

## The road ahead: eBooks, eTextbooks and publishers' electronic resources

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eBooks have now become commonplace in the community and are used on a range of mobile devices such as eBook readers and tablet computers. In recent years, eTextbooks accessible on a range of mobile devices have provided an alternative to heavy and expensive print-based resources. Although some institutions have decided that eTextbooks and related resources are the preferred option for their students, research does not yet indicate that students actually favor eTextbooks. There is also little evidence to support whether the additional features offered in electronic resources increase engagement or improve learning outcomes. The author describes how a review of the literature revealed current issues related to eTextbooks and their accompanying resources. This preliminary exploration will guide research to investigate whether eTextbooks and complementary resources produced by publishing companies can lead to improved learning outcomes and student engagement in a business school context.

Keywords: engagement, learning outcomes, eBooks, eTextbooks, mobile devices, iPad.

### Introduction

In 2011, The Horizon Report (Johnson, Smith, Willis, Levine & Haywood, 2011) stated that electronic books were moving closer to mainstream adoption by educational institutions with features such as immersive experiences and facilities for note-taking, research activities and social interaction. The 2012 edition of The Horizon Report (Johnson, Adams, & Cummins, 2012) highlighted the emergence of tablet computers as a significant distribution element for electronic books in higher education. Furthermore, the literature shows that a number of institutions are promoting a shift to eTextbooks due to the possible benefits of reduced costs and higher portability (Cross, 2010; Murray & Perez, 2011). In the wider community, eBooks and 'e-reading' are growing in popularity (Rainie, Zickuhr, Purcell, Madden, & Brenner, 2012) mainly due to e-Book portability and ease of access. However, it is still uncertain whether the uptake of eTextbooks will be as dramatic as that of fiction and non-fiction eBooks, as the landscape of eTextbooks and educational resources has become increasingly complex due to the myriad of choices.

The availability of eTextbooks with embedded features such as interactive images, animations, quizzes and simulations is relatively new. The characteristics of this new generation of textbooks offer opportunities that were not available in the past. Some studies have shown that, compared with traditional media, eBooks and eTextbooks provide additional features such as: portability, text searching abilities, quizzes, web links, interactive learning activities, bookmarking, and annotations (Rickman, Von Holzen, Klute & Tobin, 2009; Wilson, 2003). Social networking and collaborative learning through sharing annotations are aspects of eBook environments that may also have an impact on learning (Richardson, Smith, Lenarcic, McCrohan, & O'Hare, 2010). However, current research is not conclusive about the benefits of adopting eTextbooks and it has yet to be established how eTextbooks and other electronic resources could be used effectively by both students and lecturers to enhance the learning and teaching process (Murray & Perez, 2011).

To date, studies investigating student preferences in textbook formats have, in some instances, shown that students welcome eTextbooks over hard copy texts (Porter, 2010; Ugaz & Resnick, 2008). Whereas others have found that students still favored hard copy textbooks to eBooks, or a combination of the two, which are available from some publishers (O'Hare & Smith, 2012; Woody, Daniel & Baker, 2010). Although eTextbooks are usually less expensive than their hard copy equivalents, they are often provided via a rental arrangement for 6-12 months, and in some cases are not transferrable from one device to another (Nicholas & Lewis, 2010). Despite the wide availability of eBooks, some students prefer to have hard copy textbooks to keep for future reference, or for their resale value (Murray & Perez, 2011).

In 2008, Lam, Lam, Lam and McNaught explored students' perceptions of usability and usefulness of eBooks in learning and found that advantages such as portability were outweighed by a range of technological difficulties experienced by their students. They therefore concluded that eBooks were still in an early developmental phase. A later study by Woody et al. (2010) established that the necessary resources (e.g. computers and support) must

be provided for eTextbooks to be successfully adopted. Table 1 lists some of the advantages and disadvantages of eTextbooks based on the literature (Nicholas & Lewis, 2010; Nicholas, Rowlands & Jamali, 2010; Rickman, Von Holzen, Klute & Tobin, 2009; Wilson, 2003).

**Table 1: eTextbooks advantages and disadvantages**

<b>Advantages</b>	<b>Disadvantages</b>
Portability	Platform limitations
Text searching ability	Poor navigation
Lower price of eTextbooks	Expiry of access (some 3-6 months) Non-transferrable access
Accessibility for visually impaired	Some resources are not accessible for visually impaired
Available online and on mobile devices	Unavailability of some texts as eBooks
Bookmarking	Device specific and non-transferrable bookmarks
Annotations	Annotation and copy and paste limitations
Can print a copy	Printing may be limited or prohibited

The variability in platforms (other than PDF) and single platform availability of some products can also limit their usability and uptake (Richardson & Mahmood, 2012). Some of the commonly used formats and platforms for eTextbooks and resources are summarised in Table 2.

**Table 2: eBook and eTextbook Platforms**

<b>eBook Readers</b>	<b>Platform</b>
Amazon Kindle	Both PC and Mac, Apple iOS (iPad, iPhone), Android devices (tablets, phones)
Apple iBooks	Apple iOS only (iPad, iPhone, iPod touch)
Sony Reader	Android devices (tablets, phones), Sony devices (tablets, readers)
Kobo	Both PC and Mac, Apple iOS (iPad, iPhone), Android devices (tablets, phones)
<b>Web-based eTextbook Environments</b>	<b>Platform</b>
VitalSource	Both PC and Mac, Apple iOS (iPad, iPhone, iPod Touch), Android devices (tablets, phones), Blackboard Building block
Course Mate (Cengage)	Both PC and Mac, not all mobile devices
WileyPLUS	Both PC and Mac, not all mobile devices, Blackboard Building block

The move to electronic formats has enhanced resource flexibility, particularly due to the ability to mix and match chapters from various textbooks an option provided by some publishing companies (e.g. McGraw-Hill, Wiley) and the capabilities to develop custom eBooks (e.g. McGraw-Hill Create <http://create.mcgraw-hill.com/wordpress-mu/australia-newzealand/>). The DIY approach to authoring eBooks can be as simple as developing texts in PDF format, or alternatively, using authoring applications and apps e.g. iBooks Author for iPad iBooks (.ibooks format) or Calibre, Adobe Indesign 5.5, Creative Book Builder (ePub format). Apple's iBooks (Textbook) format was released in 2012, but at present produces eTextbooks that are only compatible with Apple devices. If appropriate resources are available, eBooks can be developed in a range of formats and can include animations, interactive quizzes, embedded media such as video and audio recordings, and provide facilities for rotation and scaling of items.

Equity and accessibility are two major concerns when introducing a new range of resources and eBooks can be more accessible solutions for students with visual disabilities. For example, Macquarie University adopted an eBook publishing model (ePub format) to facilitate increased accessibility to learning resources (Lovell-Simons and Kerr, 2011). When designed within the web-accessibility standards, the resources can be read by text reader software (e.g. Jaws) or VoiceOver on the iPad, and also allow for on screen enlargement for visually impaired students. On the other hand, accessibility and equity issues can also arise where resources are platform or device specific. For example, some resources will work only on an iPad (e.g. iBooks Author); while others have components that will not work on an iPad as they include Flash-based components or other interactive content.

## **Institutional Perspective**

From an institutional perspective and beyond the preferences of individual students, eBooks and eTextbooks may be able to provide cost effective solutions for future learners. Some universities and libraries, such as the Northwest Missouri State University (Rickman et al., 2009), are developing institutional strategies for making eBooks and eTextbooks available to their university community. In some cases, the resources are being

provided on mobile devices. For example, the Faculty of Science at the University of Adelaide piloted iPads and electronic texts or resources for all first-year undergraduate science students during 2011/2012 (Cross, 2010; University of Adelaide, 2010; 2011). In this instance, each student received a free Apple iPad to use with online curriculum and custom content. The aim of the project was to phase out printed textbooks in favor of offering a range of rich media resources that were ideally open-source or authored by teaching staff.

## Additional e-Resources

In the not so distant past, the norm was a hardcopy textbook with some lecturer resources in the form of slides and answers to textbook questions. On occasion the textbook questions were made available electronically online. The newer generations of textbooks are accompanied by a wide range of resources which may include:

- an interactive eBook with embedded media and interactivity;
- an eBook embedded in an interactive learning environment (e.g. VitalSource, Cengage CourseMate);
- interactive study guides (e.g. Wiley iStudy);
- a companion site for instructors with slides, questions and answers, video case-studies and other media; and
- simulations and virtual environments.

Furthermore, some tools can be embedded or accessed via a learning management system (LMS) (e.g. Blackboard, Moodle) where quizzes can be linked directly to the grade book/grade centre and therefore provide resources that can be also used for revision or assessment purposes and to monitor students' progress.

Although a welcome addition for many, the rich set of resources available with most textbooks/eTextbooks, increases the complexity of decision-making for teaching staff. Not only do they need to decide on what they will use (textbook/eTextbook, slides, videos, quizzes), but they must also consider the cost implications (e.g. student buys, library buys), licensing limitations (e.g. 6 month expiry dates, inability to transfer from one device to another), access via an LMS (e.g. which LMSs are compatible), technological limitations (e.g. runs only on iPads versus includes Flash and will not run on iPads), and equity issues (e.g. students have access or devices that support the resources). Given these issues, the role of the educator is likely to be critical to the effective use of eTextbooks and the related electronic resources. For instance, Wong, Liang, Lin, Lower and Lam (2011) suggest that a key to successful use of eTextbooks is for lecturers to proactively make use of eTextbooks in facilitating teaching and learning. Similarly, Sun, Flores and Tanguma, (2012) established that successful uptake of eTextbooks would be facilitated by lecturers actively engaging students in using eTextbooks. Nevertheless, Nicholas and Lewis (2010) found that eTextbook uptake was not promoted by lecturers due concerns about technical issues, equity issues with access to e-readers or computers, battery limitations and students' reluctance to read on screen.

One of the first steps in integrating electronic resources and texts into learning is for lecturers to make some decisions about how the resources will be used in their unit, and to establish whether they are likely to add value for their students. There are a number of ways in which electronic resources can be utilised, as listed in Table 3:

**Table 3: Approaches to using Publisher Resources**

Approach	Description
Substitute for own resources	Textbook/eTextbook, publishers slides, exercises as the main resources for the unit – 'a textbook unit'
Add-on	Resources are available, promoted to students, but not integrated
Integrated/embedded	Textbook related resources are embedded within the curriculum as required
Selective use	Selected resources from multiple sources are used to illustrate concepts
Extension	Resources are used to provide additional resources for students to explore to enrich their learning experience
Assessment	Assessment tools designed by publishers (e.g. Aplia, Perdisco) are used
Social media or tools in eTextbook environment	Annotation and bookmark sharing are encouraged

In practice, there is currently little evidence about what is sustainable and good practice in using textbooks, eTextbooks, and the range of complementary resources. How should such resources be used effectively? How can the range of resources be used to support student engagement and improve learning outcomes? The future of such resources will be dependent on outcomes and input from both educators and learners.

## Research directions

The complexity of the eTextbook and resource landscape has prompted the need for exploration of both the requirements and possibilities available for the Curtin Business School (CBS) and to identify whether existing resources provided by publishers of textbooks may be utilised to increase students' engagement and lead to better learning outcomes. A preliminary review of 276 publications (textbooks, eBooks and related resources) available via the university bookshop for the CBS students in Semester 1 2012, showed that approximately 19% of all the publications included an eBook version and/or a range of online resources. A review of all available Semester 1, 2012 CBS Unit Outlines (documents that provide information about required resources for each unit of study) found that only 4% of the publications with eBooks and online resources were actually referred to or promoted to students in their unit materials. Nonetheless, where such resources were described in the Unit Outlines, the electronic versions of the textbook or other publisher resources were considered to be integral to the unit.

As this is an area of rapid change and development, the availability and use of eTextbooks and related resources are likely to continue to evolve, and resources will become increasingly available for multiple platforms. The current status of eTextbook and electronic resources use at CBS has prompted a research project to explore the effective use of electronic resources in learning and teaching to identify examples of good practice. At present, there is limited current research on how eTextbooks and related resources can be effectively integrated into units, whether and how they are used by students, and whether the use of such resources results in benefits to learning or increased student engagement. Some of the issues to be explored will be the range of resources available with new editions of textbooks currently in use, hardware or software limitations, licensing and cost implications, ways in which resources could be used to add value or increase engagement, and usability and equity implications.

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