

Expectation and Reality in Digital Publishing: Some Australian Perspectives

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Abstract

This paper presents a brief summary of the findings of a Web-based survey of the views of Australian publishers, on the potential impact of digital technologies, followed by three case studies conducted between January and April 2007. The survey results indicate that the most influential technologies currently in use in publishing are the Internet and the World Wide Web, with little or any interest being shown in for example, semantic technologies. There is however, widespread realization of the importance of providing enhanced customer value through digital content and delivery channels, with consequent implications for changes to value chains and the emergence of new and transitional business models, which however, are likely to complement rather than replace existing business models. The case studies drawn from a set of eight selected to include a range of value propositions and business models suggest that in Australia publishers are optimistic about the prospects of digitisation but are nonetheless cautious in its uptake and application.

Keywords: digital publishing; business model; value chain; case study; Australia

1 Introduction

Traditionally the publishing industry has played a key role in the dissemination of knowledge and for centuries was a forerunner of what today would be described as a *knowledge-based business* [1]. Until the closing decades of the last century, publishing and associated printing activities were based upon old technologies, with clear implications for business processes and relationships among the main stakeholders in what was basically a linear progression from the creator of content to its publication in print form [1, 6, 7].

The advent of digital technology has potentially limitless implications for publishing both in hard copy and electronic formats [2, 6, 7]. Combined with advances in electronic commerce [8] it offers the prospect of new value propositions and business models for those who are able to take advantage of developments in digital technology. Digital publishing incorporates several characteristics including an infrastructure that gives multiple options with digital content available in various formats and viewing modes according to customer requirements and basic editing processing and updating of information on the server, leading to reductions in processing time and the fast, efficient transmission of content, with subsequent economic benefits [5]. This said, even the latest digital tools and applications are at best enabling mechanisms whose adoption must relate to the overall business strategy and purpose [4, 5].

This paper presents the initial findings from an Australian government-funded research project looking at the implications of digital technologies for the publishing industry in Australia, with particular emphasis upon current and emerging stakeholders, competition, and value propositions and business models, current and potential. The findings (which are still to some extent interim in nature) have emerged from a variety of research activities including literature review, focus groups, a national online survey of publishers and the conduct of case studies. The project adheres to the generally accepted view of publishing as a set of content industries comprising sectors for book, journal, newspaper, directory, magazine, music, maps and multi-media publishing [1, 2]. However, its major focus is on book publishing in Australia. This paper concentrates largely on three case studies conducted during the research.

2 Methodology

Following the conduct of an extensive literature review (including analysis of secondary documentation such as Annual Reports) and of three focus groups, the major research methods employed were those of survey and case

study. After several unsuccessful attempts to obtain access to relevant membership listings, the researchers made use of a commercial listing service. They provided a list of 65 publishing companies throughout Australia. In the event this turned out to be an exercise of somewhat limited value in that the great majority of addresses obtained were those of newspaper and magazine publishers (particularly publishers of rural newspapers), most of whom had no interest in participating in the project. However all those responding were in fact book publishers and their responses, limited in number as they were, tended to support the major assumptions underlying the survey. The case study was operated on the basis of a set of protocols designed in order both to facilitate consistency in the handling of responses to key issues raised in the survey and to ensure the presence of a certain amount of rigour in the conduct of the case study exercises.

3 Analysis of Survey Results

On a more positive note, the conduct of a survey had always been regarded as being part of a triangulation process involving the literature review and focus groups and the conduct of case studies. The data analysis resulted in identification of the general extent of progress made towards planning and implementing digital initiatives, and more specifically, those factors that influenced this process and issues with regard to industry trends, stakeholders and competition, propositions and business models. Of the 65 surveys mailed, and subsequently re-mailed to publishers, only 14 were returned completed. Although a response rate of almost 22 percent from a Web-based industry survey would appear to compare well with the reported norm for such exercises of 4% to 6% [3], the researchers make no claims for significance. The findings will be presented in a forthcoming paper and are summarised here as follows:

- 70% of respondents reported increased growth in revenues from existing products/services and nearly 60% from new products/services.
- The main benefits anticipated from digital technologies are in the areas of new niche markets, repackaging and repurposing of existing content, consumer-generated content and the enhancement of value chains.
- The most profound effects expected from digital publishing are in the areas of specialist business/professional/academic publishing, government and web-based publishing.
- The critical success factors for digital business models were identified as technical robustness, consumer acceptance and financial logic.
- Subscription-based and content creation business models were the most highly regarded, frequently in the context of niche markets.
- Key organisational changes anticipated included:
 - ❖ Introduction of digital media divisions.
 - ❖ Introduction of an integrated platform for all editorial operations, print and digital.
 - ❖ Changes in human resource practices to suit a digital environment.
 - ❖ Organisation-wide promotion of cultural change to suit a digital environment.
 - ❖ Introduction of new strategies for the digital market.

4 Background to the Case Study Element

About half of the candidates for case research emerged from the online survey exercise and the rest were obtained later by direct approach. The three cases reported here are drawn from a group of eight that will be completed as part of the research project. These are all exploratory and descriptive in nature, rendering them suitable for the kind of interpretive research undertaken in the project. The case studies gave researchers the opportunity to meet face-to-face with senior members of publishing companies and discuss the results of the survey analysis with them. The case study instrument was designed to enable respondents to take ownership of the process and respond within the boundaries of meta-level questions [8].

Interviewees were asked a combination of open and closed questions and were free to add anything else they thought important. The case studies operated on the basis of a standard set of protocols relating to research design, operating procedures and data analysis techniques [3]. This was to guard against bias and ambiguity and to ensure as far as possible that a logical chain of evidence could be seen to operate from the initial research questions to the ultimate conclusions [9-11]. This, for example, led to the use of *How* and *Why* type questions for exploring operational links over time and *What* type questions for exploring new phenomena such as digital developments. The protocol specified detailed procedures in relation to data collection during the interview process. Every interview was recorded and transcribed, with the transcriptions being read and independently analysed by two of the three-person research team, one of whom had not participated in the particular interview session under analysis. In addition, the teams of two interviewers both kept separate field notes, which again were later subject to mutual and then third party scrutiny. Finally with regard to data analysis, the strategy was designed to link findings and interpretations not to generalisable outcomes but to contexts beyond the immediate, to extrapolation to other situations and environments [11].

5 The Case Studies

In the three cases reported here, the firms are identified only by the use of numerals. They comprise respectively a university press (Company A), an educational publisher (Company B) and an electronic publisher with close connections to a conference operator (Company C). The major focus will be on their business models, which for present purposes are perceived as a description of the roles and relationships among a firm's consumers, customers, allies and suppliers that identifies the major flows of product, information and money and the major benefits to participants [12]

The business models of the three firms were identified following cross comparison of each company across a range of constructs identified as important to successful business models. These are:

- Customer base
- Value proposition
- Value chains
- Core competencies
- Products and services
- Partners
- Use of and Attitudes to Technology
- Risks and opportunities
- Business models

5.1 Customer Base

There is a considerable similarity in the makeup of the customer bases of these three firms, serving as they do a largely academic or educational market. However, one area of difference is that Company A as well as Company B is engaged in the provision of publishing services to conference organizers. Specifically, the customer base of these three companies can be described as follows:

- For Company A, the customer base has remained remarkably stable for the last 16 years, with the main difference being with regard to expansion into overseas markets. Most of their customers are libraries (notably academic, state and corporate) and small publishers, with a minority of direct sales to end users over the Web.
- For Company B, the customer base is comprised of teachers and pupils in the primary and secondary sectors.

- For Company C, the customers are mainly academics either seeking to publish their own papers or access those of others, on either a subscription or a per item basis. There is also a small but growing segment of custom in the library market and substantial revenue from the provision of publishing services to the associated conference business.

5.2 Value Proposition

All three firms offer customers a range of value propositions including:

- Companies A and C offer the benefits of a full electronic publishing service including provision of software, metadata, file conversion, content management and quality.
- Company B, while offering a digital dimension in the form of PDF formats and Website *question and answer* facilities, has as its major value proposition the ability to delivery content in the form of hard copy textbooks.
- Companies A and C offer the benefits of online access to and delivery of aggregated and indexed content based on a common technology platform and sophisticated search technologies.
- Company A offers provision of an additional marketing, sales and promotion channel to its customers.
- Company A provides archival services.

5.3 Value Chains

The value chains of the three firms are all familiar in scope although that for Company B is much the more traditional: author to publisher to printer to distributor/bookseller to reader [1]. While in essence the same, the value chains for companies A and C are much more geared to a digital environment with the major stages entailing:

- Stage 1: Acquiring content from authors or owners (via licensing or payment).
- Stage 2: Obtaining and converting digital files involving PDF and XML formats, creation of metadata and databases, editing and quality assurance.
- Stage 3: Printing (frequently outsourced) with content held in digital repositories.
- Stage 4: Sales, marketing, promotion through representatives, print media and virtual and physical book shops.
- Stage 5: Archiving content

All three companies were confident of maintaining their place in what they expect to be changing value chains in the near future. They were not concerned about possible disintermediation as a result of technology, but all agreed that booksellers have reason to be concerned.

5.4 Core Competencies

All three companies identified as core competencies the provision of high quality content (in either print or digital formats), the ability to organize content including editorial competencies and the ability to negotiate licensing and royalty arrangements, and the provision of networks of business partners and services including production, distribution, marketing and selling. Those competencies emerging as specific to individual companies included:

- Meta data creation, file conversion and content management (Companies A and C).
- Competencies in current and emerging classroom content delivery methods (Company B).
- Competencies in curriculum development and assessment (Company B).

- Technology competencies (Companies A and C).
- Conference management competencies (Company C).

5.5 Products and Services

With respect to the products and services offered, Company B is clearly different from Companies A and C. This is because the main source of revenue for Company B is through the sale of hard copy textbooks, with a modest trade in e-Books in PDF format and the delivery of classroom content via digital whiteboards.

In contrast Company A earns 96% of its revenue from digital products and services including:

- Bibliographic databases which also form the basis of the search infrastructure.
- Online databases giving access to fully indexed full text journal articles by using a single search interface.
- E-Press: a cover-to-cover aggregation of journals, monographs, conference papers, reports, occasional series and other *grey* literature published in Australia and hitherto not widely available online.

Company A has a minor trade in hard copy books (some 4% of output) and offers a full e-publishing service to a growing client list.

Company C also sells consultancy services (both publishing and technological) , as well as hosting conferences, the revenues from which subsidizes publishing activities including:

- Access to digital content in the form of monographs, single papers and electronic journals.
- Access to journal contents via an archive of titles and abstracts.

5.6 Partners

All three firms have common partnership arrangements in the form of links to authors, printers, marketers, distributors and booksellers. Company B has a particular relationship with schools and Company C with its associated conference business. Of the three, Company A has the most diverse range of partners which in addition to those mentioned in the foregoing include the National Library of Australia, the Copyright Agency, a range of government departments, such as the Attorney General's Department, various research centres in fields as diverse as family studies, criminology, agriculture and languages and a range of small publishing operations seeking to go digital. All these partners in a variety of ways add value to the products and services of the case companies.

5.7 Use of and Attitudes to Technology

There were clear differences in the attitudes of the three case firms towards the take-up and development of technology. Both Company A and Company C had from the outset relied upon the use of technology to gain market share and a competitive edge. They had sought to market a technology-intensive value proposition. Company B was much more pragmatic, linking developments in technology infrastructure and applications much more closely to market demand. Although a multinational company with ample financial and other resources, Company B did not maintain an active research and development program as such, preferring to monitor general developments and if necessary respond appropriately.

Companies A and C were easily the most enthusiastic of the six case companies interviewed prior to the writing of this paper. They both strongly endorsed the potential for *many-to-many* forms of communication including contributions from end users and distributed content and cognition. They were particularly interested in the potential of the Semantic Web and Web 2, not least given their respective histories of involvement with and expertise in metadata creation, file conversion and content management. They are heavy users of XML for the management of often relatively small print runs and the transition from source to print and web outputs using open standards and a high degree of automation. To this extent they see themselves as already beginning to

engage with the notion of the semantic web, but realize that there is a long way to go before this comes to fruition.

This commitment to technological development at both Companies A and C is simply a reflection of their continued appreciation of the value of technology to the sustainability of their businesses. Hence while both Companies A and B outsource aspects of meta data creation and file conversion (in the case of Company C to Mumbai) this has been done more for technical and quality reasons than simply to cut costs. For Company C the Mumbai operation is critical to its global data harvesting activities, which in turn are central to the marketing of conferences and the recruitment of authors and journal editors.

Both Companies A and C have invested heavily in proprietary content management and workflow systems. Key files and databases at Company A are based on Terratext Foundation software developed within the company's parent institution and for which Company A has a permanent licence. Company C, following extensive work with almost 20 standards, has developed a core publishing and workflow management system (CG Publisher) which it claims is the first fully online publishing environment in the world. It manages publishing proposals, version control for drafts and editions, and contracts and automatically places completed texts (print and electronic) into an easily managed self-publishing site, as well as into personal sites for each of the authors. Company C believes that it is largely owing to the existence of its core management systems that it has been able to grow its business ten-fold during the last three to five years

Although nowhere as engaged in the development and application of technology as the other two firms, Company B is by no means oblivious to its importance. In addition to a small-scale involvement in the production of e-Books, Company C delivers content under licence to classrooms using its own range of electronic whiteboards. To date the uptake of this technology has been constrained both by a shortage of relevant content and by school budgets.

5.8 Risks and Opportunities

Company A sees very little on the horizon as regards potential risks, and in particular nothing in the way of threats from new entrants or from developments in technology. In terms of good governance they are focusing on keeping costs down, for instance in relation to royalty and licensing fees and looking at opportunities for improving their delivery infrastructure in order to reduce the unit costs of production. There is little sign of any potential problems from for instance channel or supplier conflict. The company is very comfortable with ongoing developments in Open Access publishing, which it regards as being highly domain and content-specific and where the future may lie in the publication of material that is not saleable on a commercial basis. Company A is currently participating in a local repository experiment, for which they are providing input on software and content management. However they see this more as a goodwill gesture than as a commercial venture. So far as technology is concerned, they have been early adopters of digital opportunities and they would see further opportunities in the digital publishing space owing to their strengths in metadata creation and management and in indexing and searching. They are also intending to pursue new markets comprised of library consortia and large libraries in Asia, the United Kingdom and North America, to repackage and reformat existing materials for corporate and enterprise markets, and to develop new products both with regard to aggregated services and content.

Despite its relatively low key presence in digital markets, the future whether in terms of technological or related change holds few fears for Company B. Hence, although much has been made of potential disintermediation in the value chain for publishing consequent upon the empowerment of authors or on competition from new players in the market, Company B is confident that whereas booksellers may be adversely affected, changes in publisher-author relationships are just as likely to be in its favour. There could be a risk of channel conflict were they to move to any substantial form of direct-to-customer sales, or indeed to any wholesale attempt to deliver content through their Website (hence conflicting with the traditional book selling model). On the other hand, threats from the wholesale digitization of texts, say by Google or Microsoft, are seen as more a matter for old material than for new. Their customers on the other hand, want new and dynamic content. Curricula are constantly changing and publishers have possibly unique expertise, not only in updating content but also in scoping and sequencing it in relation to course changes and more generally in the organization of content. Their view is that if the Internet has taught us anything it is that *more is not necessarily* more when it comes to, timely, relevant and high quality content of credible provenance. The major threats posed to educational publishers in Australia for the foreseeable future are not those of digitization, but rather of government policies, not just as regards the funding of education but also in relation to support for the creation of content. In Australia, governments at both state and Federal level, appear to see the future of digital content production as lying

outside the mainstream publishing industry. For example, a national effort to produce such content through a body called *the Learning Federation*, has largely succeeded only in producing sets of learning objects (animated content intended to illustrate the use of say mathematical or scientific concepts for use by teachers) which according to surveys conducted by the Copyright Agency are used by very few schools. Company B is of the opinion that they could profit from the opportunity to develop and supply customized digital content. Indeed, a diversification in content creation, along with realistic funding for school hardware and software, could result in a transformation of the firm's value proposition to the point where additional revenue streams would accrue not just from digital content but also from the provision of hardware and software.

Ironically one potential area of risk for Company C stems from its inherent technological strengths. The fact that their technology is so sophisticated means that it is costly both to implement and to amend for different purposes. Moreover, there is a very high sunk cost in a relatively small pool of technical staff, with the accompanying risk of knowledge loss and damage to the business through the departure of key people. So far as competition is concerned, Company C is extremely comfortable, given that it owns the conference business which underpins the supply of content to its publishing arm. They perceive potential opportunities through the development of semantic technologies and given their existing expertise in connecting and processing digital documents they believe that they have every reason to be positive about the future.

5.9 Business Models

Authors such as Timmers [13] and Weill and Vitale [12] have categorized business models by type, arguing that for any organization, the business model can be constructed from any two or three atomic models drawn from this categorization. An analysis of the business processes of the three case study companies revealed that all of them contained at least two of the following atomic e-business models:

- Direct-To-Customer: This involves a small but growing B2C model operating as pay-per-view with customers paying either by monthly account or by credit card.
- Content provider: providing content (information, digital products and services) via intermediaries.
- Intermediary (Aggregator): bringing together buyers and sellers by concentrating information.
- Shared infrastructure bringing together a range of players (some of them competitors).

The models shown below will employ a schematic developed by Weill and Vitale [12] wherein the following components and relationships will be depicted as follows:

- Participants: Represented as:
 - ❖ Squares (firms of interest).
 - ❖ Left- and –right-facing pentagons (customers and suppliers).
 - ❖ Split squares (partners – organizations whose products or services help to enhance demand for those of the firm of interest).
- Relationships: Where solid lines between participants indicating a primary relationship and dotted lines an electronic relationship between the parties.
- Flows: Where arrows represent the major flows between participants and can either be money (\$), a product or service, digital or physical (0) or information (i).

Business model for Company A

The company sees itself as having a hybrid business model that involves publishing and aggregating largely on a business-to-business basis. It began basically in 1989 as a cost-recovery model, but since 1997 it has operated as a commercially sustainable (but not-for-profit) publisher and aggregator. It contains elements of all the four atomic models listed above. Figure 1 shows an overview of its business model.

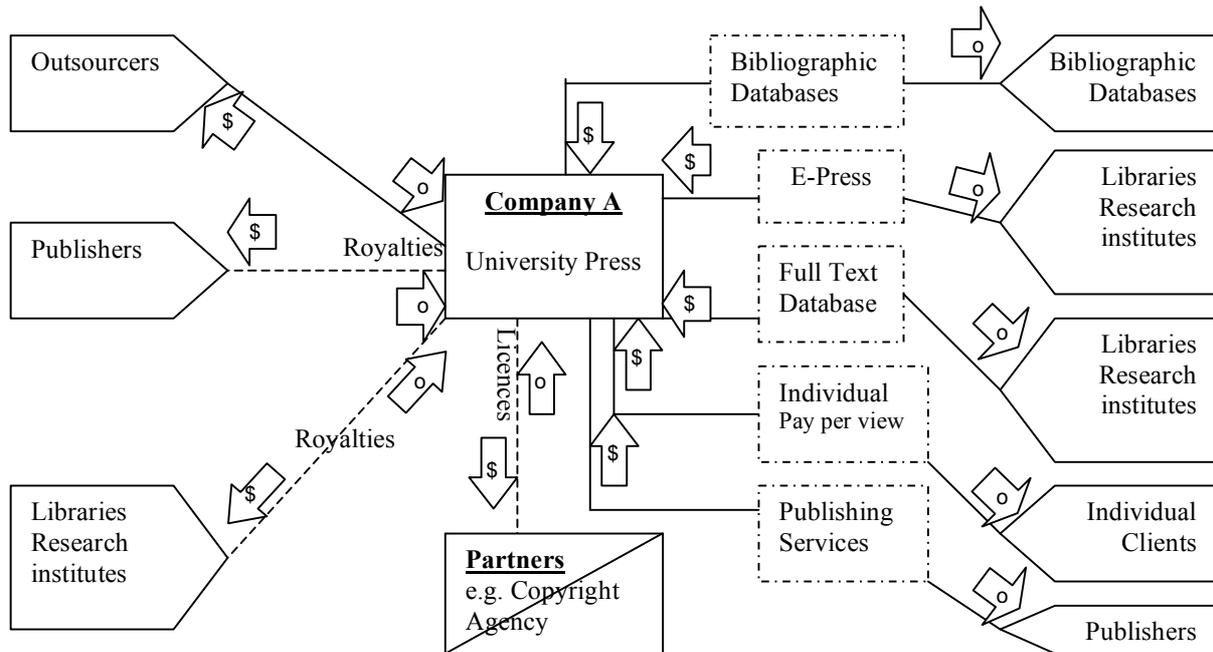


Figure 1: The business model for Company A

Business model for Company B

The business model for Company B is based largely on the traditional market for textbook sales, but again it contains elements of at least three of the atomic models listed above. Figure 2 shows the business model for Company B.

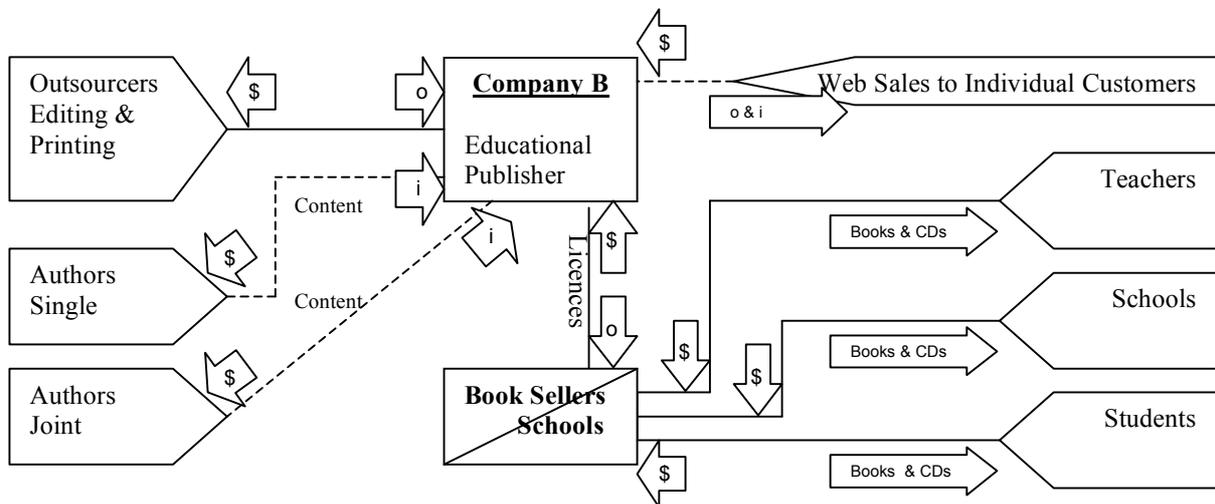


Figure 2: The business model for Company B

Business model for Company C

The business model for Company C is largely that of a full service provider, with elements of direct to customer and content provider models included. Essentially Company C sells publishing services to conference attendees including peer reviewed publication of single papers and sales from an online book store. Figure 3 presents the current business model for Company.

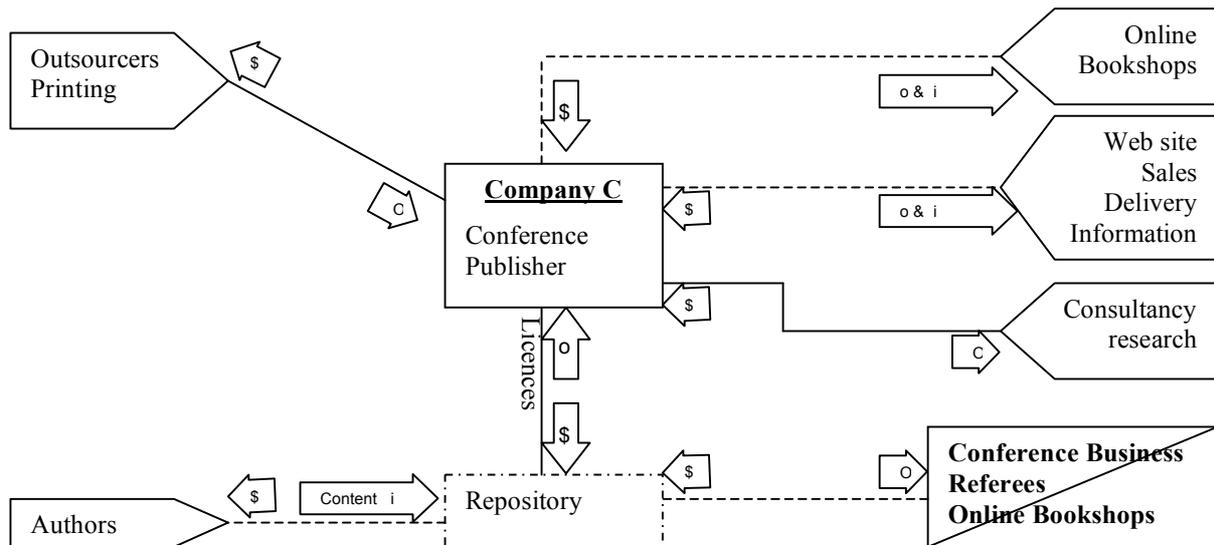


Figure 3: The business model for Company C

6 Conclusions

What has been reported here are findings from three of what will ultimately be eight case studies seeking to identify current and future business models for book publishing in Australia. The case study protocols, the structure of the interviews and the nature of the questions posed were all determined by feedback from focus groups and a national online survey. On the basis of what has been learned from the six cases conducted until now, the researchers perhaps over-estimated the likely impact of technology on the thoughts and deeds of publishers, while underestimating the continued popularity of the printed book. To some extent this is not so apparent in the context of the three cases reported in this paper. Companies A and C are major users of leading edge technologies and see the future very much in terms of the exploitation of technology for business sustainability. Company B a highly successful and profitable multinational publisher of educational texts, remains much more focused on traditional perceptions of value and on channels for its delivery, while maintaining a careful watch on market developments. For Company C this already entails the ability to respond to what for it is a minority demand for digital content, and evidence from the other three cases not covered in this paper suggests that publishers are *hedging their bets* to the extent that many of them have a growing presence in markets for digital products and services. This is certainly the case for example, with the industry partner for our research project (CCH Australia), which while regarding itself as a traditional publisher operating in niche professional markets, nonetheless generates up to one-third of its revenue from digital sources. The overall conclusion, therefore, is that publishers are *making haste slowly* in response to the potential inherent in digital technologies, whose potentially disruptive presence is more than balanced by a range of organizational, commercial and market factors.

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