Openness to Standard Document Formats in Swedish Public Sector Organisations

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Abstract. There is a strong movement in Europe to promote products that support open, well-documented standards. Directives and proposals at European and national levels have been developed in this area. There is in particular an increasing recognition of the need for governmental organisations to support and promote standard document formats. This vision can stand in stark contrast with the reality of those document formats which can currently be accepted and produced by those organisations. In this paper we address the question: to what extent can and do Swedish governmental organisations respond appropriately when presented with a document in a format that conforms to an open standard? We find that a small minority of organisations can actually do so, whereas all are willing and able to accept documents in a proprietary format. The study also highlights a lack of transparency in organisations regarding formats which should be accepted and used for communication with the general public.

1 Introduction

"No citizen or company should be forced or encouraged to use a particular company's technology to access government information."

So said Neelie Kroes, the European Commissioner for Competition Policy, in a speech to Open Forum Europe in Brussels (Kroes 2008). There was an important precondition to this statement, namely: "when open alternatives are available".

Many articles have been written about the problem of legacy data, i.e. data for which the originating software or hardware is no longer available. Such data is at best difficult and costly to recover, and at worst no longer accessible. In the words of Gordon Frazer, managing director of Microsoft UK:

"Unless more work is done to ensure legacy file formats can be read and edited in the future, we face a digital dark hole." (BBC 2007)

However, Kroes' point is stronger. Even before technologies become obsolete, there is a problem of reduced competition and, more importantly, lack of inclusivity if organisations insist on using proprietary formats for communication.

The primary purpose of standard document formats is to make documents independent of the systems which generated them. This is of paramount importance for any organisation wishing to promote open access.

In fact, standardisation is not enough: standards themselves must be non-proprietary. The idea behind standards is that they can be and are implemented by

many tools, and are not distorted by the interests of one (or a small group) of manufacturers. In the worst case, a specific tool must be purchased and maintained in order to access an organisation's data. One advantage of open document formats is that they act as enablers of fair competition in the marketplace, encouraging the development of tools which can compete because of the ability to interchange documents. For this reason, many standards bodies express a preference for non-proprietary, or "open" standards. There is in particular a growing awareness of the need for the use of open standards in governmental organisations.

In her speech, Kroes went on to announce that: "for all future IT developments and procurement procedures, the Commission shall promote the use of products that support open, well-documented standards."

The need is pressing in the case of open standards for document formats, not just for information access but also for maintaining the archives of data received and generated by governmental organisations. Foremost amongst the open standards proposed in this area is that of the Open Document Format (ODF). ODF was developed by the Organisation for the Advancement of Structured Information Standards (OASIS). In May 2006 it was also accepted as an ISO/IEC standard (26300:2006) (ISO 2006). According to OASIS, ODF is "an open XML-based document file format for office applications to be used for documents containing text, spreadsheets, charts, and graphical elements." (OASIS 2008)

The Netherlands is one European country leading the way in this area. An action plan published by the Ministry of Economic Affairs (Open Connection 2007; EU 2008a) accepts the European definition of Open Standards. A government list has been compiled of those standards which meet the definition; this list contains ODF (Forum Standaardisatie 2008). The plan itself states that:

> "the ODF open standard will be implemented step-by-step for reading, writing, exchange, publication and receipt of documents (to be supported by all ministries and subsidiary government bodies at the latest by January 2009) on the way to large scale use of 'open document formats' for governmental applications." (Open Connection 2007, p. 9)

It has been implemented already in the Netherlands Patent Office (Netherlands 2008; EU 2008b). In June 2008, ODF was adopted by SIS as a Swedish standard (SIS 2008). This standard was published by SIS on September 6th 2008.

2 Open Standards and the Swedish Public Sector

In its 2004 IT bill (2004/05:175), the Swedish government declared that the use of open standards should be promoted (Regeringen 2005a; Regeringen 2005b; EU 2005). In particular, the following statement appears:

> "The use of Open Standards and Open Source Software should be supported and developments in the area of Open Source Software and Open Standards should be continuously monitored." (Regeringen 2005a, authors' translation)

In 2006, the government set up the IT Standards Inquiry with a remit to submit proposals on ways of improving the coordination of IT standardisation in Sweden – not least in response to a number of European initiatives in this area (SOU 2007). In its findings, the inquiry states:

> "Provisions governing the invoking of standards … are set out in the current Public Procurement Act. Despite this, proprietary software applications predominate in public procurement. Given the existence of effectively functioning open standards in a range of areas, efforts should be made to apply these in public procurement." (SOU 2007, p. 31)

Among its recommendations, the inquiry proposes that Sweden should "actively seek" to promote direct reference to standards developed by, amongst others, OASIS – including ODF.

The inquiry also cited Belgium, Denmark and Norway amongst other countries which already had guidelines on the use of an ISO approved open document format for documents used in public administration, and identified PDF and ODF as amongst the few applicable formats. In its view:

> "public authorities should be able to receive all types of documents that normally occur in the market, are widely used by the general public and have been designed in accordance with … open standards" (p. 32)

In the light of this, we felt it relevant, one year on from the publication of the inquiry's findings, to establish the level to which these findings have penetrated those governmental organisations in Sweden covered within its remit.

3   Research Approach

The research question addressed through this study was the following. To what extent do Swedish governmental organisations support communication using documents which conform to an open standard? In particular, given recent European and Swedish initiatives regarding open document standards, this paper addresses the specific question: to what extent can Swedish governmental organisations respond when presented with a document in ODF? The work is part of a wider study of document formats used in Swedish organisations, both for communication (external and internal) and archiving.

This question is made easier to answer in Sweden, which has a very strict policy on governmental responses to questions: all questions must be responded to. We therefore emailed a questionnaire to all local authorities, all health regions, and all government organisations responding to SOU (2007). The email was sent (first half of June 2008) to the official email address for each. It requested answers to a questionnaire contained in an attachment, a document in ODF format. It is important to the research that the attachment was a form to be filled in, so sending it in a read only format (such as PDF/A) would have been inappropriate.

The document contained three questions about the document formats supported within the organisation. The first asked about the ability to receive documents in

various formats, namely: a proprietary MS Word format (hereafter referred to as DOC), ODF (ISO/IEC 26300:2006), PDF/A (ISO 19005-1:2005), and OOXML (ISO/IEC DIS 29500), and whether each format was used internally within the organisation. The second asked about preferred formats for: documents received by the organisation; working documents within the organisation; and documents to be made available on the organisation's website. The third asked for any existing policy documents from the organisation regarding supported document formats. Any additional comments were then invited.

A series of follow-up emails had been prepared. If an organisation did not respond within approximately one week, then a reminder email was sent. If an organisation responded that they could not open the questionnaire, then it was provided in both PDF and DOC formats.

Responses to each email were recorded, together with dates, times and who responded. The latter could be significant because some organisations delegated the task of opening the original document to, for example, their IT department. Of equal interest was the format of the response, particularly amongst those claiming to support ODF.

The study resulted in both quantitative and qualitative data. Quantitative data was analysed to give an indication of the extent to which ODF could be handled by Swedish governmental organisations, including whether responses were made in an appropriate format given the request. Textual responses were analysed qualitatively, to give some indication of awareness of and attitudes towards the use of open standards.

4   Quantitative Analysis

In this section we report on a quantitative analysis of the responses from the 290 local authorities. Few responses were received from the 21 health regions and governmental associations responding to SOU (2007).

Of the 290 local authorities contacted, 70 (24%) responded to the original questionnaire (in the ODF attachment); 166 (57%) responded after requesting the attachment in a different format; 10 (3%) gave an informal, partial response; 8 (3%) explicitly declined to respond; and 36 (12%) had still not responded after three months, in spite of further reminders. It is striking that 70% of the 236 responding to the questions acknowledged, by requesting the attachment in a different format, that they were unable or unwilling to process an ODF file.

Perhaps more striking is the fact that 60% of respondents chose to respond in a proprietary format (DOC) to a questionnaire asking about open formats and originally presented to them in an open format. There were three major document formats used in responses: ODF, PDF[1] and DOC. Others used included HTML (6 responses), RTF (3) and DOCX (2). Percentages for the first three are given in table 1. Additionally, we add response rates within three weeks of sending out the questionnaire (the expected response time), as a proportion of those received in each of these formats.

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[1] Amongst the organisations responding in PDF all (with one exception) responded in a non-open version of PDF. We consider an analysis of practices related to the use of open and proprietary versions of PDF to be beyond the scope of this paper.

Table 1. Responses by document format

Format of response	Proportion of all responses in these formats	of which proportion returned within 3 weeks
ODF	16%	20%
PDF	13%	93%
DOC	71%	8%

It is worth highlighting that 93% of those organisations responding in PDF did so within three weeks. PDF(/A) is the most appropriate response format in this case. It is an open format, and the response is only intended for reading, not further editing. It could therefore be argued that organisations with effective internal procedures should use it as the response format of choice.

In table 2 we show the responses as a proportion of organisations responding against given input formats.

Table 2. Responses against document format read

	Responded in format ...		
	PDF	ODF	DOC
Responded to ODF	3%	15%	10%
Requested a different format	10%	1%	61%

One would reasonably expect an organisation with best practice regarding document formats for correspondence to respond to the document when received in ODF, and to do so in PDF. In fact only 3% of respondents did this. Rather more (10%) responded in PDF after requesting the document again in a different format. A significant majority both required the document in a different format and responded in DOC format.

As a first indication of the formats used internally within organisations, we looked at the way in which the PDF responses were generated. Results were in the same proportion as those in table 1, with PDF generated from MS Word in 58% of cases and from Open Office in 14% of cases (in the remaining cases PDF was generated by scanning, the questionnaire having been printed and filled in by hand). This suggests that the decision to respond in PDF was taken independently of the technology used to respond.

We then analysed the preferred formats explicitly noted by the different organisations for receiving documents. Many listed several formats. Results are presented in table 3. Values represent the proportion of local authorities listing the format as a preferred one.

In all, 35% of local authorities listed no open formats as preferred for receiving documents; 4% listed only open formats; and 85% listed at least one of Microsoft's proprietary formats.

Table 3. Preferred document formats

Format	Preferred format (receipt)
ODF	6%
PDF	68%
DOC	84%
DOCX	13%
RTF	6%
HTML	3%
other	4%

Only 12 local authorities (4% of respondents) claimed to have a policy or strategy regarding document formats, and of these 7 attached a document as requested. Four local authorities stated that their policy was to use MS Office throughout the organisation. One of these was clearly well aware of the issues related to open document formats, but felt obliged to await support for ODF within the Office suite. Three further "strategy documents" were not relevant to open document formats, but related more to the writing of documents or how documents should be stored.

Of the 21 health regions, only 9 responded – all in DOC format. Only one of these did not request the file in another format.

5   Qualitative Analysis

As the response to the request for policy or strategy documents was so poor, it is not possible to extrapolate from the results in this area. The fact that the response was so poor does, however, strongly indicate that there has been little activity in this area triggered by recent government statements and reports.

Only one local authority described a strategy involving an Open Source solution: in this case a move to Open Office from Autumn 2008. However, a second has as a policy recommendation: "to adopt as a main standard Open Office, and as a partial standard MS Office 2003"

The latter is in recognition of certain functions which are currently strongly locked in to the MS Office suite. This policy recommendation is partly based on a detailed investigation in which it is recommended that

"file formats should be neutral with respect to competition, and possible to recreate in the future with new software".

Some authorities rely on their IT sections to formulate policies related to documents. In one case the relevant document for the IT section was therefore supplied. In it is the objective "to strive to make the local authority more efficient through improved service and openness."

Another authority's policy relates more to the archiving of documents. In particular:

"Methods for accessing stored information shall be developed in a way which supports accessibility, openness and transparency… For electronic documents strive for standard formats. Examples of standard formats are XML, PDF/A and ODF for office documents."

These are amongst the very few which put forwards any coherent policy or strategy in the area of open standards. Amongst those admitting a lack of strategies, one plea stands out:

> "Guidance from central government would have been appreciated."

There was, in fact, a significant lack of understanding shown about open document formats. Several respondents confused products with formats, for example requesting documents in "Office XP" or even "Microsoft" format. Also, although there is awareness amongst a small minority that OOXML is not yet supported, on the whole there was considerable confusion about its status. Most who mentioned it clearly assumed it was synonymous with DOCX, and were happy to claim OOXML as a standard format supported by their authority.

One prominent point of view expressed was that a local authority should react to demand and de facto standards in supporting specific formats – namely, that the behaviour of the majority should dictate policy. Such a reactive view of policy making does not hold out hope for rapid change.

Attitudes to receiving an ODF attachment also varied. The majority of respondents accepted that it was reasonable for an enquirer to send an ODF document, and were apologetic if they could not open it. However, there was tension evident in some respondents when confronted by what was to them an unfamiliar document format. In one case, that of an authority which listed only DOC format as its preferred format for external and internal communication, this came out as follows:

> "it is surprising that you use a document format that is not standard in Swedish companies and public authorities. To use a "rare format" will undoubtedly reduce the response rate which, from the respondents' perspective can be interpreted as an unprofessional investigation."

and in another, less hostilely:

> "It would have been appropriate to send out the survey in RTF format so that all could have read it without having to download Open Office."

Only in one case did we receive an explicit reason for why a response was not considered necessary, namely

> "Today there are no legal requirements on a local authority to be able to receive electronic attachments, and therefore no requirements on specific formats."

However, we were directed to a website on which was published the formats for communication accepted by the authority. The full list is: ".doc, .txt, .pdf, .xls".

It should be noted that such interpretations amongst local authorities are not in line with the view expressed by the Swedish Association of Local Authorities and Health Regions which recommends that citizens should be allowed to communicate with members using the established open standards ODF and PDF/A. The recommendation from SALAR states:

> "In order to ease communication with citizens concerning attached files it is our assessment that it is reasonable that local authorities and health regions can receive document formats that conform to recognised standards that ISO (ODF

and PDF/A) and others have established which are established or recommended by responsible public authorities." (SALAR 2008)

In a number of cases, there were local champions of Open Source and Open Standards who felt they were currently "behind enemy lines" (as put by one person) or in another case "the system is resistant to pressure and in many cases I work against the wind, for example against our IT technicians."

One respondent related how the authority had worked with Open Source for many years, and adopted an Open Source document suite. However, this decision was later reversed in favour of a proprietary solution, under strong pressure from senior management.

None of the health regions and governmental organisations listed as respondents to SOU (2007) claimed to have a policy or strategy regarding document formats (and so none of these provided a document on policy or strategy regarding document formats as requested). However, one health region reported that they recommend "MS Office" and another that their standard is "MS Office XP". A third reported that although they have no policy, they do have guidelines for which formats can be used. Similarly, several of the governmental organisations commented on technologies used and some mentioned different proprietary products actually used. One also attached a document from a pilot study concerning storage formats and conversion to PDF/A. However, the report is from 2005 and ODF is not mentioned.

One further factor was strongly evident in the responses from those organisations listed as respondents to SOU (2007). There were many instances of organisations giving strong support for the findings, but which in their response to the questionnaire suggested rather different practice. As an example, one public body explicitly supported open standards, citing OASIS. Their response to the first question in the questionnaire was that their organisation could accept documents in ODF (ISO/IEC 26300:2006) and OOXML (ISO/IEC DIS 29500) and to the second that they do accept and interpret all incoming formats. However, before responding they requested a Word document having failed to be able to open the original attachment.

6 Conclusions

The public sector in Sweden is clearly still far from Neelie Kroes' vision of openness in which citizens are not forced or encouraged to use any specific proprietary technology. As reported in many Open Source situations, however, there is evidence of a bottom-up interest in Open Standards which has not yet had a widespread impact on policy or practice. However, resistance is evident both from senior management and from IT support services, and as far as document processing is concerned the sector is still overwhelmingly dominated by proprietary products and formats.

There is a surprising and worrying lack of policies and strategies available from Swedish local authorities, health regions and governmental organisations, suggesting that policy making is not transparent and practise is left to the influences of managers and technicians. For a public sector facing increasing demands for openness, and in a climate in which EU and national governments are increasingly calling for action, this is not a sustainable position.

There is also an evident gap between what public organisations have stated publicly, for example in response to SOU (2007), and what those same organisations do in practice.

The result of such a lack of planning and consistency is clear. The fact is that currently only a small minority of Sweden's local authorities present an open and professional face to the general public in the critical area of communication. The majority are still locked in to proprietary formats and technologies, and many still believe that the onus is on the public to comply with their preferences, or "de-facto standards", rather than taking the initiative themselves in promoting open standards.

Finally, the following response from an interviewee is striking as an indicator of the general tone of responses to this survey:

> "Hi, I am happy to respond to the questions but unfortunately cannot open the document. Can you re-send it in Word format please? Not easy to research in this subject…can someone come up with a standard soon? Kind regards."

References

BBC, Warning of data ticking time bomb, BBC News (July 3, 2007), `http://news.bbc.co.uk/go/pr/fr/-/2/hi/technology/6265976.stm` (accessed 2008-11-15)

EU, From an IT policy for society to a policy for the information society, European Commission (June 30, 2005), `http://www.epractice.eu/resource/209` (accessed 2008-11-15)

EU, Dutch Senate supports Open Source and Standards Action Plan, European Commission (January 10, 2008a), `http://www.epractice.eu/document/4288` (accessed 2008-11-15)

EU, The Netherlands Patent Office goes open source, European Commission (September 26, 2008b), `http://www.epractice.eu/document/5055` (accessed 2008-11-15)

Forum Standaardisatie, Lijst open standarden, Forum Standaardisatie (September 30, 2008), `http://www.forumstandaardisatie.nl/fileadmin/OVOS/Basislijst _OS1_.pdf` (accessed 2008-11-15)

ISO, ISO and IEC approve OpenDocument OASIS standard for data interoperability of office applications, ISO: International Organization for Standardisation, Press Release: Ref. 1004 (May 8, 2006), `http://www.iso.org/iso/pressrelease?refid=Ref1004`

Kroes, N.: Being Open About Standards, OpenForum Europe - Breakfast seminar, Brussels, SPEECH/08/317, European Commissioner for Competition Policy, June 10 (2008), `http://europa.eu/rapid/pressReleasesAction.do?reference=SPEE CH/08/317&format=HTML&aged=0&language=EN&guiLanguage=en` (accessed 2008-11-15)

Netherlands, News: The Netherlands Patent Office, September 24 (2008), `http://en.octrooicentrum.nl/index.php?option=com_content&vie w=article&id=178` (accessed 2008-11-15)

OASIS, OASIS: Open Document Format for Office Applications (OpenDocument) TC (2008), `http://www.oasis-open.org/committees/tc_home.php?wg_abbrev= office` (accessed 2008-11-15)

Open Connection, The Netherlands in Open Connection: An action plan for the use of Open Standards and Open Source Software in the public and semi-public sector, Ministry of Economic Affairs, The Hague (November 2007), `http://appz.ez.nl/publicaties/pdfs/07ET15.pdf`

Regeringen, Regeringens proposition 2004/05:175 – Från IT-politik för samhället till politik för IT-samhället, Prop. 2004/05:175, Stockholm (June 30, 2005a),
    `http://www.regeringen.se/sb/d/108/a/47411` (in Swedish)
Regeringen, From an IT policy for society to a policy for the information society: Summary of the Swedish Government Bill 2004/05:175, Ministry of Industry, Employment and Communications, Sweden (2005b), `http://www.epractice.eu/resource/208` (accessed 2008-11-15)
SALAR, Lagrummet: Hantering av bifogade filer, Swedish Association of Local Authorities and Health Regions (January 11),
    `http://www.skl.se/artikel.asp?A=50260&C=6621` (in Swedish)
SIS, Information technology – Open Document Format for Office Applications (OpenDocument) v1.0 (ISO/IEC 26300:2006, IDT), Svensk Standard, SS-ISO/IEC 26300:2008, SIS: Swedish Standards Institute, SIS Förlag AB, Stockholm (2008),
    `http://www.sis.se/DesktopDefault.aspx?tabName=@DocType_1&Doc_ID=66727`
SOU, Den osynliga infrastrukturen – om förbättrad samordning av offentlig IT-standardisering, Statens Offentliga Utredningar: SOU 2007:47, Näringsdepartementet, Regeringskansliet (June 20, 2007), `http://www.regeringen.se/content/1/c6/08/45/58/fd029160.pdf`