Digitisation and Electronic Publishing: developing a strategy for book publishing in Wales

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1 Executive Summary

The Welsh Books Council (WBC), working on behalf of the Welsh book trade, has recognised the need to improve the country's book marketing and distribution infrastructure through the more effective use of information and communication technology (ICT); at the same time, developments in what might broadly be characterised as "epublishing" have also prompted the Welsh Books Council to develop an appropriate strategy for epublishing for the Welsh book trade. To assist in both of these objectives, the WBC has commissioned two separate (but linked) studies. These studies consider both the opportunities for the Welsh book trade that are afforded by the availability of technology, and at the constraints within which it operates, with a view to developing a set of recommendations that can realistically be implemented within a five year period.

Book publishing, worldwide, stands at a crossroads. The digital publishing environment, from electronic prepress to digital print to electronic media to online delivery represents probably the biggest revolution in book publishing since the invention of movable type. This report, the second of the two, focuses on relating the digital publishing revolution to the Welsh book publishing industry.

Many technology companies are operating in this area, offering diverse solutions for production, protection, and distribution of content. Although these solutions are transforming the marketing of traditional as well as digitally published books, this report is solely concerned with the latter: digital print, disc-based publishing, Internet publishing, and ebooks. The ability of the publishing industry to derive benefits from these technologies is directly dependent on its ability to manage content digitally, to create and/or convert digital assets, to uniquely identify and describe those assets, to protect those assets and enforce digital rights, to archive and maintain those assets, and to disseminate those assets in appropriate formats and versions. In other words, this ability is dependent upon a clear understanding of the strengths and weaknesses of the emerging delivery platforms, the potential revenue streams they offer, and the requirements they impose on producers and distributors. By assessing the epublishing landscape, the Welsh Book Trade can prepare itself for the greater global revenue opportunities that are becoming more broadly available to the book publishing industry.

Clear opportunities for positive change exist for the Welsh Books Council in becoming a central epublishing centre of excellence for its constituency, driving forward epublishing opportunities for the Welsh book trade as they arise, near-term and far-term:

- to establish a repository for the Welsh content being delivered through the supply chain;
- to negotiate and effect new channels for delivering Welsh content through the supply chain, in particular for supplying digital print;
- to encourage the preservation of Welsh culture that might otherwise be inaccessible, through the establishment of a publicly available out-of-print ebook archive;
- to build a community education and self-help resource which will act as a knowledge warehouse and training forum to help members of the Welsh

publishing community to implement the best fit system solution for their own business.

It is hoped that implementation of these recommendations will encourage a more responsive and buoyant book trade in Wales—and thus a growing book trade in Wales—extending increased awareness and application of new publishing technologies to the benefit of authors, publishers, other members of the book trade, but above all of readers.

The book trade is wholly dependent on readers; it is they who must be better served if any new technology is to add value in the book publishing process.

2 Project Overview

2.1 Project objective

The last five years have witnessed a huge acceleration in the number of digital publishing media and platforms. However, at present, the Welsh publishing trade has not embraced a common methodology for exploring and capitalising on a digital publishing strategy. The Welsh Books Council seeks to understand and participate in this growth by whatever means it can for the shared benefit of everyone in the book trade, to provide cultural, pedagogical, and commercial benefits. The purpose of this report is to help to achieve this objective by recognising where opportunities exist in the current publishing framework and then addressing them by recommending new solutions for the production and commerce of books, whether print or electronic.

Sales of digitised content packages, whether on physical media or as digital file downloads, are accelerating rapidly around the world, the latter in total disregard of historic national and commercial trading boundaries. This is presenting enormous challenges for managing the secure delivery of content to legitimate trading partners and consumers, and is occupying the shared energies of industry groups representing the interests of consumer electronic manufacturers, IT companies, and rights holders. It has also presented enormous opportunities for early participants in the landscape, to experiment with new channels and to position themselves for the future.

This study, exploring current and future developments in digital printing and publishing, in Wales and beyond, presents recommendations for the adoption and modification of best practice to maximise the effectiveness of Welsh publishing in the global network environment. Its formal objective is “to provide a comprehensive analysis of current and forthcoming epublishing platforms in support of the marketing and distribution of content to provide the basis of a five-year plan for the development of electronic publishing in Wales.”

2.2 Project steps

The purpose of this project was first to identify the current understanding within Welsh book publishing of new technology options; then to identify the potential for the wider application of digital delivery, assessing the comparative contributions and benefits of digital print and digital media along the supply chain; then to define the requirements for achieving that potential and to recommend the workflow that would be needed to support the principal activities for such publishing, now and into the future.

The methodology was a combination of qualitative and quantitative research, comprising

- A review of previous studies of and the current state of the trade
- The creation of a taxonomy of epublishing issues
- A survey of epublishing use, employing structured face-to-face workshops and individual interviews as well as postal questionnaires
- A survey of potential providers, accompanied by personal interviews

2.2.1 KNOWLEDGE GATHERING AND NEEDS ANALYSIS

We first conducted a knowledge building exercise through a research and interview process to document what the position is today in respect of Welsh book trade practices (among publishers, booksellers and retailers) for delivering content digitally. Through a focused workshop, select interviews and mail-in questionnaires, targeting key participants from the Welsh book trade value chain, Rightscom gathered expectations and requirements for specifying the development of an epublishing strategy. This knowledge base is fundamental to this project, highlighting the needs for as well as the constraints against efficient practice, and providing a foundation for the subsequent study.

The research universe for the study was defined by the Welsh Books Council, who provided a list of publishers, bookshops, libraries and other book trade participants, considered to be “stakeholders” in the success of the book trade. The educational publishing market was not included in this population and has thus not been a focus of this study.

2.2.1.1 Conducting the survey

Four group workshops were held (two in Llandudno Junction and two in Swansea) from 12-13 June. Attendance was as follows:

	epublishing	ICT
Llandudno Junction	4 publishers, 1 library	3 publishers, 1 library
Swansea	8 publishers, 2 Language Board, 1 Arts Council, 1 WJEC, 1 printer	10 publishers, 2 Language Board, 1 WJEC

Workshops were conducted in both Welsh and English.

To increase personal contact with bookshops, we conducted four one-on-one interviews with individual proprietors. We also interviewed the University of Wales Press, who had been unable to attend the workshops but had raised some important issues in correspondence, and the National Library of Wales.

2.2.1.2 Distribution of questionnaires

Following the workshops, 260 English questionnaires were sent out: 80 to publishers, 12 to libraries, 160 to retail shops (bookshops, tourist shops). (Welsh versions were sent subsequently.) The response rate, given a cut-off date of July 23, was as follows:

	Total sent	Epublishing	ICT
Publishers	80	14 (18%)	18 (23%)
Retail shops	160		22 bookshops; 3 tourist shops (16%)
Libraries	12		4 (33%)

Totals combined with workshop submissions.

	Total distributed	Epublishing	ICT
Publishers	93	23 (25%)	21 (23%)
Retail shops	161		23 bookshops; 4 tourist shops and other (17%)
Libraries	13	1 (8%)	5 (38%)

2.2.2 RESEARCH AND DOCUMENTATION

We identified the current market adoption rates and the future market potential offered by digital delivery of content through *physical* products, including CD-ROM, DVD, and digital print (short run print and print on demand), exploring relevant capital and process costs, in light of market growth statistics and new market penetration.

Simultaneously, we identified the current market adoption rates and the future market potential offered by *digital* delivery of content through the Internet, including web publishing and ebook delivery (to PC readers and to dedicated reading devices), highlighting each platform's characteristics and potential for facilitating the growth of the trading of Welsh book content in the global marketplace, noting costs of participation (conversion and repurposing of content).

2.2.3 FORMULATION OF A STRATEGY

Based on our research, we have developed recommendations on the priorities for electronic publishing in Wales over the next five years. Focusing on optical disc, digital print, the Internet and ebook delivery, these recommendations aim to support the requirements identified by the Welsh book trade and the demands of the emerging marketplace. Where possible, Rightscom has sought to identify funding opportunities to offset development costs, as well as to reinforce the long-term benefits of the investment. This report presents the overall findings and recommendations, delivered to the WBC.

3 Current state of the trade

3.1 Background

3.1.1 MARKET SIZE

Estimates of the size of the Welsh-language market are half a million in Wales itself (about 19% of the population), with small pockets of population around the world through the Welsh diaspora.[1] Speculations as to the number of Welsh speakers outside of Wales vary, from 150,000 to 450,000 in England, with famously some 1000 in Patagonia, and unknown numbers in Scotland, Ireland, North America and elsewhere.

What proportion of "domestic" Welsh language speakers translates into book buyers has been most recently quantified by Beaufort. A November 2000 survey indicates that 24.7% of Welsh speakers "ever" finish reading a Welsh language book. (This shows a slight increase from the previous year, which was at 23.6%.) The number of those who finish a book more often than once a year has remained steady, at 19.2% in 1999 and 19.4% in 2000. However, only 19.6% "ever" purchase a book in Welsh, a decrease of 3% from the previous year; and purchasing once a year or more often has dropped from 17% to 15.8%, although this is an increase compared to June 1997 (14.8%). Gwynedd is the region with the highest concentration of book buyers and book readers, with 20.5% of its total population (38.2% of its Welsh-speaking population) finishing a book in Welsh against the overall average of 6.8%. Both readers and buyers of Welsh books are more likely to be over 34 years of age.[2]

It is, of course, effectively impossible to estimate the potential size of the market for English language "books of Welsh interest", since it theoretically encompasses everyone in the World who speaks English (either as a primary or secondary language). Estimates of potential market size in this context are clearly of no significant value. The domestic Welsh market comprises approximately 3 million people; it is growing only very slowly.[3]

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[1] According to the 1991 Census of Population, there were 508,098 speakers of Welsh in Wales, constituting 18.6% of the population. The Welsh Office survey, conducted a year later (in 1992), estimated the number of fluent Welsh speakers at 368,000, with an additional 94,900 speakers being fairly fluent and 467,300 able to speak some Welsh. (http://campus.uoc.es/euromosaic/web/document/gales/an/il/il.html) In 1995, the Welsh Office survey showed 21.5% of the population (590,800) speaking Welsh, comprised as follows: 32.4% of 3-15 year olds, 17.8% of 16-29s, 16.7% of 30-44s, 18.7% of 45-64s and 24.2% of over 65s. Notably, 12% of the population (326,600, or 55% of Welsh speakers) are Welsh as first language speakers, while 66.1% claim no facility with Welsh. (http://users.comlab.ox.ac.uk/geraint.jones/about.welsh) The Beaufort State of Welsh Language Research Report (March/April 2000) places Welsh speaking adults (age 16 and over, speaking at least some Welsh) at 18%. Of these, 62% are able to read Welsh very well and 26% fairly well; 53% can write Welsh very well. In both cases, the facility lowers for 25 to 44 year olds and increases thereafter. See also "Digest of Welsh Statistics 2000," http://www.wales.gov.uk/keypubstatisticsforwales/content/publication/compendia/2000/digest/chap_one/chap_one.htm.

[2] ACW/Beaufort Welsh Omnibus Survey – November 2000, produced by Valleys Arts Marketing.

[3] Less than 2% between 1991 and 2000, compared to over 3.5% for England.

3.1.2 THE BOOK TRADE IN WALES

The book trade is comprised primarily of small to medium sized enterprises, including more than 80 Welsh/bilingual publishers, 150 publishers of books of Welsh interest (in English), 500 retail outlets,[4] and 22 library authorities.

The Welsh Books Council is an organisation that works on behalf of the publishing trade in Wales, providing services supporting publishing, production, marketing and distribution, as well as promoting reading and literacy.

Its largest department is the Distribution Centre (WBC DC), which acts as a wholesaler and a distributor for publishers and booksellers, stocking titles and fulfilling orders. The WBC DC's distribution and fulfilment activities are supported by a system from VISTA International, the UK's leading vendor of publisher "back office" systems. This was installed in 1995/6 with the support of lottery funding.

The WBC database of titles comprises 17,500 titles, 11,500 of which are still in print. The number of new titles added in 2000 was 1149 (606 Welsh and 543 Welsh interest). There were 125 reprinted titles (76 Welsh, 49 Welsh interest). For Welsh-language books supported by the Publishing Grant, the average print run for a new title is 1418, with sales averaging 1,000 copies over two years.[5]

The WBC also provides an online information service, gwales.com, offering a catalogue of some 14,000 Welsh books and books of Welsh interest to booksellers, libraries and individuals.[6] Gwales.com was created in 2000 with support from a grant from the European Regional Development Fund scheme: Llwybr Pathway, and the National Assembly for Wales. Trade orders to the WBC DC may be placed directly on gwales.com; retail orders may also be placed, but these are routed for processing and fulfilment to a conventional bookshop selected from a list of "qualified" retailers by the consumer.

WBC DC has, thus far, been unwilling to fulfil direct orders received over the Internet from individual customers, because it does not wish to been seen as undermining traditional retail relationships.[7] However, this policy has been called into question: is the current arrangement the most effective way of serving customers?

3.2 Growth projections and trends

While Welsh-speaking populations are decreasing with each census, the Welsh Language Board notes a slowing in the decrease in *fluency*, suggesting that the language has "stabilised" and that decline may have been arrested.[8] The

[4] This is the number of accounts within Wales active at the Distribution Centre. The worldwide number, including supermarkets, chain stores and confectioners, is over 800. Similarly, worldwide publisher accounts at the DC amount to more than 350.

[5] Working Together, Publishing in Wales with the Support of the Publishing Grant: A Five-Year Strategy, November 2000, p. 15. The Publishing Grant is explained in section 3.3.

[6] There is an apparent discrepancy in numbers here, accounted for by titles "temporarily out of print".

[7] It should, though, be noted that it does fulfil individual orders received by other media.

[8] The Welsh Language Board, "The Present State of the Language," http://www.bwrdd-yr-iaith.org.uk/html/wlb/s1_promostrat3-e.html.

Language Board attributes this largely to an increase in the teaching of Welsh in schools.

Indeed, the biggest increase in the proportion of Welsh-speakers has been among younger age-groups. The percentage of primary school children fluent in Welsh has increased from 13.1 to 16.3 per cent over the last thirteen years, with one in five students taught in classes where Welsh is the primary medium of teaching,[9] and one in six speaking fluently. At secondary level, one in seven students is taught Welsh as a first language and four out of five are taught Welsh as a second language.[10]

The 1996 Euromosaic Report characterises the Welsh language as "quite dynamic," but warns the "the main issue now surrounds translating competence into use," such as by institutionalising the language "within a range of structures within civil society."[11] This is the challenge that the Welsh language publishing trade faces, as it strives to establish recognition for the language as a viable medium across age groups.

The WBC strives to increase language awareness and use through encouraging and supporting Welsh-language (and Welsh interest) publishing efforts. It does this partly through distribution of publishing grants (see below). The following goals were set should the Publishing Grant be substantially increased as proposed:[12]

- To sell 300,000 copies of books supported by the Grant within a two-year life by year 2005. This translates into an increase of two-year sales figures of 50%, with an increase in the average sales of a new book from 1000 to 1250 copies.
- To increase annual sales of Welsh books to 675000 by year 2005 (an increase of 50%).
- To increase the number of reader and buyers of Welsh books by 25% by year 2005.

3.3 Grants for Publishing in Wales

Most of the 600 books published in Welsh in a year receive some measure of subsidy.[13]

The Arts Council of Wales (ACW) distributes grants to books of literary merit, and has a budget of £1.25million for 2001/02. These books may be in Welsh or in English. The ACW also distributes lottery funds allocated to the arts, but again primarily to support literary-artistic works. The Qualifications, Curriculum,

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[9] 27% of all primary schools are Welsh medium schools, but concentrations vary geographically.

[10] "Welsh in Schools," http://www.wales.gov.uk/keypubstatisticsforwales/content/publication/education/2001/welshinschools2001english.doc; "Euromosaic: The production and reproduction of the minority language groups in the European Union," http://campus.uoc.es/euromosaic/web/homean/main/presenta/index.html.

[11] ibid

[12] "Working Together, Publishing in Welsh with the Support of the Publishing Grant: A Five-Year Strategy," November 2000.

[13] ibid, p. 3

Assessment authority for Wales (ACCAC) has £1.4 million annually to commission Welsh and bilingual educational material for the National Curriculum. The Welsh Joint Education Committee (WJEC) has £250,000 annually for support of materials for schools.

The WBC also distributes grants for Welsh language titles (the Publishing Grant), which come from funds from the National Assembly routed through the Welsh Language Board. The Publishing Grant supports approximately 200 books, divided almost equally between children's and adult titles.[14] Individual awards made by the WBC range from a few hundred pounds up to £4000, with the average being approximately £1500. Since the introduction of support schemes for publishing back in the 1950s and 1960s, the number of new Welsh-language titles has more than quadrupled.[15]

In the case of the Publishing Grant, the grant awarded to a publisher for a title is the difference between the title's production costs and its expected income. The WBC has put together a table of production costs to use in calculating the former. The latter is determined through the following formula: (60-75% of the print run) times (the publication price less a 43% discount). The Council's goals are to ensure that sufficient numbers of copies of books reach the marketplace to meet demand, as well as to spread the available grant as widely as possible to support the publishing of as many titles as possible. The net effect is an objective to increase the initial print runs of individual titles, which tends to decrease the amount of grant given for a title. Methods of encouraging higher initial print runs include offering publishers higher grants for certain books if they agree to increase the print run, and refusing grants for reprints until two years after publication.

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[14] Publishing Grant requirements are as follows: A book must be a least 48 pages; The print run must be at least 750 copies (runs lower than this are "rarely given consideration"); Print runs should support two years' stock; Grants for reprints are not allowed within two years of grants to previous production; The book must be in the Welsh language or bilingual. WBC Publishing Grant Department, "Introduction to the Publishing Grant for Prospective Publishers"

[15] Roy Thomas, "Welsh Language Publications: Is Public Support Effective?"

4 ePublishing

There is serious interest across the whole of book publishing in pursuing new electronic models. Of 31 UK publishers and 30 US publishers surveyed earlier this year,[16] a significant majority were either already participating in or were seriously thinking about adopting the following epublishing media for their products:

Technology	UK Publishers	US Publishers
ebooks	65%	73%
Online delivery	94%	80%
Print on demand	71%	67%

The ability of the publishing industry, in this case the Welsh publishing industry, to derive benefits from these new technologies is directly dependent on its understanding of the strengths and weaknesses of the emerging delivery platforms, the potential revenue streams they offer, and the requirements they impose on producers and distributors. Through an assessment of this landscape, the Welsh book trade can prepare itself for the global opportunities that are becoming more broadly available to book publishing.

4.1 Demand print/ print on demand

4.1.1 Description and USPs, overview of technology

Digital printing enables just-in-time printing. This implies printing only what you need when you need it. That may constitute filling publisher orders for 10-500 copies, quantities below economical sheet-fed production runs (this range is referred to in this report as "short-run demand print"); or it may constitute single copy orders to fill a single consumer order (referred to as "print on demand"). It does this by printing texts from digital files on digital printing equipment, typically Xerox Docutech or IBM Infoprint machines. As there are no films, no plates and no makereadies, print turnaround is typically 24-48 hours, regardless of quantity, and regardless of whether this is the first printing or the one hundred and first.

4.1.2 Market and Market Trends

Digital printing has been available and in use in the UK for more than a decade, with particular application in academic and professional publishing because of their small market characteristics. Cambridge University Press, for instance, uses short run printing technology to revive out-of-print titles and to keep others available almost indefinitely. According to CUP, of the press' 13,500 titles in print in 1998, 8,200 were slow sellers with average sales of 32 copies per year. Over recent years, CUP has put a value on this deep backlist of total sales worth £3-5 million. This is revenue that would be lost if the titles were not kept in print. In fact, CUP has calculated the lost revenue of the 1000 titles they discontinued in 1997 at more than £1 million. Thus, as of 1999, CUP is reviving

[16] Publishing 2001: Attitudes to Technological Change, BPI Communications Inc.

out of print titles and maintaining more than 1000 very slow-selling backlist titles through digital printing, having understood the value of the market that books that go out-of-print under traditional measures can have.[17]

In the recent *Publishing 2001* survey,[18] both UK and US publishers acknowledged that short run demand print could be suitable for many different genres such as literary and classic fiction, and similar text-based books, providing better inventory control and the ability to extend the life of a book, with academic and professional publishers extending this to single-copy print on demand. 30% of UK consumer publishers who responded predicted that up to 10% of their revenue would be from print on demand within five years, with another 30% predicting a higher range of 10-25%.[19] This shift is expected to bring with it a marked effect on the supply chain, with direct sales channels, Internet bookshops and new intermediaries gaining share. Conventional bookshops are seen as the potential losers in share, with distributor/wholesalers as potential winners, as print on demand becomes a potential new wholesaler service.[20]

Also arising from this new digital environment, in which any portion of the text is immediately accessible, is the opportunity for custom printing: when the consumer orders just the sections of the text he wants, perhaps combining them with sections from other texts. Some publishers, particularly in the educational and professional sectors, see custom publishing as a source of new, otherwise untapped, revenue. Professors can mix and match chapters and articles into targeted textbooks for student purchase; academics can assemble and purchase relevant research material. But reaping this incremental revenue requires treating titles as composites rather than as wholes (with all of the rights and royalty issues that would accompany such a division).

4.1.3 PRODUCTION SPECIFICATIONS AND REQUIREMENTS

Digital printers require submission of PDF files. Alternatively, suppliers can output PDF from application files (such as Quark) or can scan hardcopy. Book specifications are limited by the constraints of the digital printing hardware. Trim sizes, paper selection, binding styles and input file formats may need to be reviewed to fit most economically with the digital printing process. Typically, digital printers can output Demy (216 x 138) and Royal (234 x 156), but some can offer other trim sizes such as Crown Quarto and B formats as well.

4.1.4 COSTS AND BENEFITS

The quantity at which digital printing becomes more economical than conventional printing is a complicated calculation, impacted by factors such as inventory and storage costs, materials costs, opportunity costs, wastage and obsolescence, and returns, as well as basic unit costs of manufacture. What may appear on the surface to be a higher unit cost may prove in the long term to be more economical, given the elimination of returns or waste and reduction of

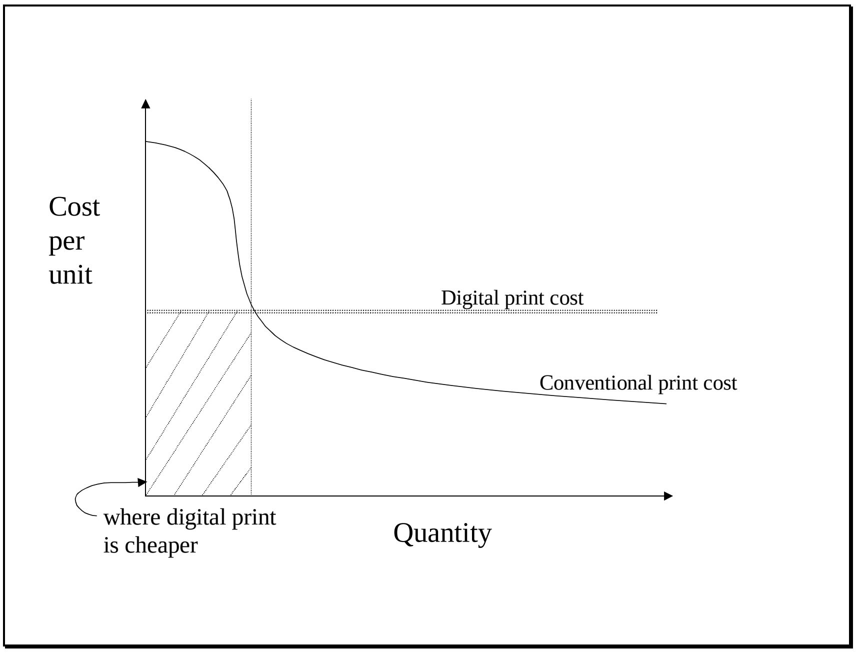
[17] "The demands of print-on-demand," Michael Holdsworth, www.ecp.ucl.ac.uk/insidebookpublishing/resources/holdsworth.htm

[18] Op Cit

[19] They attribute this shift in manufacturing approach as much to benefits derived from cost savings as to than revenue generation.

[20] Publishing 2001, p.77-80. Note that both of the UK's largest wholesalers are now offering short run demand print and print on demand options.

warehousing overhead. Or it may be attractive given the alternative of not printing—and losing the sales altogether.[21]



Typically, the digital printing price comprises a one-time file preparation fee (for the text and for the cover), which will depend upon the source copy submitted (electronic or hard copy). This includes getting the file into proper PDF format and loading it into the printer's digital library. File preparation fees range from £40-£80, according to the source copy. Production is then charged by the copy, given a per unit cost (which includes cover and binding) and a per page cost, regardless of quantity.[22] Not to be overlooked is an annual storage charge, which is usually £5-10 per title per annum.

The immediacy of the order and its fulfilment, particularly for print on demand, means that a digital printing facility need not be centralized to coincide with the location of a publisher or a warehouse, but rather can be placed closer to a distributor, retailer or even ultimately to the consumer.

4.1.5 DIGITAL PRINT PRICING

To illuminate issues relating to cost, we have tabulated some sample prices, comparing the cost of manufacture from a range of digital manufacturers for a book of with a relatively simple specification.

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[21] A point of intersection—the quantity at which digital print is as economical as conventional print—cannot be predicted across the board, given varying book specifications, overhead, retail price, etc. However, typically a publisher can consider shifting to digital printing for quantities below 500 units.

[22] Some digital printers charge a slightly higher per page price for a single-copy order than for orders for two or more copies, but this premium is minimal and affects only an order of one.

The cost of manufacture is compared with the WBC "list" as a benchmark value.[23]

160 pages, b/w text, without typesetting, softcover binding, 4/C cover without lamination, 216 x 138 trim

	1000 1st printing	1000 reprint	750 1st printing	250 reprint	50 reprint	Single-copy POD[24]
Supplier A	2.844	2.792	2.862	2.792	2.792	55.12/2.52
Supplier B	2.243	2.20	2.257	2.20	2.20	45.20/2.20
Supplier C	1.844 (conventional)	1.377 (conventional)	2.243 (conventional)	1.568	2.22	NA
WBC list	2.10 - 2.47	2.10 - 2.47	2.40 - 2.73	NA	NA	NA

4.2 Disc

4.2.1 Description and USPs, overview of technology

Compact Disc Read-Only Memory (CD-ROM) is an optical storage disc holding up to 650 MB of text, high-quality images, sound and video. It stores data in microscopic grooves running in a spiral around the disc and uses laser beams to scan these grooves. The technology dates back to 1983.

Digital Video Disc (DVD) is the next generation of optical disc storage technology. DVD-ROM is essentially a bigger, faster CD that can hold cinema-like video, better-than-CD audio, and computer data. DVD aims to encompass home entertainment, computers, and consumer and business information with a single digital format, eventually replacing audio CD, videotape, laserdisc, CD-ROM, and video game cartridges. Though the same size as a CD, a DVD disc holds about seven times more data. Attractive to a bilingual market is DVD's standard language choice feature, allowing automatic selection from multiple languages for audio and subtitles.

4.2.2 Market and market trends

Now in its fourth year, DVD has sold faster than videotape, CD, and laserdisc at the same point in the consumer adoption lifecycle. By 2000, there were about 46 million drives sold worldwide (17 million of them in Europe) and over 10,000 titles available in the US alone. Although you can't play a DVD in a CD player, all DVD players and drives can read CD-ROMs, so there is a compatible forward migration path.

The CD-ROM publishing market is worth $2,520 million in Europe, of which 30% is non-game revenue.[25] While reliable regional breakdowns are scarce, the UK is

[23] The WBC compiles a production price list to be used in grant applications. This list assumes a minimum print run of 1000 units but can be scaled down to 750 units. The range takes into account factors such as the target market, design, translation, copyediting costs, and the like.

[24] First price assumes cover and text files must be set up; second price assumes title has already been set up and is ready to print.

[25] IMI, June 2001, "From rags to riches: the best kept secret of CD-ROM publishing."

reported to account for 15.5%,[26] which would suggest a non-game market size of $117 million (nearly £80 million). Almost all personal computers being manufactured and sold today still carry CD-ROM drives, thus sustaining a huge market of potential users. (Worldwide installed base surpassed 200 million in 1998.)

A total of 46 million DVD drives shipped worldwide in 2000.[27] DVD is predicted to overtake VHS as well as CD-ROM within five years. Further, by 2002, the installed base of DVD-ROM drives is projected to exceed 250 million worldwide, replacing CD-ROM as the dominant tangible software and multimedia delivery platform. Given the number of PCs shipping with DVD drives, the overall household access to DVD today is estimated to be 25% in the US and 14% in Europe. These forecasts put household penetration at 66% in Europe by 2005.[28] And the worldwide installed base will be 625 million by 2010 (55% of TV households).

4.2.3 PRODUCTION SPECIFICATIONS AND REQUIREMENTS

CD and DVD specifications (for CD audio, CD-ROM, DVD-ROM, etc.) exist as standards, adopted by international standards bodies. Authoring systems and encoding tools now on the market for the creation of CD and DVD products deliver content according to the appropriate specifications.

4.2.4 COSTS AND BENEFITS

Creating the content to reside on disc incurs an almost entirely variable expense. How much (and to what extent) content has to be created and/or acquired and/or repurposed by authors and graphics designers will determine development costs. Once created, the text, audio and video must be digitised and encoded, menus and control information have to be authored and encoded, and it all has to be formatted and premastered on a single disc. Developers may charge by the project or may charge by the day. Production work, such as compression, can be done at facilities that typically charge by the hour (at rates of approximately £300).

Manufacturing costs are, though, clear. CDs cost about £700 to master and £0.40 each to replicate (replication costs depend upon quantity; the higher the quantity, the lower the "per disc" cost). DVDs also cost about £700 to master, and about £1.00 each to replicate. The latter is expected to drop as the technology becomes more popular. Finally, packaging will vary according to materials and artwork.

Capacity, searchability and access to market (significant installed base) make CD-ROM publishing attractive, in those markets where capacity and searchability are important selling points. Scholarly[29] and reference publishing and educational publishing are natural beneficiaries of the platform. Further, its multimedia capabilities cater to these markets (enhancing encyclopaedias, for

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[26] www.honco.net/archive/990202.html

[27] http://www.dvddemystified.com/dvdfaq.html

[28] www.strategyanalytics.com/press/PRDM022.htm

[29] Although academic publishers are generally moving away from publishing on disc-based platforms: see, for example Chapter 4 of the report: Mark Bide & Associates *Standards for Electronic Publishing* NEDLIB Report 3; available from http://www.kb.nl/coop/nedlib/ (this report is based on research undertaken in the summer of 2000).

instance), and, providing the capacity for a game-like environment, to children's publishing as well. DVD will continue this legacy, providing even more capacity. However, potential benefits to the book market are more limited: cookbooks, anthologies, travel guides, and the like are candidate for the interactivity enabled by discs, whereas novels (in their current form anyway) probably are not.

4.3 Online and ebooks

4.3.1 DESCRIPTION AND USPS, OVERVIEW OF TECHNOLOGY

With increased access to the Internet comes increased access to content, as more and more publishers move their content online to take advantage of increased and global access to consumers. Online delivery of content includes a multitude of access and usage models, including email distribution, online viewing, downloads from websites, print on demand fulfilment, and ebook fulfillment. Information may be offered free or may be paid for via subscription or individual copy.

What exactly *is* an ebook?

Is it just a conventional book, distributed as linear text in machine-readable form and designed to be read on some sort of hand-held device (or perhaps on your PC)? Or is it something that was once a book but is now just one 'thread' in an online database, a database that is designed to provide simultaneous access to passages selected from tens of thousands of such 'books' made simultaneously accessible to the reader? Or is it a 'multimedia experience' such as publishers tried (without signal success, it must be said) to sell to consumers on CDROM in the middle years of the last decade?

The term 'ebook' is being used to denote all of these things, as well as, rather loosely, some of the dedicated hardware devices that are designed specifically with the reading experience in mind. The concept of the ebook encompasses all these ideas and more; the different applications of the term are not neatly separable.

For our purposes here, we will treat Internet publishing and ebook publishing nearly synonymously, as content delivered and read electronically. What distinguishes ebook publishing is the hardware and software enabling delivery: an ebook is viewed on either a portable device or on a PC, using ebook rendering software.

Handheld ebook devices include widespread personal digital assistants (PDAs), such as the Palm Pilot, and dedicated ebook reader devices, such as the Gemstar REB, the newly renamed version of the Rocket-eBook. The Microsoft Reader software runs on some of these hardware devices, while other devices require their own unique ebook reader applications.

eBooks can also be read via PC-based platforms. In this case, the software reader application is downloaded to a laptop or PC. There are two main PC reader competitors, Microsoft (with its Microsoft Reader application) and Adobe (with its Adobe Acrobat Reader application). There are also several niche platforms, catering to specific markets such as educational or children's books. And there are several online libraries services, which offer controlled access to collections of content via PCs.

A few manufacturers have recently entered the tablet PC market, developing A4-size portable devices. This marks an interesting turning point in device technology that advances ebooks from desktops and laptops to handheld products that have PC-like large screens, multimedia capabilities and Internet connectivity.

4.3.2 MARKET AND MARKET TRENDS

Many traditional publishers are establishing their own online presences, such as HarperCollins' Fireandwater.com and Penguin's newly launched ePenguin.com. Many new, online-only publishers are emerging, with no brick and mortar presence, such as onlineoriginals.com. Further, a variety of online aggregators are bridging the worlds, licensing bodies of content from traditional publishers and making it available as part of a larger collection to an online audience. NetLibrary, ebrary, Questia, KnowUK, and others, are examples of these new online libraries and aggregators. (See Technical Annex 11 for further detail.)

Nine million households in the UK, or well over one-third, are using the Internet. In Wales, that percentage drops to just under 25%.

4.3.2.1 Online

78% of the UK publishers surveyed in *Publishing 2001* (out of 27 responses) expect online delivery to form a significant part of their market with the next five years.[30]

While an average of 37% of UK homes have Internet access, Wales is currently at 24%. The UK shows a growth of 3.75 million homes in the last 12 months alone, perhaps enhanced by the increase in access methods such as digital television and mobile phones.[31] Further, of the some 16 million online users in the UK, 7 million are "transactors," with books being the most popular online purchase.[32]

4.3.2.2 EBooks

This statistic on book purchasing relates almost entirely to physical books; ebook purchases are marginal at best at this point.[33] However, as the *Publishing 2001* report notes, although there may only be limited acceptance of e-books by consumers in the next five years, "that limited acceptance might be commercially significant." One UK consumer publisher notes that "UK publishers are going to

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[30] Publishing 2001, p. 67.

[31] www.oftel.gov.uk/publications/research/2001/q5intro0701.htm

[32] Of those people who bought goods over the Internet in the last quarter of 2000, 36% bought books, surpassing purchases of CDs, airline tickets, and software. Music and Copyright, no. 209, August 1, 2001.

[33] A survey by Jupiter Research put the number of electronic reading devices in use in the United States at only 100,000. However, adding PDAs (such as Palm Pilots) to this ebook-capable installed base adds another 14 million units, growing to over 70 million by 2005. PDAs are not ideal reading devices but can display text-only documents. Other than PDAs, few devices have launched outside the US and only very recently. There has been no UK launch to date; thus there are no local adoption figures.

have to be quite proactive about producing e-books, otherwise they'll lose the market to US publishers or they'll lose it to their authors."[34]

Certainly, significant barriers to entry as well as to market adoption exists, acknowledged by the publishers surveyed as ranging from rights and metadata issues to readability to incompatible technology to competing business models. However, as the study emphasises, "this does not necessarily mean that such a market is a long way off. Once solutions to technical problems are found, as the growth in mobile telecommunications demonstrates, markets can evolve extremely rapidly, and this in turn can drive further progress in technical refinement." Even the most pessimistic of publishers see epublication as a "necessary evil to protect existing markets from rival companies; if traditional markets are going to be cannibalised, publishers will want their own products to be doing the eating."[35]

Impact on the value chain is suspected; however, publishers played up the positive effects: better marketing, a closer relationship with end-users, and a more interactive relationship. In effect, they summarised the goals of the Welsh book trade: "We will be able to sell content into new markets and territories and to new users within existing ones."[36]

4.3.3 APPLICATIONS FOR THE SIGHT-IMPAIRED

One early market for ebooks is the sight-impaired. The digitisation of books provides opportunities to increase the availability and the quality of information to the disabled, from analogue cassettes to computerized books on floppy disks or CD-ROMS to ebooks. Although cassettes are still the most accessible (and inexpensive) reading medium available to the sight-impaired today, they force linear consumption, unable to render the structure (tables of contents, indices, and the like) that sighted people use to move around a text at will. Digitised versions allow for this customised experience and have thus given rise to a number of initiatives (as outlined in Technical Annex 14) supporting the development of digital talking books (DTBs).

4.3.4 PRODUCTION SPECIFICATIONS AND REQUIREMENTS

4.3.4.1 Online

Supplying the online content chain requires converting and formatting the data to meet the requirements of the desired delivery mechanism and enable suitable content protection. Documents may be presented in their original word processing formats, as page-designed pdf files, as web-friendly html/xml files, or a variety of other file formats, depending upon the kind of content and the kind of e-commerce involved.

4.3.4.2 Ebook

Specific ebook renditions of online delivery force specific markup schemes. Currently, each competing reader or reader platform has its own data protection/encryption system, called a DRM (digital rights management). This

[34] Publishing 2001, p. 62.

[35] ibid, p.63-66.

[36] Ibid, p.70.

renders the titles published for each platform mutually exclusive. When purchasing ebooks, consumers must thus specify which platform they are using, and the titles they buy will be readable only on that platform.

The majority of the reader platforms require one of two file types as inputs: OEB (Open Ebook, an HTML/XML derivative) or PDF (Adobe's Portable Document Format). Platforms receiving OEB-based files include the Microsoft Reader (for PCs and Pocket PCs), the Gemstar readers (REB 100 and 1200), and the Palm readers (PeanutPress, Mobipocket, etc.). The major PDF-based ebook platform is the Adobe Acrobat ebook Reader (for PCs). Supporting more than one reader platform may thus require creating more than one ebook file.

Because ebook content will begin as either backlist copy (content repurposed for ebook distribution), frontlist copy (content being published as p- and e-Book simultaneously), or legacy copy (out-of-print copy being reborn as an ebook), that original copy may exist in any number of formats: Quark, PageMaker, PostScript, Word, a proprietary typesetting format, or even hard copy (to name but a few). Conversion to one or more ebook formats may thus require working from one or more formats. Converting to OEB-based specs requires replacing current page mark-up with the appropriate HTML tags. Converting to PDF is an easier process, but requires conversion nonetheless. In both cases, the book must be digital first, so scanning from hardcopy may be necessary up front.

Given the varying restrictions of the hardware (from small screen black and white PDAs to large screen, multimedia-enabled desktops), the kinds of content delivered to ebook readers must vary. Publishers may thus be limited in their choice of platforms by the kind of content they publish: full page, full colour illustrations may demand display on a PC (as opposed to a black and white palm-sized device).

4.3.5 COSTS AND BENEFITS

Conversion costs vary with the complexity of the content (tables or no tables, for example) and the input/output formats (converting from Quark to HTML, Word to PDF). They are also impacted by the level of interactivity required: does the publisher want to hyperlink from index entries to the text? Assuming a relatively simple conversion, that is, from a standard file format to a standard file format, with few hyperlinks, conversion is inexpensive. Some vendors charge per 1000 characters, much like a typesetter does; some charge per file. If done offshore, the average cost <u>per title</u> is £150-200.

But conversion may not be the only cost to the publisher in preparing for digital delivery. Getting the file to the point of conversion requires electronic rights clearance, which costs time if not money, and may also require some degree of repurposing, adapting the content to its new environment. This latter task may be unavoidable if the target display is a handheld device with a small screen, as images and dual-page spreads will be adversely affected.

On the revenue side, online revenue models range from consumer subscription fees to pay-by-use fees to individual copy sales to advertising revenue. Given the nascent status of the market, there is little historical data to establish one model over another, particularly in the book-publishing sphere.

An obvious benefit of ebook publishing is the value-added opportunity enabled by distribution to a computer, a platform with interactive and multimedia potential. For instance, a publisher can enhance the book product by adding hyperlinks to other points in the text, to other content on the Internet, to audio or video files, etc. And, once digital, content is more flexible than in a printed version, enabling micropublishing and custom publishing, mixing and matching sub-components of titles.

4.4 Content management

Content management is, as the term implies, the organisation of content for efficient archiving, distribution and use. In the digital world, it is often referred to as digital asset management (DAM) and, similarly, means getting the right file to the right place in the right format for the right application. Commercial content management or DAM software systems exist to facilitate this organisation, some as off-the-shelf products, some requiring customisation and installation on a case by case basis. Alternatively, an organisation with transparent and simple content workflows may put together its own content management process, using already available email and database applications. Whatever the solution, once an organisation moves into electronic publishing, it requires the adoption of a system for keeping track of its assets—knowing what is has and where this is.

The basic components of a content management strategy include the following:

- Import/storage of files (text, photos, audio, video, metadata[37])
- Searching of files
- Retrieval of files
- Revision/transformation of files
- Export/reuse of files

Publishers creating and storing their content electronically (half of those who responded to the questionnaires are either already archiving their files or are planning to do so) may already have some kind of content management system in place, even if it is no more than a folder structure on a server. They may have policies in place to govern revisions, dictating to staff who can work on which files and how to name and save them. This system may prove adequate for some time to come.

Once a publisher is fully digital, however, creating content digitally and delivering content digitally, perhaps even selling content directly from its own website, an application designed to manage the lifecycle may be required. The best solution for the publisher will require individual consultation. However, considerations for a commercial package supporting the publishing process and workflow as well as storage include the following:

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[37] Attending to metadata (information about information) is key to even the simplest of systems, as it facilitates effective searching and reuse of content. Metadata includes the bibliographic information supplied to wholesalers and bookshops, from title and author to ISBN, key words describing the title, from subject to language type, rights information, from territorial restrictions to electronic publishing options. Metadata collection is an activity publishers already do every time they add a title to a catalogue. However, the kind of information collected will need to be expanded as publishers increase the ways they package and deliver their content. Electronic versions may require additional ISBNs, format information, rights information, and so on.

- Does the product allow users to create workflows to manage the submission, revision, and approval of content?
- Does the product provide users with a means for creating content?
- Does the product provide an audit trail that tracks all changes made to content?
- Does the product provide “check in/check out” functionality so that only one person can make changes to a document at a time?
- What file types (Word, Quark, etc.) can be imported into the product and be managed via the product’s workflow?
- Does the product provide templating or forms for entry of content?
- Does the product provide a means to tag each piece of content (to attach metadata to it)?
- Can each piece of content be versioned (to control revisions and editions)?
- Does the product allow users to manage multimedia files?
- Does the provider offer set-up, customisation and training?
- What product support is offered in Wales?

Content management solutions that enable the processes above are not trivial installations, and their costs reflect their complexity. Certainly, small to medium sized publishers, such as those comprising the Welsh book trade, are not in any near-term position to support such a system on their own. Nor does the data provided by the workshops and questionnaires indicate any near-term need by these publishers to revise and port their creative process to network environment.

However, a content management system for managing finished (post-production) files on behalf of the trade’s constituents does present utility as well as economic advantage. Welsh publishers are now supplying digital files to their printers and are faced with a growing need to store, or archive, those files in some retrievable fashion—for revision purposes, for reprint purposes, for legacy purposes.

4.5 DRM

By Digital Rights Management (DRM) in this context, we mean a system for tracking and controlling the use of rights-bearing assets in a digital environment. A number of different functionalities are clearly required of any such system. On the rights holder and controller side, there must be an ability to identify and describe intellectual property, to apply usage rules based on the “upstream” rights acquired to set user permissions, to secure the identified content and to distribute it securely to consumers so that they are able to exploit it in accordance with the permissions they have bought. Once the content is on the network, it must be possible to track usage of that content and reconcile usage with revenue. On the consumer side, there must be an ability to locate content effectively, to purchase it from a user-friendly site, to interact with it according to the permissions granted (which must be in accordance with copyright law) and then to enjoy it without the danger of being subject to unreasonable levels of surveillance. The functionality of a DRM will therefore determine whether or not it is acceptable to users at both ends of the value chain.

Most epublishing platforms include their own encryption schemes, so selecting a DRM on its own is not typically a challenge. Rather, the task is to select an epublishing platform complete with DRM. Appreciating the strengths and weaknesses of a DRM is thus important to the evaluation of an overall model. In light of the needs of the value chain as identified above, an analysis of DRM should take as its criteria the following:

- **Tools**: what is available to authors and publishers to enable their own packaging and securing of content
- **Formats**: how many (and which) formats the system can handle, thus supporting interoperability
- **Tracking and Reporting**: trustworthy and accurate transaction reporting and content tracking within the networked environment
- **New business models**: to what extent content can be vended in new forms, from selling to reselling to lending (for specified time periods) to gifting.
- **Vendor Business Model**: how the DRM vendor and operator charges the publisher and consumer for use of its system

5 Welsh experience of new technology

5.1 What the data tells us

Welsh publishers are beginning to prepare for a digital future, but have some way yet to go. The following statistics reflect total replies to individual questions, rather than the total number of questionnaires returned.

The majority of publishers have formal **author contracts**, though nearly a third still do not have contracts in place. (Interestingly, more publishers have contracts for their artwork than their text.) More than half of the publishers surveyed address language rights and territorial rights. A third already are negotiating electronic rights.

Three-quarters of publishers who responded are working with **digital files**, nearly half doing their own typesetting. Although most backlist copy is hardcopy, the majority of frontlist copy is now held digitally, and almost a third of those who replied are already archiving their content (with more than a quarter of those not archiving planning to do so soon).

Currently, most publishers print to at least a two-year supply, with nearly equal percentages printing 501-1000 copies as 1001-1500 copies as a first print run,[38] with expectations of **first year sales** split between 1-500 and 501-1000 copies.[39] The average reprint order is 501-1000 copies, with expectations of second and **subsequent year sales** of fewer than 500 copies. (In fact, more than half of the publishers expect subsequent year sales to be under 250 copies.) One workshop publisher participant put total average trade sales at 700 copies per title; one printer noted a trend towards shorter print runs, averaging 300 copies. Another publisher at a workshop stated that 90% of its sales occur in the first six months.

Most of those publishers surveyed outsource their printing, with almost a quarter of those using printers outside of Wales.[40] The **typical book** is softcover, one-colour text, four-colour cover, on 80gsm white stock, either demy octavo or A5. Half of the responding publishers calculate **wastage** (books produced but never sold) at less than 10%, while a quarter put that percentage between 10 and 25% and another quarter at greater than 25%. Almost all respondents have as many as ten titles that go out of stock in a given year and another ten that go out of print. Those publishers that did attach a lost revenue figure to the above did not attribute much money to it; however, they may not have been equating unsatisfied demand to potential revenue.

Publishers and bookshops alike see their individual target **markets** (adult trade, children's, etc.) as no greater than 5000 readers. The US is seen as the most

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[38] As the majority of these publishers and titles are not Publishing Grant recipients, these averages are lower than the 1418 average cited by the WBC and may better reflect the print runs required by market demand.

[39] These numbers are somewhat lower than the averages recorded at the Distribution Centre; however, if the DC sales average is over life of title rather than first year, the numbers may reconcile.

[40] This majority may be true as a percentage of the number of publishers in Wales. However, it should be noted that, as four of the five main Welsh-language publishers are printer-publishers, the majority of titles produced by Welsh publishers may be printed internally.

significant market outside the UK, responsible for as much as 5-8% of publisher turnover. It is also seen as the largest untapped market, indicating that that percentage could be higher still. This is true for bookshops as well.

Very few publishers have yet experimented with **digital printing**. However, close to a third have plans to do so, and more than two-thirds believe it could have positive benefits for their business. Half see quantities of 51-500 as the most attractive (the greater majority cite 11-500), with no respondent interested in single copies. A clear majority would publish as many as ten more titles per year if they could do so economically at any time at any quantity. The majority of questionnaire respondents identified particular opportunities for professional and academic publishing. Likewise, several workshop participants proposed digitally printing professional and academic titles, which, with sales projections as low as 100-200 copies, are unlikely to get grant funding and thus are difficult to publish. They agreed that a facility for shorter runs might enable publishing for more limited markets that go otherwise ignored.

Less than a third of the Welsh publishers surveyed could see any market demand or opportunities for selling components (parts of a book) or otherwise customising books.[41] Rather, they are interested in distribution of whole titles only. Thus, while **custom publishing** may become a viable revenue stream, perhaps in Welsh educational publishing, it does not appear to be a priority for the near term.[42]

Very few publishers have published a floppy disk product, and none of those surveyed has one scheduled. No one has yet published a **CD-ROM**; however, a small percentage have a CD project scheduled. (This is not reflective of the trade at large, which shows 30 Welsh-language/bilingual CDs on gwales.com; none of these publishers replied to the questionnaire.[43]) Workshop participants voiced concern over the necessary high initial investment to meet a small market. One publisher had had fifty requests for a title on CD-ROM, but the development costs (£8000) were prohibitive. Another participant stated that it is difficult enough to market a print product, let alone a digital product, so disc publishing is not a priority. Workshops participants suggested that the efforts of a central organisation, such as the WBC, might help develop a market for digital products large enough to support product costs. Though it was recognised that the WBC would need dedicated funding for this initiative.

The majority of publishers responding to the questionnaire have a **web site**; however, it is used primarily for marketing rather than for e-commerce. Workshop participants express interest in online publishing, but again primarily as a means of marketing material (such as by giving away archival material to promote current material, or by posting teachers' resource materials in support of textbooks).

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[41] One religious publisher attending the workshops is customising Bible and hymnals with chapel/church names, using digital printing. However, this was the exception.

[42] Thinking beyond a five-year plan, the Welsh book trade should, however, keep an eye on the developing custom publishing market. Online retailers such as the UK's Swotbooks.com (an etailer for educational books) are already poised to sell materials in discrete chunks to meet growing market demand.

[43] The WBC has, in fact, already supported six leisure CD-ROMs through the Publishing Grant; and the ACCAC have supported several educational CDs.

Regarding all facets of epublishing, workshop participants expressed insecurity in their awareness and experience. They eagerly requested guidance and **training** mechanisms for themselves and their authors to acquire some expertise in new technologies and platforms, file formats and applications, and the like. They see this education as a requirement for moving forward, and for advancing the Welsh book trade. They also see such a move as imperative to the sustenance of the Welsh language: Welsh publishers must keep on top of the technologies used by children, or "risk losing the children to English."[44]

5.2 Apparent challenges and barriers

Content: Self evidently, there can be no epublishing without econtent. Currently, as questionnaires reveal, content exists in film and in hard copy as well as in digital files, and the means and security of archiving methods are inconsistent and uncertain. With little clear direction on how to store content, repurposing is hindered.

Rights: Questionnaire data indicate that a majority of Welsh publishers do not yet explicitly secure electronic rights in their author contracts. Any move towards electronic publishing would require that those rights (and royalties) have been agreed with the author. This applies to deep backlist titles as well, which may not be under contract at all, let alone covered by a contract addressing epublishing.

Market size: The Welsh book trade would like to see more Welsh books and books of Welsh interest produced and, more importantly, purchased and read. This is explicitly voiced in the WBC's goals for increasing language awareness (see 3.2). To a great extent, however, increasing the number of potential buyers for books in Welsh is outside the scope of the WBC—achieving this goal relies largely upon continued Welsh-medium instruction in schools, producing more Welsh speaking and reading young adults. However, even this cannot guarantee the development of a larger Welsh language market. The Welsh-interest market is obviously significantly larger – but the competition is greater.

Funding: In the face of new development costs and unknown revenue returns, efforts to support new ventures rely upon external subsidies, which may themselves vary from year to year as well as imposing potentially prohibitive requirements (such as limited support for continuing non-capital expenditure and the need for partner applicants, matching funds, proven job creation) The WBC has received very valuable capital grants enabling the installation of a VISTA fulfilment system in the Distribution Centre, and the launch of gwales.com. However, ongoing support has proven more difficult to fund.

Knowledge: All parties we spoke with stressed their insecurities concerning implementation of epublishing opportunities, due to lack of familiarity with the technology and of sources for training.

5.3 Opportunities

No clear opportunities have emerged for near-term revenue-generating epublishing strategies. Publishing more CD-ROMs or launching a line of

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[44] A workshop participant.

commercially available ebooks promise little immediate return. However, there are opportunities for laying the groundwork for developing print and electronic markets in the longer term.

5.3.1 DIGITAL PRINT AND CUSTOM PUBLISHING

There appear to be short run print opportunities for and reprints and for additional new titles.

There appears to be a clear application of short run demand print and print on demand to reintroduce backlist and out-of-print titles. If we take as an assumption that the questionnaire respondents represent approximately one-quarter of the active SME publisher base in Wales, we can project the following.

- A minimum of 156 titles are currently out of stock in a given year, and 104 are put out of print. Assuming these numbers overlap (and again assuming 80%), at reprint quantities as low as 50-250 units, 125 additional reprints would add 6,250 – 31,250 units to annual totals.
- When compared with prices from three UK-based digital print providers, the grant budget more than allows for print runs as low as 50 copies. In fact, once the files are prepared for digital printing, the budget even allows print on demand single-copy orders. (See Technical Annex 8 for a fuller comparison.)

Further, again given the assumption above,

- Using digital printing, publishers would publish a minimum of 64 more new titles per year, of which 80% would likely be candidates (one-colour text) for digital printing. At an average of 250-500 copies each, this would yield 12,750 - 30,500 more new books annually.

Finally, there appears to be an opportunity for reducing inventory risk.

- If a title's total market size is only 5,000 readers, first print runs at close to one-quarter of the market may be leading to excess stock/wastage that smaller, more frequent print runs could alleviate.[45] (Likewise, if average sales really are closer to 700 copies and 90% of those take place in the first six months, printing for two years forces some 50% of the print run into storage.)

Digital printing does require some compromise in product specifications. The quality of materials and printed halftones may not match that of conventional print. Further, as four of the five largest Welsh-language publishers act as their own printers, relocating their share of manufacturing could have negative consequences, as they are accustomed to managing their print loadings with their own publishing production (as well as perhaps to some degree subsidising their publishing through their printing business). However, these negative considerations may be outweighed in many circumstances by the revenue-enhancing opportunities afforded by digital printing.

There appears to be no short-term opportunity for custom publishing (selling components as mix and match titles and/or personalising a print run for a particular audience).

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[45] Inventory and stocking space constraints have not shown great influence on publisher calculations, perhaps because the DC solves this problem for publishers. Forced to manage stock, publishers would inevitably have to rethink lost profit due to waste.

5.3.2 CD-ROM/ DVD PUBLISHING

Publisher interest, or lack thereof, indicates the market for DVD publishing is not even visible, while CD-ROM has some recognisable application. The current Publishing Grant programme encourages new product development by funding CD projects that are according to publisher experience, otherwise not self-funding. As the market matures, as CD use spreads further through Wales, and as DVD secures the foothold it threatens, the Welsh book trade needs sustained opportunity to participate in and learn through these media.

- Disc publishing will require near-term subsidy to enable publishers to experiment with the media without severe financial risk.

5.3.3 ONLINE AND EBOOK PUBLISHING

There do not appear to be any clear sales opportunities in the mainstream Welsh book trade. eBook adoptions are slow to take hold, and the UK as yet has no discernable market.

➢ As a revenue generating vehicle for the Welsh book trade, online and ebook publishing shows little promise within the next five years.

However, ebook publishing does offer an opportunity of great cultural value. Epublishing has the potential for making a wide variety of cultural goods available to a wide audience, across locations and other cultural barriers. What might otherwise be economically or logistically impossible to a person to access may be made possible.

➢ A short-term demand arising from the workshops was access to Wales' legacy material, to works now out of print that are thus lost to the population. Much like the Contemporary American Poetry Archive, which puts out-of-print poetry books back "in print" on the Web, a digital library of non-commercial Welsh books might be offered for free to Wales and the world.[46] Publishers and the WBC might look to the National Library to help effect this project.

[46] http://capa.conncoll.edu/guide.html

6 Implementing an ePublishing Strategy

In the face of the barriers noted above, the WBC has as its mandate to increase the awareness and sales of Welsh/Welsh interest titles, as it works on behalf of its constituents. Either the old intermediaries or new intermediaries will step up to provide for new epublishing opportunities, such as sales through the Internet and demand print fulfilment. Here is an opportunity for the Welsh Books Council to service its constituency by providing a unified portal for such opportunities as they arise, near-term and far-term. We therefore recommend the WBC pursue the following initiatives in support of the Welsh book trade.

6.1 Document management

6.1.1 CONTRACTS AND COPYRIGHT

As the current Random House/Rosetta Book legal battle illustrates, author contracts need to be reviewed to ensure both that the publisher has rights to print or epublish a title that now need never go "out of print" and that the consequent royalty rate is clear and agreed.[47] Working as a unified trade, Welsh publishers should invest in the creation of boilerplate contracts that would prepare them for the present and future challenges facing their industry: rights and royalties for digitally printed versions and digital versions of printed texts and illustrations; territoriality and the web; language rights and the web.

- *The WBC should organise a consortial effort on behalf of its publishers to draft an author agreement covering digital publishing.*

6.1.2 DOCUMENT ARCHIVE

Content management, as described in section 4 above, is a necessary first step towards any epublishing business. It may be a very complex solution, enabling full content creation and workflow; however, these are publisher activities, which would have to be customised to the needs of an individual publisher. More generically, and more applicable to the role of an intermediary, it may simply be an organised (that is, clearly identified and searchable) content warehouse, receiving in and forwarding on its contents, as required by the trade.

The Welsh Books Council already provides a central point of information about Welsh books and books of Welsh interest, serving as the link between publishers and booksellers via both the Distribution Centre and gwales.com. In this position, the WBC is uniquely placed to achieve economies of scale beyond the reach of individual members of the trade. Further, if the Distribution Centre extends its distribution role towards more exclusive agreements with publishers,[48] its ability to gauge and react to market demand will grow. A logical extension of its role as intermediary would be to become a repository for the Welsh content being delivered through the supply chain.

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[47] In its case against Rosetta Books, who are publishing ebook versions of several RH titles whose author contracts predate RH's introduction of an electronic publishing clause to its standard contract--US District Judge Sidney H Stein has ruled that those contracts do not include the right to publish works electronically. The authors are thus free to negotiate independent electronic publishing deals. RH is contesting, claiming that the evaluation should be based on content, which remains the same, rather than on form. NYTimes, 12/07/2001

[48] See "The Utilisation of ICT in the Marketing and Distribution of Welsh Books and Books of Welsh Interest", section 6.1.

- *The WBC should extend the service that it offers to the book trade by establishing a trade-wide content management system initially focused on consolidating PDF files for digital print production. Its basic functionality would be as a post-production archive:*
    - *enabling remote[49] loading by multiple users (participating publishers)*
    - *with restricted remote access (only authorised users can upload files)*
    - *for submission of arbitrary file types (whatever format the publisher submits)*
    - *containing text and images (no immediate audio/video demands), in English and Welsh*
    - *enforcing metadata standards (title, author, ISBN, and similar essential attributes)*
    - *managing multiple file types for same title (from Quark to PDF)*
    - *for online delivery (to digital printers)*

Only with such a system in place could the WBC drive new initiatives such as representing the trade in terms of digital print opportunities and benefits or feeding an out-of-print ebook archive.

6.1.3 CONVERSION

Additionally, the WBC will either need to require that publishers supply PDF files or will need to organise file conversion on their behalf, taking whatever format is submitted by the publishers and converting it to PDF. This is not a complicated task, as the PDF required for digital printing is not the complex variety required for ebook use. Most desktop publishing packages include a Save As option for creating simple PDF. Should publishers not be able to manage the process, several UK conversion houses are outlined in Technical Annex 11; however, these are typically economical options only when converting to more than one format (such as to an ebook format as well as to simple PDF). The digital printers themselves also provide PDF conversion services and are the best option if this is the sole format required. The price ranges from 5 to 12 pence per page for conversion from digital files and from 8 – 20 pence per page for scanning and conversion from hard copy.

- *The WBC should negotiate PDF conversion on behalf of the publishers with select service providers, such as digital printers.*

6.1.4 OPTIMAL SOLUTIONS

The following table sets out a set of high level functional requirements for a consolidated central provider, serving the market (as surveyed) and paving the way for digital fulfilment of whole titles.

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[49] By remote in this context, we mean using the Internet and World Wide Web interface.

Document Management High Level Requirements Grid

Requirement	Importance
Workflow	
Post-production management of files	Important that publishers can submit files for storage and printers can retrieve files for printing
Creation of templates/forms for entry of content	Important to force entry of key terms and metadata upon submission of files
Staging for conversion to PDF	Important that files needing conversion to PDF can be identified, withdrawn for conversion, and resubmitted
Content Management	
1000 new titles per year	Important to hold historical backlist as well as frontlist
Secure storage and quick location and retrieval of files	Essential
Management of arbitrary file types	Important that system can manage Quark, Word, PDF, etc.
Management of text and images	Important for current text publishing needs
Multimedia capability	Not critical in near-term but audio and video file management may be a future requirement
Dual-language content	Important that system can manage (and search across) Welsh and English content
Keyword searching	Full-text search not necessary; important to search on key fields and metadata
Audit trial	Important that any changes to files are tracked
Versioning	Important that new files (revisions, new editions) of existing files are numbered accordingly upon submission
Grouping	Important that versions as well as multiple formats of same titles can be efficiently located and retrieved as needed.
Access	
50+ users	Important to serve as many different publishers as may wish to participate
Remote access	Important that publishers and printers can submit/retrieve data from own premises
Browser access via Internet	Important that no custom software (and

Requirement	Importance
	additional expense) is required of the users
Access control	Important that each publisher has access to its own content only, and that printers have access to approved files only
Check in/check out functionality	Important that files be manipulated by only one authorized user at a time
Dual-language interface	Attractive that graphical user interface can be offered in Welsh as well as in English
Implementation	
On-site set up, customisation and training	Important that vendor can provide installation services, or can recommend a vetted service provider
Local product support	Important that vendor or recommended provider has a UK-based support team that can travel to Wales for ongoing maintenance

6.1.5 COSTS

While several solutions of varying costs have been summarized in Technical Annex 12, the WBC can install a reliable system for approximately £35,000 (plus server costs), with expected ongoing costs of £5,000 (plus whatever staffing requirements there may be).[50] The solutions outlined in the Technical Annex all meet the functional requirement that the individual publishers need no special installation of hardware or software other than a PC with an Internet connection and a Web browser. That is, there are no start-up costs to the publishers to take advantage of this system, a system they would otherwise never be able to afford independently. Instead, they will be able to benefit from the economies of scale achieved by the WBC on behalf of the trade.

While funding for initial capital investment and development will most certainly be sought through grants, there remain the annual maintenance costs and periodic hardware upgrades to support. Here the WBC might need to consider alternative funding options: levying each publisher an annual per-title fee; building several years' maintenance charges into the initial price of the system (when applying for grants).

6.2 Digital printing

Once established, the Welsh book trade document repository could serve as the source of files to feed demand print suppliers.

[50] Should the WBC decide to outsource all of its ICT requirements, as seems possible, it would clearly make sense to outsource the management of the server in any event.

Targeting an increase in the print runs of individual titles may not be the most fruitful means to increasing overall sales of Welsh and Welsh-interest books. Increased print runs do not necessarily yield increased sales. The demand must exist first. As we have learned from publisher input, there is clear evidence that certain titles for which there is some demand are not available, but are put into backorder of out-or-print status due to printing quantity (and grant support) constraints. Furthermore, some publishers told us that they are not publishing all the new titles that they might publish, because they cannot justify first run print quantities required to benefit from publishing grants and/or to justify conventional printing. What this would suggest is that more runs of more titles at smaller quantities, over an extended lifecycle, may prove to better service market demand than the current publishing philosophy. Fewer titles need go out of print. And more new authors might get into print.

As one route to digital printing, printer-publishers may consider adopting a distributed hybrid model, combining in-house conventional printing with third-party digital printing for very short runs. If the WBC production price list is genuinely reflective of the trade's costs, the digital printers contacted can match expected unit costs.[51] These small quantities and reprints would be delivered to the Distribution Centre and integrated with conventional stock.

Another option, endorsed by several workshop participants, is the establishment of a Welsh trade digital printing centre, by an existing printer or another third party. The WBC, for instance, could consider setting up a digital print production line in the Distribution Centre. Appropriate terms of trade would need to be devised. Lease or purchase of the hardware would depend upon terms of funding available. The lease option is lower risk; however, grants may be available for the capital investment only. (See Technical Annex 15.) Of course, ongoing costs could then become a funding problem. This consequently appears to be a financially risky option.

Alternatively, the WBC could establish a relationship with a digital printer, whereby publishers provide files for low demand titles to the digital printer and print small quantities to keep stock in stock, the digital printer produces the books and delivers them to the WBC, orders are placed as usual with the WBC by bookshops, and the WBC fulfils the order. All titles are integrated into the WBC database and the digital status of the title is transparent. Further, much like the current LightningSource–Bertrams arrangement, the WBC could initiate printing on behalf of the publisher, requesting single copy print runs when an order is received for a book not currently in stock. Again, terms of trade and pricing would need to be evaluated.[52]

Two clear benefits come from such an offering: the Distribution Centre could free space currently occupied by low-demand inventory, allowing it to hold more

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[51] If actual unit costs are lower than the WBC list and retail prices reflect this, premium pricing may need to be introduced for the digitally printed copies, particularly for casebound versions; but this will be determined by the current list price and what the market will bear.

[52] Unit digital print pricing for single copies is typically higher than for multiples. The economics of selling a single copy would have to be reviewed. However, no publishers expressed interest in single copy orders.

high-demand stock and to begin stocking additional saleable inventory;[53] and the WBC could offer publishers an avenue for producing the additional titles each year that each has indicated it would publish, given an economical low-quantity solution. Also benefiting from a low quantity option would be scholarly and professional publishing. Workshop participants noted that it is difficult to get grants for and thus to publish works that may have a total market of no more than 200 copies. [54]

- *Establishing its own digital printing centre in the DC is too great a financial risk to the WBC at the time. Instead, the WBC should negotiate terms with a digital printer or printers on behalf of its publishers and their files. It should set up a centrally coordinated system for handling both short run demand print and print on demand.*
    - *Publishers will be able to order short run quantities using the negotiated pricing.*
    - *The WBC will be able to order single copies on demand using the negotiated pricing.*

For this solution to prove effective, the printer(s) will need to track and report aggregate usage to WBC; that is, they will need to record printing history on a title by title basis, so as to allow publishers and the WBC to determine throughput (contributions by digital print to the trade). Over time, the WBC can then revisit the option of installing its own digital print production line.

Thinking beyond a five-year plan, the Welsh book trade should also keep an eye on the developing custom publishing market. Online retailers such as the UK's Swotbooks.com (an etailer for educational books) are already poised to sell materials in discreet chunks to meet growing market demand.

6.3 OOP archive

Once established, the Welsh book trade document repository could also serve as the source of files to populate an out-of-print ebook library, specifically for books in the Welsh language published in Wales.

- *The WBC should pursue an alliance with the National Library of Wales (NLW), to deliver ebook PDFs, which the NLW could offer as free downloads to any Internet user, preserving Welsh culture that might otherwise be inaccessible.*

The NLW's role is critical: preparing the files (ebook PDFs are not the same as digital print PDFs and will require conversion) and building an ebook site will require funding that a national library (in collaboration with the WBC) should be well positioned to request; the project would create an online library, free at the point of use, providing a culturally significant public access service. Conversations with the NLW revealed that it is already actively pursuing a

[53] Peter Kilborn in his report *NNN* recommends widening the product range carried by the DC. This is also consistent with the *Publishing 2001* report, where, as previously noted, wholesalers are expected to take on additional services, including facilitation of digital printing.

[54] Consideration of changes to the grant system for Welsh language publications is outside the scope of this report.

number of initiatives related to digital preservation and the extended access that may be available through digitisation.[55]

Although issues of digital preservation cannot be entirely overlooked (that is, how long will these file formats prove accessible and what is the cost of maintaining that accessibility over time?), as a focused experiment this concept is low cost and low risk, with high potential value. A history of collaboration with the WBC already exists through the Aberystwyth Centre for the Book.

The idea of making these out of print books available in this way is only possible because we believe that the rights owners – authors and publishers – would be willing to license the necessary rights to the WBC and NLW, since their primary interest in the publication is cultural rather than economic. However, rights clearly need to be formally cleared, and we have not explored the willingness of individual authors and publishers to participate in this scheme.

Alongside a free ebook programme, we believe that this out-of-print archive creates an opportunity for the WBC to introduce an experimental print on demand service, making the same titles available to customers in paper form for those who prefer it. Clearly commercial terms for developing such a service will need to be developed in collaboration with rights holders. We do not believe that this is likely to contribute significantly to revenues, but it will provide another service to readers and to Welsh culture.

6.4 Training

Training is a prerequisite to integrating any epublishing into the Welsh book trade. Workshop participants and questionnaire respondents alike voiced a strong desire for access to training in all aspects of digital publishing, which is a relatively new and very specialised field.[56] Due to the diversity of epublishing options, and their continually evolving nature, it would be a clear benefit to the community to develop an education and self-help resource. One component of this programme would be a web-based knowledge warehouse, containing vendor information (such as that found in the Technical Annexes attached) about products and platforms, technical contacts and sources of further information. A second component would be periodic group workshops, introducing new technologies and ideas. In both cases, much of the effort would fall on the vendors themselves, who would gladly provide information about themselves as well as welcome the opportunity to present to potential customers.

- *The WBC should coordinate a community training programme comprised of online information and periodic group workshops to keep the trade aware of new technologies and their applications.*

[55] Interview with Andrew Green, Librarian, National Library of Wales, 6 Sept. 2001.

[56] There are certainly already many technology-related training opportunities available to the Welsh community; however, support for specific applications of epublishing is likely to require development.

7 Key Implementation Actions

The theme of our conclusions and recommendations is **embracing change** to take advantage of epublishing opportunities as they present themselves in the marketplace. We believe that the WBC has a unique opportunity to provide leadership to the entire Welsh book trade in establishing the necessary infrastructural foundations for the future. By providing a focus for collaborative epublishing activities, particularly content management, the WBC can ensure that the trade is prepared to meet the challenge of the 21st Century.

7.1 Strategic Action One

Strategy:

Provide the Welsh book trade with the necessary infrastructure to support epublishing opportunities as they arise.

Objective:

As the representative of the book trade, the WBC should spearhead the initiatives that will enable digital delivery of Welsh content through the supply chain.

Key Implementation Actions:

- The WBC should encourage acquisition of digital rights for current and backlist titles, specifically by organising a consortial effort to draft a standard author agreement covering digital rights and exploitation.
- The WBC should establish a trade-wide content management system. Its basic functionality should be as a post-production archive, initially focused on consolidating PDF files for digital print production.
- The WBC should negotiate PDF conversion on behalf of the publishers with select service providers, such as digital printers.

ESTIMATED COSTS:

ACTION	DETAIL	ESTIMATED COST
1. Lead the development of electronic rights clearance	Requires development of boilerplate author agreements for community access	Requires gathering of existing publisher contracts; may require minimal legal review. Estimated one off £2-4K.

ACTION	DETAIL	ESTIMATED COST
2. Establish a content management system supporting remote publisher access to develop a repository for published content	Requires server (or third-party hosting), installation and customisation of software to meet Welsh publishing needs and training of support person.	Depends on final vendor specification - estimated one off hardware cost £5K, and software cost £35-40K; estimated ongoing cost £4-8K annually. Oracle license depends on final vendor specification– estimated one off cost £8,500; estimated ongoing cost £1,500. System may also require a dedication IT person and/or project manager: £22K per annum, if in-house resources not available
3. Facilitate PDF conversion	Requires negotiation with vendor(s) on behalf of trade	One off cost - negligible

7.2 Strategic Action Two

Strategy:

Utilise the most appropriate new technologies to develop new channels for delivering Welsh content through the supply chain.

Objective:

The WBC document repository should serve as the source of files to feed digital print suppliers and can use its aggregate purchasing power to negotiate favourable terms.

Key Implementation Actions:

- The WBC should negotiate terms with a digital printer or printers on behalf of its publishers.
    - i. This centrally coordinated system should enable publishers to order short run quantities using negotiated short run print pricing.
    - ii. This centrally coordinated system should enable WBC, on behalf of publishers, to order single copies using negotiated print on demand pricing
- The WBC should monitor this programme to determine whether/when to move digital manufacturing closer to the DC. It will be necessary for

publishers and printers to share digital print order information with the WBC, to enable them to track the effectiveness of the programme.

ESTIMATED COSTS:

ACTION	DETAIL	ESTIMATED COST
1. Negotiate relationship with digital print providers.	Requires partnering, agreeing terms and pricing on behalf of the trade, with one or two printers.	Costs negligible if current staff can manage the negotiations.
2. Monitor digital printing programme to evaluate effectiveness, costs and location.	Requires cooperation of all participating publishers to provide digital printing statistics.	Depends on final vendor specification - estimated one off cost £10K. Staff requirements: see Strategy One, cost two above.

7.3 Strategic Action Three

Strategy:

Encourage the preservation of Welsh culture that might otherwise be inaccessible or difficult to locate.

Objective:

The WBC document repository should serve as the source of files to populate an out-of-print ebook library in collaboration with NLW, making the same titles available in an experimental print on demand service.

Key Implementation Actions:

- The WBC should work with publishers and other rights holders to clear the necessary rights on out-of-print titles.
- The WBC should work with the National Library of Wales on the establishment of an out-of print ebook archive.
    i. The WBC and the NLW should cooperate to source funding for conversion of titles to PDF.
    ii. The WBC and the NLW should cooperate to source funding for creation and maintenance of a site accessible for ebook file downloads.
- The WBC should undertake a feasibility study on the potential for establishing a print on demand service for the same titles to ensure that it could, at worst, break even.
- The WBC should monitor both these projects to gain experience with print on demand and ebooks in the Welsh marketplace.

ESTIMATED COSTS:

ACTION	DETAIL	ESTIMATED COST
1. Lead a rights clearance project on out of print titles.	Identify potential titles to be included in this programme. Identify rights holders and seek clearance.	Dependent on number of titles. Should be manageable within existing WBC/NLW resources.
2. Collaborate with National Library of Wales on out-of-print ebook archive.	Requires partnering with NLW to fund project, build archive and populate it with PDF files.	Depends on final vendor specification - estimated one off cost £10K; estimated ongoing cost £1-2 K per annum, depending upon what is already installed at NLW. Estimated conversion costs at £100-150 per title.
3. Undertake feasibility study on viability of print on demand service for the same titles.	Requires a study of the specific titles that would be included considering pricing in the marketplace and costs of manufacture and fulfilment.	Could be undertaken by in-house staff if resources allow.
4. Develop system to manage fulfilment of print on demand copy of title. (Only necessary if POD feasibility study proves positive.)	Requires link between fulfilment system and POD provider.	Should be standard functionality in VISTA system assuming satisfactory arrangements are reached to utilise most recent release. No additional cost in these circumstances.
5. Monitor programme, traffic and downloads, to coordinate print options and to evaluate public's acceptance of ebooks.	Requires evaluation of usage reporting.	Requires time from current staff or new staff designated responsible for e-projects. Costs negligible if managed within existing resources.

7.4 Strategic Action Four

Strategy:

Establish and progress a community development project for the Welsh Book Trade to improve understanding of epublishing technologies and growth opportunities.

Objective:

The WBC should pursue means of implementing programmes to educate the trade in new publishing technologies and encourage their application to reach/expand new markets.

Key Implementation Actions:

- Design, implement and develop on an on-going basis a central web based knowledge warehouse web site/resource to be structured as follows:
    - Knowledge Zone - epublishing objectives from this report
    - Case Study Zone - Examples of successful epublishing
    - Community Zone - Members information area, bulletin boards etc
    - Vendor Zone - Information from vendors/suppliers
    - Development Zone - Platform development information
    - Funding Zone - Available grants, etc.
    - Activities Zone - Workshops, training, etc.
- Develop print programme to support web-based knowledge warehouse and reach non-Internet linked businesses. Produce central resource manual and supplement with quarterly updates.
- Produce 'face to face' programme of seminars, workshops and training in support of main resource.

ESTIMATED COSTS:[57]

ACTION	DETAIL	ESTIMATED COST
1. Build central web based knowledge warehouse	A. Requires initial site design and construction; editing of initial content	One off cost of £50K
	B. Ongoing updating and development	£20K per annum

[57] This objective mirrors Strategic Action Two in Report One (ICT in Marketing and Distribution); some costs are therefore duplicated here.

2. Print programme to support web resource	A. Initial manual of resource B. Quarterly updates	One off cost of £4K £4K per annum
3. Support seminars	Costs based on two ICT seminars/workshops per year with supplier support each seminar attended by 20 publishers/booksellers	£6K per annum before supplier contributions

7.5 Funding

The WBC has been enabled to develop its services and systems at a rapid rate in recent years, primarily through successful bids for capital funding. However, increased revenue funding has not followed project funding in the way necessary to take account of the increase in operating costs. There is a need going forward for financial support for staffing costs associated with current and forthcoming developments as well as the costs of maintaining increasingly sophisticated systems, particularly if the WBC is to take forward any of the ICT recommendations outlined in this report. As project funding is not an alternative to adequate revenue funding, it is here that the National Assembly's support is key, providing the funding to sustain the WBC's ongoing efforts.

To address the specific strategies outlined above, project funding could be available from a number of sources. While Technical Annex 15 outlines a number of potential sources of funding (some of which are forthcoming and should be followed), the following are current likely sources, given the types of projects recommended here.

- For developing epublishing contracts, look to the Arts Council of Wales and the Welsh Language Board, who may fund small expenditures leading to improvements for Welsh language publishing.
- For capital investment to establish a content management system, look to Finance Wales' Wales Innovation Fund, providing venture capital for technology-based projects; the National Assembly's Regional Selective Assistance Grants, which are friendly to consortial ICT development; and the NA's SmartWales Initiative, which funds technological innovation (noting that both of these NA programmes provide only partial funding). Look also to the New Opportunities lottery funding.
- For implementation, look to OpportunitE Wales for financial assistance.
- For establishing training programmes and ICT resources, look to Wales smE-Business to fund the majority of costs for ICT awareness-raising.
- Both Business Connect and the WDA can help identify the most appropriate sources of funding in Wales, given the details of each specific project. UKISHelp can do the same for EU funds.

- Watch the EU econtent programme, with next-round applications due in December 2002, and funding opportunities that may accompany the European Year of Books and Literacy 2003.

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Andrew Green, National Library of Wales

Richard Houdmont, University of Wales Press

Lisa Jones, Y Llyfrfa Oriel

Trevor Jones, www.llyfrau.co.uk

Dafydd Timothy, Siop y Morfa

Questionnaire Respondents

Bookshops

Awen Menai

Blackwells

Bys A Bawd

Cadi Llwyd

Castle Street Books

CBAC Cyf/ WJEC Ltd.

Cover To Cover Bookshop

Cowbridge Bookshop

Fred Cooper Books

Lexicon Books

Llyfrau'r Ddraig

Pethe Powys Cyf

Siop Dewi

Siop Dj

Siop Lyfrau'r Hen Bost

Siop Ty Tawe

Siop Y Pen

The Bookshop

The Chepstow Bookshop

Tso Oriel Bookshop

TVS Publications

Tylers Books

Ystwyth Books

Libraries

Caerphilly County Borough Libraries

Conway County Borough Council

National Library Of Wales, Aberystwyth

Neath Port Talbot Library Services

Pembrokeshire County Library

Other

Brecon Beacons National Park Authority

In-Books

Rhiannon

Snowdonia National Park Authority

Publishers

Alun Books

Apecs Press Caerleon

Ashley Drake Publishing Ltd.

Barddas

Blorenge Books

Ceiriog Press

Cwm Nedd Press

Cyhoeddiadau Barddas

Cyhoeddiadau'r Gair

Cymdeithas Alawon Gwerin Cymru

FBA Publications

Gomer Press

Gwasg Carreg Gwalch

Gwasg Gregynog Ltd.

Gwasg Pantycelyn

Honno Welsh Women's Press

Houdmont

John Jones Publishing Ltd.

Modern Welsh Publications Ltd.

Parthian Books

Seren

Undeb Yr Annibynwyr Cymraeg

Y Lofla

Vendors

Artesia

The Book Partnership

Bookcraft, CPI Group

Bookdata

BT Connect

Ebrary

First Edition EDI Services Ltd

Gardners Books/Antony Rowe Ltd

Hyperwave

LightningSource

NetLibrary

Nike

Open Connections

Questia

Vista Computer Systems

Whitakers

Government Agencies and Other Organisations

An Foras Teanga, The Language Board

Arts and Business

Arts Council Ireland

Arts Council Wales

Bord na Leabhar Gaeilge

Department of Arts, Heritage Gaeltacht

ELWa

European Commission, Education and Culture, Language Policy Unit; econtent Programme

Finance Wales

Gaelic Books Council, Scotland

House of Commons Information Office

Irish Department of Education and Science

Irish Literature Exchange

Menter a Busnes

National Assembly for Wales

New Opportunities Fund

OpportunitE Wales

S4C

Scottish Publishers Association

TAC (Teledwyr Annibynnol Cymru)

UKISHelp

Wales smE-Business

Wales Information Society

Welsh Development Agency

Welsh Language Board

Private Sector Firms

Bank of Wales

BT

HSBC

Wales Fund Managers, Ltd.