Electronic Books in the USA - their numbers and development and a comparison to Germany.

[please cite the published version in: Library Hi Tech, Vol 25 (2007), No 1.]

Abstract

This article will provide data to specify the problem of low e-book-supply. First the total number of commercially available English-speaking e-books in the US-market is stated. Then the growth of the title supply over the last twenty years is reviewed. Third the growth of the publishing-activities in the e-book-market is set in relation to the developments in the hardcover-market. Finally these numbers of the English-speaking market are compared to the numbers for the German-speaking market.

Introduction

Asking for the reasons of the slow development of the e-book market Rogers in Library Journal states "[f]irst and foremost is lack of adequate content" (Rogers, 2006). In a user survey recently published by the International Digital Publishing Forum (IDPF) one of three main suggestions made was that "[t]he selection of eBooks available should be improved" (IDPF, 2006).

The low supply of titles is widely identified as one major problem of the end user e-book market. Nevertheless there is little data published to quantify this problem, except for a highly-quoted article by the IDPF, which estimates that the number of titles published was to rise by 20 % over 2004.[1] This article will provide more data to specify the problem of low e-book-supply. First the total number of commercially available English-speaking e-books in the US-market is stated. Then the growth of the title supply over the last twenty years is reviewed. Third the growth of the publishing-activities in the e-book-market is set in relation to the developments in the hardcover-market. Finally these numbers of the English-speaking market are compared to the numbers for the German-speaking market.

Despite the slow development of the end user market libraries have started early to adopt e-books, mainly because electronic books are more easily accessible and searchable. Therefore a main focus of articles in the library literature is on business models for electronic books and the best way to integrate them into a library (amongst others (Dillon, 2001) (Wicht, 2005) (Rao, 2005)). In the last two years some interesting studies on e-book usage were published. These works document how users handle e-books, which might come to help libraries to offer e-books in an appropriate way (Chan, 2005) (Christianson, 2005) (Connaway, 2005). Though the library literature has been focused on integration of e-books, the development of title production in the end user market is important to librarians for two reasons: First, most of the titles will not be published electronically if they cannot be sold on the regular market. Second, the title supply is an indicator for the acceptance of e-books by the end user.

Furthermore there is a broad discussion about the definition of the term "e-book" which is not finished yet (Crawford, 2000) (Tedd, 2005). Since the term is used, it shall be stated that it is used in the way Zivcovic proposed: „An electronic book consists of one or more files of monographic character available to the public online or in physical form (on CD-ROM, diskette and the like physical carriers)" (Zivcovic, 2005). The term "e-book reader" is used for any kind of device and software combination, which is able to display an e-book.

As stated above this article focuses on commercial electronic books. Commercial means that the e-book can be bought in the regular book trade. The restriction to commercial e-books was conducted because the number of e-books supplied is an indicator for the demand of e-books, following the principle "demand determines supply". Therefore it can be concluded, when the commercial title supply is growing, the demand is growing.

Finally it is distinguished between English- and German-speaking titles depending on the language the title is published in. A title in English-language which is published by a German publisher is considered as English-speaking.

Number of English-speaking e-books in the US-market

The data needed for this examination was obtained from the database *Global Books In Print Online (GBIPO)*. GBIPO contains the bibliographic information of all relevant English-speaking book trade directories. In consultations with organizations in the book industry and with the American Library Association the numbers for the American book production are extracted from this database and published in the article *Book Title Output and Average Prices* (Grabois, 2006).

To check for the completeness of the database fifteen publishers were chosen, and asked via e-mail for the numbers of e-books they published until now. Afterwards the number of titles of the publisher given by GBIPO was compared with the number of titles given by the publishers themselves. It showed that the numbers from the databases differed in nearly all cases from the numbers given by the publishers. This may be due to multiple reasons:

First publishers need time to list their titles in GBIPO. This is quite normal and affects a time period of about two years. Second, publishers do not list e-books because they do offer their titles exclusive on their own online-platform. The publisher "Thieme" for example sells electronic editions only to institutions on their own online-platform. For these publishers there is no need to list single titles in GBIPO. That means the total number of electronic books stated is short on titles of the last two years and of titles which are exclusively offered in online-platforms. For it is not possible to avert this problem the number of titles listed must be considered as a minimum.

The hit-list shows all in all 160.156 different e-book-titles. When looking at the search results it indicates that some vendors list the same e-book-title several times in different file-formats. Unfortunately, there is no possibility to restrain this search regarding the file-format. Therefore it was necessary to produce a sample to figure out how many e-book-titles were listed several times (doubles), which ran to a sample of n=1.250 titles. A title was classified as double-listed, if there was another entry with the same heading, the same publisher and the same publication year. If an e-book was published in two formats it was once noted in the category "existing once" and again in the category "doubles". If an e-book-title was published in three different formats it was classified once in the category "existing once" and twice in the category "doubles" and so on. Finally the confidence interval was calculated with a confidence level of 95% [2]:

Table 1: Number of English-speaking e-books

	e-books (sample)		e-books (population / confidence interval)	
	(absolute)	**(in %)**	**(absolute)**	**(in %)**
exist 1 time	1.083	86,6	135.492 – 141.578	84,6 –88,4
doubles	167	13,4		

Annotation: n=1250; Date of the sample: August 2006

With a probability of 95 % there are at least 135.492 English-speaking e-books offered for the US-market.

The development of the e-book-supply in the last twenty years

It is of interest to analyse the development of the e-book-supply. The relevant data can again be found in the database *Global Books In Print Online*. Regarding the history of electronic books it seems appropriate to evaluate the e-book-supply of the last twenty years.

Again the search result must be modified as shown above because of titles in different file-formats listed twice or more. Moreover it appeared that the culminated number of e-book-titles narrowed down to a to a single publication year does not match the total number of e-books that were not restricted to the publication year. A look at the search results shows that some titles are listed without a publication year. One possible reason may be that the electronic edition of these titles is published after the printed one and that there should not be a different publication year for the same publication. Providing that the affinity to tag a publication year to a title does not vary during the years the relative title-supply of one year can be compared with another.

Finally another problem must be stated. As mentioned above publishers need time to list their titles in the database. If the development of title-supply is examined by narrowing the search to the publication year, the results for the latest publication years are incomplete. To find out which publication years are affected by this problem, a first run of the survey was compared with a second run half a year later. It showed that the discrepancy was particularly pronounced for the publications of the year 2004, 2005. Nevertheless since the data for 2003 collected 2005 did not differ in a decisive way from the data collected in 2006, it is assumed that the data for 2004 collected 2006 will not differ from the data collected in 2007. Therefore the numbers for 2004, which were collected in 2006, were integrated in the results while the data for 2005 were excluded.

Figure 1: Growth in the supply of e-book-titles compared to the preceding year
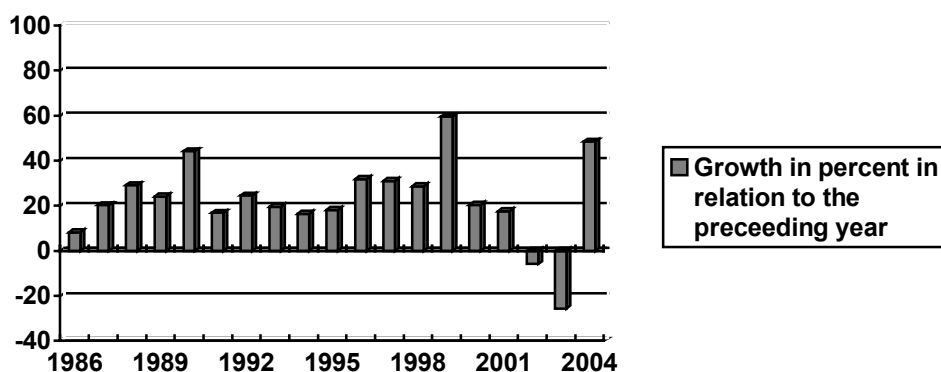
Annotations: Source: Global Books In Print Online; Date of the Survey: March 2006

For most of the last 20 years, the supply of e-book-titles has grown continuously. The average rate of growth over this period was about 20 % annually. The strongest increase of nearly 60 % took place in 1999, when the New Economy boomed. The years 2002 and 2003 mark the decline of the New Economy and during this period, supply fell. By 2004, supply began to recover.

As explained above this method cannot cover the last years. Fortunately, the latest development of the e-book-market can be measured in a different way. In August 2005 the calculation of the total number of available e-books was done the first time. 110.365 e-books were counted (Just, 2006). At the rerun conducted for this publication in August 2006, 135.492 e-books were calculated. That means the number of available e-books grew from August 2005 until August 2006 about 23 %. This is little more than the average growth of 20 % calculated for the last twenty years.

The relation of hardcover and e-books in print

The total number of e-books shall be compared with the total number of hardcover-titles. The number of hardcover produced can be evaluated by using the database Global Books In Print Online. Again the search is narrowed down to the English-speaking US-market.

Fig. 2: Comparison of the total number of electronic/printed titles:
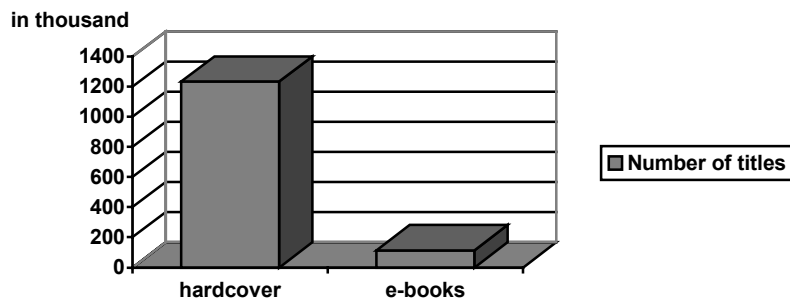
Annotations: Source: Global Books in Print; Date of the Survey August 2006.

There are 1.218.397 English-speaking hardcover-editions in print offered in the US-market. In relation to the total amount of hardcover-editions the total number of e-book-titles runs up to 11 %.

The e-book-supply in Germany

There is no infrastructure like catalogues or directories for German-speaking e-books. The German book trade directory *Verzeichnis Lieferbarer Bücher (VLB)* lists only 790 e-book-titles.[3] The catalogue of the national library *Die Deutsche Bibliothek* is not complete, either, because there has not been a legal deposit arrangement for electronic publications until 2006.

In an earlier work I examined the number of German-speaking e-books. All relevant German speaking e-book publishers and their aggregators were located, the number of titles was acquired and the catalogues of the different aggregators checked for double entries. The number of commercial German-speaking e-books in August 2003 did not exceed 3.000 titles (Just, 2006). According to a rerun in August 2006, the number of titles now stands at 9.000, an increase of 300 % in three years.

Despite this relative high increase it is obvious that the supply of e-books in Germany is far lower than in the US. In relation to the German-speaking hardcover supply, the supply of e-books adds up to just over 1,7 %.[4] This concludes that a title is six times more likely to be published in an electronic edition in the US than it is in Germany.

Usual explanations, including the argument of non existent adequate reading systems, the missing of a standard file-format or the fear of piracy, are only convincing at second sight, though US-publishers face the some technical problems. But if one accepts, that the publishers as well as the readers in the US have a greater affinity to technical developments than in Germany and that they are more willing to accept technical disadvantages in the assumption that there will be proper solutions in the near future, it is coherent that a US-publisher has a wider audience at an earlier stage of market development and can afford to produce more e-books. Therefore a substantial growth in supply in Germany can not be expected until technical solutions are developed, which are able to convince a greater audience of the advantages of this medium.

The most important technical task is the development of an appropriate e-book reader. In a user evaluation the most desirable attributes of a successful e-book-reader emerged to be: low costs for the device, compatibility with multiple file-formats, low weight, long battery life and high screen

resolution.[5] In the following, newer e-book readers are compared with the readers already known. The table is based on the useful overview provided by Rao (2004).

Table 2: Comparison of e-book readers

Device	Screen	Weight	Battery life	E-Book-Format	Price	Producer / Vendor
RCA REB 1100	320x480 pixel; 108 dpi; black and white LCD	1.1 lb (500 g)	15-35	.rb (a proprietary Gemstar)	299 US$	Gemstar (no longer available)
RCA REB 1200	480x640 pixel; 32.768 colors	2,1 lb (950 g)	6-12 hours	.sb (a proprietary Gemstar)	599 US$	Gemstar (no longer available)
Palm PDAs	160x160 pixel; 16 level gray scale	0,4 lb (180 g)	Depends on use	DOC; .pdb; .prc	135-400 US$	several vendors
Librie EBR-1000EP	800x600 pixel; 170 dpi; 4 level grayscale	0,7 lb (300 g)	Depends on use	BBeB, proprietary	500 US$	Sony (only available on the Japanese market)
Sony Reader (not yet in trade available)	800x600 pixel; 170 dpi; 4 level grayscale	0,6 lb (250 g)	7.500 page turnings	BbeB; software to transform .pdf; .txt; .rtf; .jpg in BbeB-format	349 US$ (expected)	Sony
ILiad	800x600 pixel; 170 dpi; 4 level grayscale	0,9 lb (390 g)	Ca. 21 hours	.pdf, .xhtml,.txt, OEB,	810 US$	Irex Technologies BV
V2 (not yet in trade available)	800x600 pixel; 170 dpi; 4 level grayscale	0,6 lb (290 g)	Not applicable	.pdf, .txt, DOC, .html (amongst others)	349 US$ (expected)	Tianjin Jinke Electronics Co., ltd.

In 2006 with the Sony Reader, the Illiad and the V2, a new generation of e-book readers are introduced to the market. Their main advantage is a display with the electronic ink technology which is characterized by a screen resolution of 170 dpi and low energy consumption. Secondly all readers from the new generation are compatible to several data-formats. There is no reader which is limited to one proprietary data-format. The big deficiency of the new reader generation is the price which ranges from 300-800 US$. Articles in German press show that the technical evolution to a better screen

resolution is considered as a substantial advancement, while the high price is mentioned as an obstacle only in commentaries to these articles written by readers.[6]

Conclusion

The following results can be stated:

- There are at least about 135.000 commercial English-speaking e-book-editions offered in the US-market.

- The supply of e-book-titles has grown by an average of 20 % annually over the last 20 years. From August 2005 to August 2006 the supply of titles grew by about 23 %.

- In relation to the total amount of hardcover-editions the total number of e-book-titles run up to 11 %.

- In comparison to Germany the USA is at the forefront of the e-book-market. About 9.000 German-speaking e-book-titles were published, which runs up to 1,7 % of the total amount of hardcover editions.

The end of the New Economy boom dealt a severe blow to the expansion of the supply of e-books. Today, the market has recovered. With 11 % of the volume of the hardcover-market the e-book-market seems to be reaching the critical mass necessary to offer readers and libraries an adequate selection of titles. Furthermore the growth of the title supply indicates that the exceptance of e-books by the end user grows continously. Though the often predicted big breakthrough has not happened yet, the market is set for another try.

Notes

[1] International Digital Publishing Forum (2005): "Top Selling eBooks Announced. Strong Q3 in 2004 with Double Digit Sales Increase Over 2003",
http://www.idpf.org/pressroom/pressreleases/2004bestsellers.htm

[2] The calculation of the confidence interval and confidence level is described by (Klemm, 2002).

[3] In the internet at: http://www.buchhandel.de.

[4] The VLB lists 514 209 Hardcover editions.

[5] International Digital Publishing Forum (2006) "E-books User Survey 2006",
http://www.idpf.org/doc_library/surveys/IDPF_eBook_User_Survey_2006.pdf

[6] For example in the following articles:
http://www.heise.de/newsticker/result.xhtml?url=/newsticker/meldung/73986&words=eBook;
http://blog.handelsblatt.de/dezentrale/eintrag.php?id=40; http://www.golem.de/0601/42548.html

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