Information Access in the Digital Era:

By Brian L. Hawkins

Libraries, as well as colleges and universities, are facing major transformational change as digital technology fundamentally alters how services are provided, research is conducted, and learning is enabled. Technology is breaching the traditional disciplinary boundaries through which the institutions are organized and through which information is categorized and accessed. It has challenged and made obsolete many current practices of providing library services, budgeting resources, defining student constituencies, and handling tenure decisions, for example.

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Libraries provide a clear example of both the promises and the pitfalls of new technologies and the challenges and the problems created. The acid paper that helped fuel the spread of literacy in the mid-nineteenth centuryironically contained the seeds of its own destruction; during the last forty years, libraries have been faced with a massive preservation challenge. Today, digital technology presents a similar dilemma: the potential for greatly enhanced access combined with unforeseen and unanticipated risks.

Perhaps the greatest obstacle to mov- ing forward in this area is the myth that the Web already provides a library envi- ronment. Too many political and aca- demic leaders believe that all scholarly and research publications (in- cluding university, governmental, research, and museum sites) should be universally available on the Internet in perpetuity. The Web is not a library, and access to it is far from egalitarian. This need to be clearly understood before we can begin to confront both the challenges and the promises of the Internet.

The Web is not a library, and access to it is far from egalitarian. This need to be clearly understood before we can begin to confront both the challenges and the promises of the Internet. While the Internet offers vast amounts of information available in an almost ubiquitous fashion, many of the basic defining characteristics of a library are missing. These missing elements will significantly retard the development of a truly comprehensive environment for society. Libraries must be part of the fabric of the new electronic infrastructure that is emerging. Information access to the context, the services, and the organization of information is essential to teaching, learning, and inquiry at all levels of the educational systems, as well as to society at large.

A Vision
What is it precisely that we strive for, aspire to, or dream of regarding online con- tinue, and access and services in this new elec- tronic era? Our vision must include a guarantee of electronic access to the collec- tive corpus of traditional libraries, as well as to Web-based materials and propri- etary resources, as is the case with the electronic infrastructure that is emerging. In addition, this access should be available to anyone, not just a chosen few who have access to ma- terials as a function of geography or sta- tus.

The vision emphasizes that these re- sources be “ubiquitously available.” Thus they can be accessed via the Internet, at any time and from any place. This phrase was carefully chosen to emphasize ac- cess, but it leaves open the issue of cost. These resources are of little value if they are not available in a timely and convenient manner. Access may be free, licensed, or available through micro-payments. There are no reasons why many different researchers and potential players who will have to be in- cluded if this vision has any chance of be- coming a reality.

Finally, the vision proposes that these resources be available “in perpetuity” This phrase emphasizes the need for a strategy to preserve the resources of the future. While the challenge of acid paper contin- ues to plague librarians of traditional col- lections, this problem pales in comparison to the challenges of preserving the new digital collections. The development and imple- mentation of a coherent plan for preserv- ing these resources is essential. The broad- est definition of the mission of the current millennium, this function has been largely ignored, and knowledge is being primarily lost to the Internet.

This vision is not original. This similar vi- sion was articulated during a series of meetings, held in 1994, of chief academic librarians, during which the following was stated: “We must develop new ways of describing and vali- dating content and make an initial at- tempted to outline a possible direction that might lead to a first step in the fulfillment of the vision. Let’s start with a discussion of knowledge management.

Knowledge Management
For many in the academic world, knowl- edge management is an old concept, a func- tion historically performed by librarians. However, in the digital era, this term has taken on new meaning and its meaning is certainly not available to a broader public. In short, knowledge management is capturing the knowledge of process—how things work, how procedures were created, how things were done, etc.—and everything that might lead to a first step in the fulfillment of the vision. Let’s start with a discussion of knowledge management.

Knowledge management is the capture of the knowledge of processes—how things work, how procedures were created, how things were done, etc.—and of various elements of in- formation connect to this process. Two di- fferent types of information are necessary to fully understand the nature and extent of the tacit knowledge. Explicit information is packaged, easily codified, transferable, and commu- nicable. Tacit information, on the other hand, is personal, context-specific, difficult to formalize, and hard to com- municate and transfer. Combining these two types of information—using formal and informal information to guide the processes—provides the potential value of knowledge management. The focus is on unraveling individual know-how and applying it to explicitly driven processes so that the right knowledge is available to the right people at the right time.

There is great value in the diversity and abundance of information out there [on the Internet], and one can reasonably expect that diversity and abundance to continue to explode. But the qualities that make the library valuable are not quite there yet. There is no organized cataloging, there is no commitment to preserving them, and thus no support system to help you find the difficult or missing resource. Fi- nally, there is no filter; that is, there is no one of the sense that a user of a great library has that somebody has thought about the possibilities and selected a set of materials to be both comprehensive and yet delimited. On the Internet, you never know what you’re missing.

Like all other visions, this one may never be completely realized, but the goal should be unambiguous and simple: “all scholarly and research publications” is a mammoth—and perhaps naive, if not impossible—task. However, it is impor- tant to try to maximize the potential of electronic publishing, these resources with as complete a collection as pos- sible, might result in full-text retrieval of current knowledge. This means access to more than just scholarly journals. It means access to historical and special col- lections, to other types of research out- put, to databases, to museum archives, to governmental data and publications—to everything that might have intellectual or academic value in the collection. In the end, this means access to a new electronic corpus of information, and it implies that the ap- propriate description and validation of content has occurred. The vision emphasizes that these re- sources be “ubiquitously available.” Thus they can be accessed via the Internet, at any time and from any place. This phrase was carefully chosen to emphasize ac- cess, but it leaves open the issue of cost. These resources are of little value if they are not available in a timely and convenient manner. Access may be free, licensed, or available through micro-payments. There are no reasons why many different researchers and potential players who will have to be included if this vision has any chance of be- coming a reality.

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Collaboration involves actual resource sharing, filling in the gaps that the participants would not be able to accommodate indi-

make references to other libraries or to other learning environments. Yet the cost and complexity of such "seeded" es-

The ability to truly collaborate is one of the greatest challenges facing higher education today, as it is often difficult to find resources or expertise needed for a project. Effective online learning models need to rely heavily on collaboration with external entities, as this will ensure that all available solutions to educational challenges are taken into account. This is particularly true in today’s digital world, where the Internet provides unprecedented opportunities for collaboration and information sharing. However, it is important to note that true collaboration requires a shared commitment and investment of resources, based on a shared vision. Only through a spirit of collaboration and a willingness to share knowledge and resources can we successfully adapt to the challenges and transformations arising in higher education today.