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Dispelling myths about e-books with empirical evidence

Understanding the behaviours of users of e-books is essential in developing a sustainable and effective market that will provide users with the e-books they need for teaching and learning.

During the last two years, the JISC national e-books observatory has collaborated with universities in the UK, gathering real time evidence on how course text e-books are actually used by students and teachers. The project commenced in 2007 with the licensing of 36 course text e-books for students on business management, media studies, engineering and medicine courses. These e-books were selected by the higher education community and made available free of charge to all users in UK higher education. 127 universities, 76% of all higher education, participated in the project and worked with JISC Collections and CIBER at University College London on the deep log analysis study.

The deep log analysis study commenced in January 2008 and is due for completion in summer 2009. The study has two aims, to collect qualitative and quantitative data on e-book user behaviours and to measure the impact of making e-books freely available at the point of use on publisher's print sales and library circulation figures.

- Benchmarking surveys carried out in January 2008 and in January 2009 explored current users' awareness, perceptions and attitudes towards e-books. Together, these surveys received over 48,000 responses.
- Raw server logs have been analysed to see exactly how users discover, navigate and use the e-books.
- Case studies including focus groups were held at 8 universities. Data gathered from the focus groups held with students, teaching staff and librarians has been analysed against the log data to explain user behaviours and attitudes.
- Library circulation and print sales data has been analysed against the usage of the e-books and information on student purchasing intentions.
- The wealth of evidence and knowledge gathered in the observatory project will be unpacked into practical recommendations to help everyone in the digital supply chain, including librarians, publishers, e-book aggregators and JISC Collections to work collaboratively and develop a market that is based on empirical data.

On the following pages, CIBER presents some of the initial findings from the deep log analysis. The full findings will be disseminated in summer 2009.

JISC Collections hopes that these findings will stimulate discussion and dispel some of the myths surrounding the use of course text e-books in teaching and learning.

Caren Milloy JISC E-books Project Manager



Key Emerging Findings

JISC e-books = 26 titles (5 business, 7 media, 14 engineering) made freely available on the MyiLibrary platform to UK HE. 127 universities participated in the project and used the JISC e-books.

Non-JISC e-books = the other titles available on the MyiLibrary platform that are actively being used by the 127 universities. Of the 30,000 e-books available on the platform, about 1/3 (10,000) are being used.

Page view time = the difference in time between one page and the next page viewed. Each page on the MyiLibrary platform has to be downloaded. The online page is the same as the page in the printed book.

- In the period November 2007 to December 2008, of the 481,000 sessions recorded on the MyiLibrary platform, 65,000 (13.5%) viewed the JISC e-books. Considering there are only 26 titles (compared to 10,000 non-JISC e-books), this represents substantial use.
- 761,352 pages of the JISC e-books were viewed by users at the 127 participating universities. Again, considering that there were over 10,000 non-JISC e-books, consisting of millions of pages also being used by the universities, this represents significant use.
- Sessions recorded that viewed the JISC e-books lasted an average of 13 minutes and included views to around 8 pages. This is relatively lengthy for digital scholarly platforms according to other CIBER research.
- Very little online reading appears take place with less than 5% of page views lasting over 5 minutes.
- Course text e-books are used on a 24/7 basis. They are heavily used at lunchtime with 9% of all use occurring in the 1pm hour and much use (32%) takes place off campus.
- Use of the JISC e-books is heavily tied to the pattern of the academic timetable. This equates with other e-book and e-journal studies and is not a surprise. Use in summer is generally low, average in spring and winter and high in autumn. Although users can access the JISC e-books 24/7 from anywhere, this has not impacted on the pattern of use.
- There were vast differences in the levels of use of the JISC e-books between the 127 universities. Use of certain JISC e-books was very high at some universities and very low at others. This is an indicator of demand and suggests that

the availability of highly relevant course texts will generate very large volumes of use.

- Seven of the top ten e-books available on the MyiLibrary platform and used by the 127 participating universities were JISC e-books.
- Survey findings, from more than 48,000 respondents, point to a growing acceptance of e-books by the academic community, with both teaching staff and students making greater use of e-books through their university library.
- Student dissatisfaction with library provision of printed textbooks declined sharply over the period of the experiment, suggesting, perhaps that the growing number of e-books in UK universities is beginning to ease some of the acute pressures on the short loan collections.

Highlights of the Deep Log Analysis of MyiLibrary

The analysis of the MyiLibrary server logs provides detailed and unvarnished insights into users' information-seeking behaviour. Unlike traditional surveys, log data analysis does not raise issues with sampling and sample size: every record is analysed and millions of transactions can be processed. This section, reports on some of the initial findings emerging from the use of 26 JISC e-books (5 in business management, 7 in media studies, 14 in engineering) available on the MyiLibrary platform.

The biggest and most detailed e-book usage study ever conducted. A 14 month study (November 2007 to December 2008) of the 26 JISC e-books and the non-JISC e-books (10,000) available on MyiLibrary platform. The study has examined use of these e-books by 127 universities, evaluating 6 million page views during half a million user sessions.

Usage was measured by page views, sessions conducted and time spent online. Trends over time were established. A wide range of information seeking characteristics were examined and identified including, method of access (referrer link), location of access (on/off campus), session 'busyness' (number of pages viewed in a session), searching and



browsing, the type of content viewed, individual titles and subjects used.

High usage. Use at the participating universities generated over 760,000 page views to the JISC e-books. This means that each title attracted about 18,796 views. 65,000 sessions were undertaken in respect to these e-books.

The typical visit. Sessions typically lasted around 13 minutes and users viewed 8 pages on average of the JISC e-books. The length of the sessions shows substantial use of the e-books.

Volatility. Use of the JISC e-books varied enormously throughout the year and would appear to be more dependent on the academic timetable than the use of e-journals. Use rose and fell by 50% from one month to another. November was, by some distance, the busiest month. On the 18th and 19th November 2008 the JISC e-books received 5605 and 6730 page views, 3 times more than the average daily rate. Only 39 views per day were made to JISC e-books on the 30th August 08 and 91 on the 26th December 08 – the lowest rates across the 14 month period

JISC e-books used differently. The JISC e-books had fewer page views per title (18,769) than the non-JISC e-books (20,132). In addition, slightly less time (about 5 seconds) was spent viewing the pages in the JISC e-books than the non-JISC e-books and with shorter session lengths, 13 minutes as opposed to 18 minutes.

Students power browse rather than read online. An e-book page can be scan read in about 1 minute. Only 5% of users spent more than 5 minutes viewing a page and 85% spent less than 1 minute viewing a page. This indicates that a large amount of power browsing and downloading is occurring

What times were e-books used? Deep log analysis provides unique and fascinating results here: a) the JISC e-books were used during every hour of the day but 10am to 2pm were the most popular times; b) one fifth of all use took place over a weekend; c) students spend more time viewing an e-book during the weekend.

Location. One third of use took place off-campus in the UK and another 6% of use emanated from outside the UK. While there was not much difference in the busyness of sessions (number of pages viewed in a session) between on campus and off campus use in the UK, sessions conducted overseas were significantly busier.

Trends. The variance in the use of e-books throughout the year presents difficulties in establishing trends in use over time. However, if we compare JISC e-book use with the use of non-JISC e-books, the former appears to be declining. There could be a number of reasons for this including the natural pattern of course text use over the academic year, the natural obsolescence of course texts (new editions) or increased (better) choice offered by MyiLibrary over the study period.

Superusers. Sheffield Hallam University, University of Sheffield, and the University of Glamorgan were the top three universities in usage terms and were in a class of their own, recording around 19,000 page views. There is clearly something special about Sheffield! In general though, the size of a university is a good indicator of the level of use of a JISC e-book.

Popular subjects. The business management titles proved the most popular, accounting for 45% of all use despite the fact they accounted for just 20% of the JISC e-books. Media studies titles (constituting 25% of the JISC e-books) also punched above their weight accounting for 32% of usage; conversely the engineering titles, which accounted for over half of the JISC e-books attracted less than a quarter (23%) of the overall use. Interestingly, sales figures (2007/8) indicated that the business titles obtained the most hard-copy sales.

Popular titles: the highs and lows. *Organisational Behaviour and Analysis: An Integrated Approach* proved to be the most popular title by some margin, obtaining more than a 82,000 page views. Interestingly, sales figures for 2007/08 show that it performed fourth best out of the five JISC business titles. The top 5 e-books accounted for over half of all use and consisted of 4 business titles and 1 media studies title. The top 10 popular titles consisted of 5 business, 4 media and 2 engineering titles. At the other end of the table, *Better Places to Work* attracted less than 3000 views, not surprising if you take into account that it sold no print copies. in 2007/8. However, you could argue that its use was boosted as a result of it featuring in the Observatory.

JISC e-books proved relatively popular. Seven out of the top ten MyiLibrary e-books used by Observatory universities were JISC e-books. Considering that the JISC e-book titles had moderate print sales, this demonstrates a clear demand from students and universities for course texts e-books.



Highlights of the Second Benchmarking User Survey

In January 2008, CIBER invited students at all levels, teaching staff and researchers to take part in an online survey to provide benchmark data for the national e-books observatory project. The response was overwhelming: 23,445 people answered, making this the world's largest e-book survey. Detailed findings from this survey can be found on the JISC website¹.

The survey was repeated the survey, with minimal changes in January 2009 to evaluate whether, and if so, how far user attitudes and behaviour have moved on since the beginning of the observatory. At the time of printing, over 23,000 responses had been received. As with the first survey, a large number of responses from across the country were received.

Geographic distribution of second user survey respondents (n = 23,000)



¹ Findings from the First User Survey, JISC Collections, April 2008. www.jiscebooksproject.org/wp-content/e-books-project-first-user-survey-a4-final-version.pdf

A full account of the differences between the two benchmarking surveys will be published in summer 2009 as part of the final report. This section offers a quick snapshot of some of the headline differences between the 'entry' and 'exit' surveys. There has not been time to run any formal tests to see how statistically significant the differences are. However, the sample size of respondents is large enough that CIBER is 99 per cent confident that the percentages reported here can be extrapolated to include the whole of the UK higher education sector to within plus or minus 0.9 of one percentage point.

The findings in the tables that follow are indexed in the final column to facilitate comparison between 2008 and 2009. The 'JISC' disciplines referred to are: business and management, engineering, media studies, and medicine (excluding nursing and mental health).

Do you use e-books? (n=43,849)

Percentages and index (2008=100)

Those indicating yes	2008	2009	Index
Students in a JISC discipline	63.2%	65.5%	103.6
All other students	61.4%	64.2%	104.6
Teachers in a JISC discipline	57.0%	63.5%	111.4
All other teachers	58.9%	64.9%	110.2

There is evidence here of an upward trend in e-book use, with university teachers rapidly closing the gap with the 'Google Generation'. A clear majority of students and teaching academics now use e-books at some point, mainly for study-related purposes. This is a general question and relates not just to university life but to leisure and other interests outside work or study.

To keep up to date on the JISC national e-books observatory project, please visit:

www.jiscebooksproject.org or contact Caren Milloy on 020 3006 6003, or at c.milloy@jisc.ac.uk



Thinking back to the last time you used an e-book, how did you get hold of it? (n=43,849)

Percentages and index (2008=100)

From my university library	2008	2009	Index
Students in a JISC discipline	43.5%	51.5%	118.4
All other students	45.5%	52.3%	114.9
Teachers in a JISC discipline	50.3%	54.0%	107.4
All other teachers	50.1%	56.8%	113.4

This question asked respondents how they got hold of their last e-book: perhaps by purchasing it, getting it free off the internet, from a friend or colleague, through their university library or another library. More information needs to be satisfied through library-provided e-books. It is known if this is due to increased availability, or simply through more intensive use of what was there already. But university libraries are now the provider of first choice for the majority. This seems especially to be true of students in the four disciplines covered by this project.

How many e-book titles have you used in the past month? (n=43,849)

Percentages and index (2008=100)

Three or more titles	2008	2009	Index
Students in a JISC discipline	40.0%	44.4%	111.0
All other students	38.2%	42.2%	110.5
Teachers in a JISC discipline	31.1%	42.0%	135.0
All other teachers	33.7%	39.9%	118.4

Academics, both students and teachers, are using more e-books each month, and the growth rates (more than ten per cent) suggest that use of e-books is really starting to catch on in a big way. This growth is notable for teachers in the four JISC disciplines, with an increase of 35 per cent!





Do your students regularly report back any problems concerning library provision of textbooks? (n=1,478)

Percentages and index (2008=100)

Those indicating yes	2008	2009	Index
Business teachers	57.1%	47.7%	83.5
Engineering teachers	41.1%	34.5%	83.9
Media studies teachers	65.2%	61.0%	93.6
Medical teachers	43.5%	28.4%	65.3

Mirroring the earlier question, here is further evidence of a strong upswing in student satisfaction with library provision of textbooks, this time as reported by university teachers.

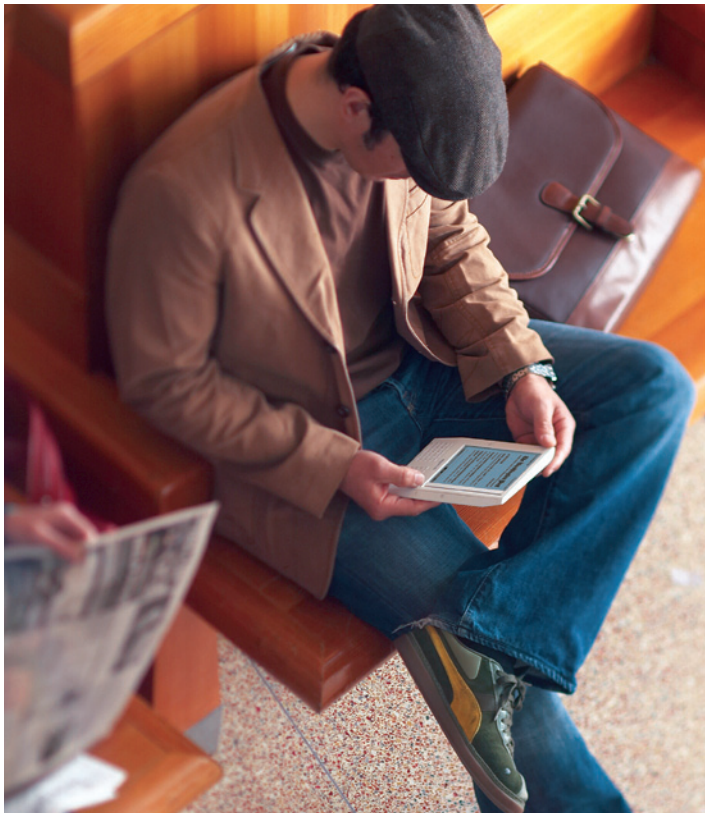
Do you recommend or actively encourage your students to use e-book materials? (n=3,899)

Percentages and index (2008=100)

Those indicating no	2008	2009	Index
Business teachers	28.0%	21.0%	75.0
Engineering teachers	34.5%	30.2%	87.5
Media studies teachers	13.3%	13.5%	101.5
Medical teachers	39.5%	44.8%	113.4
All other teachers	29.3%	26.2%	89.4

The proportion of university teachers that **do not** recommend or actively encourage their students to use e-book resources seems to be falling away rapidly in many subjects. For those teachers outside of the subject scope of this experiment, the figure has declined by just over ten per cent in one year. This suggests that e-books are rapidly becoming embedded in academic practice. Interestingly, media studies and medicine are bucking the trend.

With so much data many more findings will emerge over the coming months. In particular, CIBER will focus on the changes in attitudes and behaviours implied by these early results and probe them more deeply. CIBER will also see whether there are clusters of respondents who are especially high users (or non-users) of e-books and what makes them stand out from the crowd.



To follow in the final report...

- Qualitative follow up: faculty, students and collection managers
- Impact of the JISC e-books availability on library circulation and print sales
- Implications for sustainable business models
- 'Before' and 'after' examining the difference between the two user surveys
- Market segmentation of e-book users
- Detailed deep log analysis of the MyLibrary titles
- Analysis of user comments from both surveys
- Analysis of librarians' views on business models
- What survey distribution methods work best
- Methodologies for future studies of e-books in libraries
- Reflections on how to run a national observatory



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