

# The Future of Scholarly Electronic Publishing at Kuwait University: arab journal for the humanities as a Case Study

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## Abstract

Since the development of the Internet over the last few years many attempts have been made to introduce academic journals in universities around the world. However, there has been no attempt to set up an electronic journal at Kuwait University. The objective of this study is to offer a proposal for *the Arab Journal for the Humanities* (AJH) to be the prototype of an academic electronic publishing technology, and the likely pattern and the extent of its diffusion in Kuwait University. The authors then go on to suggest that for the first time the scholarly paper journal at Kuwait University can be supplanted or, at least, supplemented in a significant way by another medium - the internet - and this may lead to a new type of scholarly discourse. The factors investigated relate to networking, access to information, intellectual property and copyright, and managerial aspects. Finally, the paper is intended to stimulate debate and consensus-building among faculty, librarians, university administrators, and scholarly publishers throughout Kuwait University.

## Intorduction

The phenomenal growth of the computer industry coupled with advances in telecommunications have given rise to new communications systems that allow a wide distribution of messages from one point to another, conquering space and time. A quick scan of topics pertaining to the new media technologies leads to the inevitable conclusion that electronic publishing is the "talk of the town". The newest entrant in this arena is academic journals, suddenly highly susceptible to the charm of the new powerful medium known as the Internet. Since the rise of the Net (the informal name for the Internet) over the last few years many attempts have been made to introduce electronic journals in universities worldwide, but there have been no attempts at present to set up an electronic journal at Kuwait University. From the authors' point of view the main reason for this is an acceptance and adoption problem. There is no great technical difficulty in making current journals available electronically. Most of the academic journals at KU already use computerized typesetting, so it is just a matter of making their files available to readers via the University network.

First, this paper provides a summary of the present state of electronic publishing and its impact on libraries and information services, with particular reference to management, professional and operational implications. It over-views several critical questions about the electronic journal. What is it? What is its appeal? Where will it come from? At what rate will it appear? When will it be accepted? Second, in this paper the authors describe their vision of what future academic journals will be at Kuwait University. This includes a proposal for the *Arab Journal for the Humanities* to be the prototype of the kind of electronic journal of the future, along with a number of recommendations for action to be taken to overcome the problems that electronic publishing has introduced. These relate to networking, access to information, intellectual property and copyright, and managerial aspects. It suggests that for the first time the paper scholarly journal at Kuwait University can be supplanted or, at least, supplemented in a significant way by another medium, and this may lead to a new type of scholarly discourse. Finally, the paper is intended to stimulate debate and consensus building among faculty, librarians, university administrators, and scholarly publishers throughout Kuwait University.

## Definitions and Scope

The term "electronic publishing" covers a variety of activities employing a range of media, at present comprising online services (including videotext), magnetic and optical disc products, compact disc (CD-ROM), and disc-interactive (CD-I), and electronic journals<sup>1</sup>. The scope of this paper is limited to the "electronic journal". Because several of the electronic publishing activities exhibit common features, and function by the digital processing of information, some important considerations are applicable to all, while others present individual peculiarities. For

present purposes, an "electronic publication" is defined as being a publication which requires the user to employ an electronic device at some stage for its reception and/or its reading<sup>2</sup>. By "journal," it is meant the scholarly journal. The scholarly journal mainly communicates the work of scholars, academics, and researchers, and it contributes to the development of ideas that form the body of knowledge.<sup>3</sup> By "electronic journal," it is generally meant one which is delivered electronically via computer networks<sup>4</sup>.

### A New Form of Publishing

There is wide recognition that electronic publishing will significantly affect academic journals and that traditional scholarly journals will disappear in the next 10 to 20 years<sup>5</sup>. However, it is expected that changes will come much faster and will be much deeper than is generally anticipated. Further, they could occur suddenly. It is impossible to predict the date or speed of transition, but only because these will be determined by sociological factors. The technology that is necessary for future system is already available. The speed with which this technology will be adopted by the academic community will depend on how quickly they are prepared to break with traditional methods in favor of a superior and novel system. However, the pressure towards changes is going to grow, and will soon become irresistible.

The arguments above suggest that in the future both the publishers of journals and libraries will play a much diminished role in scholarly publications. This leaves the possibility of present journals surviving almost intact, except that instead of being printed on paper, they would be electronic. While this might be an intermediate stage, it will not be the final one, and publications will undergo a much more dramatic change. The reason is that electronic publishing offers many more possibilities than traditional paper journals. This switch to a paperless society could have a number of benefits, including the following:

- The creation of an enhanced communications system in the academic circle. Academic papers could be read, stored, and easily retrieved with the accuracy and control afforded by a computer.
- The ability to conserve physical space because information would no longer be saved on bulky paper.
- Publications in an electronic form are very elastic. They can be stored diversely and organized and communicated through hypertext, hypermedia, and other retrieval mechanisms.
- Electronic publications could be easily revised. This is an important step for publishers and librarians, necessitating continual updating of their publications.
- The advent of cost-effective system also opens up electronic publications to a broader readership base<sup>6</sup>.

Because of the publishing crisis, almost all libraries are receiving a

diminishing fraction of the literature that is needed by local scholars. Hence there is an absolute need to provide access to journals not on local shelves<sup>7</sup>. Only those journals that can supply it conveniently will survive. That is surely why many publishers are beginning to provide electronic versions of their publications. As scholars become familiar with electronic document distribution and learn how useful it is, they will increasingly demand that all journals be available in that form. In light of these different visions of electronic publishing it is interesting to see what new developments are actually taking place.

It is natural that with the arrival of electronic mail, this process is tending to move from paper to an electronic format. The ease and economy with which articles can be widely distributed electronically have led a number of volunteers to set up article data bases for their subdiscipline or their organization<sup>8</sup>.

### General Problems in Academic Publishing

Publishing the results of scientific research is the basis for the advancement of science and technology. Over the past decades traditional academic publishing has been facing ever increasing difficulties because of the following reasons:

- The continuously growing number of academic publications.
- The increasing specialization of scientific disciplines.
- The rising cost of distribution, acquisition and archiving.
- The danger of unavailability and/or inaccessibility<sup>9</sup>.

The growing number of publications is the direct result of increased support of education and research all over the world. At the same time, financial resources for purchasing scientific literature are not expanding, thus limiting the dissemination and accessibility of this literature. Solutions for these problems are seen by scientists, publishers, and librarians in the development of the computer and network telecommunication as well as software technology<sup>10</sup>.

Although some circles in science predict the fall of traditional publishing arriving within a couple of years, a closer look at the current status rather indicates that we are only in the prenatal phase of electronic publishing in the humanities. The rapid development and expansion of the Internet all over the world have certainly improved and enhanced communication, and we are beginning to realize a true alternative to traditional publishing in this electronic environment. Nevertheless, the electronic technology will eventually also become a publication medium. Many experiments have been initiated to gain experience as well as evaluate and possibly define appropriate methods and conditions for electronic article publishing<sup>11</sup>.

### Technology Trends

A doubling of academic journals transmitted each year on the Net in the U.S. corresponds to a growth rate of more than 50% per year (Figure 1). This is

fast, but nowhere near as fast as the rate of growth in information. Equally dramatic growth figures can be cited for information processing, transmission, and storage. The point of citing these figures is to demonstrate that advances in technology have made it possible to transform scholarly publishing in ways that were impossible five years ago<sup>12</sup>.

There were visionaries who ten or more years ago foresaw the dramatic changes that technology could have on scientific information dissemination, but their dreams took a long time for technology to provide the tools that made those futuristic dreams realizable<sup>13</sup>. In those days most computing was done on mainframes, and the few fortunate enough to have access to time-sharing systems had to content themselves with printing terminals communicating at low speed. Electronic publishing and intensive collaborations across oceans were not feasible. With rapid advances in technology, however, we are at a stage where the needs of an electronic publishing system for academic journals can be met easily. Further, we can obtain a system that will give us many additional capabilities that are inherently impossible for paper journals to provide.

Considerable work has been done to allow Internet documents to look more attractive using what is known as "text markup". Text markup employs sets of standard ASCII characters to define document structures and the logical relationships among document parts. The standard for text markup is known as Standard Generalized Markup Language (SGML). Word Wide Web (WWW) applications use a subset of SGML designed for hypertext applications, which is called Hypertext Markup Language (HTML). Client software now exists, that is capable of receiving the marked-up text and presenting an attractive, well-formatted display and/or printout. SGML documents will become more familiar to users as the technology evolves<sup>14</sup>.

With character-coded text, a document is made up of a series of individual codes, each representing a specific letter or symbol. The near-universal code is ASCII (American Standard Code for Information Inter-change), which uses eight bits to represent each letter (seven for coding data, and one parity bit). This permits a total of 128 characters, which are used to represent the lower-case and upper-case alphabets, punctuation symbols and some diacritical symbols. Character-coded text can be searched algorithmically, by instructing a computer to look for all occurrences of the string of signals which represents the sought term or terms. Digitized text, if it can be downloaded into a computer memory, can be manipulated very easily, as everyone who uses a word processor knows. Online databases are the classic example of digitized electronic publication. Character-coded text which is stored on a solid-state device, like the current handheld electronic dictionaries and translators can be searched but not manipulated, because the text cannot be copied into a computer. Character coding is applied only to text, and obviously cannot be used for graphics<sup>15</sup>.

## Electronic Publishing: The Present Position

The dramatic increases in the cost of commercial scholarly journals have led some in the library community to suggest that it may be time for equally dramatic restructuring of the process of research publication. Patricia Battin, Vice President for Information Systems at Columbia, urged that universities play a much greater role in the publishing enterprise. "The advent of electronic capabilities provides the university with the potential for becoming the primary publisher in the scholarly communication process. At the present time, we are in the untenable position of generating knowledge, giving it away to the commercial publisher, and then buying it back for our scholars at increasingly prohibitive prices. The electronic revolution provides the potential for developing university controlled enterprises through scholarly networks supported either by individual institutions or consortia"<sup>16</sup>.

An extensive search revealed that Arabic academic journals are non-existent on the net. However, Arabic software developers are in the process of introducing a host of programs that are intended to support Arabic electronic publishing<sup>17</sup>.

Scholarly journals have evolved during the last three centuries, in the world shaped by Gutenberg's invention of movable type. This invention made possible wide dissemination of scholarly publications. However, because printing, although much cheaper than hand copying, was still expensive, academic journals were constrained into a format that emphasized brevity. Further, the standards have promoted correctness. Since it took a long time to print and distribute journal issues, and corrections likewise required a long time to disseminate, it made sense to have a rigorous refereeing standard. As a result, academic literature has become reliable, in that authors feel free to use results published in reputable journals in their work, without necessarily verifying the correctness of the proofs independently. The first point that should be made is that electronic publication does not in any way prevent the maintenance of present publishing standards.

An important distinction between the types of electronic publication is that of its means of transport or delivery. Some publications are delivered on a tangible medium such as CD-ROM, a magnetic tape, disc, or memory card, or a solid-state device incorporated in a reader, as used in hand-held electronic dictionaries. Others, like online information services, teletext and videotext are delivered via a communications medium, over wire, optical cable, satellite or broadcast. Network publishing, including electronic journals and bulletin board publication, falls into this category, as would electronic document delivered in material form continue to be available to, if not becoming the property of, the purchaser. Those delivered by communications channels are not continually available unless recorded by being transferred to a relatively permanent medium; non-material publications are in effect more like services than goods<sup>18</sup>.

In August 1995, the National Technical Information Services brought forward its first report to the Publications Committee. It presented a view of the current Internet

state-of-affairs with an eye towards identifying appropriate opportunities for academic journals activities. The possibility of reaching a global audience of scholars with impossible speed via the Internet is attractive to researchers. On the other hand, the possibility of disrupting an economic model of publishing which derives revenue from subscriptions to print journals troubles traditional publishers<sup>19</sup>.

It can be seen that the essential characteristics of electronic publication, from the point of view of the librarian and most other users, are firstly, whether and to what extent the content of the publication can be manipulated and searched by the user; and secondly, what sort of equipment is required to receive, read and store the publication.

Once many journals become available electronically, paper copies are likely to disappear. Necessary information will be available electronically, and most of it will have to be accessed electronically, since the local libraries will not be able to provide copies of all relevant journals. Therefore researchers will have less incentive to press for paper journal subscriptions to be maintained, which will lead to diminished circulation, and therefore to higher prices and more pressure from libraries to cut back on subscriptions<sup>20</sup>.

Electronic journals have many advantages over paper ones. Let us recall that paper journals evolved in the era where printing was the only practical method of wide dissemination of information. This resulted in bulky publications that are expensive to produce and maintain. As a result, a huge infrastructure of publishers has evolved to acquire and edit the manuscripts, and then print and distribute the journals. Further, another large infrastructure has evolved, that of libraries to acquire, catalog, shelve, and to make them accessible. We should not forget how cumbersome this system is. Except for those living near huge libraries, access to this information is difficult. Even for those, at institutions with good libraries, obtaining the necessary information means a physical trip, often to another building. Often it requires a wait while a copy is brought back from storage, or else is recalled from another borrower. In short, traditional paper journals are not convenient. Electronic publication offers a way to make the literature accessible around the clock in the comfort of the one's office or home. Moreover, it can make this literature accessible to everyone.

## THE ARAB JOURNAL FOR THE HUMANITIES: THE PROTOTYPE

The *Arab Journal for the Humanities* was founded in 1981 under the provisions of the Council of Scientific Publishing at Kuwait University. The Journal is published quarterly in both Arabic and English with a circulation of approximately 3000 copies distributed worldwide. The main objective of the journal is to disseminate research in areas such as linguistics, comparative literature, social, psychological and philosophical studies, and applied arts.

## The General Idea

Due to the rapid growth of the Internet during the last few years, this medium had become the most attractive network worldwide. With some 2 million Internet nodes worldwide at the time of writing, an estimated 50 million people can connect to Internet<sup>(21)</sup>. Additionally, nearly all researchers in the social sciences have access to the Internet today. This makes the Internet the ideal network for distributing the *Arab Journal for the Humanities*. Under these premises the journal is not only universal in the sense that it covers all aspects of research in humanities, but it is also universal in the way it is accessed: readers can use it at any time and at any place worldwide.

The editorial and refereeing functions can be performed just as they are today, and the standards can be maintained. In the simplest version, all this means is that instead of having to go to the library to look at the latest issue of the journal, one can log in remotely on the journal's server and look in a directory for the latest issue. With the electronic mail on campus, one can also arrange to be notified via-e-mail about papers accepted by a journal.

Evidence exists which suggests that existing network facilities at Kuwait University will complete the lectronic journal puzzle in a short time. But before jumping further into speculation, the following points should be taken into consideration:

- Technical Access and Control (network performance; hardware and software needed for electronic delivery).
- Intellectual property and copying conventions with respect to network publishing.
- Managerial aspects of publishing on the Net compared to those of print publishing.

We intend, by these considerations, to provide sufficient information to allow the *Arab Journal for the Humanities* to begin making informed choices with respect to the changes that are now affecting publishing.

## Technical Access and Control

The Internet provides several interesting examples of information dissemination systems. The use of electronic mail (e-mail) for distribution of academic journals is spreading. Once journal distribution is done vai-e-mail it is much easier to create one script and send 100 copies electronically than it is to make 100 xerox copies, stick them in envelopes, and address them.

The most common scenario for the *Arab Journal for the Humanities* involves setting up a modest integrated system for electronic delivery of the journal (Figure 2). With respect to Internet delivery channels, we suggested that the client/server option available at UK Computer Center would need to be employed with considerable innovation to approach a level of publication utility that might effectively exploit the potential for scholarly journal publishing via the Internet. A closer investigation of the rapidly-evolving Internet environment over the last several months, shows that these options are employed in most electronic journal in Europe and the United States<sup>22</sup>.

The natural evolution of the World Wide Web (WWW) can accomplish our aim. Many people are already familiar with the use of web browsers or navigation tools on the Net. A uniform naming convention is becoming common, so that the *Arab Journal for the Humanities* at Shuwaikh Campus will be accessible at <http://www.ajh.kuc01.kuniv.edu.kw>, and will be organized into directories by year or name of author. The logic of having a uniform system is so overwhelming that this convention will be adopted quickly and widely. They can be combined into a single database by a programmer who writes the simple software required to keep track of changes in the journal database, and copies new additions over the network. Alternatively, they can be accessed by various Internet tools such as Gopher or FTP (File Transfer Protocol), which present a convenient interface. In either case, the result would be to give the scholar immediate access from any place on the Net reprints of the journal.

In the meantime, it seems that we can start with a couple of things immediately which will be useful now and which prepare us for the time when research will go online. We can make the Journal Notes available in electronic format. Also, we can distribute abstracts for each issue in some simple format—probably a Table of Contents with the abstracts included. Both of these are modest proposals in that they should not add much in the way of costs, but they have the potential to increase awareness of the journal. More importantly, this course of action will allow us as researchers and as members of the journal to develop an expertise in the practice of electronic communication. They will also establish an electronic frame of reference from which to proceed when appropriate opportunities for electronic publishing present themselves.

Once an article is accepted, it would be available to anyone. Depending on subject classification or keywords, notification of its arrival would be sent to those subscribing to alerting services in the appropriate areas. Comments would be solicited from anyone, and would be appended to the original paper. There could be provisions for anonymous comments as well as signed ones. The author would have the opportunity to submit revised versions of the paper in response to the comments. All the versions of the papers, as well as all the comments, would remain part of the record. This process could continue indefinitely, for years after the initial submission.

The main point about this system is that it is cheap. The software is available at no cost, and not much maintenance is required. Scholars would submit articles electronically, the system would automatically file them and send out abstracts to lists of subscribers. Then all the papers can be retrieved through e-mail requests.

No doubt this new electronic publishing system will require experts for classifying information and linking it to other sources. However, that number will be small, at least in the scholarly publishing area. It should be possible for the Academic Support Services Section at Kuwait University Computer Center to provide most of the services needed.

## Intellectual Property and Copyright

Many commentators interpret "copyright" as a ban on making copies for no matter what purpose outside a limited definition of fair use. They may demand a mechanism to control electronic copying via the Internet, or they may dismiss copyright as a useless anachronism born of print technology. Legal experts have expressed the view that the objectives of copyright – to provide incentives for communication of scholarship and to protect the integrity of scholarly communication--are valid aims in any medium<sup>23</sup>.

Under the Copyright Law one would expect that, in Kuwait and most other countries, copyright would automatically be afforded to authors when their work is mounted on an Internet site. Whether one understands this concept of copyright to be good, bad or irrelevant, it is clear that copyright concepts cannot be upheld in the networked environment via any mechanism that is currently available.

Many networked publishers are invoking contract law to safeguard the aims of copyright<sup>24</sup>. That is why electronic files so often include a statement of licencing for specific usage rights in return for adherence to stipulated rules regarding attachment of a statement of responsibility for the work's creator.

Electronic journals, as sketched in our proposal, can follow exactly the same policies and might even have the same names as current paper journals. Thus the reliability of literature depends primarily on the publishing norms, and not on the medium.

## Managerial Aspects

In light of the above outlined proposal it is suggested that activities for the management of the Arab Journal for the Humanities will be reassigned to include the following tasks:

- selection process, i.e. provision of peer-review organization and quality control.
- editing, styling, and formatting.
- storage, dissemination, and documentation.
- cataloging, referencing, indexing, archiving, and standardizing.
- continuous adaptation to new technologies to guarantee access and retrieval.
- current awareness services (promoting).
- copyright protection (integrity, security).
- revenue, royalty collection and billing.

## Conclusion

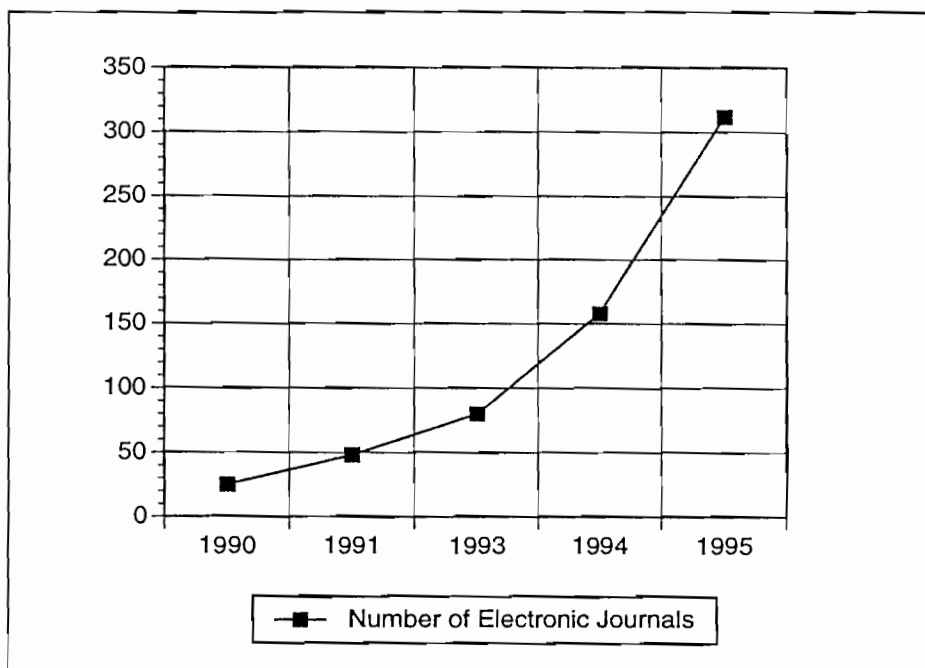
The achievement of these functions on the KU computer network to deliver the *Arab Journal for Humanities* may not be all that far off. We intended in this paper to provide enough technical detail to give some common ground for future implementation.

Electronic publishing and electronic communication in general are likely to have a profound impact on how academic research is performed. It is likely to

promote a much more collaborative mode of research. The authors are convinced that scholarly electronic publishing will take over traditional academic journals. It is impossible to predict accurately the date of transition. The basic technology that makes it possible is here, so it is a matter of guessing how soon the necessary infrastructure of editorial systems can be developed, and how quickly it will be accepted by the academic community. It is expected that traditional paper journals will become irrelevant to scholars' needs within 10 years. They might survive for a while longer, simply because of the inertia of entire academic publishing and library system, but then there might come a sudden transition, as the realization spreads that this system is obsolete.

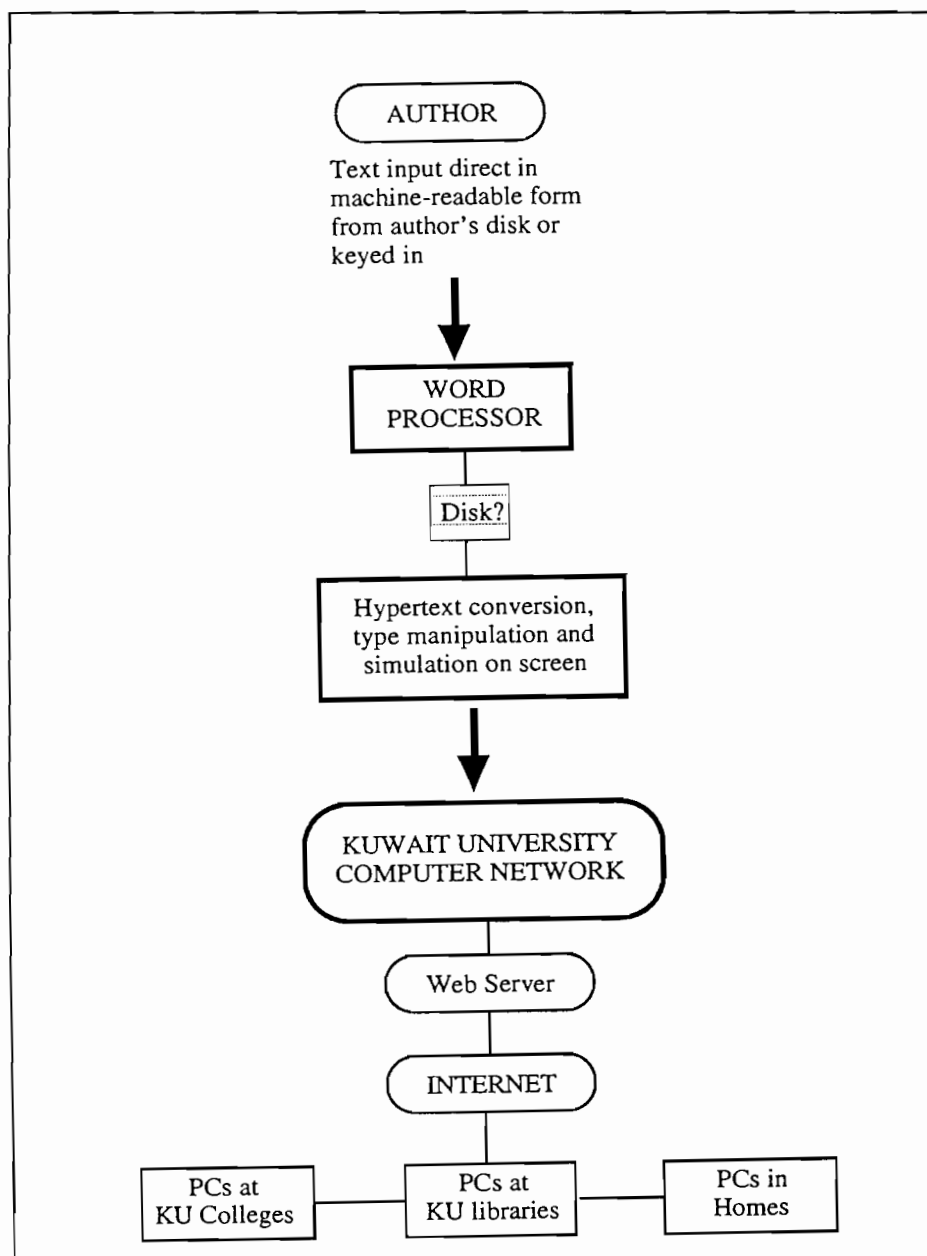
Electronic access to scholarly articles seems to be here to stay. There are simply too many advantages for the author, the librarian and the university as a whole. The researcher has a strong incentive to have his or her work easily accessible to other scholars, and he or she has the final say on where it is published. How great the competition of academic journals will prove for commercial journals remains to be seen.

Figure 1.  
Year and Number of Electronic Academic Journals in the U.S.



Source: National Technical Information Service (1995). Washington, D.C., USA

Figure 2.  
Proposed Future Electronic Delivery of the *Arab Journal for the Humanities*



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