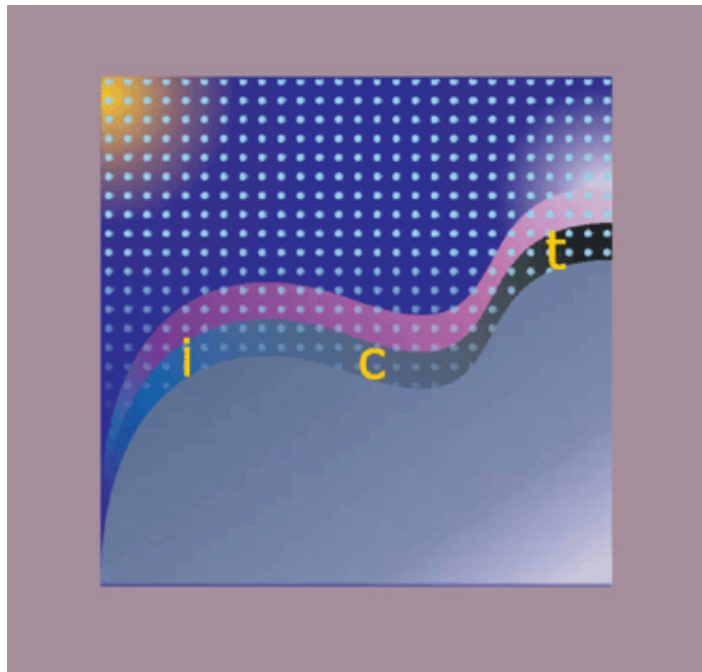


United Nations Conference on Trade and Development

E-COMMERCE AND DEVELOPMENT REPORT 2002

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Chapter 7

E-COMMERCE AND THE PUBLISHING INDUSTRY

A. Introduction

Publishing is a large industry present in all countries of the world.¹ There are no consistent and reliable global data on the total monetary value (e.g. in terms of actual sales revenue) of the world publishing industry. Even if such data were available, they would necessarily be incomplete, as they would exclude numerous publications that are distributed free of charge. To give a rough indication of the size of the industry, however, table 21 shows world trade in cultural goods, which include publications (printed matter and literature), for 1980 and 1998. Exports of printed matter and literature rose from \$ 7,623 million in 1980 to \$ 25,618 million in 1998. Within this category, exports of books grew from \$ 3,453 million to \$ 10,627 million over the same period.² Table 22 gives data on the number of daily newspapers published and the circulation per 1,000 inhabitants in developed and developing countries. Further data appear in annex I, which shows the total number of records in the ISSN Register for the period 1991 to 2001. The register is a record of periodical publications (serials), including electronic serials. It shows that in 2001 there were over 1 million

records and that new records added annually during 1991-2001 numbered approximately between 40,000 and 60,000.³

The value of the publishing industry to society, cannot, however, be fully assessed from trade figures, the number of publications or similar indicators alone. Vast unquantifiable spillover benefits accrue to users of published materials in the form of education, transfer of technology, advances in science and industry, the creation of new types of employment, and improvements in social services and indeed in the overall economic growth of countries. Major improvements in publishing resulting from the application of Information Technology and e-commerce technologies can be expected to augment these benefits.

Electronic publishing (e-publishing) is the publishing of information in electronic format. It is implemented by creating, maintaining, archiving and distributing documents using computers and networks. Electronically published materials may be created initially only for electronic transfer, or they may have been converted from material originally published on paper.⁴

Table 21
World trade in cultural goods by category

	1980				1998			
	Imports		Exports		Imports		Exports	
	\$ m	%	\$ m	%	\$ m	%	\$ m	%
Printed matter and literature	7 399	15.5	7 623	16.0	25 478	11.9	25 618	14.7
Music	8 557	17.9	9 040	19.0	50 870	23.8	47 618	27.3
Visual arts	4 979	10.4	3 559	7.5	14 992	7.0	9 8558	5.7
Cinema and photography	9 679	20.2	10 213	21.5	29 339	13.7	27 855	16.0
Radio and television	9 615	20.1	10 640	22.4	40 880	19.1	34 740	19.9
Games and sporting goods	7 610	15.9	6 425	13.5	52 096	24.4	28 586	16.4
All countries available	47 839	100	47 501	100	213 655	100	174 272	100

Source: UNESCO (2000), *International flows of selected cultural goods, 1980-98*.

Table 22

Daily newspapers: number published and circulation per 1,000 inhabitants

Year	Number of dailies			Circulation per 1,000 inhabitants		
	Developed countries	Developing countries	World	Developed countries	Developing countries	World
1970	5 266	2 681	7 947	292	29	107
1975	4 525	2 775	7 300	292	32	110
1980	4 488	3 359	7 847	363	37	111
1985	4 396	4 049	8 445	342	40	110
1990	4 229	3 991	8 220	340	42	107
1995	3 967	4 324	8 291	230	58	95
1996	3 972	4 419	8 391	226	60	96

Source: UNESCO (1999), *Annual Statistical Yearbook, 1999*.

E-publishing represents an improvement over print publishing technology and is considered a major development that may revolutionize information-related activities in society. Its rate of growth needs to be interpreted with caution, bearing in mind that many major technological inventions in the past took decades to have a full impact.

The consequences of e-publishing can be compared to those resulting from Gutenberg's invention of the printing press. This invention is considered the origin of mass communication. For the first time, it became possible to disseminate information and knowledge to large numbers of people who could share it simultaneously. Before then, there were only handwritten books made by monks, scholars and scribes and read only by churchmen, government officials and academics. With the introduction of print, intellectual life was no longer restricted to the elite as publications became more widely available to the general population.

E-publishing can bring about major reductions in the cost of producing and distributing publications, thus making it easier for many individuals and enterprises to participate as authors and publishers and for more titles to be published. Because of increased access to publications by readers and the availability of technology that permits more enterprises to enter the industry, e-publishing can foster a higher degree of competition and increased price transparency.

The benefits of e-publishing may be significant for developing countries. These countries lag behind developed countries in access to published material, including educational publications. Furthermore, their imports of published materials are substantially larger than their exports of those materials. By enhancing the

capacity of individuals and enterprises to produce and distribute publications, e-publishing provides great potential for promoting the growth of the publishing industry in developing countries and a reduction in this trade imbalance.

A discussion of e-publishing may touch on issues such as technology, the costs of production and distribution, pricing models, industry structure, the quality of published materials and intellectual property. This chapter provides a brief examination of these issues. With the advent of new technologies, the relationships between publishers, the media and consumers which were traditionally based on contractual licensing agreements with copyright protection, have completely changed in ways that make the situation difficult to control.

B. Publishing Features And Main Issues

This section examines the main features of and developments in e-publishing, using examples involving newspapers, scholarly journals and books (monographs and textbooks). While these categories provide a useful sample for study, it should be borne in mind that there are many other types of publications, including magazines, nonscholarly periodicals, newsletters, pamphlets, booklets, research reports, bulletin boards, catalogues, dictionaries, and encyclopedias. Also, each category may include many subcategories; for example, magazines include general-purpose and specialized ones. Furthermore, even the main categories overlap a great deal in content and format. For example, some books contain chapters contributed by different authors and thus in many ways resemble jour-

nals. In some cases, old journal articles by one or more authors are assembled into a book. There is therefore some degree of competition and interchangeability between different types of publications. Despite this diversity, however, the issues raised in connection with the three selected types of publications are relevant to the other forms as well. The choice is partly based on the fact that newspapers and books have mass markets of a much larger scale than other individual publications. Scholarly journals differ in many ways from the other two types, and also their recent history highlights to a greater degree the economic aspects of publishing, such as cost, pricing models and industry structure.

In each of the selected cases, a general description of the publication is provided in order to give the context in which issues are examined. Also, while the main focus is on economic aspects of e-publishing, brief accounts of technical and other related issues are given in so far as they have economic implications. For example, while the formats in which publications are presented electronically and their functionality are technical matters, at the same time they determine the software and other requirements imposed on users, as well as the searchability and quality of the published materials, and these are important economic dimensions.

1. Newspapers

Newspapers are serials usually issued daily or weekly. Their primary function is to report public news of general interest, although they may also include features, commentary and advertisements. Newspaper publishing enterprises range in size from small, locally based publishers to national and international ones owned by international conglomerates or industrial groups. All countries around the world publish newspapers, but the number of newspapers and the circulation of individual newspapers vary widely.

There is presently a great deal of interest in online newspapers, and numerous newspapers are now posted on the Internet. Some directories of online newspapers list over 10,000 newspapers covering practically every country around the world, including least developed countries (LDCs).⁵ While there is no evidence that all the listed online newspapers are fully functional, the sheer numbers involved demonstrate the overwhelming perception by newspaper publishers of the importance of an online presence and also the existence of demand for electronic newspapers.

The volume and quality of content and the level of sophistication of the browsing functionality vary considerably between newspapers. Most online newspaper publishers maintain print versions alongside the digital versions. The majority of the latter can be accessed through the World Wide Web (WWW) and use the hypertext mark-up language (HTML) format, making them readable with a standard Internet browser. This means that the reader has to be connected to the Internet in order to read the newspaper. An alternative means of distribution for e-newspapers is e-mail. For e-mail distribution, besides HTML, formats such as PDF (portable document format) and plain ASCII text are also used. E-mail distribution avoids the necessity of establishing an Internet connection at the time of reading the newspaper. Further, the PDF format may allow the publisher greater control of layout and content so that material cannot be quickly and easily copied, modified, and then distributed by third parties.

Some newspapers have automated search and archiving capabilities that enable readers to access back issues containing previous related articles and other background information for a given news item. In some cases, news items appearing in a current issue of the print version are reported in greater detail or with additional data in the online version. For example, the latter may contain more pictures, longer narratives, full interviews, and so on. In addition to text, online newspapers may offer other features, such as audio, video, graphics and charts, that enhance the news presentation. Links may give access to online libraries through which readers are connected to various reference sources. Another service is the provision of personalized newspapers, whereby a reader can receive an individualized selection of articles published in a given newspaper. To achieve this, the reader identifies preferred subjects such as current events, sports or cultural and political issues and the newspaper automatically designs a personalized edition containing articles that match the reader's interests. Yet another useful feature of online newspapers is continuous updating of news, something that would be too costly to accomplish for print newspapers. However, in spite of the possible technical and economic viability of a continuous up-dating, apparently at the moment only a few newspapers are providing continuous updates perhaps because most newspapers are still closely linked to their print counterparts in their production systems.⁶

The majority of online newspapers are free and provide unrestricted access to their websites. Some, while free of charge, impose access restrictions by requiring

the reader to enter an ID and password, both of which are issued after the reader has provided a selection of personal information. Other papers employ differentiated pricing whereby parts of the paper are free while other parts that contain special information require a subscription. Some papers even offer two separate online versions, one free and the other subscription-based. Where the entire online version is free, the funding comes from advertisements appearing in the print versions and, in some cases, in the online version as well. Some observers think that online versions are being offered for free merely on an experimental basis to allow publishers to gain information about readers and their Internet habits. In due course, more and more newspapers are expected to charge for access to their websites. While this change is already happening, it has not yet become widespread.

In some cases the online version comprises only selected parts of the print newspaper, which obliges readers to obtain the print version if they wish to access all the articles. Unlike print journalism, where interaction with readers is largely limited to letters to

the editor, online newspapers permit wide-ranging contacts between and among readers, editors and journalists that allow the newspapers to receive feedback from readers.

E-publishing has had an impact on newspaper journalists trained for or experienced in print publishing by obliging them to learn new methods of information collection and reporting. For example, it requires them to use skills needed for online presentation, including the use of video, animation and audio. Journalists are emerging who can combine information technology skills with elements of traditional news reporting.

Very little information is available on the cost of producing newspapers online as compared to that of print production. The example of the French newspaper "Le Monde" that launched in 1998 its web edition, offers an indication of its online strategy and related costs (see box 20). A great deal of discussion has occurred regarding the cost of publishing online scholarly journals, which are examined in the next section. The discussion there applies generally to online newspapers as well.

Box 20

The online strategy of Le Monde

Interview with Bruno Patino, Director General, Le Monde Interactif

Objectives

Created in 1998 to develop the web platform of *Le Monde* (www.lemonde.fr), Le Monde Interactif now offers a wide range of services designed to consolidate readership and attract more readers.

Initially, its implementation was driven by the need to compete with other newspapers that were going online. An online strategy is being progressively put in place to benefit fully from the Internet. The objective is to attract a wider, more varied readership and personalize the newspaper in order to offer individualized services that will match readers' personal preferences. According to Mr. Patino, this is a long process that has just started. The Internet has indeed made it possible to reach readers who would not have been reached otherwise, in particular in foreign countries (48 per cent of the persons who consult Le Monde interactif indeed live outside France, Source: Xiti – May 2002), and young readers. Indeed, figures indicate that the number of visits increased 389 per cent in two years (between April 2000 and April 2002). 60 per cent of the readers of the online version are under age 35, while the printed version attracts only 29 per cent of that age group. There is clearly a need for a newspaper to renew its readership, and every effort is made to offer attractive services to this readership.

The online version of *Le Monde* is designed to complement the printed version in offering dynamic and interactive services. These services include:

- Around-the-clock updates (7j/7, 24h/24) and three daily editions
- Articles from *Le Monde* and its supplements, complemented by site-specific articles, and many multimedia documents
- An edition accessible by subscription for 5 euros per month offering exclusive contents such as a daily morning newspaper (checklist), country information sheets, information kits on specific topics, etc.
- A personalized edition (thematic newsletters, weather forecasts, forums and chats and more than 720,000 archived articles)

Box 20 (continued)

What are the costs of *Le Monde's* Internet strategy?

If “conception, making and distribution” constitutes the traditional problematic of the publishing industry, the online version has dropped the “making” element since readers can decide which articles to print. This reduces the cost, not only of producing but also of distributing the newspaper, in particular abroad, and efficient delivery of the newspaper in good condition, which is not always possible by regular mail. For one euro, readers can get a PDF version of the daily edition that can be downloaded or e-mailed, whereas the printed version costs 1.20 euros. PDF delivery represents the least costly means of distribution, since it involves automated electronic procedures and little human intervention (technical maintenance). But so far sales related to the distribution of PDF files are rather low: about 50 to 500 copies are sold per day.

The online version has generated 8,008,550 site visits and 43,368,550 pages viewed in April 2002 (Source: Cyberm trie), which does not necessarily mean new clients. The cost of maintaining the site is quite high. Apart from the initial technological investment, the main costs are related to the employment of 57 staff members that are currently working for the online edition. According to Bruno Patino, large newspaper groups are using between 40 and 70 staffers to run their online versions. The costs are partly covered by advertising revenue, but the current size of the market and the rates for Internet advertising cannot cover more than 30 per cent to 50 per cent of the human resources costs involved in the online edition. Two additional types of resources come from online sales to professionals (enterprises); these sales cover from 30 to 50 per cent of the costs. To cover the remaining costs, every effort is made to attract more subscribers by offering new services. This requires constant efforts, and results will only be visible in the long run. For instance, the new edition for online subscribers (5 euros) that was launched in May 2002 has gathered thousands of new clients. The strategy is to attract more readers for both editions (online and/or printed), since the two readerships have different reading habits: On average, a reader spends 30 minutes reading a printed newspaper, on public transport or at home or work, whereas on the Internet the average site visit is less than 10 minutes.

According to Mr. Patino, it is impossible to predict the future of the online edition in the medium or long run, as it is technology-driven and technology is evolving rapidly. Wireless technology seems to be the next challenge, but it is worth remembering that recent technologies such as WAP services and GPRS, have not been as successful as was predicted.

2. Scholarly journals

Scholarly journals play a role as channels and sources of information important to society, in fields including scientific discovery, medicine, public policy, business, technology, industrial development, and so on.⁷ Articles in scholarly journals are based on original research and written by experts or scholars in specific academic or professional fields, as opposed to newspaper journalists. A published article is usually identified with the author who derives recognition from it. Journals typically have a review board consisting of peers or other scholars in the field that decide which submitted articles will be accepted for publishing. Unlike newspapers, scholarly journals have limited interest for the general public. However, they have dedicated markets comprising authors and readers who depend on them as publishing outlets for career advancement and as sources of scholarly or professional knowledge. Therefore, individual journals tend to have a higher degree of continuity and less demand elasticity than, for example, newspapers. Furthermore, the major

stakeholders for scholarly journals – journal publishers, scholars, public and private institutions and libraries – are different from those for newspapers, and thus some of the underlying issues in relation to e-publishing are different. On the consumer side, libraries play a pivotal role in the purchasing of scholarly journals, accounting for the bulk of subscription revenue.⁸

Many scholarly journals have traditionally been published by nonprofit academic associations, although there is increased participation by commercial publishers.⁹ In recent years, scholarly journals have faced severe financial problems resulting mainly from escalating subscription prices and from budgetary constraints faced by libraries, which are the major subscribers. Table 23 shows price changes in United States journal prices for the period 1984 to 2000. The budgetary constraints are mainly administrative in that institutions allocate budgets for journals based largely on their overall administrative priorities for given resources rather than on the demand for particular publications.

On the other hand, increases in the prices of journals appear to be the result of a combination of factors including rising production costs and the ability of publishers to charge as much as the market can bear. The latter ability is enhanced by the monopoly enjoyed by certain publishers and by the presence of inelastic demand. It has been suggested that the largest journal publishers may be playing the role of price leaders and influencing the prices of the other publishers. Another possible explanation is that too many journals have

entered the market in recent years, which has led to reduced circulation for individual journals and in turn to an increase in the average fixed costs.¹⁰ Interestingly, as tables 24 and 25 show, journals published by commercial publishers differ substantially from the prices of those published by nonprofit professional associations.

As will be discussed later in this section, observers have suggested that e-publishing could play a role in

Table 23
Price changes in serial (journal) prices in the United States

Year	Number of titles	Average price	Price change %	Index
1984	1 537	295.13	-	100
1985-87	N/A	N/A	N/A	N/A
1988	1 310	341.32	N/A	115.7
1989	1 308	363.20	6.4	123.1
1990	1 308	377.24	3.9	127.8
1991	1 307	412.38	9.3	139.7
1992	1 294	445.37	8.0	150.9
1993	1 294	466.57	4.8	158.1
1994	1 294	489.76	5.0	165.9
1995	1 280	522.01	6.6	176.9
1996	1 280	556.58	6.6	188.6
1997	1 281	578.22	3.9	195.9
1998	1 282	604.31	4.5	204.8
1999	1 286	638.18	5.6	216.2
2000	1 294	671.94	5.3	227.7

Source: *American Libraries*, May 2002.

Table 24
Non-profit journals, issue prices and prices per page (US\$), 1985 and 2001

Journal	Year 1985		Year 2001	
	Price	Price per page	Price	Price per page*
American Econ. Assoc. Journals	160	0.03	140	0.03
Econometrica	139	0.09	241	0.14
Journal of Political Economy	80	0.06	175	0.13
Quarterly Journal of Economics	77	0.06	198	0.13
Journal of Finance	64	0.04	207	0.07
Journal of Consumer Research	90	0.18	99	0.19
Economic Journal	160	0.14	321	0.16
Review of Economic Studies	104	0.14	180	0.24
Review of Economics & Statistics	141	0.20	200	0.27
American J. of Agricultural Econ.	21	0.05	134	0.10
Average	104	0.10	187	0.15

Source: Bergstrom, T. (2001), "Free labor for costly journals?" *Journal of Economic Perspectives*, Summer, pp. 183-198.

* Price per page is the price of the journal divided by the number of published pages.

providing solutions to these problems. They point out that it is not merely the conversion from print publishing to e-publishing that will make a difference but also the ability of e-publishing to enable new publishing business models and technical capabilities that are not possible with print publishing.

Like newspapers and other publications, journals are now embracing electronic publishing. Scholarly or academic electronic journals have shown a very high rate of growth. Table 26 shows the number of scholarly electronic journals and communications listed in the *Directory of Electronic Journals, Newsletter and Academic Discussion lists*.¹¹

Table 25
Journals published by commercial publishers, issue prices and prices per page (US\$), 1985 and 2001

Journal	Year 1985		Year 2001	
	Price	Price per page	Price	Price per page
Journal of Financial Economics	175	0.29	1 429	0.72
Journal of Economic Theory	410	0.34	1 800	0.90
Journal of Econometrics	463	0.39	2 020	0.87
Journal of Monetary Economics	146	0.36	1 078	0.79
Journal of Public Economics	389	0.33	1 546	0.85
World Development	413	0.31	1 548	0.70
European Economic Review	333	0.28	1 189	0.60
J of Env Ec & Manag	78	0.20	650	0.93
Journal of Health Economics	106	0.27	865	0.76
Economic Letters	341	0.28	1 592	1.07
Average	286	0.30	1 372	0.82

Source: Bergstrom (2001).

Table 26
Growth in number of scholarly electronic journals and other communication forums

	Journals and newsletters	Listserve and discussion lists	Total
July 1991	110	517	627
March 1992	133	769	902
April 1993	240	1 152	1 392
May 1994	443	1 784	2 227
May 1995	675	2 480	3 155
May 1996	1687	3 118	4 807
December 1997	3414	3 807	7 221

Source: *Directory of Electronic Journals, Newsletters and Academic Discussion Lists*, various issues, Washington, DC: Association of Research Libraries, Office of Scientific and Academic Publishing. See www.people.virginia.edu/~pm9k/libsci/ejs.html.

Another database, Ulrich's, shows that as of 2000 nearly 20,480 active serials or periodicals were available online.¹² These included academic/scholarly journals, bibliographies, bulletins, consumer journals, directories, government publications, newsletters and newspapers. According to the database, online was the leading single format alternative to print, followed by microform/fiche/film for 13,580 periodicals. Equally significant, Ulrich's reports that as of October 2000 a total of 2,401 online-only serials had been launched, most of which were still active.

E-publishing of scholarly journals is likely to expand readership, especially in developing countries where learning institutions are usually undersupplied with journals for budgetary reasons, and where scholars have limited access to outlets for scholarly publication. It also makes possible the introduction or expansion of advertising, which traditionally has not been a major source of income for scholarly journals.

In many ways, the business models used for electronic journals resemble those for online newspapers. Many journal publishers offer both print and electronic versions of each issue, what is referred to as parallel or dual publishing. At present this model is useful in that it gives users a choice, particularly at a time when e-publishing is still at a formative stage. It seems that many publishers of scholarly journals are unwilling to make a complete shift to electronic only publishing because this new business model is still being tested. It is too risky to abandon print publishing, which continues to be the mainstay of the publishers' cash flow. Similarly, some subscribers (e.g. libraries) prefer to have access to electronic journals without abandoning the print versions, for which they have well-established cataloguing and archiving systems. In some cases, the electronic versions are full-text versions of the print issues, while in others they present tables of contents only, or selected parts or articles of the print version. Presenting the table of contents alone does not constitute true e-publishing, and probably the real objective is to use the electronic version to advertise the print version. On the other hand, presenting selected articles is an attempt to provide free access without jeopardizing the volume of subscriptions. In other cases the electronic journal contains additional information, including raw data used for research, thus allowing other researchers to test the same data in different ways.

Some e-journals provide hypertext links, which are particularly useful in scholarly publishing, given the large number of sources that researchers usually con-

sult in a given research project. Interactivity and searching capability are also being extended to the creation of databases, which bring together texts, indexes and abstracts of articles published in different journals. E-journals employ more or less the same formats for delivering content as those used by newspapers, that is, HTML and PDF. When journals make extensive use of symbols and graphics, these may be inserted into HTML or PDF in their original graphic file formats, of which the GIF and JPEG formats are the most common.

Like newspapers, scholarly journals adopt a variety of pricing and licensing methods. Some publishers bundle the electronic version with the print subscription by providing free access to the electronic version to those who subscribe to the print version, while others charge an additional fee for access to the electronic one. Still others supply the electronic version as the base price, and the price of the print version is added to the electronic one. Yet other publishers use separate pricing for print and electronic versions, as well as charging per article accessed by the reader. In most cases, institutions such as libraries pay a site license fee for electronic access and must then ensure that only entitled persons in the institution get access. The licenses are negotiated separately even in cases where an institution also subscribes to the print version.¹³

The question of the cost of e-publishing is contentious. First-copy costs are high, although the marginal costs of printing additional copies and physical distribution costs are low. On the other hand, the processing of articles, marketing and administrative costs are costly. Some studies have suggested that costs are considerably lower for e-journals than for print journals. For example, a study commissioned by Industry Canada concluded that the production and distribution of a new e-journal could be 28 to 48 percent less expensive than the cost of the print counterpart.¹⁴ However, some publishers contend that set-up costs for e-journals are high and that the largest share of publishing costs is fixed, including editing and marketing costs, which apply to both print and electronic publishing. Also, the additional capabilities that come with e-journals (e.g. search ability and hypertext links) lead to cost increases. Some publishers enter e-publishing with no experience in the business and are obliged either to invest in developing in-house the skills and competencies required for e-publishing or to contract out the technical work of website development and maintenance and to support outside vendors in acquiring the necessary state-of-the-art technology.

Also, users of e-journals see an increase in other fixed costs, for example, involving site licenses, new cataloguing systems, the hiring of extra library staff members to manage journal access, the training of staff members and costumers in the use of the new system, and hardware costs including computers and printers. Some costs (e.g. printing) are actually passed on to end users (Many readers are more likely to print the contents of an electronic journal than read it entirely on screen). Thus, overall, the comparison of costs between e-journals and print journals is inconclusive.¹⁵ This uncertainty clearly presents a dilemma for publishers as well as their main customers. For the publishers, it is not clear which model will prevail in the long run. In the short run, the parallel printing system is proving to be very costly. As e-publishing expands, some readers move to e-journals, thus reducing the subscription base for print journals without the former fully compensating the latter in the form of increased revenue from e-journals. This tends to oblige publishers to increase subscription rates for print journals, which in turn encourages libraries and other institutions to cut back further on subscriptions.

The financial difficulties faced by scholarly journals that were referred to earlier have led to a number of initiatives with implications for e-publishing. Even though there is no general agreement regarding the relative costs of electronic and print versions of journals, some observers have encouraged self-publishing by scholars and the formation by scholars and libraries of network-based electronic publishing projects as a way of bringing down journal prices.¹⁶ Self-publishing by scholars is becoming viable as new technology makes it feasible for authors to format their own papers. It is also significant to note that peer review and editing are usually offered for free by other scholars, and thus self-publishing would not involve prohibitive costs for authors.¹⁷ Partly to implement such a strategy, scholarly and professional associations have been urged to use electronic submission of manuscripts and to distribute journals to subscribers electronically. These initiatives may help account for a large increase in the number of e-journals launched by scholars in recent years.

However, the academic community has not fully accepted e-journals as a form of scholarly publishing. E-journals are considered by some to have lower quality and prestige than print ones, and usually authors of articles in e-journals are denied academic credit for these publications. It has been pointed out, for example, that some e-journals cut costs by eliminating professional copy editing and peer review. However, it

appears that the lack of recognition of e-journals for academic credit is partly due to inertia and uncertainty vis-à-vis a new system. Proponents of e-journals have pointed out that even scholarly print journals evolved over time, at a pace dictated largely by developments in scholarly culture rather than by technological developments. They note that scholars tend to be conservative in their intellectual pursuits. What matters most are the norms and standards being enforced rather than the technology used for publishing and delivery. Technically, manuscript submission and peer reviews can be managed through e-mail. Similarly, editing and correction can be performed electronically. Furthermore, quality can be ensured if publishers and libraries establish codes of best practices for authors regarding such matters as peer review. There is nothing inherent in e-publishing that prevents scholars and publishers from maintaining high publishing standards.¹⁸ Some observers have suggested that electronically managed peer review could be rendered faster, more efficient and more transparent than the traditional process. For example, the use of the Internet could permit contact with a large population of possible peer reviewers and a much faster circulation of manuscripts. It could also allow open peer comments, thus providing a supplementary level of review. Also, available information shows that e-journals do care about quality; for example, a study on e-publishing acceptance rates (for books) revealed that rates for accepted and rejected manuscripts were not lower for e-publications than for print publications.¹⁹

It is significant to note that authors of journal articles are able to circulate the initial drafts of their articles before they are eventually submitted for publishing. Electronic publishing facilitates this process as authors can carry out the distribution more cheaply and to a wider readership online. Authors can use preprint servers to send manuscripts to central databases or post them on directories that are accessible to the general public. Preprints create opportunities for authors and help alleviate the problem of high journal prices, but at the same time they create difficulties for publishers: readers who can access preprints for free have little or no incentive to subscribe to the journal, and budget-constrained libraries, too, may tend to rely largely on free preprints.

3. Books

Books are the single most numerous type of publication outside the category of periodical publications. For statistical purposes UNESCO has defined a

“book” as a “non-periodical printed publication of at least 49 pages, excluding covers”.²⁰

This chapter focuses on electronic books (e-books), which have aroused great interest in the publishing industry, with some expecting that e-books would completely revolutionize book publishing. Particularly note worthy was the publication by a best-selling commercial author, Stephen King, of “Riding the Bullet” as an online-only book in 2000. The considerable demand for the book convinced the industry, including traditional bricks and-mortar publishers, that there was really a potential for e-books.²¹ At the time it was predicted, for example, that sales of digital books (e-books), digital downloads and print-on-demand books would grow from \$9 million in 2000 to \$414 million in 2004.²²

E-books are created as computer files that can be read by various mechanisms – computers, personal digital assistants (PDAs) or special hand-held book reading devices using proprietary software.²³ They can be delivered to the reader either as downloads from the Internet or as e-mail file attachments. E-books can also be made available on diskette and CD-ROM. They use a variety of file formats (e.g. PDF, HTML, RTF) and can be read using various operating systems (e.g. Windows CE and Palm) or in files that are equipped with reading software. As was pointed out in the discussion of e-journals, these various formats provide different functionalities, for example, an e-book created as an HTML file gives the capability to include multimedia features with audio, video and animation.²⁴

Market performance – the supply of and demand for e-books

There is an apparent lack of consensus regarding how well the market for e-books has performed. Some analysts point out that there have been very few commercial success stories between 2000 and 2002. It is pointed out that most established book authors continue to publish with traditional print publishers, and those in the industry who had forecast the rapid growth of e-books no longer support those expectations.²⁵ On the other hand, some industry actors continue to support and invest in e-book-related activities contending that e-books have enjoyed high growth rates and will continue to do so. Furthermore, a number of print publishers are preparing to distribute their existing titles electronically. Other interests such as the Open eBook Forum are promoting e-books by raising reader awareness of the benefits of

e-books.²⁶ Indeed, supporters of e-books suggest that the real issue is not that there is a poor market for e-books but that the initial growth forecasts were exaggerated. A quick look at promotional materials indicates that a large number of e-books are being advertised and points to the existence of an impressive array of e-book distributors, publishers as well as on-demand publishers.²⁷ The problem in making an independent assessment is to determine the actual volume of e-book sales.

Another relatively new distribution format, print on demand (POD), is a sort of combination of e-publishing and print publishing. This technology allows a book to be stored as an electronic copy and be printed and bound only according to the number of copies actually demanded or paid for. For book publishers, printing on demand solves the perennial problem of having to print copies without being certain of the actual number required by the market, and then having to absorb the resulting unrecouped production and storage costs.

Benefits of e-books for authors

It is widely recognized that where the print publishing model prevails, many books that are written are never published. Because of the high cost of editing, formatting and printing, the publishers tend to select only the “best” books, largely on the basis of expected sales. As a result, publishers have tended to dominate the process of deciding which books get published and which do not. E-books allow authors to publish online themselves at an affordable cost. This increase in outlets and opportunities has empowered authors to decide what materials actually get published. Further, as e-publishing increases competition between publishers, e-publishers are more willing to publish books that would have been rejected in print publishing.

Authors may also find that some e-publishers are willing to work more directly and closely with them than traditional publishers would be. Also, some e-book publishers assist authors with the editing and distribution of e-books. The books may be advertised on the publisher’s website, and other services may also be offered – for example, copyright and ISBN registration and registration in the *Books In Print* database as well as with major online book distributors. This generosity may be explained by the fact that many e-publishers are new to the industry and are in the process of establishing business networks.

E-publishing can also provide improved customer service and can allow authors to receive quick feedback from readers about their publications. For example, authors can establish direct contact with readers by providing e-mail addresses and websites through which readers can express their views and suggestions concerning a book. Such information may help authors in preparing updates or new editions of their works. Also, e-publishing has been credited with increasing the royalties paid to authors. It is reported, for example, that on average e-publishers pay authors royalties in the range of 20 to 30 per cent of the net price received from sales of a book, compared to the royalties of 8 to 10 per cent typically paid by print publishers.²⁸ Some e-publishers provide even higher royalties, such as a 50-50 split of royalties with authors.²⁹

As the cost of Internet access declines, e-publishing stands to benefit from an increase in the number of readers to whom publications are distributed without consequential cost increases. The cost of distributing an e-book remains the same regardless of the number of people reading the book, subject to the size of the bandwidth available. Authors who self-publish are able to eliminate intermediaries (publishing houses) and deal directly with readers, thus reducing transaction time and other transaction costs, although they must pay for marketing costs. Thus, overall, e-publishing lowers barriers for new entrants and offers the potential for a much greater number of individuals to publish their books which in turn creates the potential for a large increase in published titles.

Benefits of e-books to publishers and opportunities for e-businesses

Largely due to economies of scale, traditional print publishing requires books to be printed in large numbers in order to maximize opportunities for profitability, although the existing market may not ensure that the whole print run is sold. Printing numerous copies of a book has the disadvantage of tying up capital and also involves considerable costs for shipment, warehousing, inventory and distribution to retailers. The alternative, namely printing fewer copies, poses the risk of running out of stock, which can result lost sales opportunities. Also, small print runs are less profitable than large ones, as unit printing costs tend to decrease with increasing numbers of printed copies.

The tendency towards large print runs is due largely to the difficulty of ascertaining demand. Available information shows that, while book publishers often distribute large numbers of copies of printed books to

retailers, eventually many copies are returned unsold to the publishers.

The above problems can largely be eliminated with e-books. As e-publishing minimizes the amount of printing, the need to determine demand is also minimized. Physical transportation of books is significantly more costly than the distribution of e-books. Similarly, e-publishing reduces or eliminates warehousing and inventory costs.

E-publishing has still other benefits. New editions can be produced more frequently than in print publishing. Publishers can publish shorter titles (those that are longer than magazine or journal articles but shorter than typical print books), reprints and books that are out of print, with few or no overhead costs. E-publishing also makes it possible to sell parts of a book or other publication and thus provide new sales opportunities for a given publication. Length limitations are far less important than in print publication, and authors can include additional content such as annexes, additional data, and so on, which is not always feasible in print versions.

Unlike printed books, which eventually run out of print and tend to remain available in bookstores for relatively short periods of time, e-books can theoretically remain available for any length of time. Generally, e-publications have lower sale prices than their print counterparts. For example, the prices of e-books in a particular category might range from \$1 to \$6 whereas comparable paperbacks might sell for \$6 to \$10.³⁰

Like e-newspapers and e-journals, e-books enable the use of features such as sound, video, automatic cross-referencing and interactivity. They also allow readers, through hyperlinks, to be linked to other texts, audio, video or other digital content outside a book that is accessible on the Internet. Further, they permit publishers to reach global markets more readily.

Disadvantages of e-books

In general, e-books have the disadvantage of being less portable than printed books. An e-book has to be read on a computer screen or using an e-book reader. Generally, text is harder to read on a computer screen than in print form; characters are not as clear, and looking at a screen for extended periods of time can be tiring. As regards e-book readers, consumers have been concerned by their cost and by the fact that all devices are not compatible with all e-book formats. This obliges customers to keep track of which e-books can be read

on their systems, and creates difficulties for publishers in deciding on which formats to use.

Cost comparison between e-books and printed books

The relative costs of online and print publishing are of major concern to publishers because they are a major factor in deciding whether to get involved in e-publishing. At first glance, e-publishing appears to be less expensive than print publishing, since in the former the marginal costs of printing and physical distribution, are low or nonexistent. However, a more meaningful comparison must consider both fixed and variable costs. Fixed costs include the cost of editors and other staff and the technology infrastructure needed for production. Some of these costs may be higher in e-publishing than print publishing. For example, staff costs may rise because of heavy dependence on skilled technology workers. However, today most book "manuscripts" are prepared as computer files and are delivered to the printer in electronic format. Converting these files to the widely used HTML or PDF format should not require substantial additional resources. Also, increased competition may create greater demand not only for high-level customer services but also for high-quality publications with sophisticated functionality. As in the case of journals, therefore, there appears to be no clear consensus, at least in the current run transition atmosphere, as to whether, overall, e-books are less costly than printed books.

Pricing/Revenue models for e-books

Since e-books are a relatively new form of publishing, publishers are still searching for the most appropriate pricing models. Because of this and other factors, including efforts by institutions such as libraries to overcome budgetary constraints, the pricing of e-publications has generally become fairly complex and in many ways contentious. (See the earlier discussion of e-journals.)

C. E-Publishing in Developing Countries

The preceding section outlined the state of the art in e-publishing and the potential benefits this model offers. As regards the actual growth of e-publishing, it was mentioned that some sectors, such as e-journals, have seen much progress in spite of uncertainty caused in part by the ongoing crisis of high journal

prices in the face of limited library budgets. On the other hand, there are clearly opposing perceptions concerning e-books, with some observers feeling that e-books do not yet have a significant presence and are not likely to do so soon, while others think their market role is substantial and growing.

This report takes the view that e-publishing is already having a significant impact, given, for example, the number of online newspapers and e-journals currently in existence. There is therefore justification for taking a positive view of this new technology and supporting e-publishing activities for the benefit of all stakeholders in the publishing chain. This report also shares the view that the slow growth of e-publishing should not be interpreted to mean that this form of publishing has no future. Historically, a number of other technologies, including press printing, have taken decades to have a major impact on society.

The benefits of e-publishing that were described in the preceding section of this chapter may accrue to publisher and users of published materials in all countries, including developing ones. E-publishing uses technology and business models that make it easier for individuals and small enterprises to publish cost-effectively. It also allows their publications to reach a global readership at a minimal cost. The net effect is to enable enterprises in developing countries to compete with established publishers, although initially they may need to rely on niche markets at the national or regional level.

It is evident, however, that publishers and users in developing countries have lagged behind their developed-country counterparts. This lag can be attributed to a variety of factors, including the low level of Internet connectivity, without which e-publishing is not possible.³¹ However, more fundamental problems exist that are directly linked to the publishing industry itself.

Some of the problems concerning publications in developing countries and their implications for the growth of e-publishing are summarized below. The publishing industry as a whole is generally less developed in developing countries than in developed ones.³² Table 22 showed, for example, that developing countries, with a much larger share of the world population, had more or less the same number of newspapers as developed countries. Even more significant, in developed countries the volume of circulation per 1000 inhabitants was more than twice than in developing countries. Annex II, which shows the distribution

of book publishers by country, indicates that publishers are concentrated in only a few countries and that most developing countries have very few book publishers. In this connection, other sources show that in developing countries with a sizable publishing industry the main publishers are branches of major publishing houses in developed countries. Other indicators, such as the number of book trade organizations, show the same uneven distribution across countries.³³

The following summary by the UNESCO Institute for Statistics provides a succinct picture of the uneven distribution of the production of published materials and access to such materials:³⁴

- Over 50 per cent of countries worldwide have an estimated daily newspaper circulation of 50 copies per 1,000 inhabitants.
- In more than half of the world's countries, there are fewer than 10 newspaper titles. Only 8 per cent of countries have over 100 newspapers.
- Around 50 per cent of countries worldwide produce, on average, less than one book per inhabitant per year; 30 per cent produce between one and three books per inhabitant; and 20 per cent produce four or more books per inhabitant annually.
- Around 60 per cent of countries have fewer than 50 copies of school textbooks per 1,000 inhabitants, while just 20 per cent of countries have more than one textbook for every inhabitant.
- Around 70 per cent of countries worldwide provide fewer than 200 public libraries per million inhabitants; 16 per cent provide between 200 and 500 libraries; and 15 per cent provide more than 500.
- In nearly 50 per cent of countries worldwide, all the libraries combined contain less than one book per inhabitant; 20 per cent contain between one and three books per inhabitant and 30 per cent contain four or more books per inhabitant.

The following observations further illustrate the poor state of publishing in developing countries:

- There is limited information on what publications are published in developing countries. For example, only a few articles published in developing countries are listed in the world's major journal indexes and book directories. This lack

of information undermines readers' ability to access these publications and authors' ability to research opportunities for publishing in these countries.

- Partly because of the above and for reasons of quality and prestige, many scholars in developing countries tend to publish with publishers in developed countries, thus failing to contribute to the growth of the local publishing industry or those of other developing countries.
- While many scholars from developing countries strive to publish their work in developed countries, a number of factors such as competition for authorship and biased peer review, make it relatively difficult for developing-country authors to be published. In other words, authors in developing countries fail to realize their full publishing potential due to limited access to publishing outlets or lack of knowledge about the outlets.
- High journal costs have been exacerbated by a proliferation of scholarly journals on different subjects. This means that many journals available on the market are not being purchased and therefore, are not used by readers. Journals published in developing countries thus face particularly stiff competition from those of developed countries. The latter have a larger readership base, which generates a more substantial cash flow, ensuring regular publication and consistent quality.
- Some journals and textbooks produced in developing countries have relied on government and corporate sponsorship, but these sources have decreased with the countries' overall poor economic performance in recent years. Also, limited readership has meant limited advertising revenue.

Some observers have suggested that the problems facing publishing in developing countries can be overcome or reduced by e-publishing. As was mentioned earlier, the technology and business models applied in e-publishing may provide business opportunities for enterprises, including small ones, in developing countries. In recognition of the potential social and economic impact of publications, a number of national and international initiatives have been launched to promote e-publishing and access to e-published materials in developing countries. A listing of some of the initiatives can be found in Annex III.

Such initiatives are new and there is little information regarding their current status and successes or failures. It is notable, however, that the provision of access to e-publications to institutions in developing countries for free or at reduced prices appears to be similar to pricing models that are used by a large number of publishers worldwide, as was mentioned in part B. It was pointed out that free access was at times used as a marketing strategy which could change in due course. On the other hand the initiatives involving the access to publications produced by developing country publishers, if successful, could result in genuine growth of e-publishing in the developing countries.

D. Copyright Issues in the World of E-Publishing

Intellectual property is an intangible form of property and includes four types of human works that are protected by copyright laws: inventions (patents); symbols, names and images (trademarks); designs used in commerce (industrial designs); and literary and artistic works (copyright).³⁵ Copyright law grants the author of a work the exclusive right to reproduce the work, prepare derivative works and perform and display the work publicly. Copyright protects published and unpublished literary, scientific and artistic works in any form of expression. Protection automatically occurs when works are actually created and fixed in a tangible form. Registering copyright may be convenient for commercial or litigation purposes but is generally not necessary to obtain a valid, enforceable copyright.

Since the advent of new technologies in the 1990s, the development of adequate national and international copyright legislation has been of particular concern. Indeed, by making works accessible via the Internet or other digital channels, authors and publishers are losing control over the distribution of their works. The concern of copyright owners has thus taken on new and challenging dimensions.

New technologies enable anyone to make exact copies of a work and share them almost anonymously with others. The Internet allows people to steal contents freely and share them with others using tools such as peer-to-peer technology (P2P). P2P on the Internet is a network that allows computer users with the same type of networking software to access files from one another's hard drives. This was the technology that was employed by millions of Napster³⁶ users.

While basic computer equipment is needed for carrying out piracy, copying and distribution process have been dramatically facilitated by advanced digital tech-

nology. Cases have been recently reported in which books were being illegally translated or copied, sometimes even before their official release. This happened, for example, with J.K. Rowling's famous "Harry Potter" series. Before the advent of the Internet and related technologies, many countries were already facing copyright infringement on a large scale. The illegal copying of books presents a real danger to the survival of the legal publishing industry. For example, the *UNESCO Courier* in its March 2001 edition³⁷ published figures showing that: while the legal publishing industry annual turnover in Latin America and Spain is \$5 billion, the illegal business makes \$8 billion.

The copyright issues related to the publishing industry are similar to those faced by the software and music industries, both of whose products are copyright protected. However, piracy of published works, including books, newspapers and journals, has not yet reached the same level in terms of volume, monetary value and popularity as that of music, for example. Nevertheless, it is likely to become a serious problem as e-publishing takes off. It has been reported that digital piracy (involving software, music, films and books) is responsible for multi-billion-dollar loss annually.³⁸ So far, thousands of books are said to have been illegally exchanged on the Web in 2001; figures or estimates are not available for journals and newspapers.³⁹

This part of the chapter outlines some general issues related to copyrights and their economic importance, taking into consideration the different dimensions they have in developed and developing countries. Unsurprisingly, developed countries, as major exporters of intellectual property, have made great efforts to ensure its protection. Since the 1990s, a worldwide trend toward the harmonization of national laws has been influenced by international negotiations that led, in particular, to the adoption of international agreements such as the WTO Agreement on Trade-Related Aspects of Intellectual Property (TRIPS),⁴⁰ the 1996 WIPO Copyright Treaty⁴¹ and the WIPO Phonogram Treaty,⁴² known as "the WIPO Internet Treaties".

1. The economic impact of copyrights

The increasing economic importance of intellectual property rights makes them a more and more prominent issue in trade relations between countries. The main argument advanced in international debate in support of the protection and enforcement of intellectual property rights is that they lead to greater international trade for the benefit of all. Given that developed countries are the major exporters of intellectual prop-

erty, the intention is clearly to protect their exports by keeping pirated products out of the destination markets.

The main justification of copyright for developed countries has always been economic. The largest exporter of intellectual property rights is the United States. In 1990, the United States formed the International Intellectual Property Alliance (IIPA),⁴³ which divided copyright-based industries into four groups,⁴⁴ and provided statistics on their contribution to gross domestic product (GDP), employment and trade in the United States. The IIPA 2002 Report⁴⁵ confirms the important role of copyright-based industries which represent one of the fastest-growing sectors of the economy, making significant contributions to domestic employment and revenue growth as well as to international trade. The *Report* states that in both developed and developing countries, studies have generally reported contributions to GDP in the range of 3 to 6 per cent. According to the *Report*, it is estimated that in 2001 the core copyright industries⁴⁶ in the United States accounted for 5.24 percent of the country's GDP, or \$535.1 billion – an increase of over \$75 billion from 1999. Over the last 24 years (1977 – 2001), the copyright industries' share of GDP grew

more than twice as fast as the remainder of the U.S. economy (7 per cent vs. 3 per cent).

The IIPA's estimate of the revenues generated by foreign sales/exports of selected U.S. core copyright industries (see Table 27) in 2001 was \$88.97 billion, an increase of over \$52.78 billion from 1991.

To put these figures into perspective, it is necessary to look at the extent the importance of trade losses in the United States due to copyright piracy. IIPA's estimate of total trade losses for 2001 was \$9.4 billion, an increase of \$898 million from 2000. Business software applications represented 29.3 per cent of the total trade losses in 2001, closely followed by record and music, losses related to this sector increased from \$2.9 billion in 2000 to \$3.2 billion in 2001. Estimates related to book losses, which in 2001, represented 10.3 per cent of the total trade losses at \$650.8 million, while their value was \$671.8 million in 2000. IIPA's estimates that worldwide losses due to piracy of United States copyrighted materials are in the annual \$20-22 billion range, and does not include estimates due to Internet piracy. The United States' trade losses from piracy are increasing and are expected to grow even more with the development and expansion of new technologies.

Table 27

Estimated Revenues Generated by Foreign Sales/Exports of selected U.S. Core Copyright Industries, 1991-2001
(Billions of dollars)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Industry	E	E	E	E	E	E	E	E	R	E	E
Pre-recorded records, tapes, etc	\$6.15	\$6.58	\$7.44	\$8.74	\$9.76	\$9.83	\$10.01	\$9.90	\$10.27	\$9.76	\$9.51
Motion Pictures, TV, Video	\$7.02	\$7.05	\$8.36	\$9.34	\$10.24	\$11.58	\$12.34	\$12.93	\$13.70	\$14.50	\$14.69
Computer software	\$19.65	\$21.94	\$24.32	\$26.44	\$29.14	\$34.81	\$40.28	\$41.87	\$50.65	\$56.88	\$60.74
Newspapers, Books, Periodicals	\$3.36	\$3.62	\$3.67	\$3.79	\$3.97	\$3.96	\$4.22	\$4.51	\$4.79	\$4.33	\$4.03
Total for Selected Industries	\$36.19	\$39.19	\$43.78	\$48.33	\$53.11	\$60.18	\$66.85	\$69.21	\$79.41	\$85.46	\$88.97

E = estimate; R = revised.

Source: IIPA, Copyright industries in the US Economy: the 2002 Report.

Table 28
USTR 2002 "Special 301" Decisions and IIPA estimated U.S.
trade losses due to copyright piracy
(In millions of U.S. dollars)
and estimated levels of copyright piracy for 2000-2001

	Motion Pictures				Records & Music				Business Software Applications ¹				Entertainment Software				Books				
	Loss		Video Piracy		Loss		Piracy		Loss		Piracy		Loss		Piracy		Loss		TOTAL LOSSES		
	2001	2000	2001	2000	2001	2000	2001	2000	2001	2000	2001	2000	2001	2000	2001	2000	2001	2000	2001	2000	
PRIORITY FOREIGN COUNTRY																					
Ukraine (GSP)	40.0	40.0	80%	99%	170.0	200.0	85%	95%	46.7	23.7	87%	89%	NA	NA	NA	NA	NA	NA	256.7	263.7	
306 MONITORING																					
Paraguay ²	2.0	2.0	80%	80%	253.6	200.0	99%	90%	3.5	8.5	72%	76%	NA	9.7	NA	99%	3.0	3.0	262.1	223.2	
People's Republic of China	160.0	120.0	88%	90%	47.3	70.0	90%	93%	1140.2	765.1	92%	94%	455.0	NA	92%	99%	130.0	130.0	1932.5	1085.1	
UNRANKED BUT WITH OCR																					
Mexico (OCR)	50.0	50.0	40%	40%	366.8	300.0	61%	63%	146.9	145.7	55%	56%	202.5	NA	83%	90%	40.0	30.0	806.2	525.7	
PRIORITY WATCH LIST																					
Argentina	30.0	32.0	45%	45%	78.2	76.0	47%	46%	72.5	92.9	62%	58%	NA	141.4	95%	94%	8.5	8.5	189.2	350.8	
Brazil ³ (GSP)	120.0	120.0	33%	33%	302.0	300.0	55%	53%	272.3	264.1	56%	58%	NA	248.2	99%	94%	14.0	18.0	708.3	950.3	
Colombia	40.0	40.0	90%	90%	73.0	60.0	65%	60%	19.5	33.2	52%	53%	NA	39.0	NA	85%	5.3	5.0	137.8	177.2	
Dominican Republic (GSP)	2.0	2.0	60%	60%	7.7	2.0	65%	80%	4.0	6.7	64%	68%	NA	6.0	NA	NA	1.0	1.0	14.7	17.7	
Egypt	15.0	15.0	35%	35%	9.2	12.0	41%	48%	14.5	10.0	58%	56%	NA	14.9	90%	94%	32.0	30.0	70.7	81.9	
European Union	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Hungary	18.0	18.0	40%	40%	4.5	3.0	30%	20%	21.3	33.3	48%	51%	43.3	9.6	90%	86%	4.0	4.0	91.1	67.9	
India	70.0	47.0	60%	60%	NA	6.0	40%	40%	256.0	181.6	70%	63%	NA	NA	90%	80%	37.0	36.0	363.0	270.6	
Indonesia (OCR)	27.5	25.0	90%	90%	67.9	21.6	87%	56%	63.1	55.7	88%	89%	NA	NA	NA	99%	30.0	32.0	188.5	134.3	
Israel (OCR)	15.0	15.0	50%	50%	40.0	45.0	25%	30%	36.9	51.3	40%	41%	66.5	52.0	89%	NA	1.0	1.0	159.4	164.3	
Lebanon (GSP petition)	8.0	8.0	80%	60%	2.0	2.0	40%	45%	1.1	1.3	79%	83%	NA	1.5	NA	96%	2.0	2.0	13.1	14.8	
Philippines (OCR)	28.0	25.0	80%	70%	23.9	1.4	36%	33%	19.9	21.8	63%	61%	NA	41.0	99%	98%	44.0	44.0	115.8	133.2	
Russian Federation (GSP)	250.0	250.0	80%	90%	285.0	250.0	64%	70%	90.6	89.0	87%	88%	173.6	NA	90%	94%	48.0	48.0	847.2	637.0	
Taiwan	35.0	30.0	30%	30%	51.7	60.5	48%	44%	106.8	123.9	53%	53%	119.4	319.3	70%	90%	20.0	20.0	332.9	553.7	
Uruguay (GSP petition)	2.0	2.0	40%	65%	4.0	4.0	50%	35%	6.4	7.9	63%	66%	NA	16.3	NA	82%	2.0	2.0	14.4	32.2	
WATCH LIST																					
Armenia (GSP)	NA	NA	NA	NA	4.5	5.0	85%	90%	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.5	5.0	
Azerbaijan	NA	NA	NA	NA	13.0	12.0	85%	90%	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	13.0	12.0	

Bahamas (OCR)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Belarus	NA	NA	NA	NA	20.0	28.0	75%	90%	NA	NA	NA	NA	NA	NA	NA	NA	NA	20.0	28.0	
Bolivia	2.0	2.0	100%	100%	15.0	15.0	85%	85%	4.9	2.8	77%	81%	NA	1.5	NA	NA	5.5	5.5	27.4	26.8
Canada	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chile	2.0	2.0	40%	40%	12.2	5.0	35%	30%	46.3	33.1	51%	49%	NA	41.0	NA	80%	1.1	1.0	61.6	82.1
Costa Rica (OCR)	2.0	2.0	40%	40%	4.8	3.0	40%	40%	6.9	14.9	64%	68%	NA	0.2	NA	50%	NA	NA	13.7	20.1
Greece	10.0	10.0	15%	20%	NA	10.0	NA	15%	38.9	46.9	64%	66%	NA	38.1	NA	78%	NA	7.0	48.9	112.0
Guatemala	2.0	2.0	60%	60%	NA	4.0	NA	60%	14.1	12.3	73%	77%	NA	0.1	NA	60%	2.5	2.3	18.6	20.7
Italy	140.0	140.0	20%	20%	40.0	50.0	23%	25%	338.8	327.0	45%	46%	NA	NA	74%	65%	23.5	23.5	542.3	540.5
Jamaica	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Kazakhstan (GSP)	NA	NA	NA	NA	25.0	25.0	78%	90%	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	25.0	25.0
Kuwait	9.0	8.0	85%	85%	NA	3.0	50%	50%	4.5	6.6	76%	80%	NA	NA	85%	NA	2.5	2.5	16.0	20.1
Latvia	1.5	1.5	NA	75%	NA	4.0	NA	65%	4.6	NA	59%	77%	NA	NA	NA	NA	NA	NA	6.1	5.5
Lithuania	1.5	1.5	NA	80%	7.0	7.0	85%	85%	3.9	NA	56%	76%	NA	3.5	NA	98%	NA	NA	12.4	12.0
Malaysia	40.0	41.0	80%	80%	148.9	15.6	70%	65%	75.0	75.4	70%	66%	56.4	NA	93%	98%	8.2	8.0	328.5	140.0
New Zealand	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pakistan (GSP petition)	11.0	10.0	NA	60%	60.0	65.0	90%	90%	9.2	24.5	83%	83%	NA	NA	NA	NA	44.0	45.0	124.2	144.5
Peru	4.0	4.0	50%	75%	57.8	55.0	97%	96%	11.2	12.6	60%	61%	NA	3.8	NA	70%	9.0	9.5	82.0	84.9
Poland (OCR)	25.0	25.0	27%	25%	37.0	31.0	30%	30%	77.1	82.7	53%	54%	115.8	103.1	90%	85%	6.5	7.0	261.4	248.8
Qatar	0.5	0.5	30%	25%	NA	0.2	NA	25%	2.2	3.0	78%	79%	NA	NA	NA	NA	0.2	NA	2.9	3.7
Romania	6.0	6.0	65%	60%	14.0	11.0	70%	55%	15.7	17.1	75%	77%	NA	6.9	95%	91%	2.0	2.0	37.7	43.0
Saudi Arabia	30.0	40.0	45%	65%	12.0	8.0	42%	40%	16.4	17.7	52%	59%	115.7	28.0	83%	NA	14.0	14.0	188.1	107.7
Slovak Republic	NA	2.0	NA	20%	NA	0.5	NA	10%	8.1	5.3	46%	45%	NA	7.0	NA	85%	NA	NA	8.1	14.8
South Korea	25.0	20.0	25%	20%	4.0	7.0	14%	19%	100.4	177.2	48%	56%	487.7	157.0	63%	90%	35.0	39.0	652.1	400.2
Tajikistan	NA	NA	NA	NA	3.0	3.0	83%	90%	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.0	3.0
Thailand (OCR) (GSP petition)	24.0	24.0	65%	60%	16.6	15.6	45%	45%	32.6	42.7	77%	79%	29.1	130.5	93%	98%	28.0	33.0	130.3	245.8
Turkey (GSP)	50.0	50.0	40%	50%	3.5	4.0	35%	40%	22.4	78.6	58%	63%	23.7	116.2	90%	96%	27.0	28.0	126.6	276.8
Turkmenistan	NA	NA	NA	NA	NA	5.0	NA	90%	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0	5.0
Uzbekistan (GSP)	NA	NA	NA	NA	NA	30.0	NA	90%	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0	30.0
Venezuela	25.0	25.0	65%	65%	54.0	30.0	62%	62%	25.7	16.9	55%	58%	NA	47.0	NA	78%	20.0	22.0	124.7	140.9
Vietnam	NA	7.0	NA	100%	NA	NA	NA	100%	26.3	13.5	94%	98%	NA	NA	NA	NA	NA	8.0	26.3	28.5
	1323.0	1264.5			2339.1	2065.4			3207.4	2926.5			1888.7	1582.8			650.8	671.8	9409.0	8511.0

¹ BSAs trade loss estimates represent losses to U.S. publishers only, and differ from the BSA trade loss numbers generally released by that as: (a) publishers in that country and (b) losses to distributors/retailers in the country in question. This chart includes BSA' finalized statistics for 2001.

² Paraguay: RIAA report that it estimated losses to the sound recording/music industry include both domestic piracy in Paraguay and estimated losses caused by transshipment.

³ Brazil: RIAA reports the 55% piracy level in Brazil for 2001 reflects an amalgamated rate; the level of audiocassette piracy is 99% and the level of CD piracy is 47%. "GSP" means a GSP IPR Review is being conducted by the GSP Subcommittee; "GSP Petition" means that a petition is pending before that Subcommittee for its acceptance to initiate a Review.

Source: IIPA, USTR 2002 "Special 301" Decisions, including trade loss estimates and piracy levels for 2000-2001.⁴⁷

In most developing countries, copyright issues have not acquired the same urgency because copyright-based industries remain smaller. As was pointed out by the World Bank⁴⁸ in 1999, from the viewpoint of developing countries, the relevance of copyright is usually limited to artistic and literary works and the motion picture and television industries. With the expansion of Internet use, it is expected that copyright-based industries will grow in locations offering adequate IT skills and lower production costs, as has happened in some Asian countries in recent years. Efforts made by developing countries to address issues concerning national and international copyright legislation will occur when the capacity of local industries to generate intellectual property increases.

2. The impact of technology on copyright legislation

Copyright laws have been technology-driven and have tended to follow the development of technologies pioneered by the developed world. In the publishing industry, the invention of the printing press, computers and new technologies has led to reform of copyright legislation. The Statute of Anne, enacted by the British Parliament in 1710, known as the corner stone of copyright, responded in particular to booksellers' fear of their books being counterfeited and illegally distributed. Further to the Statute of Anne, national legislation was enacted in several countries: in 1790 the United States promulgated its first federal copyright statute, and thereafter several Western European countries (France, Germany, Austria and Spain) enacted laws recognizing authors as the owners of rights in their works.

In some developing countries, the laws regarding the protection of intellectual property were modelled on existing laws of developed countries. As the number of copyright-based industries in developing countries is generally quite low, the development of national laws was not high in the development agenda. Even developing countries that have implemented and ratified national and international agreements still do not fully meet their obligations in enforcing these laws. However, with the growth of copyright-based industries facing competition from foreign products, many developing countries have now realized the impact of copyrights and more generally intellectual property rights on their economies following

Copyright protection is provided in the Berne Union of the Protection of Literary and Artistic Property, known as the Berne Convention (1886). The Conven-

tion establishes standards for protection of copyrights in literary and artistic works. It envisages the principle of automatic treatment by providing protection to artistic works and national treatment that allows the courts of a country to apply national laws to offences occurring within that country. To date, 140 member countries have ratified the Berne Convention.⁴⁹

More recently, the concern over digital rights has forced national, regional and international authorities to adapt their legislation to face the new threats posed by virtual and global distribution of contents. The WTO Agreement on TRIPS, which came into effect on 1 January 1995, is the most comprehensive multi-lateral agreement on intellectual property. The areas of intellectual property covered by TRIPS include copyright and related rights (i.e. the rights of performers, producers of sound recordings and broadcasting organizations), trademarks (including service marks), geographical indications (including appellations of origin), industrial designs, patents (including the protection of new varieties of plants), the layout designs of integrated circuits and undisclosed information (including trade secrets and test data). The international debate on copyright issues in a digital era also led to the adoption in 1996 of the "WIPO Internet Treaties", which entered into force in 2002. The common objectives of these treaties are to protect copyright owners in the digital age, favour the development of human creativity and promote electronic commerce.

The adoption of the TRIPS and WIPO Internet treaties has influenced the adoption by developed and developing countries of national legislation in line with the principles set forth by the two treaties. For example, in adopting the Digital Millennium Copyright Act (DMCA),⁵⁰ the United States updated its copyright law for the digital era and prepared itself for the ratification of the WIPO Internet treaties. The DMCA included provisions concerning the circumvention of copyright protection systems, fair use in a digital environment, and online service provider (OSP) liability. Moreover, the IIPA is responsible for tracking developments in the area of copyright legislation and enforcement in over 80 countries. In doing so, it determines whether the acts, policies or practices of any foreign country infringe on intellectual property rights or fair and equitable market access for individuals in the United States entitled to intellectual property protection. IIPA Country reports are available for 77 countries.⁵¹

The European Union has prepared a European Copyright Directive⁵² which was adopted in April 2002 and allows the European Union and its member States to ratify the WIPO Internet Treaties. This is expected to happen by the end of 2002. By 2004, all European countries will need to have adapted their national legislations in order to extend copyright protection to the Internet and other new media in accordance with this Directive. After many years of legal discussion, to balance the rights of creators and the privacy of users, the Directive offers the possibility for European Union member States to adopt all or part of copyright exceptions that it envisages would allow for copying for technical reasons, personal use and archival purposes.

Modernizing the traditional legal instruments of multilateral copyright conventions and treaties⁵³ is essential, but the costs and benefits of harmonization are not always equally shared. Indeed, as was mentioned earlier in this chapter, developing countries lag behind in terms of producing intellectual property as a whole, including published materials. However, this should not draw attention from the benefits that developing countries stand to gain from ratifying and enforcing copyright legislation.

3. Enforcement of copyright legislation

The adoption of the WIPO treaties in 1996 generated an international pressure on developed and developing countries to comply with international agreements and thus, enforce anti-piracy mechanisms with regard to imported products. Indeed, the recent flurry of implementation of copyright legislation at the national level responds to pressure exerted on Governments by international bodies and local industries to provide effective enforcement of these laws. As part of WIPO's and WTO's joint efforts to help developing countries meet their commitments regarding intellectual property and conform with the WTO agreement on TRIPS, since 1998 technical assistance in preparing legislation, training, institution building, and modernizing intellectual property systems and enforcement has been extended to developing countries.

National legislation has been enacted by the majority of countries worldwide to ensure copyright protection in the digital age, but it is too early to assess the effectiveness of these actions. While software and music piracy remain the most important economic issues for all countries, other works, such as books, are also under threat as advances in digital technologies facili-

tate the expansion of piracy. In one of its country reports,⁵⁴ the IIPA indicates that piracy "is rapidly changing: it is becoming more predominantly digital, moving online, and migrating to dispersed production formats such as CD-Recordable (CDR). Piracy of analog formats – audiocassettes, videocassettes, and books and other printed materials – remains a serious, and in some instances a worsening, problem. But technological and market trends are clearly pushing piracy in a new direction. Simply put, technological advances are increasing the opportunities for piracy, and pirates are taking full advantage of them."

All countries, including developing ones, are urged to comply with international agreements to protect works from piracy for the benefit of exporters of intellectual property products. However, enforcement of intellectual property rights depends on the effective functioning of a country's judicial system.

Beyond legal solutions and actions carried out by the local police, prevention campaigns have recently been launched by developing countries to demonstrate their commitment to fighting copyright infringement. In preparing the present report, the UNCTAD secretariat surveyed a number of copyright and intellectual property offices⁵⁵ in both developed and developing countries. They were asked whether they were affected by e-book piracy and what solutions were being implemented to combat digital piracy. All respondents indicated that they were encountering a certain degree of digital piracy but that the main problem areas were software and music.

In its efforts to promote intellectual property, the Copyright Office of Hong Kong (China) visits schools to create awareness of intellectual property issues. Since 1997, a total of 389 schools including 136,704 students have been visited. The Copyright Office has also launched an anti-piracy advertising campaign aimed at consumers using pirated goods. It is too early to assess the impact of these campaigns.

In the survey responses, three cases of e-publishing piracy were reported. Typical of the answers gathered were those of the Copyright Office of Peru (Box 21) and the United Kingdom Patent Office (Box 22). The Customs of Hong Kong,⁵⁶ the enforcement agency for the protection of intellectual property rights, recently reported a case involving the selling of a pirated version of an English dictionary in CD-R format in retail outlets.

Indeed, creating awareness of intellectual property rights, including copyright issues, has for the past few years been the preoccupation of intellectual property

Box 21

E-publishing and copyright in Peru

In Peru, Mr. Martin Moscoso, computer and communications law attorney at the Copyright Office, National Institute for Promotion of Competition and Protection of Intellectual Property (INDECOPI) says that e-commerce in Peru has developed rapidly thanks to the availability of public Internet access facilities for the fact that few households have personal computers. The legal framework has been implemented to foster e-commerce: electronic contracts are allowed by statute, digital signatures are covered by specific legislation. In particular, the legal framework covering copyright (Legislative Decree 822 from 1992) is updated and includes new technologies. Moreover, Peru has signed the WIPO Internet Treaties. However, e-publishing is still in its early stages. Therefore, just a few cases have reached to Copyright Office and are mainly related to unauthorized reproduction and distribution of photographs through a webpage (*Editora Automás vs. Publimilla SRL*). In short, the legal framework is ready, and the potential problems will increase with the development of e-commerce in Peru. (May 2002)

Box 22

E-publishing and copyright in the United Kingdom

According to Mr. Brian Simpson, assistant director, Copyright Directorate, United Kingdom Patent Office, the United Kingdom Patent Office is not aware of anecdotal information specific to the United Kingdom as regards e-book piracy. There was a certain amount of activity last year following releases of e-books in 2000. He believes Stephen King was first to test the market but the original encryption used was easily hacked. Estimates from late 2001 suggested that around 7000 books protected by copyright were then illegally available on the Internet. The United Kingdom Patent Office has been working to implement many of the recommendations of the Intellectual Property (IP) Group of the United Kingdom's Creative Industries Task Force. They have developed an IP portal, www.intellectual-property.gov.uk, to complement their own Patent Office website (www.patent.gov.uk) by providing more basic information on intellectual property for the general public.

The United Kingdom Patent Office is also working with industry and others (Crimestoppers Trust) to raise awareness of IP crime and its damaging effects for all. Moreover, Mr. Simpson specifies that they are developing a CD-ROM for schools on intellectual property jointly with the UK Institute for Citizenship and the UK National Consumer Council. The CD-ROM is directly related to the introduction of the subject of citizenship into the national schools curriculum in September 2002. (May 2002)

and copyright offices both in developed and developing countries. The advent of new technologies has spurred a large number of countries to reform their national copyright law in order to ensure copyright protection for materials available over the Internet. However, bringing copyright laws into line with the WTO Agreement's and WIPO treaties, and providing effective enforcement of these laws with regard to piracy, counterfeiting and other forms of intellectual property rights infringement has proved to be difficult. Due to the complexity of intellectual property laws and their enforcement, developing countries still lag behind and have still not managed to comply with the TRIPS requirements and enforcement mechanisms. Priority must be given to the development of a

policy framework that allows great flexibility while ensuring implementation of international agreements.

E. Conclusion and Recommendations

1. Conclusion

Publishing is a major industry that has an impact on many aspects of society. Electronic publishing represents a major transformation in publishing methods and business models, and it introduces new products and capabilities into the publishing industry.

An examination of e-publishing approaches to disseminating newspapers, scholarly journals and books has shown that while there are a wide variety of e-publishing models, they share many features such as delivery formats, capabilities and pricing models. Publishers generally offer parallel print and electronic versions of the same publications, although some publish electronic-only versions as well. While parallel or dual publishing has some advantages, it tends to be very expensive and presents publishers with a dilemma, since electronic-only publishing has not yet proved its viability as a business model.

There are a variety of pricing models for e-publications, especially journals and newspapers, including free access to electronic versions for all readers, electronic free versions for print subscribers, access to electronic versions for print subscribers for an extra charge, single article sales and so on. Journal publishers also use site licenses.

While e-publications are considerably cheaper than print publications with respect to printing and to some extent distribution costs, when other fixed costs are taken into account, e-publishing may be as costly as or even more costly than print publishing, at least in the short run.

The quality of e-publications relative to print publications is a contentious issue, especially for scholarly publications. While it is true that print publishing may be more meticulous in controlling quality of content, many e-publishers also apply a high degree of quality control. From a technical point of view, there are no inherent reasons why e-publishing cannot institute the same level of quality control as print publishing.

There is a perception in some publishing circles that e-publications, especially e-books, have so far had dismal success. Other observers, however, take the view that e-publishing has had impressive growth, although initial forecasts may have been overly optimistic. Reinforcing the latter view, some major traditional publishing houses and e-publishing software vendors continue to invest in e-publishing, including e-books.

Developing countries have lagged behind developed ones in publishing and using e-publications because of limited computer Internet access and low levels of participation even in print publishing. Recognition in developing countries of the value of e-publishing has led to a wide variety of national and international initiatives aimed at promoting e-publishing and improving access to e-publications in developing countries. Some

of the initiatives are similar to marketing strategies used by publishers in developed countries. Publishers and users of publications in developing countries may find some of the initiatives to be useful sources of support and opportunities for cooperation when formulating their own e-publishing strategies.

2. Recommended strategies for publishers and users in developing countries

The following are some key questions relating to business models and strategies to be considered. They are outlined here to provide a guide and an indication of the scope of the work involved and the types of investments to be made.

Strategies for prospective publishers and authors

- (a) As e-publishing demands new skills, publishers would need to take measures to train staff members to use new technologies, especially in areas that do not exist in traditional print publishing, such as interactivity and multimedia capability etc. One option is to contract out the technical tasks to technology firms or established e-publishers. If the publishing is to be undertaken in-house, an analysis of the capital and operating costs associated with the required information technology and infrastructure needs to be undertaken.
- (b) Where a publisher is a start-up firm with no existing investment in print publishing, there appears to be a widely held view that such a venture should commence on an electronic-only basis, although this is feasible only where the majority of readers have Internet access. The question is more complex for publishers that have invested in print publishing. The "parallel" model of print publishing combined with electronic publishing appears to be the most prevalent. The decision essentially involves weighing costs against marketing opportunities. The publisher needs to assess the expenditure costs of converting from print publishing to electronic-only publishing and compare them with the expected gains. On the marketing side, if most users can only access print publications (as would be the case in most developing countries), a move to electronic-only publishing may entail a total loss of market.
- (c) Other questions that would need to be addressed include the following:

- (i) Whether to establish on one's own website or be hosted by other sites;
- (ii) What kinds of materials are suitable for e-publishing;
- (iii) Whether to place online the full text, only the table of contents, or only selected chapters;
- (iv) Which distribution channels to use, including institutional buyers (libraries), wholesale and retail stores, specialist document delivery services, etc. A decision also has to be made whether a publication should be delivered online or through a portable device such as a CD-ROM. A CD-ROM may be the better option in developing countries where Internet connectivity is still poor, although the trend is now towards online publishing, and a CD-ROM cannot be updated or easily link readers to Internet sites. E-publishing on CD-ROM should therefore be considered a transitional stage. Online delivery can occur via optical disk systems through public network connections (ISDN) or directly over the Internet. The publisher has various options regarding the format or language to be used, as was discussed in part B of this chapter, including ASCII, HTML and PDF. There are also options with regard to the graphic and audiovisual tools to be used. These choices require a fair amount of knowledge about IT and should also take into account trends in languages used on the Internet in order to ensure compatibility.
- (v) Whether to build own databases as a backup information source;
- (vi) Whether to "bundle" books or journals - that is sell them as a package;
- (vii) Which pricing models to use;
- (viii) How many of the value-added features enabled by e-publishing (e.g. searching capability, multimedia) are to be provided, taking into account the costs involved and the market being targeted;
- (ix) How the publication should be marketed;
- (x) Undertaking copyright, ISBN and other registrations;
- (xi) How to obtain editorial services;
- (xii) Whether the publisher should cooperate with other publishers to gain economies of scale, a factor that has driven some major publishers into mergers and acquisitions; and
- (xiii) Whether an author should engage in self-publishing and what external support is available for this purpose.

A number of guidelines for e-publishing dealing with these types of questions and more technical ones are available and may be consulted.⁵⁷

Strategies for users of e-publications

Users include individual buyers of publications and institutional buyers, essentially libraries of different types. This section focuses on libraries since their purchases are large and hence their buying decisions are more important in terms of expenditures than purchases by individuals. Usually publishers negotiate deals when issuing licenses for publications such as journals to libraries. These arrangements specify prices for various print and electronic versions. A library has to weigh cost against the importance it attaches to print relative to electronic versions for reasons other than cost.

Given fixed budgets, when adopting e-publications users may have to choose not merely between print and electronic versions but also between different types of publications – for example, between e-books and e-journals to the extent that there is scope for substitution between them. In their purchasing and other operational activities, libraries may create or join library consortia in order to gain bargaining power vis-à-vis publishers. Such consortia are now being used widely at the national, regional and international levels.⁵⁸ Their functions include selecting electronic publishing resources and entering into licensing arrangements with publishers in order to rationalize price negotiations. Members monitor the market for publications, obtain offers and evaluate them for negotiating purposes. Collaboration between consortia members also extends to providing joint access to acquired e-publications, which is the equivalent of interlibrary loans for print publications. If a group of libraries wishes to establish a consortium, there are published guidelines that provide information on how to create such an institution.⁵⁹ Libraries may also join existing consortia such as the International Coalition of Library Consortia (ICOLC), which has worldwide membership.

There are a number of other possible strategies for institutional users. For example, while not many titles may currently be available as e-books, such books provide a cost-effective solution to libraries' budgetary constraints in that a library owning an e-book may transfer the content into several readers' e-book devices and thus avoid purchasing several copies of the same book. E-books may also help libraries reduce the delays typically involved in interlibrary loans of printed books – a library can obtain the contents of an e-book from another library in a matter of minutes. However, a decision to purchase e-books format has to take into consideration the present and projected availability of needed titles in e-books and the suitability of the available technology for reading books, as well as its cost.

The role of governments

Most developing countries have traditionally printed many types of official documents. Because of high printing and distribution costs, such documents are usually distributed only within government circles and to a few external outlets. Most governments and government-related institutions in developing countries now have websites or at least make use of other websites and portals to publish various types of information. This means that there is scope for governments to provide their publications online. An expansion of electronic publications by governments would not only widen the distribution of vital government information, it would also provide leadership by example to authors and publishers in the private sector.

To promote e-publishing, some governments in both developed and developing countries have encouraged all government institutions to progressively adopt e-publishing. Some governments have established minimum standards for government e-publications. These standards are intended to ensure the quality and accessibility of the published information.⁶⁰ Developing countries should find these examples a useful guide in establishing their own protocols.

Outside their own publishing activities, governments in developing countries can stimulate the development of electronic publishing in the private sector, in the following ways:

- (a) Providing training in publishing, particularly e-publishing;
- (b) Providing financial support to SMEs or individuals launching projects related to e-publishing;
- (c) Removing excessive regulations that restrict the freedom of publishing;
- (d) Formulating national policies and guidelines concerning e-publishing, including legal deposit of electronic publications in national repositories or archives;
- (e) Providing fiscal incentives such as tax exemptions or reductions for e-publications (many countries already grant such incentives for print publications);
- (f) Providing financing to public and academic libraries to enable them to launch programs for accessing and archiving electronic publications (in many cases, governments are already the main source of funding for libraries);
- (g) Facilitating the linkage of the national and international initiatives (see Annex III) with academic institutions, libraries and publishers in the individual countries concerned;
- (h) Providing clear guidelines regarding copyright laws (as was discussed in part D) and promoting the use of best practices in e-publishing;
- (i) Supporting surveys to gather information about publications produced in the country and disseminating such information online in order to expand awareness of and access to the country's published materials by end users and researchers inside and outside the country;
- (j) Stimulating the promotion of regional cooperation among publishers as well as among libraries, in order to enable them to achieve economies of scale and reduce operating costs;
- (k) Establishing national research councils or similar institutions to provide suitable frameworks for funding projects for research and disseminating the results of such research through publications including e-publications; and
- (l) Raising public awareness about the advantages of electronic publications.

Notes

- 1 In this report, publishing refers to the production and distribution of printed or written literary works or documents such as books, newspapers, journals and other types of publications. It excludes information delivered by radio, television and cinema.
- 2 UNESCO (2000), *International flows of selected cultural goods 1980 and 1998*.
- 3 See annex I.
- 4 Electronic publishing is not to be confused with desktop publishing, which is usually used to create products that are distributed in a noninteractive medium, usually paper or other hard copy.
- 5 See, for example, Onlinenewspapers.com.
- 6 Some real-time information services do provide continuous updates of online news, but these services are not considered here as newspapers.
- 7 For detailed definitions of scholarly journals, see, for example, "Online study guide: Periodicals" at www.ithaca.edu/library/course/periodical.html; "Scholarly journals and magazines" at www.nmus.edu/library/scholar.html and "What is a scholarly journal? A popular magazine? A trade journal?" at [http://camellia.sch.edu/literacy/table version/lessons 5/periodicals.htm](http://camellia.sch.edu/literacy/table%20version/lessons%205/periodicals.htm).
- 8 There are individual subscriptions to scholarly journals as well. However, due to the dominant role of libraries as the main subscribers, in examining e-journals the focus is on issues related to libraries.
- 9 See "Brief history of scholarly journals" at <http://panizzi.shef.ac.uk/elecdis/ed0001/ch0200.html>, "Scholarly societies and their relationship with commercial publishers" at www.scholarly-societies.org/comm_publishers.html; "Scholarly journals: There is no single villain in scholarly publishing's crisis" at <http://pitt.edu/utime/issues/33/001026/13.html>; Bergstrom T (2001), *Free labour for costly journals*, *Journal of Economic Perspectives*, Summer 2001: pp. 183-198.
- 10 For an extended discussion, see Akerson A "University libraries and scholarly communication" in Peak R and Newby G (1996), *Scholarly publishing: The electronic frontier*, MIT Press. Cambridge, Mass.
- 11 Lists of journals are published by many other sources as well, such as Ulrich's International Periodicals Directory and the Gale Database of Publications and Broadcast Media. There is, however, a lack of data on the exact number of journals published around the world. In large part, this results from a lack of uniformity in definitions of the term "journals".
- 12 Bowker's Ulrichsweb, Serial Trends, http://www.ulrichsweb.com/ulrichsweb/ulrichsweb_news/UlrichsSerialsTrends.asp.
- 13 See Spinella M (2000), *Electronic publishing models and the pricing challenge*, <http://www.si.unmich.edu/PEAK-2000/spinella-paper.pdf>; MacKie-Mason J and Riveros J (2000), *Economics and electronic access to scholarly information in* Kahim B and Varian H (eds.), *Internet Publishing and Beyond*, Cambridge, Mass., MIT Press.
- 14 Industry Canada (1995) *Cost and revenue structure of academic journals: Paper-based versus e-journals*. For other discussions of the subject, see for example Odlyzko A *Competition and cooperation: Libraries and publishers in the transition to electronic scholarly journals*, *American Academy of Arts and Sciences*, www.amacad.org/publications/trans13.htm; Odlyzko A *The Economics of electronic journals*, www.firstmonday.dk/issues2_8/odlyzko; Bot M, Burgemeester J and Rees H (1998), *The cost of publishing an electronic journal: A general model and case study*, *D-Lib Magazine*, November, <http://www.dlib.org/november98/11roes.html>.
- 15 For further discussion on the cost of e-journals, see Bergstrom B (2001) *Free labour for costly journals?* *Journal of Economic Perspectives*, Summer, pp. 183-198.
- 16 In addition to looking to e-publishing as a possible solution, some libraries have responded to the crisis by forming buying consortia which enable them to negotiate favorable subscription rates with publishers. Such consortia arrangements are also beneficial to publishers because they enable them to retain customers and also rationalize the selling process.
- 17 For an extended discussion, see "The future of publishers, journals and libraries", www.mathdoc.ujf-grenoble.fr/texte/Odlyzko/amo94/node9.html.
- 18 See, for example, "The interactive potential of the Net", [www-mathdoc.ujf-grnoble.fr/texte/Odlyzko/amo94/node8.html](http://www.mathdoc.ujf-grnoble.fr/texte/Odlyzko/amo94/node8.html).

- 19 Wiesner, Karen, "E-publisher acceptance rates", www.writing-world.com/epublish/wiesner.html.
- 20 UNESCO, Statistical Yearbook, various issues.
- 21 It turned out, however, that most of the downloads of the book were distributed freely by sellers for promotional purposes. It is uncertain whether there would have been great interest in the book if readers had to pay for it.
- 22 IDC, "Electronic publishing forecast and analysis, 2000-2004: Digital Books and Print on Demand". 2000.
- 23 E-book reader is a propriety software with a specific electronic text. The text is read using an e-book device that has a screen and is capable of reading e-books.
- 24 For further discussion on e-books, see for example Lynch, Clifford, "The battle to define the future of the book in the digital world," www.firstmonday.dk/issues/issues6_6/lynch/.
- 25 For example, see "E-book Story Fails to Unfold", www.cbsnews.com/stories/2002/05/14/tech/printable508968.shtml.
- 26 See www.openabebook.org.
- 27 See, for example, eBooks.com and digitalindex.com.
- 28 See www.epubbed.com/article1013.html.
- 29 See the formula suggested by the American National Writers Union for setting the level of royalties, <http://ccat.sasa.unpenn.edu/jod/nwul.html>.
- 30 See www.epubbed.com/article1013.html.
- 31 For a discussion of problems of infrastructure and connectivity see "Building Confidence and Report on E-Commerce and Development 2001." Also see ITU and WIR 2002?
- 32 For further discussion, see for example, Wresch, W., "E-commerce innovations in the book publishing industry: Opportunities for the developing world", www.uwosh.edu/faculty_staff/wresch/ICIS/htm.
- 33 See www.literarymarketplace.com/1mp/int/resourcesGeoList.asp?ID=11.
- 34 UNESCO Institute for Statistics, Facts and Figures 2000.
- 35 According to the definition given by the World Intellectual Property Organisation (WIPO), a copyright is "a legal term describing rights given to creators for their literary and artistic works [...]. The kinds of works covered by copyright include: literary works such as novels, poems, plays, reference works, newspapers and computer programs; databases; films, musical compositions, and choreography; artistic works such as paintings, drawings, photographs and sculpture; architecture; and advertisements, maps and technical drawings."
- 36 Napster is an application that allows people to share music over the Internet without having to purchase their own copy on CD. After downloading Napster, a user can get access to music recorded in the MP3 format from other users who are online at the same time. By simply typing in the name of an artist or song, the users receive a list of what's available, and then download the music from another user's hard drive. In July 2000, the United States District Court prohibited Napster from "engaging in or facilitating others in copying, downloading, uploading, transmitting or distributing plaintiffs' copyrighted works". For more details on Napster litigation, please see the U.S. District Court decision at <http://news.findlaw.com/hdocs/docs/napster/napster022102ord.pdf>.
- 37 "Pirates and the paper chase", by Lucia Iglesias Kuntz, The Courier of Unesco (March 2001)
- 38 www.envisional.com/assettracker.
- 39 www.envisional.com/assettracker.
- 40 www.wto.org/english/tratop_e/trips_e/trips_e.htm.
- 41 WIPO Copyright Treaty: www.wipo.org/eng/diplconf/distrib/94dc.htm.
- 42 WIPO Phonogram Treaty: www.wipo.org/eng/diplconf/distrib/95dc.htm.
- 43 The International Intellectual Property Alliance (IIPA) is a private sector coalition created in 1984 to represent the U.S. copyright-based industries in bilateral and multilateral efforts to improve international protection of copyrighted materials.

- 44 The four groups are: the core industries, partial copyright industries, distribution, the copyright-related industries. Copyright industries in the US Economy: The 1990 Report, www.iipa.com/.
- 45 Siwek S, Copyright industries in the US Economy: The 2002 Report, prepared for the IIPA, available at www.iipa.com/copyright_us_economy.html
- 46 The core industries include newspapers and periodicals, book publishing and related industries, music publishing, radio and television broadcasting, cable television, records and tapes, motion pictures, theatrical productions, advertising and computer software and data processing.
- 47 www.iipa.com/pdf/2002_Jul11_USTRLOSSES.pdf
- 48 'Intellectual property rights and economic development', World Bank, background paper for the World Development Report 1999, Technet Working Paper. www1.worldbank.org/wbiep/trade/papers_2000/bpipr.pdf.
- 49 www.wipo.org/treaties/ip/berne/index.html.
- 50 DMCA, www.loc.gov/copyright/legislation/dmca.pdf.
- 51 www.iipa.com/countryreports.html.
- 52 www.eurorights.org/eudmca/CopyrightDirective.html.
- 53 The Berne Convention for the Protection of Literary and Artistic Work (1886), the Universal Copyright Convention (1952), the Rome Convention for the Protection of Performers, Producers of Phonograms and Broadcasting Organizations (1961), the WTO Agreement on Trade-Related Aspects of Intellectual Property Rights known as TRIPS (1996), the Geneva Phonograms Convention (1971)
- 54 www.iipa.com/rbc/2002/2002SPEC301KOREA.pdf.
- 55 Canada, Colombia, Hong Kong, Mexico, Peru, the United Kingdom, Russia, Singapore, Thailand
- 56 The Customs of Hong Kong also replied to the enquiry sent to Intellectual Property Offices in preparing this chapter.
- 57 See for example, "A Manual for Publishers in Developing Countries"; http://citd.scar.utorornt.ca/Epub_manual/.
- 58 See www.library.yale.edu/consortia/2001currentpractice.htm.
- 59 See <http://alexia.lis.uinc.edu/~b-sloan/consort.htm>.
- 60 For example see guidelines set by the Canadian Government, www.dcita.gov.au/infoaccess/electronic_formats.html.

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ANNEX I**STATISTICS OF THE ISSN REGISTER – TOTAL NUMBER OF RECORDS IN THE REGISTER AND NEW ANNUAL ENTRIES**

Year	Total number of records in ISSN Register	New record entered in the year
1991	578,315	59,353
1992	619,979	41,664
1993	659,927	39,948
1994	710,734	50,807
1995	755,058	44,324
1996	801,522	46,464
1997	846,858	45,336
1998	894,913	48,055
1999	945,973	51,060
2000	988,969	42,989
2001	1,037,156	48,187

Source: ISSN Statistics: <http://www.issn.org:8080/English/pub/tools/statitics/>

ANNEX II

NUMBER OF BOOK PUBLISHERS IN SELECTED COUNTRIES/TERRITORIES IN 1999

Afghanistan (6)	Guadeloupe (1)	Norway (53)
Albania (5)	Guatemala (5)	Oman (1)
Algeria (3)	Guinea-Bissau (1)	Trinidad and Tobago (12)
Angola (1)	Guyana (6)	Pakistan (44)
Antigua and Bermuda (1)	Haiti (4)	Panama (3)
Argentina (116)	Holy See (Vatican) (5)	Papua New Guinea (13)
Armenia (2)	Honduras (3)	Paraguay (2)
Australia (530)	Hong Kong (China)(73)	Peru (21)
Austria (404)	Hungary (69)	Philippines (47)
Azerbaijan (2)	Iceland (30)	Poland (82)
Bahrain (2)	India (262)	Portugal (136)
Bangladesh (12)	Indonesia (70)	Puerto Rico (12)
Barbados (2)	Iraq (1)	Republic of Korea (117)
Belarus (9)	Ireland (89)	Republic of Moldova (3)
Belgium (181)	Islamic Republic of Iran (3)	Reunion (2)
Benin (2)	Israel (138)	Romania (72)
Bermuda (1)	Italy (607)	Russian Federation (93)
Bolivia (6)	Jamaica (26)	Rwanda (3)
Bosnia and Herzegovina (3)	Japan (243)	Samoa (1)
Botswana (6)	Jordan (4)	Saudi Arabia (8)
Brazil (220)	Kazakstan (6)	Senegal (11)
Brunei (Darussalam) (1)	Kenya (45)	Sierra Leone (4)
Bulgaria (80)	Kuwait (3)	Singapore (44)
Burundi (3)	Laos (2)	Slovakia (33)
Cameroon (5)	Latvia (17)	Slovenia (11)
Cape Verde (1)	Lebanon (17)	South Africa (81)
Chad (1)	Lesotho (3)	Spain (523)
Chile (39)	Libyan Arab Jamahiriya (1)	Sri Lanka (37)
China (121)	Liechtenstein (16)	Sudan (3)
Colombia (56)	Lithuania (31)	Suriname (18)
Costa Rica (35)	Luxembourg (26)	Swaziland (1)
Cote d'Ivoire (7)	Macau (4)	Sweden (126)
Croatia (34)	Madagascar (15)	Switzerland (360)
Cuba (16)	Malawi (6)	Syrian Arab Republic (2)
Cyprus (17)	Malaysia (65)	Taiwan, Province of China (67)
Czech Republic (112)	Maldives (2)	Tajikistan (1)
Democratic Peoples' Republic of Korea (10)	Mali (1)	Thailand (31)
Denmark (105)	Malta (8)	The Democratic Rep. Of Congo (8)
Dominican Republic (5)	Martinique (3)	Macedonia (15)
Ecuador (14)	Mauritania (1)	Togo (5)
Egypt (21)	Mauritius (11)	Tunisia (19)
El Salvador (3)	Mexico (151)	Turkey (52)
Estonia (20)	Monaco (9)	Turkmenistan (1)
Ethiopia (3)	Mongolia (17)	Uganda (5)
Fiji (4)	Mozambique (4)	Ukraine (10)
Finland (58)	Myanmar (9)	United Arab Emirates (2)
France (653)	Namibia (9)	United Kingdom (1113)
French Guiana (1)	Nepal (3)	United Rep. Of Tanzania (27)
French Polynesia (3)	Netherlands (222)	Uruguay (27)
Gambia (1)	Netherlands Antilles (3)	Uzbekistan (2)
Georgia	New Caledonia (2)	Venezuela (27)
Germany (1504)	New Zealand (121)	Viet Nam (9)
Ghana (33)	Nicaragua (2)	Yugoslavia (40)
Greece (130)	Niger (1)	Zambia (19)
	Nigeria (62)	Zimbabwe (38)

Source: <http://literarymarketplace.com>

ANNEX III

A BRIEF DESCRIPTION OF ELECTRONIC PUBLISHING INITIATIVES⁶²

1. **Electronic Publishing Trust for Development:** Established in 1996, the trust facilitates open access to the world's scholarly literature and supports the electronic publication of reviewed bioscience journals from countries experiencing difficulties with traditional publication. Its activities include fostering awareness of the benefits of electronic publishing, as well as support in the areas of training and management and distribution. It enables scientific communities in developing countries to take advantage of new communication technologies to disseminate the results of their work internationally, in particular to make scientific journals published in developing countries available on the Internet.
2. **Bioline International:** This not-for-profit electronic publishing service is committed to providing access to research journals published in developing countries and thus reducing the North-South knowledge gap in the area of health. With peer-reviewed journals from Brazil, Cuba, India, Indonesia, Kenya, South Africa, Uganda and Zimbabwe, it makes bioscience information generated in these countries available to the international research community.
3. **Information Program of the Open Society Institute (OSI):** Among other activities, this program has launched an Open Access Initiative supported by projects furthering international research and scholarship – for example, funding for the publication in peer-reviewed online journals of articles by authors residing and working in 67 developing countries and countries with economies in transition.
4. **World Health Organization (WHO):** The WHO and the world's largest medical journal publishers have agreed on an initiative to allow nearly 100 developing countries to access important scientific information that would otherwise be unaffordable to them. Under the agreement, the journal publishers would give medical schools and research institutions in these developing countries access to these publications via the Internet for free or at greatly reduced prices.
5. **Jamaica Overdrive:** This project has been implemented by the e-commerce, software conversion and e-publishing applications company Overdrive, which has established an e-book technology center in Montego Bay, Jamaica, involving 200 e-book editors. The center provides e-publishing services ranging from manuscript editing to conversion of manuscripts for print-on-demand, Adobe and MS Reader e-book format. This project supports the development of e-publishing skills and business opportunities in a developing country.
6. **3BillionBooks:** This is a consortium formed by 3BillionBooks, a private company, and the publishing divisions of UNDP, the World Bank, UNICEF, ECOSOC and similar agencies, with the objectives of (a) creating and managing a digital catalogue of new and backlist Consortium titles and other publications, (b) installing and servicing machines in regional locations chosen by the Consortium, and (c) creating software, distributing and printing content globally in book form and from digital files, and providing worldwide service to these facilities. The project, which is still at the planning stage, will focus on print-on-demand technology, which, it is hoped, will revolutionize the distribution of books worldwide, especially in developing countries.
7. **Africa e-Journals Project:** Under this pilot project to provide global access to selected African scholarly journals, the journals will be published in full-text versions on the Internet under the license of participating collaborators with the African Studies Association, the Association of African Universities and CODESRIA. The project will negotiate copyright regimes and cost a recovery system to be shared between the original African publishers and the project's web publishers. One of the key objectives is to promote the availability of African journals in the United States.
8. **African Journals OnLine (AJOL) :** This pilot project, managed by INASP, aims to promote the use of African-published journals in the sciences by providing access to tables of contents and abstracts on the Internet, along with a document delivery service and a link to the full text of the article or journal.

9. **African Journals OnLine Publishing Project (AJOPP):** This pilot project was created to explore options available in electronic publishing by offering selected journals support in electronic delivery, and to evaluate whether e-publishing increases journal use and sustainability.
- 10 **Scientific Electronic Library Online Project (SciELO):** Initially launched in Brazil and then in other Latin American and Caribbean countries, this project aims to increase the visibility and accessibility of scientific literature published in the region. It facilitates the transition from print to electronic publishing on the Internet by providing tools for the preparation, storage, publication and evaluation of scientific journals. The project envisages the establishment of national and regional websites including the leading journal titles in various areas of science study.
11. **Latindex project:** Created in 1995, this is a bibliographical system for the scientific and technical journals published in Latin America and the Caribbean and also in Portugal and Spain. It collects information from national information centers and put them into an Internet-based database that offers bibliographical information about nearly 7,000 titles from 25 countries.