



THE POTENTIAL OF EBOOKS: Spreading Library Service Worldwide to Disabled, Illiterate and Poor Communities

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THE OPPORTUNITY

While electronic books have not seen breakthrough commercial success, they hold great potential to help the global poor, illiterate and disabled – a group of individuals numbering in the hundreds of millions who are motivated to read, but have little or no access to printed books. This group represents a vast social opportunity to increase access to information, books and education for disadvantaged communities and countries, building a larger long-term market while not detracting from the short-term market for full-priced books.

The technology to inexpensively provide access to electronic books for the disadvantaged is readily available. An Xbox or other gaming system, a TV and a stack of DVDs could deliver a talking electronic book library to a poor village for a few hundred dollars. In a few years, a used cell phone or PDA with enough power to play a digital book will cost \$10 or \$20 in the marketplace.

However, achieving this goal rapidly will require a conceptual shift from traditional nonprofit endeavors, which are generally difficult to scale effectively because the unit of service is tied to expensive infrastructure such as buildings, staff and physical assets. This is true of many libraries today. Instead, we hope to adopt the model of the technology sector, which can scale quite rapidly because the replication cost of a copy of software is very low compared to its usage value. Once intellectual property is created, it can spread around the globe very inexpensively. In the social sector, this means that it is much easier to scale accessible digital books because the unit of service (providing access to a book) is not tied to expensive physical infrastructure in the form of buildings and printed books, but instead is delivered through low-cost electronic media. It makes little sense for libraries to operate in the same manner in which they currently operate – the lending model - when the value of a \$.50 CD-ROM is less than its handling costs.

Traditional publishers are generally afraid that ebooks will undercut their profits because of the potential for easy redistribution, and have therefore held back on efforts for ebooks to achieve critical mass. Benetech believes that the opportunity to provide dramatically increased access to books to millions of people worldwide who otherwise would not have access is so compelling that these barriers can be overcome. This white paper sets forth our vision of how to accomplish this ambitious goal.

LIBRARIES FOR PEOPLE WITH PRINT DISABILITIES

The best short-term opportunity for realizing this vision is in the area of libraries for people who are blind or have other disabilities that restrict their ability to read print books. Currently, it is quite expensive to create accessible books by conventional means, such as human audio recordings or manual transcription of books into Braille. Nonprofit and government agencies spend \$1,000-\$10,000 for each title in their collection. The systems needed to deliver costly analog media such as four-track cassette tapes and Braille books are quite expensive, requiring costly postal subsidies and extensive infrastructure to handle inventory and order processing. This limits the number of books that can be created by the major institutions in developed countries each year, which in effect denies people with disabilities access to most of the books enjoyed by everyone else. Roughly 100,000 people in the United States alone are forced to work around this limitation by purchasing PC-based scanning and reading systems developed for people with disabilities, which are both expensive (approximately \$2,000 for a PC, scanner, and talking software) and inefficient (users must spend 3-4 hours laboriously scanning each book so that it can be converted into synthesized speech).

In short, the status quo in the developed world is not acceptable, and things are worse when we consider minority populations and the developing world:

- Less than five percent of books are available in accessible formats to people with disabilities in the developed world.
- Access to Braille books, a critical need for literacy for the blind, has been limited by the expense of transcribing and printing Braille materials.
- Access to accessible books in developing countries is extremely limited or nonexistent.
- Access to minority languages, such as Spanish in the United States, is minimal.

However, a solution is within reach. Digital libraries for people with print disabilities could overcome many of these limitations and deliver far more accessible books to their customers than is currently possible. In addition to being less expensive to produce and distribute, these books have a number of compelling features not available in accessible books in analog formats, such as skimming, highlighting, bookmarks and more. Moreover, they can be made accessible to those who are not comfortable using a computer by using CD-based portable talking book players that will be available for less than \$300 or similar off-the-shelf devices that can cost much less.

This shift to digital media will require a rethinking of the operational structure and policies of libraries for the disabled:

- Electronic media such as CDs or DVDs that cost less than a dollar per unit completely change the asset management equation. It makes little sense to require that books be returned if handling the return of the disc costs ten times more than creating another one. If the library still wishes to ensure that it is lending books rather than giving them away, it can set up the electronic version of the book to expire after a certain time period. The user would then simply throw the media away.
- Of course, if you can deliver a book electronically, there is almost no cost to serve a book request and the whole concept of returning the book becomes obsolete. Again, there are content management solutions that can deal with the issue of the concept of giving a book

away as opposed to lending it out. However, the change in cost structure should drive a reassessment of the lending concept: why deny disadvantaged people longer-term access to ebooks if it costs nothing to do so?

- As a result, the cost of delivering library service to the blind and disabled can easily shrink. As users switch to digital media, fewer large asset-handling facilities will be needed and the cost of postal subsidies will be reduced. Even if a large, developed world library for the blind has hundreds of thousands of legacy users who will not switch from physical Braille or a simple talking book appliance with which they are comfortable, there is a powerful argument for generating this media on demand from electronic files and drop shipping the media to them.
- As libraries for people with disabilities switch to electronic media, standard libraries in the U.S. and Canada could easily become a gateway to tens of thousands of accessible talking books, bringing accessible books within reach of more qualified users with disabilities. It should be possible to deliver free talking book software to any library that has an Internet-connected PC.
- Access to Braille could be greatly expanded. In developed countries, an increasing number of Braille readers use electronic Braille notetaker devices. Once a good quality digital book is available, converting it into an electronic Braille format that can be downloaded into such a device is simple and more convenient than shipping bulky printed Braille books to users. Braille literacy is increased when a reader can carry around hundreds of Braille books in small notetaker. Also, generating embossed physical Braille books on demand from master files reduces printing costs.

Although these issues can be controversial, key leaders of the libraries for the blind recognize that dramatic change will occur over the course of the decade. Low cost solutions like our Bookshare.org service are currently demonstrating how digital systems can function at a tiny fraction of the cost of a traditional library for the blind.

LIBRARIES FOR THE POOR AND ILLITERATE

Millions of people worldwide lack access to high quality library services and/or funds to purchase the books they would like to read. Digital ebooks can change this equation, providing access to books on terms that are reasonable for poor and disadvantaged communities.

It is possible to affordably replicate on a global scale what the Carnegie Foundation achieved for public libraries in the United States using current technology, accelerating the slow progress being made through bricks and mortar initiatives. The most powerful characteristic of these digital investments is that they cost so little to replicate across nations, regions and the world. For example, the cost to develop the software required to manage a large ebook collection is probably in the range of several million dollars, including book players, file management and digital rights protections. Once this software has been created, it can be implemented in a variety of countries, requiring only scanning and proofreading of 10,000-50,000 books in a given language to start a major national digital library for people with disabilities. The regulatory environment often exists for disability access. Minority languages and cultures can also be supported, helping preserve cultures that may be disappearing over time.

Once the technology and content are available to national libraries, it becomes possible for them to set up small game system-based community libraries for \$300-500 that can be housed in existing facilities, such as a local schools. Such a highly scalable initiative could help provide a large number of people with greater opportunities and access to information. The collections made available could include core national texts, major literature available in the most widely used languages, and reference and technical works, including legal codes, regulations and government publications. Many of these texts would be available freely for members of the general public, but permissions would need to be secured for copyrighted works, or a country-by-country public interest exception for public libraries in developing countries. Of course, such a library would serve people with disabilities or the illiterate as well, allowing them to gain access by listening to books being read with synthesized speech.

To get the full value from such a system would still require significant human capital and program investments in each country, but greatly lowering the barriers to book access would enable programs that would never otherwise be practical. Our recommendations revolve around how technology makes the provision of library services far more affordable, but technology by itself does not deliver literacy and information access. These new libraries will still need extensive outreach and training/education programs to ensure that the great potential of these ideas are actually realized. A key objective is providing librarians in these countries with a force-multiplier effect: to impact far more people with their expertise.

CONCLUDING ISSUES

The digital revolution in libraries for people with disabilities

The transition to digital media among national libraries for the blind in the developed world presents a significant opportunity. With equivalent budgets, these libraries can make a far greater number of accessible books available to more readers using digital media. It is crucial that this transition be made successfully, which will require a rethinking of the standard model for a national library for the blind (as described above). In addition, advocates for people with disabilities should make sure that the solutions that are created are leveraged internationally. Once countries have created copyright exemptions such as those in place in the US that include digital media (rather than just Braille and cassette), or received permission from copyright holders to distribute a significant collection of books in this manner, they could license appropriate software and build a large collection of digital books much more rapidly than would have been possible before. This collection could then be extended to those without Internet access using portable players or a game system solution.

A global solution with cooperation from intellectual property holders

Cooperation from intellectual property holders is essential to realizing our vision of increased access to books for the poor, the illiterate and people with disabilities in very poor countries. Although it is possible for governments to create exemptions to copyright or compulsory licenses in individual countries, a truly global solution depends on the cooperation of authors and publishers. They must be convinced that such efforts do not go against their economic interests since the users of ebooks cannot afford or access printed materials. For example, we were able to get the de facto support of the publishing industry in the United States for our Bookshare.org

service, even though it operates under a legal exemption that does not require publisher cooperation. The publishers' support and feedback has been critical to our credibility.

At the global level, a relevant model already exists. In the last year, an effort led by the Open Society Institute convinced major scientific journal publishers to provide concessionary access to their publications for the benefit of libraries in poor nations. The essential requirement for gaining the support of publishers for such a plan is a structure that benefits disadvantaged communities without impairing the existing markets for books. This will require agreements on digital rights management and other issues, but these problems can be solved.

It is important to note that access to the World Wide Web alone will not address the problem of information access effectively. Though the Internet enhances delivery options and provides access to some information resources, books are still the most important source of knowledge in our society – and the vast majority of them will not be available, affordable and accessible online unless we make that possible.

This opportunity to change the literacy equation for millions of people in the coming decade is irresistible. With permissions from intellectual property holders, we can provide hundreds of thousands of accessible books in a dozen languages or more for a total investment of \$10 million to \$20 million. The only question is how quickly we will take advantage of the dramatic possibilities offered by digital technology.