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# **ELECTRONIC PUBLISHING VERSUS PUBLISHING ELECTRONICALLY: THE CASE OF EC WORLD — *A Forum for the 21<sup>st</sup> Century***

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## **1. INTRODUCTION**

Electronic journals today typically serve as on-line counterparts of their paper based versions, providing abstracts, manuscript tracking, and announcements of forthcoming issues (see Denning 1995; Jog 1995). Some e-journals and magazines also provide “live” materials such as audio/video clips, basic World Wide Web interactivity, or even customization of content and presentation. However, a majority of these ventures seek to use the Internet and the Web as an efficient medium of content distribution and presentation. It thus appears that the broadcast model of television (O’Reilly 1996) has been most widely adopted by the creators of e-journals (Chellappa, Barua and Whinston 1996a). However, the global scope of the Internet and the open nature of its applications enable us to rethink the publishing process itself and to redesign the way content is created (i.e., authored, reviewed, validated, and published). In other words, *publishing electronically* (making content available on-line without changing processes that support content creation) is not the same as *electronic publishing*, which seeks to redesign the processes themselves. True electronic publishing can lead not only to improved knowledge dissemination, but can also help create new knowledge through successive refinement and longitudinal argument-based interactions between authors, readers, and other experts.

## **2. EC WORLD — *A Forum for the 21<sup>st</sup> Century***

EC World — *A Forum for the 21<sup>st</sup> Century* is an on-line journal that we created for the domain of electronic commerce. From an administrative perspective, it is structured along the model of a networked organization (Ching, Holsapple and Whinston 1993) characterized by a set of complementary workflows (Chellappa, Barua and Whinston 1996b). There are two main facets of EC World, one based on informal collaboration between the relevant actors and the other a formal process for article submission, review and administration. The former occurs within the public Internet domain, while the latter is a set of workflows in an Intranet setting (Chellappa, Barua and Whinston 1996b) to satisfy confidentiality requirements. The informal collaboration is an example of a special interest group forum where readers post questions, comments, and counter-arguments about specific issues in electronic commerce. A prospective author submitting an article on-line marks areas of interest which closely match the thrust of the article. A subset of reviewers (who have pre-registered themselves as having expertise in certain areas) are automatically chosen and notified. The reviewers connect on-line to a private repository of the journal to review the article. For increased efficiency, the system automatically appends the reviewer’s comments and recommendations to the submitted article. To prevent a reviewer from being influenced by other reviewers’ comments, the system hides the latter from a reviewer’s view. However, if the review process requires changes in its workflow, the technology base of EC World is well equipped to accommodate *ad hoc* needs. Once three reviewers have reviewed an article, the system notifies the administrators of EC World of the result. While the process of review has been characterized earlier as an *ad hoc* workflow (Georgakopoulos, Hornick and Sheth 1995), we have converted it into an *administrative* workflow. Another unique aspect of EC World involves building its reputation based on not just who publishes and reviews articles or the quality of the articles published, but also on the standing and stature of its readership. In conventional publishing, it is just not feasible to identify key personalities from a readership base and to make it efficient for them to engage in an ongoing interaction process. EC World incorporates micropayment incentive schemes to encourage such participation.

The key technical innovations in EC World are the integration of the Web and relational databases to provide an enriched platform to handle textual information dynamically and to support on-line submission and preview, as well as the modular storage and processing of all information as an object based model.

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