

The development of the printed book

Pre-dating the arrival of the mass-produced book, as we define it today, religious images were produced as early as the 8th century with crude printing methods that included the use of carved wooden blocks. In AD 983 the Chinese printed the Buddhist Scriptures in 5048 separate volumes, totalling 130,000 pages, with each page printed from a separate carved block. In the 11th century, Korean and Chinese printers used what we would call movable type, but because their languages were based on thousands of characters, this form of printing was not widely adopted.

The development of the printed word was not solely due to the creation of movable type by Gutenberg, and then Caxton in the UK. A number of technologies had to be developed and then brought together to make the printed book a reality. They were the development of:

- Paper
- Oil-based inks
- Movable type
- The printing press

The genius of Gutenberg was to see how these separate technologies could be used together to mass produce the printed word. Book production continued to grow, but was still expensive and this made the cost of the books themselves high.

Timeline

- 105: Paper in use in China
- 983: The Chinese print the complete Buddhist Scripture
- 1455: Gutenberg Bible printed
- 1470: Roman typeface developed
- 1501: Italic typeface developed
- 1609: The first newspaper (*The Relation*) published in Strasbourg
- 1642: Colonel Ludwig von Siegen uses roughened copper plates to print graduated tones
- 1702: London's first daily newspaper (*The Daily Courant*) published
- 1719: Colour printing becomes a reality in Germany
- 1816: First steam-driven printing press appears
- 1848: The rotary drum printing press appears
- 1904: Ira Rubel pioneers off-set lithographic printing
- 1939: William Heubner invents phototypesetting
- 1947: The Fairchild Corporation develops the first electronic scanner
- 1957: Penguin Publishers photoset the first book
- 1982: The Postscript software language is developed
- 1985: PageMaker is released, starting the DTP revolution
- 1990s: Most new books are now written and typeset electronically
- 2000: Stephen King publishes new short story exclusively on the internet in eBook format



Short history of the eBook

What is an eBook?

One of the problems with eBooks is fixing a definition. For the purposes of this book, an eBook is a written work that has been digitised with the sole intention of offering that product for sale and that will be read on either a stand-alone personal computer or on one of the many hand-held devices that now exist. These are either multifunctional or designed exclusively for reading eBooks in one or more formats.

You may see a definition of an eBook that really describes the hardware that is used to read the text. The PDA (Personal Digital Assistant) with eBook reading software is a good example here. Whatever definition you use, an eBook has a number of unique characteristics:

- It does not use paper as its delivery medium
- Annotations and 'extra' information can be accessed
- More than one eBook can be carried on the reading device
- Most reading devices offer other functions, such as diary and address book

You may be forgiven for thinking that the eBook is a development of the last few years because over this time it has become a commodity you can actually buy from websites such as Amazon and Barnes and Noble. The truth is that the first eBook appeared over 30 years ago. Alan Kay envisaged a computing device that was, in effect, the predecessor to today's notebook computers. As each decade progressed, so another piece of the eBook jigsaw was put in place.

Timeline

1970s

One of the earliest ventures into electronic publishing was by Michael Hart who launched Project Gutenberg (<http://promo.net/pg/>). This began to put literature that was out of copyright on the internet.

1990s

The personal computer, in the decade since its inception in the early 1980s, grew in power to allow online documentation to be offered to customers. The PC operating system, Windows, shipped with an early version of such a system and was one of the first attempts at off-line electronic publishing.

1991

One of the first eBook viewing devices was demonstrated by Sony. Weighing less than 900 g, the device displayed the contents of 8 cm CD-ROM disks that could hold 100,000 pages of printed text.

1993

The first PDA was developed by Apple Corp with the release of the Newton device. Looking very much like the PDAs that we know today, the device failed to capture any significant market. However, it did demonstrate that a hand-held computing device could be built to provide a useful set of services to its owner, for example, diary and scheduler.

1996

The Palm Pilot launched to global critical acclaim and heralded a new era in portable computing. Now a mass market product, the first Palm Pilot realised a vision that John Sculley, the then CEO of Apple had envisaged only a few years earlier with the Apple Newton. Palm would go on to provide a universal platform for the distribution of eBooks.

The most significant development of the 1990s came from Adobe (<http://www.adobe.com>) who developed Acrobat. More than any other software application, this would have a significant impact on the development of electronic publishing on a global scale. Adobe's popular PDF (Portable Document Format) would become ubiquitous for the publication and distribution of information online as well as off-line.

PDF files culminated in the 1990s with the arrival of the CD-ROM. Software developers moved their software manuals increasingly to the CD-ROM in PDF file format, forgoing the need to print and ship expensive printed documentation.



Hand in hand with the development of these technologies, was the internet browser itself. With the widespread uptake of HTML (Hypertext Mark-up Language), the internet and its millions of written documents with embedded hyperlinks to other documents began another phase of electronic publishing.

2000

The beginning of the new millennium saw two significant developments in the electronic publishing arena:

- Napster
- The publication of Stephen King's *Riding the Bullet* exclusively online

Napster is significant because they were the first company to place intellectual property – in their case music files – on the internet for download. This impacts on the development of the eBook in a number of ways:

- Napster proved that there was a market for the download of intellectual property
- The hardware platforms that allowed people to listen to the music they downloaded were mature enough to sell to a mass market
- Napster saw a backlash from the publishers of the original music files that it offered for free over the internet. The eBook market would learn from this, and put in place sophisticated rights management software to monitor the sale and distribution of authors' work. We will look at this in more detail on Friday
- Napster showed that using one format for the distribution of your intellectual property was important. The eBook industry still suffers from a lack of standards. We shall look at this in more detail tomorrow

2002

EBooks are now a reality. The market for them continues to grow, with some major publishers producing, for the first time, eBook versions of books that previously existed only on paper.

At present there is still no clear winner in the eBook format wars. We will look at this in more depth on Wednesday because it is important for your business to decide on an eBook software format to support.

The hardware that supports eBooks has also continued to develop, with new multi-purpose devices entering the market. The trend seems to be that customers want a portable device that contains their mobile phone, MP3 player, PDA and eBook reader. Currently there are no ideal solutions because this is an emerging market, but even now your business needs to make the right choices regarding software format and hardware platforms, based on the intellectual property that you wish to sell.



The book

If it ain't broke. Don't fix it!

Lastly today it is important to mention that the emerging eBook market is just that, a brand new market that is still finding its feet. The book, as we know it today has developed to the point where it offers its users a device that:

- Is portable
- Does not require electricity to display the text and images
- Has high resolution text and images
- Has durability
- Is easily accessible (you just need to learn to read, not how to use a computer operating system)
- Is affordable
- Is a renewable information carrier. We can always plant more trees!

Can computers and PDAs really replace this? Why bother to try and improve something that does its job perfectly? The answers are manifold. The fact remains that electronic publishing and the eBook in particular, can offer improvements over the traditional printed book in a number of ways. More importantly, a consumer market for the eBook is here now.

Education gives a clue to this market; those now in college or university are members of a society that grew up with computers, PDAs and mobile phones as part of their normal lives. Therefore, they:

- Do not have a problem reading from a screen for long periods of time
- Do not want to be burdened with paper books if they do not have to be. Several large textbooks can become cumbersome to say the least!
- Are unused to waiting for the latest edition of a book because the internet provides them with easy access to up-to-the-second information
- Find new technology almost irresistible

Clearly, the educational sector of the electronic publishing market will have a large impact on the uptake of new products like eBooks. The paper book will remain, but the market for an improved experience is ready and waiting in the form of a generation that is now using this fledgling technology in their daily lives. Can your business afford to ignore this market?

The printed book is not obsolete certainly, but you will see that today's technology can improve upon it, and in many ways surpass it. eBooks offer the book buyers of tomorrow an information source that provides more than simply the printed word.



Summary

Today we have looked at the development of the printed word and also at the history of the eBook. This information is vital for you, as a business person, to see the development of the eBook and electronic publishing in the context of the history of printed word.

The next stage of book development is happening all around us. The printed book market is huge (around £2 billion a year), but the eBook market is set to surpass even this massive market as new reader devices become available, but more importantly as the book buying population increasingly move their buying activity to the electronic realm.

Your business has a ready market of millions of potential customers who either already have PCs that are equipped to read electronic documents or who already own hand-held PCs. The move by Palm to purchase an eBook reader for their wildly successful range of hand-held PCs cannot be underestimated. With an installed user base of over 13 million Palm devices, this is a market ignored at your peril. Tomorrow we look closely at the mechanics of the eBook, from both a hardware and software perspective.