Hegemony of Printed Books in Australian Tertiary Education
a Concept Under Challenge

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Abstract
This paper is about challenges to the hegemony of printed books in Australian tertiary education and the potential demise of that hegemony. Not because the book in its traditional form is considered by some to be outdated and not because of competing products that might put the use of the traditional book under threat — our Australian ‘book-industry’ might well rise to such challenges given that competitiveness is a driving feature of business. This paper is about challenges to the hegemony of printed books in tertiary education because of forces entirely outside the ‘book-industry’s control.

The function of traditional printed books within tertiary education is changing. Education is a user-pays product, and competitive pressures ensure students are given greater voice in the types of learning resources provided, with the evolution of electronic and communication technologies allowing student learning resources to be made available in myriad ways. Thus a traditional printed book may be an inflexible tool in a dynamic environment.

Keywords: Evolution of Learning Resources, Books, Future of the Book, Tertiary Sector, Scholarly Publishing, E-Learning, Book Industry, Teaching Materials

Introduction
My experience in the Australian ‘book industry’ (Burch 2002b) suggests the print business models and publishing business models have been and are still highly efficient, notwithstanding the vexed issues of over-capacity, book-returns and low profitability (Accenture 2001).

However, regardless of such high levels of efficiency, this paper is about challenges to the hegemony of printed books in Australian tertiary education and the potential demise of that hegemony. Not because the book in its traditional form is considered to be outdated and not because of competing products that put the use of the traditional book under threat. Our ‘book-industry’ might well rise to such challenges given that competitiveness is a driving feature of business. This paper is about challenges to the hegemony of printed books in Australian tertiary education through forces entirely outside the ‘book-industry’s control.

The Australian focus of this paper is a consequence of time and resource limitations, the author having both industry and academic experiences in Australia relating to the topic and because the Australian book industry has in recent years been provided with government moneys that has funded some significant research into Australian conditions.

In ‘Supply Chain Dynamics Around Print on Demand in Australia’ (Burch 2002b) I suggested that Print-on-Demand (POD) book printing had been successful internationally but that Australian business model practices were, for a number of reasons, highly efficient and thus considered by many supply-chain players as an impediment to growth of POD. Yet there are POD success stories in Australia, though usually not by mainstream players. I also suggested that the growth of discount store mass-purchasing power and their ability to influence publishing by ‘cherry-picking’ authors; the development of sophisticated title tracking software such as Booktrack; the potential adoption of some of the Accenture Consulting Ad Rem report (2001) recommendations; and some other issues, all work to create low-risk or less-risk business models for the existing supply chain that might increase the number of authors disenfranchised from the mainstream publishing market. All these issues together with POD technology and concepts such as Creator-Consumer (C-2-C, a joint research venture of Common Ground Publishing and RMIT University with funding from Australia’s Department of Industry, Tourism and Resources), would stimulate new forms of publishing by new players not constrained by traditional business models.

However, I have to admit that even those 2002 writings were from an existing supply chain perspective and this paper goes further in proposing that in the tertiary education sector dynamics are such that factors other than the traditional print industry supply chain are at work threatening the hegemony of the printed book as a prime knowledge vehicle.

The balance of this paper is structured as follows. Firstly the causes or catalysts for change within the tertiary sector are examined. These are identified as
the redefining of education as a commodity for which the user pays and is thereby given consumer rights aligned with price, quality and flexibility. The second cause is concerned with the way in which technology has enabled new markets with different needs to emerge within the tertiary education sector. This is followed by a review of the consequences of this paradigm shift as it impacts upon the supply chain within the print industry.

Economic Rationality in the Tertiary Education Sector

The function of printed books within the tertiary education sector may be travelling the same path of economic rationality that has revolutionised the provision of public services world wide. Education is now a product for which the user pays and competitive pressures ensure that customers (students) are being given a greater voice in the types of learning resources they are provided. The traditional approach to learning which focussed on a text book as the principal learning resource, is under threat. Cost efficiencies and the demands of an increasingly computer literate customer market have made the logistical characteristics of a traditional book seem an inflexible tool in a dynamic environment.

For example, in 2002 Dr. Judy Nagy, currently a senior lecturer in Accounting at Deakin Business School Melbourne, developed material for a course in the Deakin Faculty of Business and Law. Unable to source an appropriate text book that covered her course material to her satisfaction, Nagy arranged for a publisher to take relevant chapters from a number of books and authors and print a small-run exact quantity A4 digital ‘book’ that matched student needs in a more focussed and timely way, with fewer of the constraints posed by a prescribed text at a much lower cost than traditional supply chain methods.

Another more personal example concerns my experiences during this current year (2004) (as a consultant to RMIT university) developing the first module, or unit, of a new degree program for the graphic technology industry, This unit, called Print in the Media Spectrum, is the first and cornerstone unit for the degree program and yet has no hard-copy components in it’s course material – all material, references, required readings and so forth, are all delivered online. ON-line delivery of course and reference material for ON-campus students, designed by a so-called printing expert! For Print in the Media Spectrum all I have done is to take advantage of the evolution of electronic and communication technologies that now allow student learning resources to be made available in a myriad of ways and this process has made it very clear to me that print as a primary resource is but a small player in a much larger field.

The tertiary sector has reached this juncture largely as a consequence of changes in government policy towards education. Reduced funding to universities has meant that education has become a ‘product’ and students have become ‘customers’ – in line with the business-speak now employed in a user pays environment (Inglis et al 2000, p.20). ‘Customers’ take their business to where it is perceived they get the right flexibility for their needs and value for money. In such an environment the need to better utilize the opportunities provided by technology have been given significant impetus by the need to find efficient and effective means to satisfy ‘consumers’. In the tertiary sector the challenges presented are not simply a matter of increased competition. Technology must also meet the need for creator flexibility to accommodate dynamic course content and for pedagogical challenges in response to cultural differences in learning styles in the market for international students. Frew (2002a, p.3) also refers to the “major trend in the blurring of distinctions between on-campus and off-campus learning, or technology-mediated education” as the latter are increasingly being sought by those who are employed and those who have time and access constraints. This also supports the new role of institutions of higher learning in the individualisation of the learning experience. The limited contact time between lecturers and students in class and the need to accommodate a diverse student population often means that a class environment may contribute less to individual learning experiences, than the online environment of which all students are now an integral part. Zhang Gong (2002, p.4) suggests that “contrary to concerns about the depersonalized learning environment … technology … is a more effective tool for individualized learning than the traditional approaches”.1 Technology can help students take a more active role in their learning by allowing them to use different learning modes or methods to suit their individual needs.

The Australian tertiary environment was summarised by the then Chief Librarian of the University of Melbourne in a discussion paper at the ALIA2000 conference (Hayes, 2000) as:

“Never have universities faced such enormous challenges as they do today. After 900 years of conducting business in much the same way we find that all our traditional assumptions are being challenged. Some of the trends in this environment are the growth of the adult student market, expanding opportunities to serve students outside Australia, the rise of internet-based learning and substantial new competition.”

1 Frew (2002b. p.173) provides evidence to support an opposing point of view which suggests that ‘knowledge that is embedded in human capital (that is, in people) is not transferable across networks”.
Hayes (2000) suggests that external pressures distorted the pace of change, that there was a highly constrained operating environment with reduced public funding and quoted Gartner Group research that economic and political pressures were forcing moves toward increasing delivery of educational content electronically.

**Implications for Academics and Students**

Academics now have choices as to how they can bundle content for the purposes of course delivery. There is an expectation by both academics and students of provision of some form of web based support material to facilitate course delivery and publishers of textbooks are also recognising this expectation. In a current McGraw-Hill 2004 text also available to undergraduate students the following message from the publishers states ‘(it) all about flexibility. You want to be able to teach the course your way... (publisher) offers extensive choices in content selection and delivery.’ The particular text offers an instructor CD ROM, PowerPoint Presentations, solutions, test banks, instructor’s manuals and videos to supplement the text. The publisher also offers the services of an instructional designer with an e-learning team trained to help customise ‘our’ content for ‘your’ course. Content management services include rights management, the willingness to provide customised products within their own stable and (more recently) across publishers for often limited print runs. These are features which enable the creation of materials which are specifically suited to focussed needs distinct from current practice of texts designed to suit the generic needs of multiple users that generate volume print runs and unused chapters. Having established the content, the 2004 undergraduate text offers to ‘discuss how and when you would like it delivered – online (utilising WebCT, Blackboard or PageOut options) or in print. For students there are links with integrated case studies, study guides, PowerPoint slides, online newsletters and revision mechanisms.

Students can share information and learn from each other enriching the learning process. The creation of learning is also facilitated by a shared on-line environment that provides strategies for creative inquiry, for scientific processes, formulating questions and testing ideas. Learning is no longer lecturer centred but can be self directed where students can take control of the pace and style of learning. The function of print in this scenario is but one amongst many.

Students in the tertiary sector can receive printed material, digital files for printing at remote locations, be given access to on-line learning environments, access to data bases and all the hard and soft resources at university libraries. Students have been empowered by being given choices which allow them to learn at a pace agreeable to their environment and without being tied to any geographical boundaries. This means that they will take their enrolment dollars to wherever they perceive they are getting the type of education and resources they wish to have. Universities compete for students with ever increasing proportions of income for Australian tertiary institutions coming from international student enrolments. This means that educational resources must be capable of being used effectively by a diverse group of students, usually ESL, with different capabilities and access regimes. This paper does not debate the efficacy of this form of evolution but accepts that this is a logical starting point from which to consider the future of ‘books’ in a tertiary environment.

**Implications for the Research Community**

Given that science and scholarship are very much an overlapping community, it is not hard to envisage that the trend to electronic journals might quickly have a multiplier effect on academic books, as science and academic authors become accustomed to writing and researching electronically. Nunberg asserted that scientific journals are almost certain to move to digital distribution (Nunberg 1996 p.13). Goldman states the informational demands of scientific and scholarly communities are outstripping traditional resources (Goldman 1999 p.173) and suggests that the fragmentation of scholarly disciplines constantly generates new journals and other publication outlets with little chance that financial resources could grow enough to house, manage and preserve needed literature in the future. Goldman concluded “Scholarship and scholarly communication clearly require digital technology to come to the rescue”; and “The cost of science and scholarship will only be sustainable, it appears, if digital technology is appropriately exploited”.

The above academic commentary is supported by business. Blackwell Publishing Limited’s response to the House of Commons Science and Technology Committee Inquiry into Scientific Publications in the United Kingdom, dated 11th February 2004, stated that in 2002 they recorded 19 million downloads from their online delivery system, 37 million in 2003, and expected 65 million in 2004 (p. 2). Blackwell’s statement on its position about Open Access included “The combination of investment in technology and new pricing models is vastly increasing the access to journal content” (p. 3). In Australia, discussions with Victoria Hamilton, Vice-President Editorial and Production Services Blackwell Publishing Asia, indicate the extent to which this major scientific publisher has moved to electronic publishing. Hamilton states Blackwell moved to use of DOI back in 1997 and all production processes are directed to online publishing. Print, as output, is but another form of delivery of the processes. Hamilton states that hard-
copy printed journals continue to have demand but that volumes remain stable whilst ‘hits’ to Blackwell’s online services has skyrocketed and grown exponentially, as the benefits of online publishing to users is extensive. She comments that even though the delivery process is fully online, users still tend to output to print, but that print is limited to those parts of a journal paper where they have particular interest. I suggest the Blackwell experience indicates a massive shift to online referencing and probably a very significant growth in printed output. But that output has moved to plain A4 paper on myriads of home and office computer printers, and is not printed as part of the traditional supply chain.

I would also suggest that the tertiary sector would become quickly used to and reliant on electronic publishing with it’s significant benefits such as being timely primary research, provision of direct links to other research and papers each publication refers to and sophisticated electronic search of like or complimentary material. None of such benefits being available through an existing printed book.

Use of electronic publishing and electronic research by academics is complimentary to the ways in which universities are directing their student learning processes. To facilitate on-line learning and to allow access to intranet facilities and resources, providers of higher education now require students to have access either at home or on campus to a basic standard of computing hardware, software and internet access. In addition, libraries offer remote and direct access on-line databases, course materials and research facilities.

**Technology has Become a Mediator in the Learning Process**

**The Consequences - Supply Chain Implications**

The merging of new technologies has provided solutions for the variety of needs in the tertiary sector. Digitization combined with convergence of the once discrete fields of computing, information technology, telecommunications and broadcast and print provides a multi-faceted approach to delivery mechanisms (Frew 2002, p.4). Frew also suggests that the implications of this are the diss-aggregation of infrastructure, delivery mechanisms and content and the blurring of traditional market boundaries. Inglis et al (2000, p. 22) provided support for this proposition a number of years earlier by arriving at a policy implication suggesting that the “provision of on-campus facilities for access to print-based materials needs to be de-emphasized and the provision of electronically accessed materials ... online need to be emphasized”. For tertiary institutions this means a shift away from traditional learning resources which have used a printed text book as the primary tool for students. Tertiary resources are now about the creation of content, its management and then choices about how to make the material available to students in various delivery modes.

This is by no means a recent development. Inglis et al (2000, p.18) provide evidence that the Australian Vice-Chancellors’ Committee in 1996 were aware of predictions that books would not be the primary medium for higher education. In 1996, Nunberg provides two quotations which suggest that the relevance of the book is limited: Paper is just an object that {some} information has been sprayed onto in the past... (Ted Nelson, quoted by Nunberg 1996, p.104). one of the side effects of digital technology is that it makes those containers irrelevant... (John Perry Barlow, quoted by Nunberg 1996, p.104).

Again in 1996, Hesse (1996, pp. 23 and 29) suggested the book was an archaic and inefficient cultural form where fixing knowledge between two cardboard covers constrained its circulation and that new digital technologies destabilize and transform institutional infrastructures of modern knowledge exchange with circumvention of traditional mechanical pathways.

In ‘POD Trials in the Australian Tertiary Education Sector (Burch 2002a) I suggested that the print departments in universities were marginalised with a confused sense of direction; that POD technology was an uncertain fit in this environment and that print departments should be integrated into a knowledge management planning process. At the time of preparing that paper I couldn’t really comprehend why print facilities were becoming marginalised. In preparing this current paper it seems clearer to me now that the confused sense of direction I experienced in 2002 was, whether deliberate or accidental, an appropriate situation for processes in transition. This change in the dynamics of printed products within tertiary education now means that the ‘book’ and printed course material must now compete (where it previously enjoyed decades of hegemony) with the other modes of delivery. I have a better understanding of why infrastructure changes are necessary.

The technology revolution has been the main driver of change within the knowledge economy for a number of decades (Leadbetter 1999). Initially this meant that there were opportunities to gain competitive advantage by making changes to factors of production, or to the supply chain as a whole. In fact a review of the book industry supply chain has recently taken place. The power brokers within the book industry have traditionally been the publishers, booksellers and printers with large corporate entities driving the agenda within the industry. Declining book sales and/or declining profits prompted big business to commission a report by Accenture Consulting in 2001 to examine competitive positions
and create strategies for the future. The report, *Ad Rem* – The Australian Book Industry: Challenges and Opportunities 2001, substantially government funded, suggested that the book printing and publishing sector had already achieved significant efficiencies under the existing regime of production technologies and there was room for supply chain efficiencies in the ‘land of the giants’ (using the report’s analogy) that could maintain their dominance of the market.

The *Ad Rem* Report is a review of how the main players in the book supply-chain might maintain their dominance of it and restore profits. It also identified the tertiary education and training sector as representing approximately one third of the market in the book industry (p.3). However the report suggested the industry (i.e. the *existing supply-chain*) required substantive levels of collaboration between industry players, consolidation of distribution and consolidation of paper sourcing (Burch 2002b). This may or may not be an appropriate strategy for trade book publishing and distribution, but in any event would have little effect on the efficacy of academic book publishing and distribution, which have different volume levels, different target markets and different distribution processes.

It is my opinion that even if the industry adopted in full the most positive of the scenario’s given by the *Ad Rem* report, such strategies would not in themselves protect the existing supply chains control over future supply of academic texts.

The *Accenture Ad Rem* report, supported by big business and compiled primarily from interviews of representative of the book-industry, promoted efficiencies and savings as the key to future growth. Taking another viewpoint, in June 2003 the Australian Booksellers Association produced a report titled *New Pathways for Multi-Channel Publishing: Decisions about the potential saleability of manuscripts have traditionally been determined by publishing houses based on efficient print run sizes. These constraints are now gone. In the report, the Australian Booksellers Association (ABA) defined print-on-demand as “a way of producing an authorised version of a work in a small volume at short notice from a digital file”* (p.iv). Print on demand necessitates that that future participants in the book industry would need to provide customers with services which focus on the digital environment, specifically “content creation, content management (including rights management) and content distribution” (p.16). To my mind this would not be an easy road for present participants of the supply chain with their capital-intensive investment in book-specific printing presses and sophisticated volume-based warehousing, distribution and selling business models. This new pathway is a road that tertiary institutions have embarked upon as they embrace a future tied to competitive advantage and

the need to attract students. Tertiary educators are now able to create content by merging information from a myriad of sources, have the logistics of content management provided by technology solutions and are able to disseminate content in ways not tied to a physical product. There are now choices to suit various needs and markets.

The ABA report suggests that the tertiary sector is one of the “five key market segments ... encompassing the major potential sources of demand for digital book products” (p.2). The assumption appears to mean digital POD books, that is, a fully digital process that is then output in a digitally-printed short-run format on paper.

I question whether the digitally-printed book is but an interim process and whether the significant drivers of change mentioned in this paper will enable the printed version to, in the main, be bypassed by fully online referencing and perhaps delivery which is more cost effective, faster and more manipulative by both academics and students.

The *Accenture Ad Rem* Report was from a traditional supply chain perspective intent on finding ways to maintain dominance of the book industry. The ABA report moved forwards from a traditional perspective considering multi-channelling as a desired focus with the printed book in a digital but POD form. A third report from RMIT University (2004) *New Impressions: scenarios for the future of graphic technology in Australia to the year 2013* (I acknowledge being an RMIT Project Team member of this study) was an extensive future scenario planning process that identified “(o)ver 100 deep influences on the future for the graphic industry” (p.v). These were merged, purged and bundled into two deep embedded uncertainties thought to have the most impact on the future and these were (p.5):

- “Will the culture which graphic technology serves be text based or visually based in the future?”
- “Will future control of print outputs be exercised in a world of authorisation and ‘supply’ push or one of customisation and ‘demand’ pull?”

From the perspective of the hegemony of the printed academic book and the issues raised throughout this, my paper, it seems clear that academic supply of course content and referencing is already moving to a visually based future with print being a secondary rather than a primary output. It is also clear that customisation and ‘demand’ pull are significant drivers.

**Conclusion**

Economic rationality in the tertiary sector is driving new forms of delivery for academics, choices of delivery processes for students and greatly expanded research capabilities. Also delivery of knowledge in the scientific journal sector has also greatly
expanded new forms of delivery. For both sectors these new delivery processes are all online. Academics, students and science are increasingly working, studying and researching in a flexible and effective online environment where the traditional printed book becomes inflexible by comparison.

This raises 2 questions not addressed by this paper. The first is just what are the usage preferences of academics and students and are they aligned with each other and with university strategies. The second is what changes might be needed to university infrastructures to accommodate such a paradigm shift in referencing and delivery processes.

The book industry supply chain has identified strategies for continued dominance by its main players (the Accenture models) and strategies for new forms of delivery based on POD and multichannelling (the Australian Bookellers model). The Accenture model may be an effective one for the mass-market trade book sector (not determined by this paper), but academic book publishing and distribution are not an easy fit into that model. The Bookellers model introduces multichannelling with the printed book as but one part via POD technology and, given other issues raised by this paper, in my opinion this forms an interesting but interim step towards a fully online environment. A third model the RMIT New Impressions future scenarios report identified two deep embedded uncertainties for the graphic technology industry. The information presented in this paper suggests there has already been significant progress toward the resolution of these uncertainties for the printed book in academia.

These conclusions raise substantial questions for the traditional industry print and publishing supply chain of printed academic books, given that traditional business models are volume dependant.

The printed book as the oldest technologically mediated form of communication (Viole, in Nunberg 1996, p.7) had hegemony as the prime delivery mechanism for many centuries. The printed book is now becoming just one of many methods of delivery and its traditional hegemony in the Australian tertiary sector is under challenge.

Bibliography


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