THE DIVERSITY OF TRENDS, EXPERIENCES AND APPROACHES IN ELECTRONIC PUBLISHING: EVIDENCES OF A PARADIGM SHIFT ON COMMUNICATION

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Abstract

Electronic publishing constitutes one of the most exciting themes nowadays, amongst academics, at least, though substantial effects of IT usage for communication purposes in other than academic sceneries have also set off enthusiasm on people involved with that. Within the academic environment the use of IT for communicating research by scientists and scholars from different bodies of knowledge has brought about significant changes in the scholarly communication process, particularly in journal production and distribution, conference organisation and a number of other actions regarding making knowledge public. Alternatively, the use of IT within business and technological environments has also triggered changes concerning their stakeholders' interactions. As a consequence, significant changes in communication have been observed, much of them clearly identified in the works submitted to and presented at ElPub2003. a quick glance at ElPub proceedings from 1997 to 2002 allow to observe the evolution of such an It is important to note that changes are also an important and stimulating theme in whatever context. In the academic environment, changes have been approached by Kuhn as either giving birth to new paradigms or being born from them. In fact, Kuhn (1970), Meadows (1998), Pahre (1996) and others have approached paradigm as something very important in the academic world, as it constitutes a conceptual framework involving both theory and practice, and providing guidance on what problems deserve investigation and how they should be tackled. In this sense, this speech aims to highlight the major issues under Elpub2003 authors' concerns, and the way they have been both looked at and dealt with.

Keywords: electronic publishing; general issues; paradigm shift; changes in communication

1. INTRODUCTION

The assumption that underlies this short analysis of papers presented under the General Track of ElPub2003 is that the issues approached constitute what is relevant for electronic publishing at the moment. Besides this, it has been noticed that the totality of themes and methods discussed by Elpub2003 authors has shown how major problems in electronic publishing have been tackled, lately. In fact, new issues and innovative ways for dealing with them have been identified, and it has also been noticed that they represent important changes in communication processes. Therefore, paradigm changes in communication, particularly in terms of knowledge publishing, constitute the focus of this paper, which is underlined by an academic view of the issues taken into account, in a provoking approach. In order to carry the examination of papers out, a cautious content analysis has been used as the main methodological approach to their scrutiny. This has allowed making a sort of diagnosis of an important shift in approaches that lie beneath the topics discussed in each paper. A summary of the main issues identified includes rights transfer and content preservation; information modelling and structuring; the publication life-cycle (writing, editing, printing, distributing, archiving, retrieving and reading); market scenarios; publishing partnerships; digital inclusion versus information exclusion; access, sourcing and cost; information professional expertise; media change; knowledge management, customisation and personalisation, etc.

It can therefore be stated that, as far as IT is concerned, communication nowadays involves different ways of carrying out, dealing with and looking at all kinds of knowledge transfer processes, and the various phenomena surrounding it. Within this perspective, a summary of the main ideas discussed in the General Sessions of Elpub2003 takes account of at least three major issues, presented in the three next sessions of this paper.

2. MIDIA CHANGES AND SOME OF THEIR CONSEQUENCES

The evanescent characteristic of contents available in digital media has led to a consequent concern, in different fields of knowledge, with preservation and copyright, yielding new approaches to ownership, legal rights, global access and so forth. It also kicks off new techniques to deal with media degradation, content redundancy, digital copying, etc, which, in turn, makes information professionals in need of new skills, publishers to redesign their work, authors to rethinks their relationship with publishers, and so forth.

Papers from Muir and from Oppenheim, Probets & Gadd discuss issues regarding copyrights in the digital media, though they focus copyright differently. While the first looks at licensing, preservation and libraries, the second shows preoccupation with copyright transfer and author self-archiving. Below, a very short summary of the ideas discussed in both papers is presented.

Muir's major issue highlighted here is the one concerned with copyright implications of digital preservation strategies, an issue approached in a special workshop presented by people from LOCKSS in the first day of ElPub2003. Muir highlights possible strategies as technology preservation, migration and emulation, and calls attention to the fact that these strategies require copying digital information and reengineering software, as well as dealing with media degradation. She also stresses the problem of access rather than ownership of digital information, which has been one of the most challenging issues to libraries.

Oppenheim and his colleagues emphasise the movement towards breaking a vicious cycle concerning the scholarly communication process: giving rights away (to publishers!) and buying them back (from publishers, also!). One possibility of having such a vicious cycle broken down has been the author's self-archiving movement, which has encouraged academics to make their research freely available electronically. In this context, the ROMEO (Rights metadata for open-archiving) Project, carried out in the UK, is presented as an initiative to investigate the rights issues affecting self-archiving, and to suggest solutions to some problems, via the analysis of journal publisher's copyright transfer agreements. Results of a study carried out by Oppenheim, Probets & Gadd highlight how the relationship between authors and publishers can be best managed in future, especially regarding author's self-archiving, which has challenged the ethos in academia world-wide.

Derived from Muir and Oppenheim, Probets & Gadd's work, and also present in some of the ideas discussed in the next sessions of this paper, a somewhat burgeoning process was identified, as depicted in Figure 1.

FIGURE 1: THE DYNAMIC PROCESS TRIGGERED BY DIGITAL MEDIA EVANESCENCE

These and other matters have actually been both challenging and giving new opportunities to different actors within the communication chain. We particularly identified challenges and opportunities to publishers in the work presented by Vieira & Badra and Braun. Vieira & Badra, who are concerned with the context of scholarly publications in France, raised a few questions that deserve attention. One of them is concerned with the variety of actors within the scholarly publication context and its consequent competitiveness either internally or externally to France. Conversely, however, there have been partnership opportunities to publishers, particularly in terms of the intersectional role played by librarians, publishers and booksellers.

A new model for academic publishing, free from the constraints of large commercial publishers, is identified in the paper about the German Academic Publishers Project - GAP G, presented by Braun. Observing the work of

GAP G, it is possible to ask whether an organisational network of academic presses and the necessary infrastructure for online-publishing could constitute a solution for freeing academia from the hitherto supremacy of commercial publishes within the scholarly information market, and really break the cycle discussed by Oppenheim.

3. THE RAPIDITY OF CHANGE IN TECHNOLOGY: CONSTANT INNOVATION

The rapidity of change in information technology, with constant innovation, has ignited the advent of a number of both new problems and their correspondent new solutions. This, in turn, have led to a relevant discussion about the impact of technology on either the society at large or some specific contexts. Questions like the diffusion of innovation, new information professions, information exclusion, and a number of other economic, social, cultural and political issues regarding technology change are clearly in the agenda for some years to come. All these issues seem to be derived from communication needs, which, conversely, derive from the advance and increasing in knowledge production.

Björk, as Oppenheim and his colleagues, also talks about changes in the scholarly communication process brought about by the introduction of new information technologies into the academic world. Björk highlights changes concerned with e-print repositories and electronic peer reviewed journals that offer their contents freely on the web, stressing how labels like "Open Access" and "Open Sources" has gained popularity within this context, though not yet widespread as expected. In fact, the movement towards freely available research outputs, though necessarily peer-reviewed, seems to constitute a leading movement in academia so far.

Peer reviewed work in the electronic environment has been one of the hottest themes within the scholarly world over the past decade, particularly in terms of the cost of this process. This and other issues are discussed in the review presented by Rowland, who gives his contribution by analysing the most recent works and their relevant topics, in a somewhat critical perspective. Additionally, Smith reviews some of his own controversial ideas regarding new models for scholarly journals, and their role in publicising academic work within an electronic environment. The most contentious topics of Smith's proposal, is what he calls "the need for independent quality control certification agencies", where he challenges the hitherto well-established traditional peer review system.

Güntner, Behrendt & Geser, foresees the future of this sort of events. By discussing the concept of "Smart Content" and "Digital Content Value Chain", they present the major technological challenges and market scenarios for the future of the electronic publishing over this first decade of the 21st century. Time will tell future 'Elpubers' whether or not they are right, and to which extent!

In addition to Günter's discussion, though not in line with them, Targino points out the relationship between new technologies, scholarly production, and electronic publication. With her primary focus on drawbacks of the Internet usage for scholarly communication and publishing, she discusses Internet disadvantages such as inconsistencies, instantaneous and ephemeral nature of information, complexity regarding storage, difficulties in bibliographic control, and disrespect for authorship and intellectual property rights. Targino's ideas seem to do not take account of any beneficial contribution from IT to scholarly[1] publishing, despite all developments spoken about throughout ElPubs, particularly in the Technical Track of this conference.

Disadvantages and inconsistencies are also in the concerns of Yaginuma, Pereira & Baptista, who defend the idea of the inevitable use metadata for resource description, enhancing information retrieval from distributed and heterogeneous resources. Their work with news articles, developed in the context of the OmniPaper project, is embedded in a challenging, dynamic, evolving and, to some extent, new environment. Such an environment is the arena of Tamizhchelvan, Ganesh & Nikam work on digitisation of newspapers, which points out the role of digital object identifier in the management of media libraries. Media really seems to represent a new and interesting ground to the enhancement of information access. Its diversity brings about a richness of resources to deal with, and the work presented by Ocana, Gomez-Cornejo & Rodeno Arraez, in terms of sound archive preservation within the Spanish National Radio, clearly adds value to this idea.

Such a changing environment, with all its new problems and solutions, is represented in a graphic version of the ideas expressed in the paragraphs above in figure 2, which tries to depict how all these innovations in information technology have been a result of communication needs. Changes in technology have, conversely, brought about new problems and new ways of dealing with them, coming into being a sort of cycle process.

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[1] It is interesting to note that the use of the term "scientific" in Targino's work does not necessarily relates to the hard sciences, as in English literature. In Brazil, "scientific" is by and large used for the work of researchers from any field of knowledge. In this paper we have replaced scientific for "scholarly".

FIGURE 2: CYCLE PROCESS OF TECHNOLOGY INNOVATION AND ITS IMPACT ON SOCIETY: PARADIGM SHIFT ON COMMUNICATION

Many countries around the globe have certainly benefited from the facility, intensity and rapidity in interactions world-wide, despite all well-known problems identified as the result of that. Nonetheless, it brings about new models for depicting a strong movement towards free access to open sources world-wide.

4. GLOBAL DISCUSSION, NOT REALLY GLOBAL BENEFITS, THOUGH PARADIGM CHANGES

Discussion about open sources, the impact of technology on society, changes in information professions, digital exclusion and so forth gain strong relevance in developing countries, as shown by Capiez in his presentation about how effective can electronic delivery be as a solution to geographic isolation and development constraints. It is interesting, therefore, to bring to light the Pacific Regional Information System (PRISM), a Pacific-wide internet-based system that will provide cheaper, wider and easier dissemination of essential data, in an effort to improve electronic communication in the Pacific area. Approaching the same theme, Aparicio makes an analysis of the same constraints in Africa, where digital exclusion increases the gap between African countries and the developed world. Aparicio's presentation has shaded more light on the well-known discussion about the 'have's' and 'have not's'.

The opposite can be observed regarding experiences in Canada, where numerous initiatives in electronic publishing and communication have taken place in the fields of social sciences and humanities, as described by Lorimer & Smith. They draw attention to the implementation of a database that gather together information about individual journals, distance learning, multi-university consortia, government agency publishing units and university libraries in a national project. Lorimer & Smith stress how online scholarship encourages the development not only of new patterns of behaviour but also new paradigms to explain behaviour both in virtual and traditional environments. Likewise in Canada as well as in the humanities filed, developments in the Netherlands are taken place in terms of the publication of a wide range of historical sources, as presented by Hoekstra. He proposes a platform based on an open-source application, and this is in line with a number of initiatives in many countries, bringing about paradigm changes in communication.

Paradigm changes can be observed in the context of the scholarly communication process. In this regard, Souza, Foresti & Vidotti point out the "growing transition from print to electronic journals", stressing the hot issue of quality control in electronic publishing. The transition from print to electronic and the quality control are approached in both Kvaerndrup's and Krottmair's papers. Factors involved in the transition from print to electronic publishing are looked at by Kvaerndrup in her discussion about paradigm shifts in research communication. She gives an

overview of the development of new models for scholarly publishing and suggests different publishing models for smaller scholarly publishers. Krottmair talks about information overload generated by large collections. He proposes a system that can provide users "the right parts" of a document in an electronic environment through the customisation and personalisation of its outputs, as well as through highly sophisticated technology that supports users and designers in creating a useful environment for knowledge workers.

A great benefit to knowledge workers in academia has been the burgeoning digitisation of theses and dissertations. The contribution of such a development undoubtedly is the concern of Pacheco, Kern & Bermejo, who describe their experience with a digital library of theses and dissertations using a web interface in Brazil. Their endeavour is indeed in accordance with a sort of global movement towards an open "philosophy" observed in the approaches used by most of ElPub2003 authors.

5. CONCLUDING REMARKS

Technology innovation has given birth to completely new ways of communicating -the heart of publishing-, leading to new ways of both doing and looking at electronic publishing, the central theme of this conference. Therefore, it seems reasonable to speak of paradigm shifts on trends, experiences and approaches in the electronic publishing world.

A summary of the ideas discussed under the General Track of ElPub2003 show that major trends in electronic communication today seem to be towards an open "philosophy", raising questions about open sources, open archives, open software, open access and so forth. Experiences worldwide show a great diversity in the development and use of technology tools, models and methods, bringing about a great need for new expertise by information professionals. This, in turn, calls for an endless learning process.

Within the general approach to the conference theme, the academic environment comes into view as the major scenario for both research and development, pointing to the scientific and scholarly communities as its foremost clients. It can therefore be stated that as far as the electronic environment gradually and increasingly replaces the print-based environment in the context of electronic publishing, changes in communication also increases, yielding growth and diversity in interactions and knowledge development, which speeds up access to information around the globe. Likewise, a paradigm shift concerning a (needful) open "philosophy" is progressively taking place, giving way to a new world order that, in turn, underlies researchers and developers' concerns in terms of electronic publishing.