical advances, documentation needs to be built on an open standard, especially for tagging the elements of records so that they can be interpreted properly by various computers and mobile devices for editing, displaying, searching, exchanging, and preserving. Documents prepared in proprietary formats - that is formats that can only be managed with particular software or specific hardware from a few vendors - constrain the options available for using them, limit the capacity for meeting future requirements, and ultimately cost more money to maintain, because they will need to be periodically converted to newer standards. An example of this perpetual challenge is experienced daily by many people, as certain word processing files cannot be read by older versions of the software. If parliaments decide to publish their documentation in an open standard format, there is no need for constant conversion to different formats. Hence, the many benefits for long-term preservation. Moreover, in addition to generating benefits for preservation, and for searching and exchanging between systems, some open standards offer greater ease of portability of information and documentation over different channels including via websites or “Apps” (for use in popular tablet devices). One such standard is XML (eXtensible Mark-up Language).

However, despite these many benefits, there is no doubt that implementing open standards such as XML is challenging for most parliaments, especially because these standards can be complex to initiate and require knowledgeable staff trained in their use. Collaborative efforts among parliaments and between parliaments and governments can offer a number of benefits in addressing these challenges.

The long term preservation of the written parliamentary record in digital format poses its own set of issues especially because of the need for effective policies, sound management practices, and the capacity to accommodate constantly evolving technologies. Different organizational units within a parliament may have overlapping responsibilities for managing, distributing, and preserving its records, and it can sometimes be difficult to reconcile competing mandates. Potential conflicts may need to be resolved by the highest administrative or, occasionally, political authorities in the parliament.

To develop systems, implement open standards, and establish policies governing parliamentary documents requires first and foremost a visionary outlook, followed by a multi-year commitment by the political and administrative leadership of the parliament. Short and long term planning must be undertaken to acquire the needed technical skills and infrastructure, and cooperation from users must be secured, particularly from those in the parliamentary administration whose work procedures will change. The experiences of many parliaments show that it is important not to underestimate the time and the commitment needed to build and sustain effective systems for creating and managing written records of the parliament. The long term benefits and efficiency gains, however, can be substantial, as described in Box 5.3.

Box 5.3

History of Open Document Format in the House of Commons of Canada

- 2000: the Prism platform
 - 2000: Hansard, committee evidence, Notice Paper, Order Paper and Journals in XML
 - 2002: bills in XML in collaboration with the Justice Department
 - 2006: access and retrieval of parliamentary information; linking information islands
 - 2009: release of votes in XML
 - 2011: Hansard, committee evidence and bills released in XML to public

Hansard, Notice Paper, Order Paper and Journals in XML

Moving the institution from a paper digitization culture to a digital information service culture

- Challenges
 - Focus on information presentation
 - Lack of interest in information semantic
 - Lack of understanding of potential benefits
 - Complex work environment
 - Implementation cost and governance

Hansard, Notice Paper, Order Paper and Journals in XML

- Benefits
 - Ability to innovate
 - Linking information islands (databases and text in XML)
 - Ability to reduce operating costs
 - Better information quality across all systems
 - Information is easily reused in new contexts
 - Ability to respond to evolving business needs
 - Ability to embrace new technologies

Efficiency gained through the adoption of XML

- Publishing staff: reduced by 60%
- Indexing staff are reduced by more than 30%.
- Increase in the volume of committee meetings by 30% without any new staff added.
- House publications are now published within 2 hours after House adjournment.
- Product richness highly enhanced

Achieving Greater Transparency through the Use of Open Document Standards

Transparency and Participation

How technology teams can help

- *Enable parliamentarians when they want to improve government transparency and openness* by identifying any gaps to be filled in creating/adopting a complete suite of standards to enable open government information and ease the goal of linkable public sector information.
- *Enable parliamentarians when they want to identify ways to increase citizenship participation:* recognize new channels, ways to get the information to the citizens where the citizens are looking for it and make better use of tools as a means to increase citizenry awareness and participation while supporting champions, i.e., acknowledge and help active citizens and public servants (howtheyvoted.ca and openparliament.ca).
- *Identify ways to increase citizen and business use of eGovernment services:* get information on benefits of Web use for government services, identify main factors that encourage people and businesses to use eGovernment services, such as time, money savings and simplicity, and identify ways to improve them.

Seamless Integration of Data

- *Parliamentary transparency is not simply achieved by making parliamentary information available in machine readable format, but rather by enabling seamless integration with external information sources.*
- Open data protocol and applications need to show real improvement in areas that elected officials, government officers and citizens actually need.

Relationships and Collaborations

- Greater transparency through the use of open documents and protocol vision cannot be achieved without stronger collaboration, communication and governance within government agencies and other organizations (inter-parliamentary organizations, UN, EC, W3C, OASIS, etc.)

Soufiane Ben Moussa, Chief Technology Officer, House of Commons of Canada. Extracts from "Open Documents + Protocols For Greater Transparency", presentation at the International Meeting "Achieving Greater Transparency through the Use of Open Document Standards", Washington D.C., 27- 29 February 2012. See <http://www.ictparliament.org/XMLMeeting2012>.

SUMMARY OF FINDINGS FROM THE 2007/2009 SURVEYS

Findings from the 2009 survey indicated that there had been relatively little progress since 2007 in the number of parliaments that have systems for managing proposed legislation. While there was a very small increase from 43 per cent to 46 per cent of the total number of parliaments that had a document management system for bills, an analysis of responses from the 2007:2009 comparison group suggested that there might have been an actual drop in the number of parliaments that were planning or considering systems, and an increase in the percentage of those that were not planning or considering one at all. The percentage of parliaments that had systems for documents other than bills, however, was more encouraging, reaching as high as 71 per cent for plenary speeches. Over half of all parliaments reported having systems for five of the six types of committee and plenary documents included in the 2009 survey. The lower percentage having systems for bills might have been due to their greater complexity or possibly to the fact that some chambers may not have legislative responsibilities that make a DMS for bills a high priority.

The implementation of open document standards – XML specifically – also lagged between 2007 and 2009. Of those parliaments that had a system for managing bills, only a third used the XML format. This represented 16 per cent of the 134 parliaments responding to the 2009 survey. The comparable figure for the 2007 survey was 12 per cent. While the 16 per cent in 2009 represented a 30 per cent increase over 2007, it was still well below a fifth of all parliaments that responded to the survey. The situation is much the same for other parliamentary records. Of those parliaments that had systems for managing a variety of committee and plenary documents, the percentages that used XML ranged from 11 per cent to 20 per cent. Overall, only 25 per cent of parliaments (34 of the 134 who responded to the survey) used XML for any parliamentary document².

The 2009 survey highlighted some of the major challenges in implementing XML and reasons why progress had been so slow. These included lack of staff knowledge and training, lack of financial resources, and difficulties finding adequate authoring and editing software. The 2010 Report noted that a number of these barriers could be overcome through various modalities of cooperation among parliaments and the support of the international community.

The 2010 Report suggested that XML was at a crucial stage in its development in parliaments. Despite previously noted commitments to the goal of using this open standard, implementation was lagging for a variety of reasons, including technical complexity, the requirement to have well trained staff, and the necessity for better tools. At the time, however, significant multi-national discussions and collaborative initiatives that held the potential for meeting a number of these challenges were taking place at the international and regional levels.

Finally, the 2009 findings suggested that many parliaments were making progress in the policies, management practices, and technologies needed to preserve digital documents. For the near term, dual systems for paper and digital formats would be required, but as more parliaments evolved toward being less paper intensive institutions, more sophisticated technical solutions and open standards for all records, including those in written, audio, and video formats, would be required.

FINDINGS FROM THE 2012 SURVEY

Both the Global Surveys of ICT in Parliaments 2012 and 2009 focused on the same components of standards and systems for parliamentary documents. These were: 1) document management systems for proposed legislation (bills); 2) document management systems for other types of documents, such as plenary and committee reports; 3) the use of XML; and, 4) digital preservation programs.

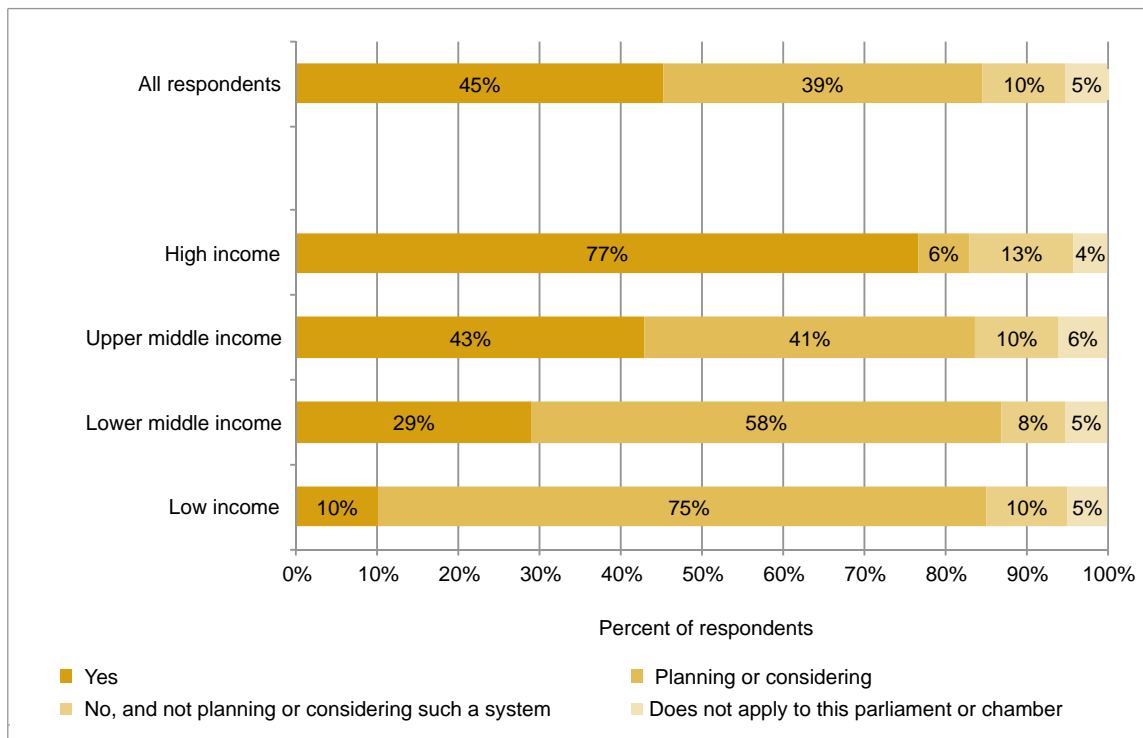
Systems for managing bills

The percentage of parliaments that have a document management system for bills was approximately the same in 2012 and 2009³ (see Figure 5.1 for the 2012 results.). In both years the income level of a country had a direct relationship to whether the parliament had a DMS for proposed legislation. In 2012 77 per cent of parliaments in high income countries have a system but only 10 per cent of low income countries have one (see Figure 5.1).

² See *World e-Parliament Report 2008*, pp. 76-79 and *World e-Parliament Report 2010*, pp. 94-97.

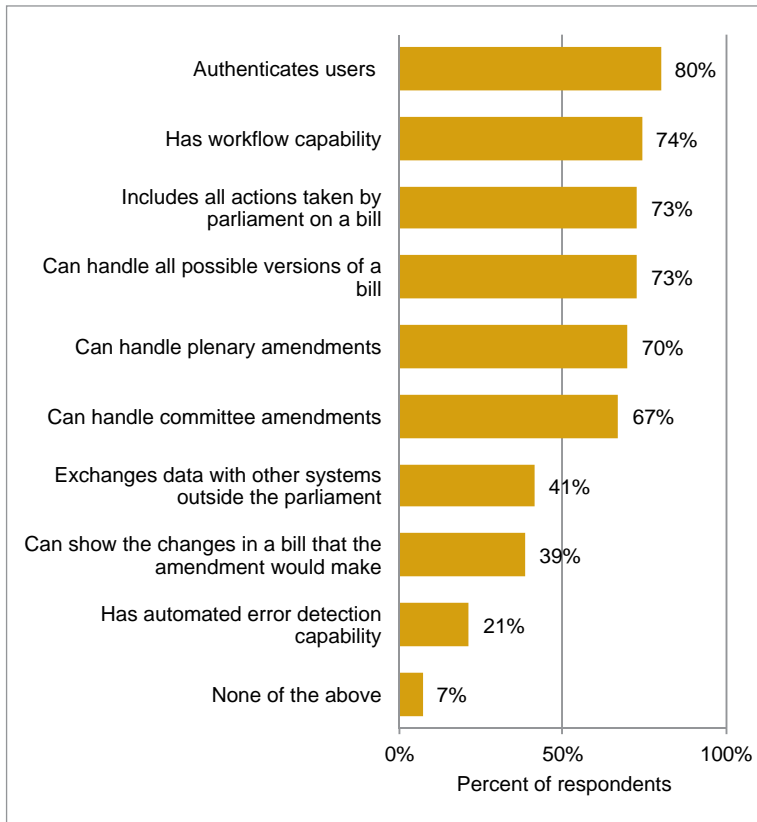
³ See *World e-Parliament Report 2010*, p. 88, Figure 5.1 for the 2009 survey results.

Figure 5.1: Parliaments with systems for managing the text of bills, by income groups



(Source: Survey 2012, Section 3, Question 1; 155 respondents)

Figure 5.2: Features of document management systems for bills



(Source: Survey 2012, Section 3, Question 2; 70 respondents)

The survey also asked about the capabilities of the DMS for bills, as shown in Figure 5.2. In the 2012 survey there are some differences in the capabilities of the systems compared to the findings from the 2009 survey⁴. For example, there are lower percentages of parliaments reporting that their systems can handle plenary amendments (2012=70 per cent; 2009=82 per cent), committee amendments (2012=67 per cent; 2009=82 per cent), and all versions of a bill (2012=73 per cent; 2009=79 per cent). However, in 2012 a higher percentage of parliaments reported that their DMS had workflow functions (2012=74 per cent; 2009=65 per cent). All other functions are the same in both surveys. Despite these differences, the results shown in Figure 5.2 are encouraging – 70 per cent or more of parliaments reported that

4 See *World e-Parliament Report 2010*, p. 90, Figure 5.3 for the 2009 survey results.

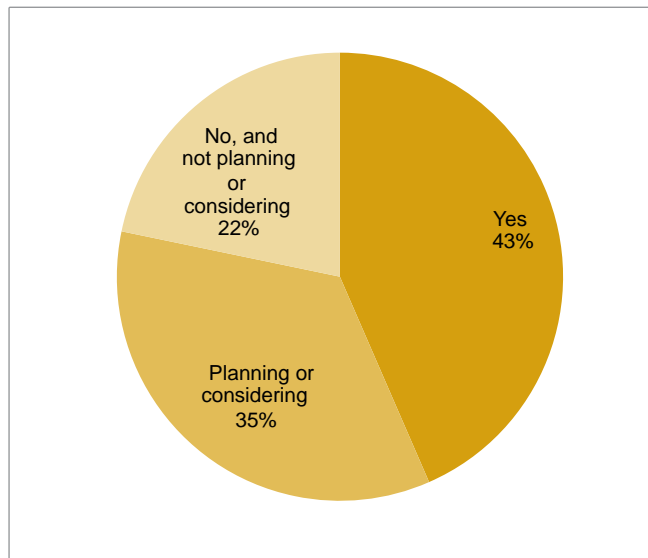
their systems have five of the most important functions: authenticating users, workflow capacity, tracing all actions, handling all versions, and handling plenary amendments. The lower percentage (67 per cent) that can handle committee amendments is less a concern because not all parliaments allow committees to make amendments to bills.

XML for bills

Although the discussion in the previous section indicated that there had been little change since the 2009 survey in the percentage of parliaments that have a document management system for bills, Figure 5.3 contains a more positive finding regarding the use of the open standard XML. In 2012, 43 per cent of those that have a document management system for bills reported that the system uses XML as the document standard. The comparable percentage from the 2009 survey was 34 per cent⁵. The percentage of those *planning* or *considering* XML remained about the same (2012=35 per cent; 2009=37 per cent), but the percentage of parliaments that said they were *not planning or considering* went down (2012=22 per cent; 2009=29 per cent).

These findings for *all respondents* to the 2012 and the 2009 surveys are mirrored in the results from both the 2007:2012 comparison group (same parliaments responding in all three survey years) and the 2009:2012 comparison group (same parliaments responding in both survey years). As shown in Figures 5.4 and 5.5 the results from these comparison groups suggest that the use of XML has risen even higher among parliaments than shown in Figure 5.3. This is clearly good news, at least as far as bills are concerned.

Figure 5.3: Use of XML for bills by parliaments with a document management system for bills



(Source: Survey 2012, Section 3, Question 3; 70 respondents)

Figure 5.4: Use of XML for bills by 2007:2012 comparison group

	2012		2009		2007	
Yes	20	48%	13	33%	13	35%
No, but planning for or considering using XML	10	24%	14	36%	16	43%
No, and there are no plans or consideration for XML	12	29%	12	31%	8	22%
Total	42		39		37	

(Sources: Survey 2012, Section 3, Question 3, 42 respondents; Survey 2009, Section 3, Question 3, 39 respondents; Survey 2007, Section 3, Question 2, 37 respondents)

⁵ See *World e-Parliament Report 2010*, p. 95 for the 2009 survey results.

Figure 5.5: Use of XML for bills by 2009:2012 comparison group

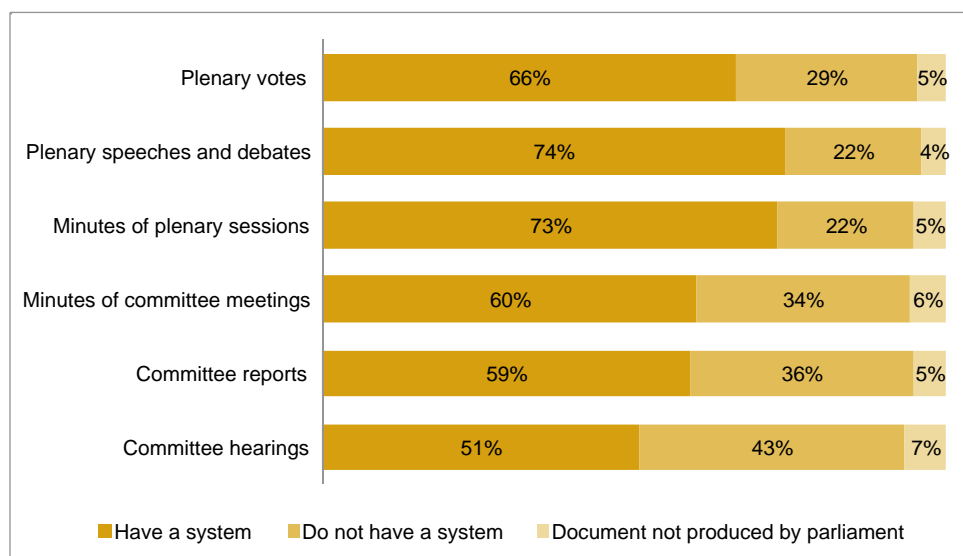
	2012		2009	
	Count	Percentage	Count	Percentage
Yes	27	47%	20	35%
No, but planning for or considering using XML	17	30%	22	39%
No, and there are no plans or consideration for XML	13	23%	15	26%
Total	57	100%	57	100%

(Sources: Survey 2012, Section 3, Question 3, 57 respondents; Survey 2009, Section 3, Question 3, 57 respondents)

Systems for managing other plenary and committee documents

Between the 2007 survey and the 2009 survey, there was an increase in the percentage of parliaments that had systems for managing documents other than legislation⁶ (an important qualification in light of the findings regarding systems for bills). This positive trend continued in 2012. The percentage of parliaments in 2012 with a system for each document type is shown in Figure 5.6. The three highest percentages are for plenary documents, with two reported by over 70 per cent of all parliaments.

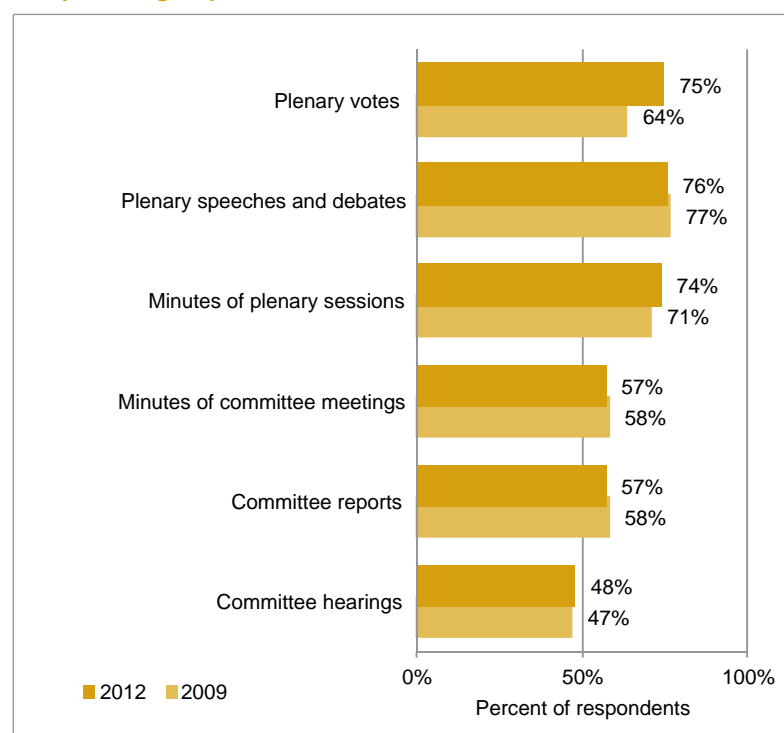
Figure 5.6: DMS for plenary and committee documents



(Source: Survey 2012, Section 3, Question 5; 152 respondents)

⁶ See *World e-Parliament Report 2010*, p. 91, Figure 5.6.

Figure 5.7: DMS for plenary and committee documents by 2009:2012 comparison group



(Sources: Survey 2012, Section 3, Question 5, 108 respondents; *World e-Parliament Report 2010*, p. 91, Fig. 5.5)

Figure 5.7 shows the percentages for each type of document for the 2009:2012 comparison group. Within this subgroup, nearly three quarters of all parliaments reported having systems for all three plenary documents. The increase among those that now have systems for reporting plenary votes is significant.

Figure 5.8 compares *all respondents to each of the three surveys*. This figure reflects the significant growth that has occurred since 2007. The last row of this figure highlights the average percentage of all parliaments for all documents for each survey year. The increase from 2007 (average=50 per cent) to 2012 (average=64 per cent), which is a period of approximately 4.5 years based on the dates of the surveys, is substantial.

Figure 5.8: DMS for plenary and committee documents, all respondents, all surveys

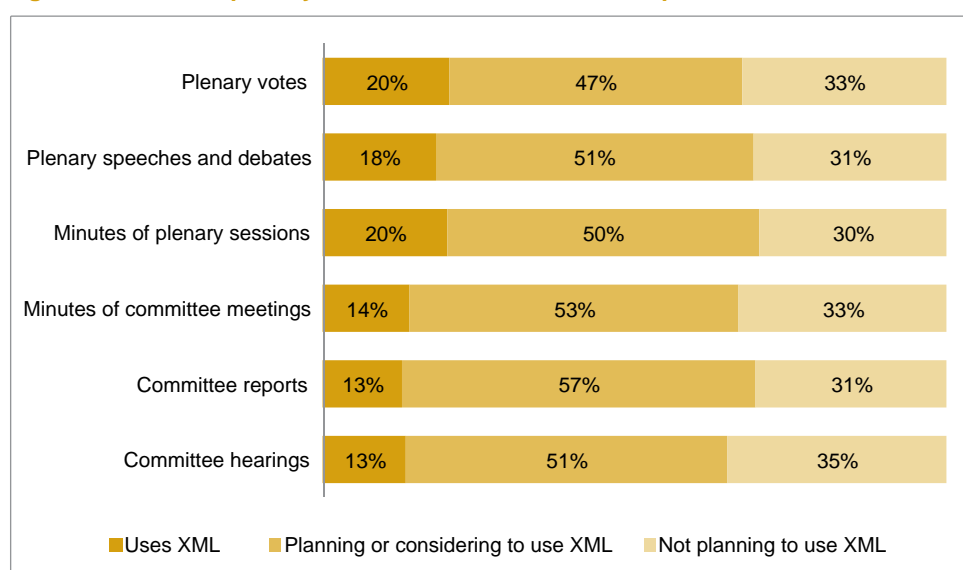
Document Management System for:	In 2012	In 2009	In 2007
Committee meeting minutes	60%	54%	52%
Committee reports	59%	54%	47%
Committee hearings	51%	43%	42%
Plenary minutes	73%	67%	50%
Plenary speeches and debates	74%	71%	59%
Plenary Votes	66%	57%	52%
Average percentage of parliaments	64%	58%	50%

(Sources: 2012: Survey 2012, Section 3, Question 5; 2009: *World e-Parliament Report 2010*, p. 91, Fig. 5.5; 2007: *World e-Parliament Report 2008*, p. 69, Fig. 5.7 and p. 72, Fig. 5.11)

XML for other documents

However, the increase in the percentage of parliaments that have systems for managing the various plenary and committee documents just discussed is not yet matched by the use of XML for these documents. Figure 5.9 shows for 2012 the percentages of parliaments that *use* XML for each document type, the percentages that are *planning* or *considering it*, and the percentages that are *not planning to use XML*. This latter percentage has remained at about one third of parliaments over all three surveys.

Figure 5.9: XML for plenary and committee documents in parliaments with a DMS



(Source: Survey 2012, Section 3, Question 6; 92 respondents)

Figure 5.10 shows the percentage of parliaments using XML for all documents, including bills, in all three surveys. Despite the improvement in the use of XML for bills, the use of this standard for other documents has remained relatively static. The last row in Figure 5.10 shows that the average percentage of parliaments with a document management system and that uses XML for each of the survey years has remained at about one fifth. *In 2012 the number of parliaments that use XML for any document was found to be 26 per cent of the total of 156 parliaments that responded to the survey, the same percentage found in the 2009 survey*⁷.

Figure 5.10: XML for all document types by year

XML used in DMS for:	In 2012	In 2009	In 2007
Bills	43%	34%	30%
Committee meeting minutes	14%	14%	14%
Committee reports	13%	18%	19%
Committee hearings	18%	11%	18%
Plenary minutes	18%	19%	14%
Plenary speeches and debates	18%	20%	21%
Plenary Votes	20%	17%	15%
Average percentage of parliaments	21%	19%	19%

(Sources: 2012: Survey 2012, Section 3, Question 6; 2009: *World e-Parliament Report 2010*, p. 95, Fig. 5.11; 2007: *World e-Parliament Report 2008*, p. 78, Fig. 5-16)

⁷ Source: Survey 2009, Section 3, Questions 3 and 5. See *World e-Parliament Report 2010*, p. 96.

Uses and challenges of open standards for documents

Reasons for using XML

As outlined in both the 2008 and 2010 editions of this report, there are a number of important advantages to the use of open standards in parliaments which are worth repeating here:

- ***Exchange of documents.*** Open standards make it easier to exchange documents between individuals and organizations even if they use different software for editing and managing documents. This can facilitate the exchange of documents between departments within the parliament, with another chamber, between parliament and the government (e.g. courts and national law databases), with citizens and the civil society (e.g. parliamentary monitoring organizations), and with legislative bodies and organizations in other countries.
- ***Search.*** Search engines can provide more accurate results and users can formulate more precise queries if data is tagged for its specific content. Document can in fact be searched using both the text and the tags together. Open standards permit documents to be used with a variety of search engines, thereby giving legislatures choices in the selection of a search engine.
- ***Linking among documents and reuse.*** Legislative documents are highly interrelated. Open standards allow links among documents to be created automatically and even have the potential, depending on the depth of tagging, to support linking between elements within documents. For example, a section of a proposed bill could be automatically linked to the portion of an existing law that it would amend.
- ***Multiple forms of output and channels.*** In an ever diversifying environment of personal computing devices, a source document tagged with an open standard could be used to produce different appearances of a bill such as for display in an “App” (in tablet device) or a website, a paper copy, or a version modified to be incorporated into another document. XML can also be used to produce versions which could be easier for persons with disabilities to access by supporting, for example, large type fonts or audio output. In all of its appearances however, the referential and intellectual integrity of the information and documentation is maintained at all times.
- ***Consistency in formatting.*** Tagging standards can be used to encourage or even enforce proper formatting so that members and others who prepare the texts do not have to know the exact conventions used when they draft bills or amendments.
- ***Ease of preparation.*** Open standards can be demanding to use but once understood they can ease the effort required to prepare a bill or amendment by guiding the drafter through the required formatting steps.
- ***Preservation.*** One of the most important uses of open standards is to ensure the long-term preservation of documents. Proprietary systems change constantly in response to market pressures for new capabilities. As these systems are enhanced, they often reach a point where they cannot be used to access documents prepared using older versions of the same software because the documents use tags that are not understood by the newer software. Over time this has the potential for making it difficult, if not impossible, to read the digital version of documents prepared earlier. It becomes a more complex version of the kind of problem faced by programmers at the beginning of the year 2000 when many systems could not properly read dates because they used only two digits to represent the year.
- ***Access for citizens.*** The problem of long-term preservation becomes most acute in the context of ensuring permanent access for citizens to legislative documents. Electronic information

accessible today may become inaccessible over time because previous media, software, and proprietary formats are no longer supported. And this could prevent public institutions from guaranteeing that electronically archived public records will remain accessible in the future.

Additional advantages, some elaborating on those above, are contained in a discussion paper recently released by the Inter-American Development Bank⁸ and shown in Box 5.4.

Box 5.4

When XML is used to represent legal documents - legislative or parliamentary (bills, acts, debates, administrative measures, etc.) - there are some special features of such representation that need to be kept in mind as requisites:

- XML contains information that contributes to the direction of the **workflow**. Thus, each stage of the legislative process can be traced, as it leaves a mark in the XML file with metadata.
- XML supports national legislative drafting and **best practices**. The technical rule standardizes the way to go about drafting legislation, thus making it possible to check the texts' compliance with the minimum standards included in the XML schemas. We can thus say that XML improves the **quality of law**.
- XML is **interoperable** with other institutions and other resources. The XML format enables every institution to mark up its own documents and to accordingly manage its own parts of the legislative process, while using a common vocabulary of tags and a common language for ascribing meaning to the data. This makes it easier for institutions to exchange data and collaborate in such a way that each institution retains its own autonomy.
- XML is enriched by contributions from citizens. Every citizen can add annotations in the XML file and reuse the XML data, as is happening in the United States with the *Open Gov* and *Open Data* initiatives. This encourages **participation**, and as with other similar tools, such as blogs, wikis, and social networks, XML facilitates cooperation and promotes data reuse.
- XML **preserves** a document's legal validity over a long period of time. As an open data format, XML is technology-independent and so it may be the right format to preserve legal documents over time. Indeed, even only ten years from now we might not be able to read legally valid data stored today. XML solves this problem by allowing us to archive documents and create backup files that continue to be valid indefinitely.
- XML is **accessible** to all through multiple channels. XML allows you to display contents in an accessible way, even for people with disabilities, thus helping to solve the problem of *accessibility* and the *digital divide*.
- XML can be **accessed by anyone for inspection**, while ensuring a balance between privacy and security. Because XML can be understood without additional applications, all citizens can inspect parliamentary documents, without the barrier of any filtering software. XML thus makes it possible for information to be *transparent* and enables citizens to hold government institutions *accountable*.
- **Dissemination and usability**. XML makes it possible to disseminate legal texts without discriminating between the tools used, thus enhancing usability, even by people who do not have sophisticated tools. In short, it does not favor any one technology over the others.
- XML can also be used with **common tools** and document-management systems (*effectiveness*). XML can become a common format to store data in document-management systems and to create original XML databases that may be distributed and shared among different institutions. By sharing DTD or XML schemas, XML favors the growth of a multilateral community that can agree on how to interact through its data and how to cooperatively develop the various stages of the legislative process (parliament, commission, government agencies, political parties, etc.)."

"Legislative XML: Principles and Technical Tools", Discussion paper No. IDB-DP-222, Institution for Development (IFD), Inter-American Development Bank, May 2012, pp. 13-14. <http://idbdocs.iadb.org/wsdocs/getdocument.aspx?docnum=36893582>

8 Palmirani Monica, Vitali Fabio, *Legislative XML: Principles and Technical Tools*, Discussion paper No. IDB-DP-222, Institution for Development (IFD), Inter-American Development Bank, May 2012.

An example that illustrates well the importance of XML to openness, transparency and accountability comes from the United States of America. In April 2011, the Speaker and the Majority Leader of the House of Representatives of the United States of America sent a letter⁹ to the Clerk of the House, calling for the development and adoption of new electronic data standards to help make legislative information more open and Congress more accountable to the American people. The letter stated the following:

“[...] At the start of the 112th Congress, the House adopted a Rules Package that identified electronic documents as a priority for the institution. Towards that end, we are asking all House stakeholders to work together on publicly releasing the House’s legislative data in machine-readable formats.

The Rules of the House, adopted on the opening day of this Congress, directed the Committee on House Administration to establish and maintain electronic data standards for the House and its committees. We have asked that this standard be developed in conjunction with your office for the purpose of transitioning the House to more open data formats, such as XML.

We believe that this legislative data, using standardized machine-readable formats, should be publicly available on House websites. The Clerk’s office should work to ensure the consistent public availability and utility of the House’s legislative data.

Ultimately, legislative data is the property of the American public. It is our hope that these reforms will continue to rebuild the trust between Congress and the people we serve.”

As a result of this initiative, in December of the same year, the Committee on House Administration approved the Standards for the Electronic Posting of House and Committee Documents and Data (see Box 5.5).

⁹ See <http://www.speaker.gov/press-release/speaker-boehner-majority-leader-cantor-call-new-data-standards-make-congress-more-open>.

Box 5.5**Standards for the Electronic Posting of House and Committee Documents & Data**

Approved by the Committee on House Administration on December 16, 2011

In accordance with the Speaker's initiative to increase transparency of House and committee operations, the Committee on House Administration, as directed by House Rules¹⁰, has established the following standards for posting House and committee documents and data electronically. These standards will be phased in and subject to periodic review and reissuance. The standards are intended to ensure that Members and the public have easy, advance access to legislation considered by the House and its committees.

Documents and Data Covered by Standards

The following House and committee documents and data files are covered under these standards:

House Documents:

Bills to be considered by the House
Resolutions to be considered by the House
Amendments to be considered by the House
Conference Reports to be considered by the House

Committee Documents:

Committee rules
Bills to be considered by committees
Resolutions to be considered by committees
Prints or other legislative text intended to serve as the base text for further amendment
Meeting notices
Witness lists
Witness testimony
Truth in Testimony disclosure forms¹¹
Public notices
Amendments adopted by committees
Committee record votes

Although not required by House rules, committees are encouraged to post additional committee documents online, including oversight plans, committee transcripts, committee prints, and committee activity reports.

House Documents

The Committee on House Administration directs the Clerk of the House to establish a centralized website where Members and the public can access all House documents in a downloadable, open format¹² within the time frames established by House Rules. This centralized location shall be established for House Documents no later than January 1, 2012.

XML Standards

Committees are encouraged to post documents in XML when possible and should expect XML formats to become mandatory in the future. The Office of the Clerk will update XML standards as required to support these documents. The XML standards will be publically available at <http://xml.house.gov>.

File Naming Standards

The Office of the Clerk will publish and maintain naming standards for each document to be posted. These standards will facilitate automated searching and uploading of such documents. Files will be posted using permanent URL links. These links will facilitate outside and committee usage of these files. In addition, permanent URL links will allow each archived committee website to maintain functionality.

Committee Documents

The Committee on House Administration further directs that the Clerk provide additional functionality on the centralized website for House documents to support committee documents; until the completion of such

10 Rule X, clause 4 (d)(1), states that the Committee on House Administration shall establish and maintain standards for making documents publicly available in electronic form by the House and its committees.

11 Due to signature requirements Truth in Testimony forms will be scanned with an original signature. Forms will be OCR'd to maximize searchability.

12 For this purpose, open formats are defined as formats that are widely available and permit data indexing. The House uses XML for most legislative documents. The documents are drafted using standards documented at <http://xml.house.gov/>.

functionality, House committees are responsible for posting committee documents in a searchable PDF format in an appropriate location on the committee majority's website. XML versions of documents, when available, should be posted at the same location.

Committee Documents

The Committee on House Administration further directs that the Clerk provide additional functionality on the centralized website for House documents to support committee documents; until the completion of such functionality, House committees are responsible for posting committee documents in a searchable PDF format in an appropriate location on the committee majority's website. XML versions of documents, when available, should be posted at the same location.

Video Requirements

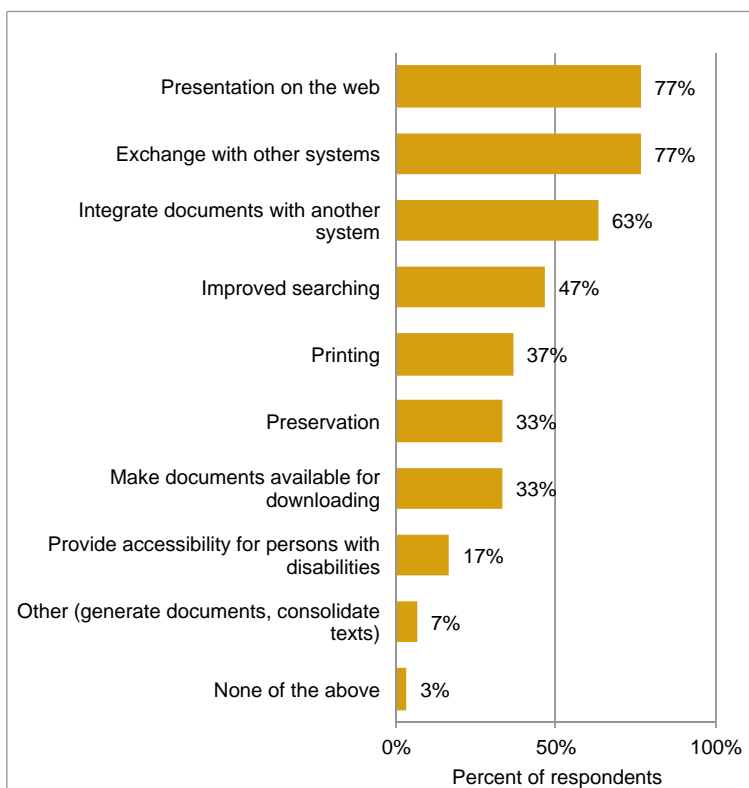
Committee video of hearings and markups will be stored by the House to meet requirements for archiving, access, searchability, and authenticity.

Additional Review and Reissuance

To ensure documents are made available in user-friendly formats that preserve their integrity, these standards will be subject to periodic review and reissuance by the Committee on House Administration. It is the intent of the Committee to implement standards that require documents to be electronically published in open data formats that are machine readable to enable transparency and public review.

Office of the Clerk, House of Representatives of the United States. Contribution to the World e-Parliament Report 2012

Figure 5.11: Purposes for using XML



(Source: Survey 2012, Section 3, Question 4; 30 respondents)

is that open standards such as XML offer greater flexibility for meeting both current and future needs for parliamentary document systems.

The 2012 survey asked parliaments to identify the purposes for which they are currently using XML. The results, shown in Figure 5.11, highlight exchanging documents with other systems (77 per cent), presenting documents on the web (77 per cent), integrating documents with another system (63 per cent), and improving searching (47 per cent). Printing and preservation were also mentioned (by 37 per cent and 33 per cent respectively). Only 17 per cent are using XML to provide accessibility for persons with disabilities. This list illustrates both the range and the value of the goals that XML supports.

Future objectives will likely include the adoption of parliamentary information for mobile communication devices and more effective integration with new web technologies. The important point

Challenges

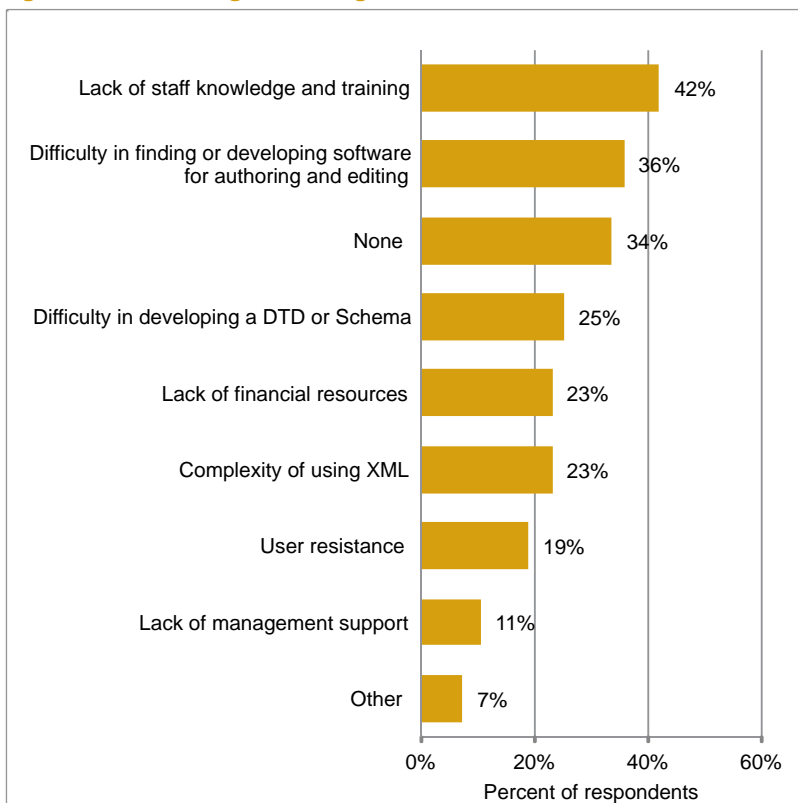
The implementation of XML does present a number of challenges. Figure 5.12 lists the ones mentioned the most by parliaments that are using or have tried to use XML. It is useful to note the following:

- Staff knowledge and training is the challenge cited by the most parliaments (42 per cent);
- The next two most frequently mentioned challenges are technical in nature – authoring and editing software (36 per cent) and document schemas (34 per cent);
- Lack of financial resources is mentioned by less than one quarter (23 per cent);
- Complexity and user resistance round out the list of challenges that are mentioned by at least 1 in 5;
- Lack of management support is noted by only a tenth.

As discussed in the 2010 Report there are a variety of ways to address a number of these challenges, often through cooperation among parliaments and the support of the international community,

as for example described in Box 5.6. Because parliaments represent a relatively small market, commercial solutions are not always available or appropriate. Sharing knowledge and collaborating on initiatives can sometimes yield better results, especially for parliaments in developing countries. While primary responsibility for financial resources must always rest with the legislature itself, well formulated and managed startup support from outside donors can have a significant effect, especially for training staff and establishing initial document schemas.

Figure 5.12: Challenges in using XML



(Source: Survey 2012, Section 3, Question 7; 95 respondents)

Box 5.6**Bungeni Editor**

The Bungeni Editor is a Java application that extends the OpenOffice.org word processor to support the mark up of parliamentary, legislative and judiciary documents in user-defined XML schemas. Currently the Akoma Ntoso standard is supported by it.

The Bungeni Editor extends the Open Office word processor interface by building specific and customizable functionalities alongside the traditional word processor capabilities to provide a familiar user interface for the drafting and mark up of legislative and parliamentary documents.

The marking up of documents is done by simply highlighting the relevant portion of the text and applying word processor-like formatting without exposing users to any of the XML technicalities and requirements. If the mark up requires metadata, pop-up windows are presented to the user for input. It also provides an assistive UI to help the user create proper mark up, by providing steps to follow in the mark up and contextually highlight and enable only specific actions to indicate valid mark-up options. Once marked up, the different parts of the document are displayed in colour-coded gradients which allow the user to easily identify different components of the document.

Bungeni Editor also provides two levels of mark-up validation – a semantic validation layer which provides checks at the OpenOffice.org word processor document level and an XML validation layer which checks the transformed document against any XML schema.

Users in the course of the work may need to have copies formatted, e.g. a Bill into PDF or other formats. The Bungeni Editor supports this by allowing the formatting of documents to the specific requirements and then supporting their conversion to PDF, DOC, HTML etc.

The Bungeni Editor supports the conversion of the marked up OpenOffice.org documents into custom XML, in this case Akoma Ntoso XML, as well as into HTML and PDF for presentation purposes.

The UI of the editor is also internationalized to support i18n message strings and provide a clear separation between screen/display text and application functionality.

Bungeni Editor source code and technical documentation is freely available at code.google.com/p/bungeni-editor/ while less technical information and news can be found at www.bungeni.org.

Source: Africa i-Parliaments Action Plan initiative¹³. Contribution to the World e-Parliament Report 2012.

Cooperative regional efforts can be useful for addressing problems such as the need for appropriate language versions of software. Collaboration among those who share common legislative backgrounds can also be useful for dealing with DTDs and document schemas that need to be adapted to follow particular traditions and procedures. Partnerships between two parliaments can also be valuable if they involve a legislature that has successfully implemented XML and one that is just beginning. Sustained mentoring of staff who are learning to use XML soon after they have had a basic introductory course can be highly beneficial.

Another approach successfully implemented by some parliaments is a cooperative arrangement with the government. An essential first step, surprisingly absent in many countries, is to establish procedures whereby the government sends a proposed bill, report, or any other document to be considered by the parliament in a digital format via electronic communication means. Some governments have recognized the value of XML and are already preparing documents using this standard. It then falls on the parliament to have a system that can manage the receipt, storage, organization, and dissemination of these documents to both internal and external users. If the document is in XML, it may be possible for the parliament to use the same tools as the government for authoring and editing as needed. Hence a cooperative approach could have many

13 The Africa i-Parliaments Action Plan is an Africa-wide initiative to empower African parliaments to better fulfill their democratic functions by supporting their efforts to become open, participatory, knowledge-based and learning organizations, implemented by the United Nations Department for Economic and Social Affairs (UN/DESA). See <http://www.parliaments.info/>.

benefits, where all actors that are creating, managing, using and preserving legislative documents (e.g. government legislative drafting offices, parliament – including parliamentary libraries or archives –, courts and Ministries of Justice, national libraries, etc.) come together to develop a national open standard. A shared government-wide system would have a number of operational benefits, including shared costs, training of users and the provision of technical support. It should be noted, however, that having more actors involved may increase the complexity of implementation.

Preservation of digital documents

A little over half of the parliaments (53 per cent) responding to the 2012 survey reported that they now maintain a digital archive for parliamentary documents. This represents a small increase over 2009 (48 per cent). There was no change in the percentage that have a programme for converting paper documents to digital formats, or the percentage that have established a policy regarding digital preservation¹².

These findings suggest that many parliaments are making some progress in ensuring the preservation of their digital records. Substantial challenges lie ahead, however, especially as technology continues to evolve and as more parliaments move toward operations that are primarily paperless.

Box 5.7

Digital archiving is a challenge because the storing time is unlimited. The Parliament is trying to make use of the national system for digital storing of official documents of the administration.

Comment by a respondent to the 2012 Survey

As noted above, open standards such as XML can play an important role because they are less dependent on changes in the underlying hardware and application software. But for the near term, dual preservation modes – in paper and in digital format – are likely to be necessary. This is an especially complex problem because a variety of people and organizations with complementary responsibilities but sometimes conflicting priorities, are usually involved in solving it, including archivists, technologists, and librarians.

¹² Source: Survey 2012, Section 3, Questions 9, 11 and 12.

INTERNATIONAL COOPERATION AND DOCUMENT STANDARDS

The development of document management systems and the implementation of open standards for parliamentary documentation can be a complex and costly endeavor for parliaments. Yet, the benefits they yield to parliament's efficiency and to openness, transparency and accountability should all be factored into the cost-benefit analysis of such investments.

As underlined in the *World e-Parliament Report 2010*, in parliaments lacking financial and technical resources, or in those experiencing budget cuts, collaborative software development among partnering legislatures offers a unique opportunity to leverage limited funds for deploying such systems and ensuring a high quality and sustainable documentation process. One such possibility is the *Bungeni* Parliamentary and Legislative Information System, developed in the framework of the *Africa i-Parliaments Action Plan* initiative and described in Box 5.8.

Box 5.8

Bungeni Parliamentary and Legislative Information System

Bungeni is an open source Parliamentary and Legislative Information System (PLIS) that aims to make parliaments more open and accessible to citizens, virtually allowing them "inside parliament", or "bungeni" in Swahili.

The Bungeni system covers the entire document life-cycle of parliamentary documents from drafting to publication of documents such as questions, motions, bills, tabled documents, etc. as well as reports such as agenda, minutes and debate records. It meets typical legislative document archival requirements by recording the whole history and versions of a document at various points in time through various stages of the parliamentary process and stores documents in XML format for re-usability and long term preservation. Bungeni PLIS consists of three main components as follows:

Bungeni Institutional Portal:

The institutional portal contains information about a parliament and its parliamentary activities. The Portal has been designed to meet the information requirements of citizens as well as of civil society. Bungeni through the portal provides information about

- **Members:** bio-notes, offices held, address, etc. and all the documents that a Member may have authored as well as all the interventions recorded in the parliamentary debates;
- **Parliamentary Documents:** their history, any events related to the parliamentary procedures, attachments, if any, the version across time, the extracts of the debates related, etc.;
- **Sittings:** all the reports, from agenda to minutes and debate reports as well as easy access to all documents debated.

Any document on the portal can be downloaded in different formats, PDF, ODT, RTF, and XML to allow re-usability by both people and software applications. Documents can be accessed through different media, from PC, to mobile phone and tablets and as the documents are stored as XML they can be easily adapted to any new media. Should you wish to track a specific document, for example, a new motion, you can subscribe to a RSS service or opt to receive an e-mail notification.

Bungeni Interactive Portal:

The interactive portal provides a space, separate from the institutional one, where discussions with parliament and among citizens about parliamentary activities can be undertaken. It allows easy access and open discussion allowing members to directly communicate with citizens and highlight their own initiatives and activities.

Members can create their own content which can be in the form of blogs, events, documents to download, links, and news. Citizens may be allowed by members to access their space and to comment, or take part in polls or surveys to gauge the mood of citizens on specific issues.

Committees can, through this space publish documents and enlist public contributions and hold discussions in a context that by virtue of being separate from the institutional portal can allow more free and creative discussions.

Bungeni Back-office:

The Back-Office Workspaces are for registered parliamentary users such as members of parliament, staff of the Secretary General’s offices, committees’ clerks, etc. This is the space where all the content of the Bungeni Institutional Portal and some content of the Bungeni Interactive Portal is created and managed. Access to the Bungeni Back-office Workspaces is limited to authorized users. Different users have different rights, according to their roles and responsibilities, on what documents they may be able to see, create or edit.

Workspaces support the creation and management of all parliamentary content (e.g. question, motions, bills, but also agenda, minutes and debate reports) as well the publication of general information about the parliaments and its activities, news, etc.

Committees and Political groups may have their own virtual workspaces and can share information just among themselves or with the public at large.

Presiding Officers can monitor the workload (flow) and receive notifications in case documents are not attended to on time. An audit trail also provides the opportunity to know who has done what and when.

Bungeni PLIS is fully internationalized and can be localized to any language since it supports both left-to-right as well as right-to-left writings.

The main stakeholders of Bungeni PLIS are citizens, members of parliament and managers of parliamentary administrations. To them it brings the following benefits:

Citizens	Members of parliament	Senior management
<p>Access to information on parliamentary activities and documents are provided:</p> <ul style="list-style-type: none"> • in real-time; • through multichannel access; • comprehensively; • with both push and pull updates; • in open/reusable documents. 	<ul style="list-style-type: none"> • opportunity to submit, review and monitor documents from anywhere any time; • track the progress of one’s own documents and those of other members; • private space to store important documents; • public space to publish their blogs/info/etc.; • virtual workspace to access, e.g. committee relevant documentation and work; • personalize notifications to better follow up on parliamentary work. 	<ul style="list-style-type: none"> • real-time assessment of workload; • audit trail regarding who did what and when; • documents in a format suitable for long term preservation; • total ownership of data and application.

Bungeni source code and technical documentation are freely available at code.google.com/p/bungeni-portal/ while less technical information and news can be found at www.bungeni.org.

Source: Africa i-Parliaments Action Plan initiative. Contribution to the World e-Parliament Report 2012.

The *Africa i-Parliament Action Plan* initiative is continuing to support a number of parliaments to implement the Bungeni Parliamentary and Legislative Information System in Africa. However, Bungeni has received increasing interest from parliaments in countries of other continents.

Box 5.9

Our Parliament is one of the legislatures of East African countries currently implementing the parliamentary Information Management System (Bungeni) to keep track of the legislative process. Most of the information will be in XML, and currently we are populating the data into the system.

Comment by a respondent to the 2012 Survey

In 2011 and 2012 a series of events organized in cooperation with or by the Global Centre for ICT in Parliament has emphasized the increasing appreciation by parliaments of the need to achieve a higher level of cooperation in the field of open document standards so that knowledge, expertise, tools and practices involving XML can be effectively shared within the broader community. Despite the fact that their approach to open document standards may sometimes differ, legislatures share many of the same challenges and needs in this domain.

In addition to these activities, OASIS, a non-profit international consortium that creates interoperable industry specifications based on public standards, opened the LegalDocML Technical Committee¹³ in late 2011 to establish a common legal document standard for the specification of parliamentary, legislative and judicial documents, for their interchange between institutions anywhere in the world and for the creation of a common data and metadata model that allows experience, expertise, and tools to be shared and extended by all participating peers. The intended document standard aims to provide a format for long-term storage of, and access to, parliamentary, legislative and judicial documents that allows search, interpretation and visualization of the documents. The work of the Technical Committee is based on Akoma Ntoso¹⁴, the XML-based language developed by the United Nations in the framework of the *Africa i-Parliaments Action Plan* initiative as a set of common standards to produce, classify and share digital parliamentary and legislative documents. Akoma Ntoso has increasingly been adopted by legislatures around the world in the past two years.

In February 2012, the importance of inter-parliamentary cooperation in the area of open document standards and standardization was recognized by the Meeting of the Secretaries General of Parliaments of the European Union who, in the *Conclusions* of their meeting, mandated the IPEX¹⁵ Board to:

“[...] a) start cooperation with the relevant EU Institutions, as well as with the ECPRD and with the UN/IPU Global Centre for ICT in Parliament in order to act as an unique “information point” on digital standardization; b) explore

¹³ See https://www.oasis-open.org/committees/tc_home.php?wg_abbrev=legaldocml.

¹⁴ See <http://www.akomantoso.org/>.

¹⁵ IPEX, the InterParliamentary EU information eXchange, is a platform for the mutual exchange of information between the national Parliaments and the European Parliament. The main part of IPEX is the Documents database which contains draft legislative proposals, consultation and information documents coming from the European Commission, parliamentary documents and information concerning the European Union. See <http://www.ipex.eu/IPEXL-WEB/home/home.do>.

the possibility of sharing a common open format standard and using the EU-ROVOC thesaurus for parliamentary documents concerning the scrutiny of EU Affairs uploaded by the national Parliaments in IPEX”.

Furthermore, in the *Presidency Conclusions* of the Conference of Speakers of the European Union Parliaments, held in Warsaw on 20 – 21 April 2012, the EU Speakers noted the *Conclusions* of the Meeting of the Secretaries General and underlined:

“the importance of ensuring maximum transparency and the most accurate and timely information on parliamentary activities by providing the relevant data online in freely accessible ways and formats, while promoting the adoption of open, common international standards favouring the treatment and re-use of the published data by all parties concerned”.

In between these two gatherings, the United Nations, the Inter-Parliamentary Union and the U.S. House of Representatives co-organized, through the Global Centre for ICT in Parliament, the international event *Achieving Greater Transparency in Legislatures through the Use of Open Document Standards*. The meeting, held at the U.S. House of Representatives in Washington, D.C. on 27, 28 and 29 February 2012, convened parliaments that were using XML for parliamentary records with a view to: a) determine how XML has been implemented by parliaments around the world and how it is being used by them and by civil society organizations to enhance citizens’ participation; b) exchange experiences about the policy and organizational challenges faced by parliaments’ senior management to increase transparency; c) identify current best practices and state of the art applications; d) outline projects anticipated by legislatures over the next five years and explore venues of possible collaborations and synergies to reduce costs; and e) elaborate policy and technical recommendations for the use of open document standards in parliaments¹⁶.

As described in Box 5.10, consensus emerged among the delegates about the future focus of common work in a number of priority areas and the establishment of an inter-parliamentary Working Group on Open Document Standards under the framework of the Global Centre for ICT in Parliament.

16 Other invitees included legislative and legal informatics experts from a selected number of international organizations, universities, foundations and civil society organizations. Approximately 83 participants, including delegates from 16 parliamentary chambers took part in the policy and technical debates during the three-day agenda. The presentations delivered at the meeting are available in video at the Global Centre’s YouTube channel <http://www.youtube.com/user/GlobalCentreICTP/videos?view=1> and in PowerPoint at the webpage <http://www.ictparliament.org/XMLMeeting2012>

Box 5.10

Meeting Summary

Delegates from 16 parliamentary chambers along with representatives of civil society organizations and the academic community participated in the International Meeting *Achieving Greater Transparency in Legislatures through the Use of Open Document Standards*, co-organized by the U.S. House of Representatives, the United Nations and the Inter-Parliamentary Union, through the Global Centre for ICT in Parliament, on 27, 28 and 29 February 2012.

During the meeting discussions several important themes emerged:

- Open document standards are a vital technology for supporting the values of parliamentary democracy as defined by the Inter-Parliamentary Union in 2006, with particular emphasis on transparency and efficiency.
- Only a limited number of parliaments have implemented or are planning the use of open standards in parliamentary records in the near future, making this topic an emerging issue for inter-parliamentary cooperation in the years to come.
- Despite differences in their approach to open document standards, legislatures share the same challenges and needs. There is significant value in continuing the dialogue among parliaments about open document standards, both at regional and global level, also taking into consideration the perspectives of civil society organizations and the academic community.
- Open document standards can be leveraged to quickly and flexibly embrace new communication channels for members and the public, such as mobile devices and video. The expectations of rapid technological developments in these areas will require special attention by parliaments in the future.
- A higher level of cooperation is needed among parliaments so that knowledge, expertise, tools and practices on open document standards can be effectively shared and placed at the disposal of the parliamentary community.
- There is a need to identify a series of internationally-agreed criteria and benchmarks for assessing the contribution of the use of open document standards to the values of a democratic parliament: representation, transparency, accessibility, accountability and effectiveness. These benchmarks should guide parliaments in their implementation of open document standards as well as help them determine the degree of their success in advancing both their efficiency objectives and overall transparency goals.

To this end, consensus emerged among the delegates for the establishment of an inter-parliamentary Working Group on Open Document Standards under the framework of the UN and IPU's Global Centre for ICT in Parliament. This Group, open to legislatures using open document standards, will provide a forum for advancing the state of open document standards in parliaments by identifying problems, analyzing potential solutions, and recommending guidelines and standards. It will serve as a hub for providing visibility to the various initiatives taking place in this arena. The working modalities of the Group, and its interaction with interested stakeholders, including global and regional parliamentary networks, will be defined by the participating parliaments at their first meeting.

Delegates welcomed the opportunity of a fruitful exchange of experiences and practices offered by the International Meeting *Achieving Greater Transparency in Legislatures through the Use of Open Document Standards* and expressed their appreciation to the U.S. House of Representatives, the United Nations and the Inter-Parliamentary Union, for having taken the initiative of organizing this important consultation.

International Meeting: Achieving Greater Transparency in Legislatures through the Use of Open Document Standards. Meeting summary. See <http://www.ictparliament.org/XMLMeeting2012>.

At the meeting *Achieving Greater Transparency in Legislatures through the Use of Open Document Standards*, participants raised two important issues: how can parliaments turn the current financial crisis and subsequent reduced budgets into an opportunity to improve the efficiency of the parliamentary processes by applying XML-based technologies? What benefits can end users derive from the implementation of such processes, whether inside or outside a parliament's administration?

To respond to these challenges, the European Parliament's Office for Promotion of Parliamentary Democracy (OPPD) and Directorate General for Innovation and Technological Support, in association with the Global Centre for ICT in Parliament, held the international workshop *Identifying benefits deriving from the adoption of XML-based chains for drafting legislation* in Brussels in May 2012. The workshop focused on: a) improving the quality of the debate among parliaments that have already undertaken activities towards the use of XML-based tools for their production chain; b) sharing the experience of more advanced parliaments in this field with others interested in setting up XML-based production chains and using this knowledge to offer practical support to the parliaments of new and emerging democracies; and c) demonstrating practical users' cases along with evaluations of the benefits that justified the investments.

The workshop participants stressed that much still needed to be done to evaluate the benefits deriving from the implementation of an XML-based chain not only from the publication/dissemination point of view, but also from the perspective of supporting the production of legislative content inside parliaments' administrations. Anticipating the adoption of XML in the very first phases of the law-making process can in fact reinforce the rigour of law-drafting, reduce subsequent transformations, limit mistakes, and improve the overall document quality. Moreover, working with structured information from the beginning of the process makes it easier to manage that same information during the production process without additional transformations and the attendant risk of losing content. Nevertheless, parliaments will not be able to address exhaustively the question of the benefits deriving by the introduction of an XML-based chain if the positive effects provided by the adoption of such technologies are not analysed in depth by those parliaments that have had the opportunity to be the pioneers in this field and shared with others.

To this end, at the international workshop the Vice President of the European Parliament¹⁷ announced the decision to provide the open source version of AT4AM, the application currently used by the European Parliament for authoring amendments to parliamentary texts, for legislative and non-legislative procedures, and the production of amendments lists for downstream services. This version will allow amending content submitted in the Akoma Ntoso schema and obtaining amendments in the same format, as described in Box 5.11.

17 Mr. Rainer Wieland, Member of the European Parliament and Vice President http://www.europarl.europa.eu/meps/en/2323/Rainer_WIELAND.html. See also <http://joinup.ec.europa.eu/news/european-parliament-share-amendment-web-tool-open-source>

Box 5.11

The e-Parliament program at European Parliament - Update on the current status of activities

The Directorate General for Innovation and Technological Support (DG ITEC) of the European Parliament (EP) launched the e-Parliament program in 2009.

The eParliament vision is to ensure the use of the most appropriate ICT tools and applications in support of the EP parliamentary processes (legislative and nonlegislative), with a view to enabling the institution to perform its duties in the most effective and efficient way, to better support the work of its Members, and to become more transparent, accessible and accountable to the European citizens it serves.

e-Parliament is designed as a major multi-annual change program aimed at modernising the EP's core parliamentary information system. To control the changes and risks introduced by the program, e-Parliament progressively achieves its objectives by implementing the following two phases:

1. The first phase is focused on the parliamentary text management and may induce changes in related processes (Business/IT alignment). It deals with the nature of the product (text) and its control in terms of life cycle and versioning.
2. The second phase will be activity/process oriented. It deals with the optimization of the text production processes and their supporting workflows.

Each phase consists in two steps:

1. Definition of the e-Parliament architecture, progressive setup of foundation components through the iterative cutover to production of a "pilot text production chain".
2. Incremental alignment of the other parliamentary text production chains and supporting applications on e-Parliament architecture.

The operational objectives of the current phase (phase 1 - step 1) are:

- To shift the parliamentary text production from a document-centric to a content-aware management by using an open format, the XML language. This will make it possible to build and handle a document as a contextual assembling of a number of text pieces - "content" - that are themselves created and managed autonomously and can be reused when needed.
- To introduce a unique content repository for the parliamentary text production.
- To implement an appropriate security framework and infrastructure for the electronic signature.
- To develop a new integrated architecture based on the definition of "poolable" functions.

e-Parliament manages the changes by considering each parliamentary text production chain. A text production chain is a set of processes, actors and tools aiming at producing a collection of texts. The "pilot text production chain" of the current phase is the adaptation of the parliamentary amendment production chain including Reports, Opinions, Adopted texts and Consolidated texts production for different types of procedures.

In this context, AT4AM has been successfully introduced at the beginning of 2010. This application is the eParliament specific business component covering the authoring of amendments on parliamentary texts (for legislative and non-legislative procedures) and the production of amendments lists for downstream services. It has become a working tool daily used by Members and hundreds of civil servants supporting the parliamentary drafting activities. At present, more than 190,000 amendments were created with AT4AM. The keys of the success of the tool reside on the rapidity to draft amendments due to its ease of use.

DST has been successfully introduced in May 2012. This application is the eParliament reusable business component covering the verification of parliamentary texts produced by authoring tools aligned to the e-Parliament architecture. It currently allows the extension of the XML chain to the linguistic and legislative verification of the amendments.

DG ITEC is currently working on the digital signature of the amendments and the extension of the XML chain (Akoma Ntoso format) to the translation of the amendments and to the production of amendments list, with the delivery of new components:

- CAT4TRAD is the e-Parliament reusable business component covering the translation of parliamentary texts (for legislative and non-legislative procedures) produced by authoring tools aligned to the e-Parliament architecture.
- DM-XML is the e-Parliament technical supporting service providing a unique services layer for XML text handling to the applications compliant to the e-Parliament architecture.
- PURE-XML is the eParliament technical supporting service providing a unique content repository to the applications compliant to the eParliament architecture.

Following the considerable success of AT4AM and an increasing demand to share the experience made, DG ITEC has decided to run a project aimed at providing an open source version of AT4AM. This version, foreseen for 2013, will allow amending content submitted in Akoma Ntoso and obtaining amendments in the same format.

Mr. Rainer Wieland, Member of European Parliament and Vice-President for Informatics and Telecom, officially announced the decision of providing the open source version of AT4AM at the International Workshop “Identifying benefits deriving from the adoption of XML-based chains for drafting legislation” that took place in Brussels on 3 and 4 May 2012.

The European Parliament will work jointly with the United Nations Department of Economic and Social Affairs (UN/DESA) and the Akoma Ntoso authors to deliver a set of open source tools to treat content in XML Akoma Ntoso.

The open source version of AT4AM will be delivered by the European Parliament as a tool to be used as it is, without any further customisation. Parliaments which are interested in using all or part of AT4AM, will have, if they need, to customize the services to fit their IT architecture. The European Parliament will not provide end user support except user and architecture guides.

With this ambitious program, the European Parliament is undertaking an important step towards the modernisation of ICT in support of its legislative production chain. DG ITEC believes that moving to an XML-based chain is the right strategy to boost the processes around the treatment of the legislative content.

Directorate General for Innovation and Technological Support (DG ITEC) of the European Parliament. Contribution to the World e-Parliament Report 2012

To support parliaments of Latin America and the Caribbean to advance in the adoption of open document standards, on 4, 5 and 6 June 2012 the Inter-American Development Bank (IDB), in collaboration with the Chamber of Deputies of Brazil and the Global Centre for ICT in Parliament, organized the regional workshop *Connected Parliaments - Introduction to Legislative XML*. The workshop was conducted within the framework of the RIPALC network¹⁸. The event, held at the Chamber of Deputies of Brazil, convened the heads of IT departments of parliamentary assemblies of the 26 IDB borrowing countries. The meeting was structured as a training session with presentations delivered by academic experts and staff of parliaments using XML in the Latin American and Caribbean region. The goal was to provide participants with the knowledge and tools for using open documents standards for legislative acts. Examples given during the training were based on the Akoma Ntoso schema, increasingly used by legislatures in Latin America as a reference for the implementation of XML¹⁹.

Based on the results and the discussions held at these international events, it is clear that there is significant value in continuing the dialogue among parliaments about the development and adoption of open document standards at the global level, with the goal of providing a framework for, and visibility to, the various initiatives being undertaken around the world. This dialogue, however, should be helpful both to parliaments that have implemented XML or are about to do so, and those that have limited knowledge of, and skills in, this subject, and that should be encouraged to consider XML for greater efficiency and openness. The dialogue should also take into consideration the perspectives of civil society organizations, which increasingly seek to acquire and present parliamentary information online, and the academic community.

Finally, as many technically advanced parliaments that have successfully implemented open standards like XML often show a willingness to share their experiences and lessons learned, this could translate into concrete technical assistance activities through well-coordinated international cooperation frameworks.

¹⁸ See Chapter 10.

¹⁹ The presentations and information about the event are available at www.ripalc.org and <http://www.ictparliament.org/node/4773>