Digital Scholarly Publishing and Archiving Services by Academic Libraries: Case Study of the University of Patras

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Abstract

During the last years, dramatic changes in the electronic publishing landscape have created new roles and changed the traditional ones. Presently, some libraries have capitalised on their experience and knowledge in information technology and electronic publishing to undertake such activities, while at the same time they spearhead the campaign for Open Access spreading within academic communities.

The Library & Information Centre (LIC) of the University of Patras (UoP), Greece, has been playing an active role in promoting Open Access (OA) in Greece. Since 2007, LIC has been experimenting with OA publishing practices and tools within the framework of various R&D projects. Two of the major results of these efforts are the 'Pasithee' e-publishing platform and the 'Dexamene' digital archive for Greek scholarly journals. Both platforms are based on OJS-Open Journal Systems e-publishing software. The two facilities were appropriately modified to meet the LIC's publishing and archiving requirements respectively. Currently two journals are being hosted on each platform and all four are from the Humanities. The LIC is negotiating with more publishers and editorial teams to host their journals.

In this article we focus on:

- technical and managerial key issues of the development and operation phases,
- services and procedures,
- the business model,
- technological, procedural and legal issues and problems that were encountered when working together with publishers, editors and authors, and

– future plans for improving and upgrading our e-publishing services into an integrated institutional platform to cover all kinds of publications and data types (monographs, conference proceedings, teaching material, bulletins, magazines etc.).

The article concludes with a succinct presentation of the Directory of Greek Digital Resources, a pilot infrastructure developed by the LIC which indexes and presents digital publishing initiatives in Greece and aims to become a formal registry of Greek scholarly resources in digital format.

Key Words: electronic publishing; academic libraries; Greece; Open Access

Introduction

Libraries were always considered to be the custodians of knowledge by preserving and giving access to the media of each age, either papyri, codices, or books. The last thirty years of electronic and digital technology's rapid development have created new roles and challenges for libraries. As organisations that rely heavily on the 'technology' of each age, the social conditions and the economic parameters, libraries were always trying to find new means to better serve their users. This is where libraries' motivation for transformation originates, as they are organisations that work closely with their community and therefore many of the libraries' achievements are based on their needs. Libraries have often been criticised in the past for taking part in initiatives such as developing institutional repositories or participating in institutional e-learning programmes. However, they have managed to deal with this 'identity crisis' and their activity in these fields proved fruitful, mainly due to the perception of library managers that these new roles are an 'expansion rather than contraction' (Jöttkandt, 2010).

Nowadays the library's identity crisis takes place in a wider environment of crisis. These last two years the economic downturn is piling on the pressure of instability and budget shrinking. Libraries see their budgets decreasing and suffer from further reductions each year, while at the same time the amount of scholarly information increases and more requests to expand the collections are being submitted and considered. It is widely known that journal budgets represent the lion's share of the collection development budget. According to a report of LISU and Loughborough University, journal prices in biomedical sciences increased from 42% to 104% and in the social

sciences from 47% to 140% (White & Creaser, 2007). The study investigated the increase per journal title, per page, percentage of Impact Factor coverage and per point in the Impact Factor during the years 2000–2006. A recent statistics study by ARL (2009) notes that the expenditures among 110 members of the Association have increased from $49,497,141 in 1997–1998 to $554,637,844 in 2007–2008. While the numbers are subject to yearly variations, we still see an increase of 1.020%. The recent library economics landscape shows that despite 'freezes' or slight variations in journal prices for 2010 (Henderson & Bosch, 2010), libraries still face significant problems due to their own overall budget reductions and the new titles entering the subscriptions 'arena'.

The present environment, however, does not only present challenges to libraries, it also creates new opportunities which are based on technologies and related interventions. Technological advancements and emerging political issues have helped libraries to reinforce their relationships with scholars and develop services that deal with the entire information lifecycle rather than just the end. Many fields of assistance with regard to creating, disseminating and using information are still open and recent studies have shown that librarians are eager to explore new roles for their profession and the service of their community (Brown, Griffiths, Rascoff & Guthrie, 2007). On the other side, scholars, who are an integral part of the information lifecycle, need support from a reliable partner that is willing to share know-how and adaptable services. Thus, through long-term cooperation and service, libraries have developed a keen understanding of the interests of scholars and their need to ensure the most effective and widest impact of their research. Scholars understand that the current publication models are limiting their readership, but despite recent evidence to the contrary, they still fear that Open Access publishing will negatively affect the impact of their work and therefore they seem reluctant to move to OA. However, a growing number of scholars are becoming aware of both the benefits and drawbacks of Open Access and are seriously considering their options (SAGE, 2009).

Several libraries are taking on electronic publishing in response to the overall budget crisis and the need to satisfy specific classes' requirements. And the stage for such endeavours is set when one takes into account the library budget reductions, the journal prices increase and the available alternatives; all that is needed is a motive. The present article summarises the recently inaugurated e-publishing programme of the Library and Information Centre of the University of Patras (LIC). The following section first describes

important case studies from the library domain that work in an exemplary fashion and then outlines the Greek academic publishing landscape. Section 3 presents the case of the LIC by listing the conditions in which the e-publishing programme takes place, the activities carried out, the implementation details and the outputs. The last section is dedicated to discussing the effectiveness of the e-publishing programme and the future challenges.

Background

Libraries as Publishers

There are several examples of publishing activity by library organisations. Many of these initiatives are based on partnerships between libraries and information technology centres and/or university presses. The organisational schemes in which they operate are often idiosyncratic. There are instances in which the publishing initiative is subsumed in another organisational scheme, like the general publishing vehicle of a university, which may include institutional repository activities, like in the case of the Australian UTSeScholarship,[1] or even to the library itself, such as in the example of Linköping University Electronic Press.[2]

Project Euclid,[3] funded by the Andrew W. Mellon Foundation and operated by Cornell University Library and Duke University Press, is a digital library of electronic journals in the disciplines of mathematics and statistics. According to the project's webpage 'Project Euclid is designed to address the unique needs of low-cost independent and society journals', thus seeking a balance between efficient economic management, scientific integrity and wide publication. Project Euclid is based on the DPubS (Digital Publishing System) platform, an open-source software system. DPubS was developed on the Dienst system, which was the responsibility of Cornell's Computer Science Department and Cornell University Library, while in its current form DPubS is supported by Penn State University Libraries and Press. Project Euclid represents an example of reasonable responsibility sharing between peer partners for the effective publishing of high-quality journals, while respecting policies of individual societies.

The Scholarly Publishing Office of the University of Michigan Library is an interdisciplinary publishing service that focuses mainly on the humanities

and social sciences.[4] One of the most important journals in the scholarly communication field is published under the auspices of the SPO, namely the *Journal of Electronic Publishing*, while other publications of the programme range from encyclopedias to archival material. The office provides (a) hosting services for non-profit academic organisations that are interested in publishing, (b) infrastructure for an online delivery system that secures accessibility and retrieval, and (c) a selection of statistical indicators. According to the official statement SPO is seeking 'to foster a better economic model for campus publishing, to support local control of intellectual assets, and to create highly functional scholarly resources'. The publishing programme is also framed by a wide set of services to support alternative dissemination channels, such as print-on-demand services for selected items from the collections of the University of Michigan digital library. Once again the Office provides the option to interested parties to follow several access policies, like open access or pay-per-view for non-subscribers.

SPO has extended its publishing model by partnering with other initiatives to promote Open Access. Open Humanities Press,[5] an international initiative that promotes electronic publishing for journals and books, makes use of the infrastructure and experience of SPO and attempts to stimulate scholars, editorial teams and research societies to participate in a venture for facilitating editorial work. The approach is fully Open Access with no limitations or charges.

These examples constitute long-established and solid endeavours with different business plans. For instance, Project Euclid and SPO grant tiered access rights, ranging from fully open to subscription-based access, while OHP is providing its services free of any charge, either to the authors, or to the users. Therefore the publishing policies vary according to contextual parameters that are often based on the long-term traditions of the institutions and the scholarly societies.
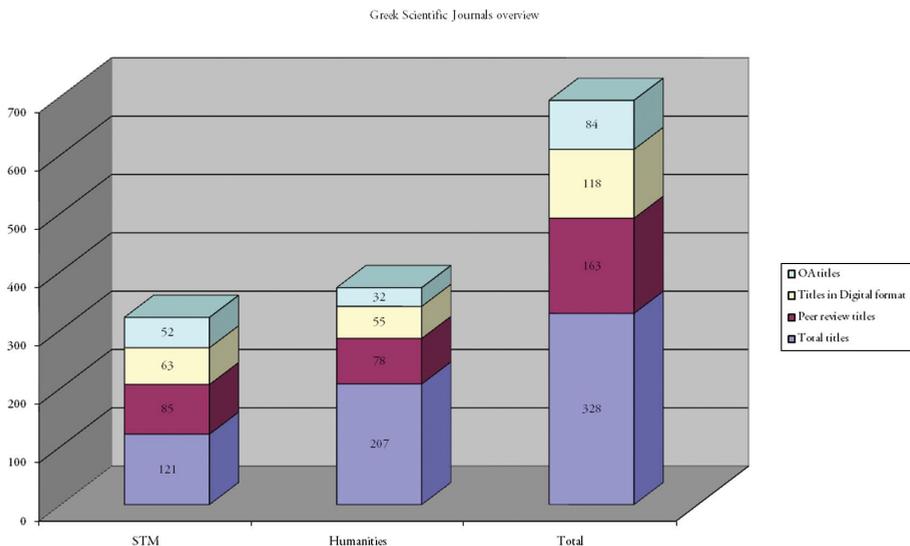
Scholarly E-Publishing in Greece

Scholarly publishing in Greece is mainly concerned with the printed format. According to data from the National Book Centre of Greece (EKEBI) (EKEBI, 2009), the Greek book market is still a completely print environment and is mainly oriented to the humanities and literature, as titles in natural and applied sciences represent a small proportion of the total production and even seem to be declining in numbers. 328 journals have been recorded (Georgiou

& Papadatou, 2009) as scholarly titles or titles of a considerable scholarly interest and importance to academics and researchers, based on criteria such as the content, the editorial team, the publishing body, the subject, the review policies, the publishing procedures and in some cases the history of the journal. Only 163 of these titles adopt a clearly stated peer review policy in the article submission, editing and publishing processes.

According to the same report, there has been a significant progress regarding e-journals publishing initiatives in the last two years, while activities in the e-book market are considered rather insignificant, although small increasing trends can be observed.

Out of a total of 118 journal titles with online full text, 84 are providing their contents through OA, and the vast majority of the latter (73 titles) are explicitly identified as peer-reviewed journals (Figure 1).

Fig. 1: Overview of Greek scholarly journals.

Almost 40% of these 118 journal titles are published both in print and online, while 36% are practically digital archives of active journal titles. Fully electronic journals represent only 24% (29 journals) of the total number of digital titles of which all but one are OA journals. The majority (~40%)

of these journals are published in the field of medicine (mainly by related learned societies), with journals in the area of natural and applied sciences accounting for a small number of titles.

Overall, the various societies seem to be more active in digital publishing than other types of organisations and they lead the race in electronic-only journals along with the academic institutions. Private publishing houses hold a significant share of the total online market (23%), although they are clearly oriented to 'print & web' publications.

The Case of the Library and Information Centre, University of Patras

The current section presents the case of the Library and Information Centre (LIC) of the University of Patras. The LIC is one of the pioneer libraries in Greece in the adoption of OA, taking actions itself or coordinating the institutional planning for OA. This OA policy is reflected in numerous ways: the LIC is a Berlin Declaration signatory, a SCOAP3 Initiative supporter and a BIOMED Central Supporter. During the last years the LIC has cooperated with several organisations to produce high-quality digital collections, a.o. schools and departments of the University of Patras, local information organisations like the Municipal Library of Patras, non-governmental agencies such as the Hellenic Literature and History Archive, and governmental agencies like the Library of the Greek Parliament. These collections are outlined in the following subsections.

Context of Activity

In the last decade the LIC developed a series of initiatives in the fields of e-archiving, e-publishing and scholarly communication. Most of the collections are deliverables of the EU co-funded R&D project 'Telephaessa'. 'Telephaessa' ran over a six-year period for the first phase (2000–2006) and was extended to 2007–2008 in order to do further work on some successful activities. Among others, the objectives of 'Telephaessa' were: 'the acquisition of technical expertise and infrastructure on issues of digitisation and digital service delivery to (LIC's) users' and 'active participation in initiatives for the enrichment of digital collections in the Greek language on national and international level'.

It was firmly decided by the LIC to develop the collections and services with an 'open' perspective and to encourage participation in cooperation schemes with other local and regional state services. Aspects of 'openness' were considered to be (a) the prioritisation of open source software, (b) the pursuit of means to effectively facilitate widespread distribution of open source at a national level, (c) the adoption and reuse of 'open' constructs, and (d) the adoption and dissemination of OA policies.

The R&D project of the LIC resulted in a set of collections that can be classified in three main categories according to their aims and scope:

- *E-Archiving* collections that host, preserve and disseminate old literature periodicals. Three collections are included in this category, namely 'Kosmopolis',[6] 'Pleias'[7] and 'Danielis'.[8] 'Danielis' is an example of the desired outcome regarding participation in local and regional cooperation schemes, as it was developed in cooperation with the Municipal Library of Patras and aimed to cover a significant gap in the field of digital resources for local history and culture by means of the digitisation of journals that were published in Patras during the 19th and 20th centuries.
- *E-Publishing* collections that support the publication of scholarly journals through digital channels. Two collections are included in this category, namely 'Dexamene'[9] and 'Pasithee'[10] (which are also the object of section 3.3).
- *Scholarly communication* and support services that host, preserve and disseminate the scholarly and research outcome through the employment of UoPatras' institutional repository 'Nemertes'[11] and UoPatras' Current Research Information System (the latter is still in a preparatory stage).

Figure 2 schematically presents the outputs of the 'Telephaessa' project. This figure also presents the activities undertaken by the LIC on the communal level, meaning the sum of all actions that support the dissemination of systems and collections (including translation services for the Open Journal System and Open Conference System in Greek, support for these systems' implementation, and installation and operation of the Wiki for the Greek DSpace community) and gather essential information about the current state of digital initiatives in Greece through the Directory of Greek Digital Resources (a brief presentation of the latter follows).[12]

Fig. 2: Activities of the LIC towards Open Access at institutional and communal levels.

The activities of the LIC were encouraged by the lack of a proper digitisation centre and a publishing house within the University. To conclude, the motivation for the LIC to step on the e-publishing stage was not based only on the need to respond to the wide financial crisis, as was highlighted in the introduction of this article, but also on the need to assist scholarly communities in finding reliable and effective alternatives to publish in a world of emerging technologies.

Implementation Details

Business Plan
The aim of the LIC's e-publishing programme was primarily to support academics or scholarly groups within the University of Patras to publish their research outputs through scholarly journals, but later it was extended to also address demands for storage and preservation of back-files of currently printed scholarly journals.

The LIC does not adopt an 'aggressive' policy to address scholars' needs, but rather works by encouraging a 'volunteer collective' approach (Jöttkandt, Willinsky & Kimball, 2009). Despite thorough work on recording scholarly activity, there are still margins where scholarly communication cells reside. Thus the LIC has issued an open call to interested parties to discuss possibilities for e-publishing, highlighting the benefits of lifting many cost-related weights and undertaking the responsibility for secure and reliable access. The

call is open in many aspects, as there are — almost — no strings attached to the policy behind it. The only prerequisites are (a) an OA mode of publication and (b) safeguarding scientific integrity by following proper editorial processes and including peer review.

The LIC also offers a range of services that — despite their limitations — have been characterised as appealing, effective and viable by Greek standards. Due to limitations in resources and expertise, the business plan predicts some things that the library can do and some things that it can't. Among the tasks that the LIC can be responsible for is: (a) to digitise the material and import metadata, (b) to provide and guarantee access, (c) to provide infrastructures and software solutions, (d) to preserve the content, and (e) to instruct editorial boards on the administration of the system and the facilitation of the processes. The LIC does not at any stage interfere with the reviewing process, copy editing, parallel printing, distribution and subscription management, where applicable and only for printed versions. Finally, the LIC can provide consultation and assistance in developing a marketing strategy for promoting the journal and widening its contribution base, but this option is subject to the willingness and needs of the editors.

Technological Plan
The e-publishing platform is based on the Open Journals System (OJS), an electronic journal management system that was developed by the Canadian federally funded Public Knowledge Project. As a system that takes care of the whole editorial and publishing process, OJS currently offers assistance at every stage, from the early steps of submission to the final details of publication and access. As mentioned above, the LIC has translated OJS together with a other software from the PKP platform, Open Conference System, into Greek and has distributed it to interested libraries to set up and develop their own journal collections. The LIC administers the system by exercising overall control of accounts, roles and procedures for journal managers and administrators, and by providing end users with the option to freely register to the system and exploit the available personalised services.

Outputs of the Programme

The business plan resulted in two collections, namely 'Pasithee' and 'Dexamene', which are outlined in the following.

Pasithee

'Pasithee' constitutes the core of the e-publishing programme of the LIC as it addresses the improvement of scholarly output through the provision of appropriate technological solutions. Before developing the programme LIC personnel consulted the interested editorial boards to analyse their requirements and hear their views on system development. In a dialectic process the LIC set up the system and editorial processes and instructed the members of the editorial boards.

'Pasithee' currently hosts three journals published by research groups of the University. *Electra* is an e-journal published by the Centre for the Study of Myth and Religion in Greek and Roman Antiquity of the Department of Literature, University of Patras. *Electra* publishes scholarly articles that study the ancient Greek and Roman mythology and religion from literary, historic, anthropologic, archaeological, linguistic or philosophic viewpoints and are written in Greek, English, French and German.

Society and Theory intends to publish surveys and analyses by Greek and foreign scholars from the fields of education, politics, economy, technology, history or philosophy and which, according to the Editorial note, 'have the theoretical and methodological perspective' to fit in this journal. The journal aims to foster the scientific way of research and analysis of social phenomena with articles and announcements of events that will be organised by the editorial board.

Patras Working Papers in Linguistics is a biannual publication of the Centre of Modern Greek Dialects, Department of Philology, University of Patras. The aim of the editorial team is to cover '…any field of Linguistics, synchronic or diachronic, theoretical or applied'. PWPL is a journal that aims to publish special issues on selected interesting topics, with the first issue discussing 'Morphology'. Papers can be submitted in English or Greek.

Dexamene

'Dexamene' is a collection of digital back-files of important Greek printed journals, allowing everyone to access information that would otherwise be difficult to retrieve. 'Dexamene' continuously updates the past content of these journals by means of a moving wall. The moving wall constitutes the main difference between 'Dexamene' as an e-journal archiving system and other collections, like 'Kosmopolis' and 'Pleias' that focus on archiving discontinued journals.

The collection is currently hosting two journals in the field of philosophy and social sciences, *Axiologika* and *Deukalion*. *Axiologika* focuses on the discussion

of the social sciences as related to the concept of critique, creating a platform for epistemological discourse. *Deukalion* is one of the oldest journals for philosophical enquiry and critique in Greece as it was first published in 1970. Its publishing history is divided into three periods of publication. In 'Dexamene' twelve volumes, from 1992 to 2002, are included.

The services offered to 'Dexamene' journals copyright holders are similar to the ones of 'Pasithee'. Once again the library discussed the system and signed a contract with the copyright holders and took the responsibility for administering the system and preserving the content. The LIC digitised the content and imported the relative metadata. Metadata entry was accomplished through an in-house application which was specially developed by the LIC in order to streamline the editorial process.

Horizontal Services: the Directory of Greek Digital Resources

In the past few years Greece has witnessed significant activities with regard to digital collections development. These have led to an increase in Greek resources in digital form, mainly addressing the issues of preservation of historic material and the development of institutional repositories. In this environment the need to coordinate activities in order to reduce the risks of developing duplicate collections and to enhance effective resource management was eminent. Therefore, in the absence of national supervision and administration, the LIC developed a horizontal service, which is called the Directory of Greek Digital Resources. The Directory is running in a pilot version since February 2008 and aims to become a reference point for useful information about all scholarly and related Greek digital resources available on the web by (a) continuously monitoring and recording all resources with their content policies, access policies, etc., and (b) recording and analysing all basic functional information and parameters for each resource, such as services, technologies, standards, protocols, business models, etc.

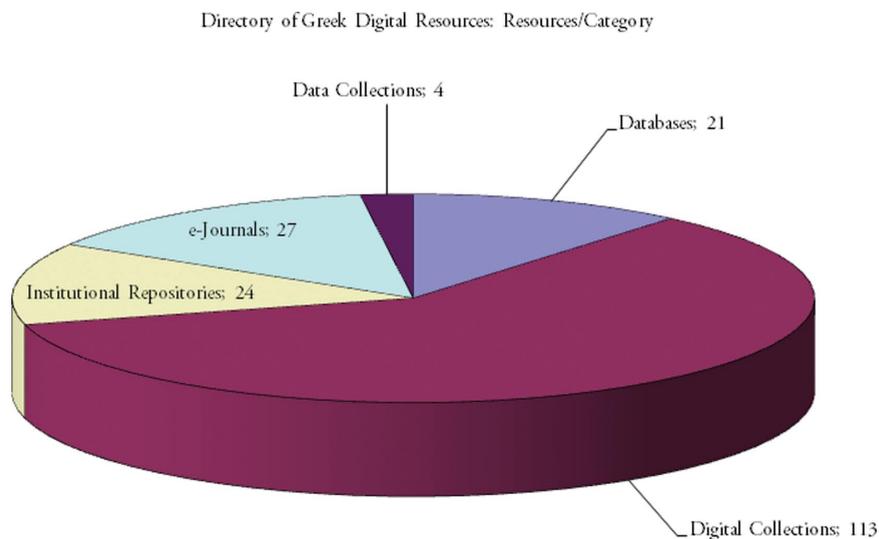The Directory collects data for the following types of resources:

- bibliographical databases: library catalogues, bibliographies, tables of contents;
- digital collections: journals archives, books, texts and articles collections, images and multimedia collections;

- institutional repositories: grey literature, technical reports, pre/post-prints, educational material, archives;
- e-journals;
- experimental and research data collections.

Currently more than 200 resources operated by academic and research institutions, not-for profit organisations and museums, learned societies, private publishers and governmental/state bodies are being listed.

The Directory is already considered to be a valuable tool for the systematic monitoring and analysis of the digital landscape in Greece focussing particularly on the growth of Greek digital content, the adoption of current technologies, models and standards, and on the quality of services to the users. In this way the Directory contributes effectively to the fulfilment of basic objectives, such as recording of resources and initiatives, sharing and dissemination of related information to users and the community, co-ordination and cooperation of institutions' executives and decision makers, follow-up of technical issues, evaluation, etc. (Figure 3).

Fig. 3: Greek Digital Resources by Category.

Directory of Greek Digital Resources: Resources/Category

Data Collections; 4
Databases; 21
e-Journals; 27
Institutional Repositories; 24
Digital Collections; 113

Discussion

The LIC's current e-publishing programme is operating in an environment of crisis and transformation of the Greek economy and society. The conditions of this environment seriously affect the economic viability and stability of the programme, but they also challenge the library to respond at the social level by forwarding open solutions to academia and to the public. The programme has its own roots and throughout its planning and implementation was envisaged as a 'feasible' solution. As an organisation that is synonymous with trustworthiness, devoted to preserving forms of intellectual capital, the LIC avoided endangering these integral characteristics by not opting for short-term solutions. Therefore the e-publishing activities are developed as a lightweight programme that exploits every resource of our organisation to support scholars in publishing their research through channels that know no boundaries and require no additional efforts.

The application of the programme is a learning process. The programme currently moves from 'infancy' to 'adolescence', fixing mistakes and following best practices in every single area, from policy making to instruction and assessment of the impact. The cases of 'Dexamene' and 'Pasithee' present two different access models, in accordance with the nature of the published content. It is acknowledged that alternative models exist, which may require the programme and the 'consciousness' to mature. Therefore best practices are constantly explored in order for the LIC to timely adapt to scholars' requirements. Finally, as far as solidifying the outcomes is concerned, the effect of the publications in terms of width and depth of usage must be evaluated in cooperation with the editorial boards. The LIC's utter aim remains to provide useful services for useful resources and therefore automatic gathering of standardized metrics has been introduced.

This programme is an opportunity for the library to claim a leading role inside the institution. Actions must be taken to structurally reshape the landscape The library seeks the appropriate institutional interventions to formally strengthen and further centralise its role. The environment supports the library's endeavours to spearhead an initiative to develop a policy framework between intra-institutional teams and organisations. So far, collaboration is informal and refers to the level of collection development, but with

the pool of expertise in several fields from all agents it can extend to areas of policy formation, copyright control and legal aspects, technological advancement and so on.

Conclusions

The current paper presented the case of an e-publishing and e-archiving programme by an academic library. This programme is a response to several challenges, such as the shrinking of the economic budgets, the growth of Greek digital resources and the spread of Open Access. The strict and narrow margins of economic crisis dictate the strong need to safely navigate the programme by aiming at the horizon of reliability and viability. The programme does not reinvent the library or help the library to identify its role; rather it calls on the library to reinvest knowledge and expertise capitals for the benefit of scholarly communication.

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Notes

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[1] http://utsescholarship.lib.uts.edu.au

[2] http://www.ep.liu.se

[3] http://projecteuclid.org

[4] http://www.lib.umich.edu/spo

[5] http://openhumanitiespress.org

[6] http://xantho.lis.upatras.gr/kosmopolis/

[7] http://xantho.lis.upatras.gr/pleias/

[8] http://xantho.lis.upatras.gr/daniilida/

[9] http://xantho.lis.upatras.gr/dexameni/

[10] http://xantho.lis.upatras.gr/pasithee/

[11] http://nemertes.lis.upatras.gr/dspace/

[12] http://www.lis.upatras.gr/Libworld/gr_resources_EL.php