Information Society
Technologies

erpastudies

amnesty international

www.erpanet.org

ELECTRONIC **R**ESOURCE **P**RESERVATION AND **A**CCESS **N**ETWORK

Table of Contents

Executive Summary

Amnesty International (AI) is an international non-governmental organisation that promotes human rights. AI's research and information products are of enormous value since they raise awareness and provide analysis on an individual, local, or even a national level. Its information has a long shelf-life through the long-term trends it uncovers and the comparisons it allows. Furthermore, active research may take decades, and also some of the more sensitive reports may remain classified for up to seventy-five years, longer than AI has been in existence. It is the confidential and private nature of much of its information that makes information security so incredibly important. Another key requirement for AI's global information network is to cater for a heterogeneous technology environment that allows equal access for staff in information-poor areas.

AI distinguishes between two main information resources: index documents, which are official AI reports and AI's prime output; and internal information to support AI's research. Procedures have largely been translated from a paper environment when AI moved into digital processes in the early 1990s, and paper and microfilm surrogates remain the main pillars for AI's long-term preservation. Digital versions of index reports are stored in AI's groupware system in three different formats including PDF. However, AI lacks a policy for active forward migration or other activities necessary for long-term digital preservation. Unlike index documents, internal information is not embedded in preservation activities. Internal information is created and managed by individual staff without any guidelines, and its overall amount and nature is unknown. While internal information has not been actively preserved in a paper environment either, it appears the risk assessment of internal information remains to be updated now that most of it is available in digital form. Interviewees consider some of the internal information business critical, and the knowledge it hides may bear new opportunities. Knowledge management and digital preservation need to be addressed in the ongoing acquisition of a new information infrastructure for AI. AI's planning for its new systems is still in its initial stages and the possible digital preservation functionality it may cater for was not covered in this case study. However, the scale and complexity of this move for AI call for circumspect planning by the experts entrusted with this task.

Chapter 1: The ERPANET Project

The European Commission and Swiss Confederation funded ERPANET Project[1] (Electronic Resource Preservation and Access Network) works to enhance the preservation of cultural and scientific digital objects through raising awareness, providing access to experience, sharing policies and strategies, and improving practices. To achieve these goals ERPANET is building an active community of members and actors, bringing together memory organisations (museums, libraries and archives), ICT and software industry, research institutions, government organisations, entertainment and creative industries, and commercial sectors. ERPANET constructs authoritative information resources on state-of-the-art developments in digital preservation, promotes training, and provides advice and tools.

ERPANET consists of four partners and is directed by a management committee, namely Seamus Ross (HATII, University of Glasgow; principal director), Niklaus Bütikofer (Schweizerisches Bundesarchiv), Hans Hofman (Nationaal Archief/National Archives of the Netherlands), and Maria Guercio (ISTBAL, University of Urbino). At each of these nodes a content editor supports their work, and Peter McKinney serves as a co-coordinator to the project. An Advisory Committee with experts from various organisations, institutions, and companies from all over Europe give advice and support to ERPANET.

---

[1] ERPANET is a European Commission funded project (IST-2001-32706). See Hwww.erpanet.orgH for more details and available products.

Chapter 2: Scope of the Case Studies

While theoretical discussions on best practice call for urgent action to ensure the survival of digital information, it is organisations and institutions that are leading the drive to establish effective digital preservation strategies. In order to understand the processes these organisations are undertaking, ERPANET is conducting a series of case studies in the area of digital preservation. In total, sixty case studies, each of varying size, will investigate awareness, strategies, and technologies used in an array of organisations. The resulting corpus should make a substantial contribution to our knowledge of practice in digital preservation, and form the foundation for theory building and the development of methodological tools. The value of these case studies will come not only from the breadth of companies and institutions included, but also through the depth at which they will explore the issues.

ERPANET is deliberately and systematically approaching disparate companies and institutions from industry and business to facilitate discussion in areas that have traditionally been unconnected. With these case studies ERPANET will broaden the scope and understanding of digital preservation through research and discussion. The case studies will be published to improve the approaches and solutions being developed and to reduce the redundancy of effort. The interviews are identifying current practice not only in-depth within specific sectors, but also cross-sectorally: what can the publishing sector learn from the aeronautical sector? Eventually we aim to use this comparative data to produce intra-sectoral overviews.

This cross-sectoral fertilisation is a main focus of ERPANET as laid out in its Digital Preservation Charter.[2] It is of primary importance that disparate groups are given a mechanism through which to come together as best practices for digital preservation are established in each sector.

Aims

The principal aims of the study are to:

- build a picture of methods and match against context to produce best practices;
- accumulate and make accessible information about practices;
- identify issues for further research;
- enable cross-sectoral practice comparisons;
- enable the development of assessment tools;
- create material for training seminars and workshops; and,
- develop contacts.

Potential sectors have been selected to represent a wide scope of information production and digital preservation activity. Each sector may present a unique perspective on digital preservation. Organisational and sectoral requirements, awareness of digital preservation, resources available, and the nature of the digital

---

[2] The Charter is ERPANET's statement on the principles of digital preservation. It has been drafted in order to achieve a concerted and co-ordinated effort in the area of digital preservation by all organisations and individuals that have an interest and share these concerns. Hhttp://www.erpanet.org/charter.phpH.

object created place unique and specific demands on organisations. Each of the case studies is being balanced to ensure a range of institutional types, sizes, and locations.

The main areas of investigation included:

- perception and awareness of risk associated with information loss;
- understanding how digital preservation affects the organisation;
- identifying what actions have been taken to prevent data loss;
- the process of monitoring actions; and,
- mechanisms for determining future requirements.

Within each section, the questions were designed to bring organisational perceptions and practices into focus. Questions were aimed at understanding impressions held on digital preservation and the impact that it has had on the respective organisation, exploring the awareness in the sector of the issues and the importance that it was accorded, and how it affected organisational thinking. The participants were asked to describe, what in their views, were the main problems associated with digital preservation and what value information actually had in the sector. Through this the reasons for preserving information as well as the risks associated with not preserving it became clear.

The core of the questionnaire focused on the actions taken at corporate level and sectoral levels in order to uncover policies, strategies, and standards currently employed to tackle digital preservation concerns, including selection, preservation techniques, storage, access, and costs. Questions allowed participants to explore the future commitment from their organisation and sector to digital preservation activities, and where possible to relate their existing or planned activities to those being conducted in other organisations with which they might be familiar.

Three people within each organisation are targeted for each study. In reality this proved to be problematic. Even when organisations are identified and interviews timetabled, targets often withdrew just before we began the interview process. Some withdrew after seeing the data collection instrument, due in part to the time/effort involved, and others (we suspect) dropped out because they realised that the expertise was not available within their organisation to answer the questions. The perception of risks that might arise through contributing to these studies worried some organisations, particularly those from sectors where competitive advantage is imperative, or liability and litigation issues especially worrying. Non-disclosure agreements that stipulated that we would neither name an organisation nor disclose any information that would enable readers to identify them were used to reduce risks associated with contributing to this study. In some cases the risk was still deemed too great and organisations withdrew.

Chapter 3: Method of Working

Initial desk-based sectoral analysis provides ERPANET researchers with essential background knowledge. They then conduct the primary research by interview. In developing the interview instrument, the project directors and editors reviewed other projects that had used interviews to accumulate evidence on issues related to digital preservation. Among these the methodologies used in the Pittsburgh Project and InterPARES I for target selection and data collection were given special attention. The Pittsburgh approach was considered too narrow a focus and provided insufficient breadth to enable full sectoral comparisons. On the other hand, the InterPARES I data collection methodology proved much too detailed and lengthy, which we felt might become an obstacle at the point of interpretation of the data. Moreover, it focused closely on recordkeeping systems within organisations.

The ERPANET interview instrument takes account of the strengths and weaknesses from both, developing a more focused questionnaire designed to be targeted at a range of strategic points in the organisations under examination. The instrument[3] was created to explore three main areas of enquiry within an organisation: awareness of digital preservation and the issues surrounding it; digital preservation strategies (both in planning and in practice); and future requirements within the organisation for this field. Within these three themes, distinct layers of questions elicit a detailed discovery of the state of the entire digital preservation process within participants' institutions. Drawing on the experience that the partners of ERPANET have in this method of research, another important detail has been introduced. Within organisations, three categories of employee were identified for interview: an Information Systems or Technology Manager, Business Manager, and Archivist / Records Manager. In practice, this usually involved two members of staff with knowledge of the organisation's digital preservation activities, and a high level manager who provided an overview of business and organisational issues. This methodology has allowed us to discover the extent of knowledge and practice in organisations, to understand the roles of responsibility and problem ownership, and to appreciate where the drive towards digital preservation is initiated within organisations.

The task of selecting the sectors for the case studies and of identifying the respective companies to be studied is incumbent upon the management board. They compiled a first list of sectors at the very beginning of the project. But sector and company selection is an ongoing process, and the list is regularly updated and complemented. The Directors are assisted in this task by an advisory committee.[4]

---

[3] See Hhttp://www.erpanet.org/studies/index.phpH. We have posted the questionnaire to encourage comment and in the hope that other groups conducting similar research can use the ideas contained within it to foster comparability between different studies.
[4] See Hwww.erpanet.orgH for the composition of this committee.

Chapter 4: Amnesty International

Amnesty International (AI) is an international non-governmental organisation that promotes human rights by undertaking research and action. To this end AI visits human rights victims; assists asylum-seekers; reports on human rights issues; works with local initiatives; and organises human rights education and awareness-raising programs.

AI was founded in 1961 and today has more than one million members and donors. It consists of more than 7,800 local, youth, specialist and professional groups in over hundred countries and territories. There are nationally organised sections in fifty-eight countries, and pre-section coordinating structures in another twenty-two countries and territories worldwide. AI is a democratic movement, self-governed by a nine-member International Executive Committee (IEC). The IEC is elected by the International Council with representatives from all sections world-wide.

The work of AI groups yields a variety of information products. AI has supported their work with digital office documents from the beginning of the 1990s. The AI information infrastructure builds on the groupware Lotus Notes[5] that is implemented in more than twenty-five countries. Basically the information created by AI working groups can be classified in two types of documents: official AI products, and supportive information. They are handled differently on a technology as well as a policy level. Official products are published reports called index documents, as they are assigned a unique index number, and managed with circumspect by the Archives and Documentation Department at the AI headquarters in London. Index documents are the products of AI working groups and may be, for example, comprehensive reports of violations of human rights. 8,000 index documents were created in 2003 only and are translated into Arabic, French, Spanish, and possibly other languages including Russian or Greek if necessary.

The other class of information is AI internal information that supports research and everyday work. Unlike index documents this supportive information has no standardised document format and may be in a range of different data types including office documents, databases, or electronic correspondence via email. This information is managed in a decentralised manner as part of the workspaces of individual AI staff or working groups. Since it contains the raw data of research and reflects the process that leads to the findings in the index documents, this data is a core component of AI's information base and far from being ephemeral.

The highest security requirements apply to all AI information, and AI internal documents are to a large extent confidential.

In addition, the audio-visual archive is an important component of AI's memory. It holds, for example, photographs of theatres of war and human rights victims. This facility is a physical archive, but was embarked in going digital at the moment this case study was conducted. However, this case study will not focus on AI multimedia information, as their management and preservation is handled by separate departments and is partly outsourced. Rather, this case study discusses both index documents and AI internal information, and it will point out clearly which type of information is being addressed.

---

[5] For more information about the IBM Lotus Notes and Domino software see Hhttp://www.lotus.com/notesanddomino/H.

Chapter 5: Details and circumstances of the interviews

Interviews for this case study were conducted in May 2004 with staff from Archives and Documentation, information technology, as well as the campaigns department.[6]

When interviews were conducted AI was in the process of acquiring a new information management system. As the following will show, this system may have important implications on digital preservation related activities at AI. ERPANET did, however, not have the chance to talk to somebody involved in the planning process for this system to obtain first-hand information.

---

[6] ERPANET wants to thank all interviewees for their time, especially Nicole Drouilly for her organisational efforts that made this case study possible in the first place.

Chapter 6: Analysis

This section presents an analysis of the data collected during the case study. It is organised to mirror the sequence of topics in the questionnaire.

- Perception and Awareness of Digital Preservation

- Preservation Activity

- Compliance Monitoring

- Digital Preservation Costs

- Future Outlook

Perception and Awareness of Digital Preservation

Information plays a central role in AI's business. All levels of the organisation are concerned about information security, and the standardised procedures for handling index documents are ingrained across AI. There is also basic awareness of digital preservation related issues, yet it is only discussed as somewhat of a side topic. Senior management discusses information management focussing on the role of digital tools in the active work of AI groups on a local level and the new opportunities for electronic communication.

The main problems

AI has a decentralised structure of working groups that are dispersed around the globe. Some AI areas are deprived from modern equipment and detached from adequate communication lines including Internet connection. In addition to the obvious inconveniences this poses, AI groups are working with a range of different systems, and some current information management solutions are impossible to be implemented. This poses serious challenges in information management and information security that attract much of the organisation's attention.

Another core problem lies in the heterogeneous nature of AI's internal information. This is managed by individuals in an ad-hoc manner to support their work without central guidelines. After specific research has been conducted and a project is finished, it is largely up to the individual or the working group how they further handle the information, and mostly it is left behind in the respective virtual user or group spaces. The true amount and nature of internal information is unknown, and it is in immediate danger of being lost over time.

Asset value and risk exposure

AI's research may essentially save lives or may help avoid doomed efforts on a local or even a national level. Thereby, index documents are AI's primary output and they thus are of primary business value. They are of immediate value over very long periods of time. In fact, already research and the creation of the reports may in some special cases take decades to complete. Their impact is of course highest immediately after publication; but even after that initial high-time, their value hardly decreases. A series of index documents dealing with a specific geographical region may demark a trend over time. This knowledge emerging from a combination of index documents may be highly valuable for future AI research or for any other initiative. Knowledge transfer from one region to the other may bear important lessons in past experiences and serious mistakes may be avoided before they are committed.

While internal information lacks a comparable, immediate value, it is valuable in its own right. First of all, internal information may require preservation actions already during its active life, in case the corresponding research lasts long periods of time and the index reports based on the internal information remain to be written. Also, interviewees underlined that internal information contains the facts and underpinnings for index reports and is therefore essential to establish the truthfulness and accuracy of index reports. Internal information may be confidential or sensitive, and AI will only allow insight under certain provisions.

Regulatory Environment

AI is an international non-governmental organisation and as such it is not subject to national legislation that relates to UK government organisations, such as the Public Records Acts or Freedom of Information Acts. However, AI is subject to regulations including Company Law and the Data Protection Act. More significant than any legal pressure is that the long-term preservation of AI's index documents is of primary business importance. Also their activities with regard to information security are followed with utmost care and go beyond relevant legislation. After all, leakage of any confidential personal information or research data may seriously endanger their sources, or even jeopardise the peace process in a region.

Preservation Activity

Policies and Strategies

With the clear value of AI's information assets there is a policy to archive index documents. This policy has been issued before the organisation's move towards the use of digital tools, and a comprehensive revision of this policy to fit the new digital environment remains to be done. The organisation installed ample guidelines for creating and capturing index reports in paper form, which were transferred to the digital environment. Long-term preservation of index reports is ensured through printing and retaining paper and microfilm surrogates.

AI also has a basic commitment of preserving its digital information, and the ongoing acquisition of a new information management system[7] will cater for this in the future. The requirements for this new system are being discussed by a special task force that enjoys support from the International Council, AI's highest governing body. The acquisition process is still in its early stages, but digital preservation related requirements are planned to be addressed in this process as well. In the scope of this redesign of the AI information infrastructure, the current situation of AI's internal information may be reviewed and AI's archival policy may be updated accordingly. Up to now, interviewees have not been involved or informed about the progress of the ongoing information management revision and system.

Selection

The already outlined dichotomy of AI's information between index and internal information is most apparent in the selection procedures. Index documents are official AI reports in a word-processing form. They have their index numbers assigned very early and the Archives and Documentation department monitors their genesis and keeps track of them. Their creation follows clear procedures and templates, and AI staff are well trained on how to write AI index documents. Once the reports are finalised they are transferred to the Archives and Documentation department who ensure their

---

[7] As mentioned in chapter 5.

compliance to guidelines and accession them into the archive and for dissemination. About thirty index documents are processed by the Archives and Documentation department per day, a workload that can barely be sustained by the five staff of the department.

Where index documents are standardised and homogeneous, AI internal information can take various forms and is largely intractable. It includes all sorts of Office documents, both internal and external email correspondence, and plenty of small databases that may be in any format including Lotus Notes, Microsoft Access, or Paradox. There are no guidelines on the format or any other aspect of internal information, and with the lack of a central register an overview of the amount and the nature of all AI internal information spread in the various user spaces is also missing.

Preservation

The preservation of index documents is largely ensured by traditional means. The documents are printed, transferred to microfilm, and redundantly stored at AI's own storage as well as the International Institute of Social History in Amsterdam, the Netherlands.[8] This continues to be a viable way to archive index documents, as they are all in textual form. However, the digital versions are gradually gaining importance for access and dissemination purposes and they are therefore retained in AI's groupware environment. They are stored in multiple forms, namely the original text-processing version, which is mostly - though not always - in Microsoft Word format, a PDF, and also a Lotus Notes version, which is used for on-the-fly conversion to HTML. There is no policy for active forward migration of those three formats to future formats, which starts to pose problems in the case of old Word Perfect and other documents. The Archives and Documentation department creates in correspondence with the authors a number of descriptive metadata for index documents, including title, author, abstract, country of concern, and language of the document. To achieve this, Documentation staff sometimes need to contact the original working group and work out the adequate metadata together. Currently there are about 30,000 individual index documents available in digital form, which amounts to roughly 100,000 documents including the translations. This is a total of twelve gigabyte of data, which is held on a single server with backups being done on magnetic tapes regularly.

There is no such archival framework for AI internal documents. Due to their heterogeneous form, the procedures that apply to index documents cannot be transferred to internal documents. The digital objects are basically in peril of becoming inaccessible over time, if they have not already been disposed of by the individuals who created them in an effort to clean up their user space.

Access

Index documents are accessed frequently by AI staff as well as researchers and the general public via the website. Frequently documents from the 1970s and 80s are requested. Index documents may be subject to different levels of confidentiality that allow only restricted access for a period of ten, thirty, or seventy-five years. As underlined repeatedly, AI is very cautious with their confidentiality, and information security takes a prominent role in all their work. This applies to index documents and to internal information equally. All internal documents and the confidential index documents are on a separate server that is detached from Web access. A rights

---

[8] International Institute of Social History; Amsterdam, the Netherlands. Hhttp://www.iisg.nl/H. Inventory of the Archives of the Amnesty International, International Secretariat (1961-2002): Hhttp://www.iisg.nl/archives/html/a/10739035.htmlH.

management system ensures that only the entitled staff are able to access the respective information. Internal documents are kept by staff in their individual user spaces. They may share documents pertaining to a specific research in their virtual workgroup space. It is important that access to this information is straightforward and does not require any sophisticated systems. After all AI working groups are active all over the globe, and their equipment as well as Internet bandwidth to log into the AI system may be rather limited.

Compliance Monitoring

A very detailed approval system is in place for checking the index reports before they are published with regard to their compliance to creation guidelines covering the content and structure of the report. In absence of a preservation policy there are no mechanisms in place for monitoring or auditing preservation at this point of time.

Digital Preservation Costs

In the absence of digital preservation policies, there are no clearly identifiable costs that can be assigned to preservation. The target costs for the future information management system would give a good impression of the scale of investments done at AI, but this number was not available. It is probably still too early in the acquisition process to talk about costs anyway. Generally speaking the investment in computer hardware has always been reasonably good; conversely, investment in personnel throughout all three departments involved in this study is inadequate. However, interviewees are confident that any necessary preservation actions will receive appropriate funding if well reasoned and on a project basis. A reasonable cost/benefit trade-off has to be guaranteed. For example, small databases are currently proliferating, and it might prove too costly to migrate all of them, including those with limited value.

Future Outlook

As mentioned previously, AI embarked on acquiring a new information management system when this case study was being conducted. Core requirements for this new system include that it is secure and robust to be employed all over the world, and that it excels in the face of a heterogeneous technology environment. Digital preservation may be addressed in the course of the acquisition process, but is not a core issue. Another topic that may be addressed in this process is knowledge management. Interviewees feel that the internal information bears a wealth of deeper knowledge that currently lies fallow in the individual user spaces. Moreover, the transfer of knowledge and experience from one AI working group to another is somewhat neglected. Knowledge transfer is part of strategic planning to some degree, but is limited in practice on a local level, and AI's technological means are incapable of supporting it. Interviewees feel that systems that cater for knowledge management bear great opportunities for AI in the future. On a senior level, the so-called 'knowledge management forum' discusses AI's information management and also the acquisition of the new system. Therefore, knowledge management may be a prominent feature of AI's future systems. However, the acquisition process is still in its early stages. Interviewees are not aware of a timeline for the acquisition process, but they underlined that it is a large and complex move for AI.

Without a policy for active forward migration or another suitable preservation method, AI is starting to experience problems with its old documents. The most pressing

problem in this respect are index as well as internal documents written in Word Perfect[9] format. To ensure accessibility to those documents in the future, the IT department is planning to convert them to the current Microsoft Word format. While the resources regarding staff time as well as other possible costs remain to be officially granted, initial preparatory work for this project has already begun.

There are currently no plans to digitise index documents that date from AI's pre-digital era. Despite the frequent access to documents in AI's archives, digitisation is deemed too time-consuming and costly at this point of time. However, various departments are looking into other possibilities for improving accessibility of AI resources and for dissemination. The campaigns department, for example, is looking into non-traditional dissemination mechanisms such as email and SMS (Short Message Service) in order to reach an ever broader and more diverse audience. With new types of products that may include born-digital multimedia and web material, AI will also face new preservation challenges.

---

[9] Corel Corporation: Word Perfect. Hhttp://www.wordperfect.com/H.

Chapter 7: Conclusions

Amnesty International has information resources that are of enormous value and may essentially guide regional development and save lives. AI's reports are of primary interest just after their publication, but their value hardly fades over time. In view of these highly valuable sources, questions pertaining to their preservation have received insufficient attention up to now. This notwithstanding, the preservation of AI's reports is largely ensured. For the short term, the reports are stored in multiple digital formats thereby maximising the time span they can be accessed to the lifetime of the most durable of these formats. For the long term, traditional archival procedures continue to be employed, with paper and microfilm copies ensuring access into the far future.

However, the preservation of internal information faces risks. The amount and nature of the internal information is largely unknown, and a risk assessment of loss of internal information remains to be done. Interviewees are convinced that their value is substantial and that the knowledge hidden in them bears considerable opportunities that remain untapped.[10] Moreover, as some of AI's research may take decades to complete, AI's researchers may face preservation related problems while the information is still being actively used. All in all AI's archival policy may need to be reviewed in the light of the new digital environment and the preservation challenges it poses.

At best, an analysis of the existing internal information and how AI staff employs them could lead to an agreed classification system for internal information and best practices that support AI work and address preservation. The intractability of this task is obvious in the face of the decentralised structure of the organisation, the heterogeneous technology AI staff are equipped with, and the fact that AI information varies between different projects and working groups. It may however be possible to impose a structure on the portion of AI's internal information, which bears the highest risks when being lost. Furthermore, slight adaptations to the workflow may raise efficiency and save time investments for all parties involved. For example, it may be more efficient if authors of a new AI report created part of the necessary metadata themselves and the Documentation department only checked and supplemented this. After all, authors are most knowledgeable about their own reports.

All this remains to be analysed and discussed by the experts at AI. In fact, these and other issues surrounding information management, knowledge management, and digital preservation may be discussed as part of the planning for AI's future systems. With the further advancement of the planning process, AI staff may be involved to raise these and other issues, which will make system acquisition more transparent. At this point of time, the functional requirements for a future system yet remain unknown to ERPANET and to the interviewees. However, discussions in AI's senior management indicate awareness of the risks as well as opportunities of information management[11] and AI certainly is on the way towards installing a new system that best supports AI's active work and is future-proof in its design. Clearly the planning and acquisition of the new system touches on more than only technological issues and may require organisational and procedural adaptations. It is indeed a very complex move for AI that

---

[10] Patrick Ball et al. in their article "Information Technology, Information Management, and Human Rights", Human Rights Quarterly 19.4 (1997), pp 836-859 highlighted the challenges, but also the great opportunities of information management in human rights work

[11] For the purpose of this case study, insight was allowed into decisions taken at AI International Council meetings in 1989 and 1997 with regard to information management.

can only be achieved with the support of senior management as well as the involvement of AI staff.

Appendix: References

Amnesty International
    http://www.amnesty.org/

Organisations

HURIDOCS - Human Rights Information and Documentation Systems, International
    http://www.huridocs.org/

Information Management in Human Rights Organisations

Patrick Ball: Who Did What to Whom? Planning and Implementing a Large Scale
    Human Rights Data Project. *American Association for the Advancement of Science.*
    ISBN 0-87168-596-5. 1996.
    http://shr.aaas.org/www/cover.html

Patrick Ball, Audrey R. Chapman, Mark Girouard: Information Technology, Information
    Management, and Human Rights - A Response to Metzl. *Human Rights Quarterly*
    19.4 (1997), pp 836-859. AAAS Science and Human Rights Program; 1997.

CONTACT DETAILS

ERPANET Coordinator
George Service House
11 University Gardens,
University of Glasgow
Glasgow, G12 8QQ,
Scotland

Tel: +44 141 330 4568
Fax: +44 141 330 3788
Coordinator@erpanet.org

ERPANET STAFF

d i r e c t o r s
Seamus Ross, Principal Director
Niklaus Bütikofer, Co-Director
Mariella Guercio, Co-Director
Hans Hofman, Co-Director

c o o r d i n a t o r
Peter McKinney

e d i t o r s
Andreas Aschenbrenner
Georg Büchler
Joy Davidson
Prisca Giordani
Francesca Marini
Maureen Potter

www.erpanet.org

ELECTRONIC RESOURCE PRESERVATION AND ACCESS NETWORK