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The Place of Universities in the Information Value Chain

David Ball

Abstract:

The paper examines the information supply/value chain. In particular it:

- identifies functions and players;
- points the major differences between print and electronic information;
- discusses the economic implications for the information chain of the principle of scarcity;
- identifies challenges for the information profession and universities.

It closes with a proposed new model for academic publishing.

1. INTRODUCTION

This paper examines:

- the information value chain;
- some of the concepts applied to it;
- the challenges for libraries;
- a new model for academic publishing.[1]

2. MAIN CONCEPTS

There are four main concepts that we apply to the value chain:

- **Authority** has to do with reliability, informed opinion, having status or expertise. A news broadcast in BBC Radio's World Service, for instance, carries a great deal of authority.
- **Branding** has to do with consistency and quality. Coca Cola and Pepsi, for instance, are different brands, with different qualities and adherents, but consistent in themselves.
- Each link in the chain also has a greater or lesser degree of **monopoly**; each author, for instance, is a monopolist.
- Finally, with the prevalence of electronic information, we are witnessing a **shift from product to service**. Libraries will no longer concentrate on procuring, storing and handling a physical product. They will procure instead a service: access to information.

3. THE INFORMATION VALUE CHAIN

Taking a fairly simplistic view of the information value chain we can identify five links: creation, publication, aggregation, access and use. I shall discuss each in some detail, pointing up the differences between print and electronic media.

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[1] I must acknowledge the work of Mark Bide which has informed the first part of this paper on the taxonomy of the value chain for electronic information. Much of this analysis of the information value chain follows the categories suggested in Mark his 1998 study for ECUP+: *Business models for distribution, archiving and use of electronic information: towards a value chain perspective*.

3.1 Creation

Creators may be authors or compilers; they may be independent agents or employed by publishers.

Particularly in popular fiction, the creator confers authority. Stephen King as author is a guarantee of a particular type and quality of fiction.

Each creator is also a monopolist; the monopoly is protected by the laws of copyright.

3.2 Publication

Publication is essentially concerned with the selection and editing of information into consumable form.

For librarians, authority is often conferred by the imprint - Oxford University Press for instance. The end-user is more likely to focus on the title or brand - say the *British Medical Journal*.

It is interesting to note that the balance of authority is a factor in determining which link in the chain attracts money. In fiction the authority of the creator (eg Stephen King) attracts large payments. In academic publishing it is the publisher who confers authority (through the peer review process) and hence attracts the money.

The creator's monopoly is generally transferred to the publisher.

Electronic publication embodies some important differences, which are particularly significant for developing new publishing models.

Firstly, it is much easier and cheaper to publish electronically - simply by posting on a website rather than investing in a print-run. Authority may therefore be diluted: it may be very difficult to establish the authenticity and provenance of information.

Unlike printed information, there is essentially no physical production and distribution of electronic information. There is physical realisation only at the moment of use - on a screen and perhaps in hard-copy. This physical realisation is at the end of the information chain, not near its beginning.

The other links in the chain before the user are therefore dealing not in a physical product - books or serials. They are dealing in a service - **access** to the electronic information.

This is an instance of the product-to-service shift and one reason why we are having to develop new purchasing models.

3.3 Aggregation

One may define aggregation as bringing together in a coherent collection disparate information sources. This is core traditional library business.

Indeed libraries confer authority by virtue of selecting and acquiring information: they give some assurance of quality through the application of professional skills.

Libraries have also had a near-monopoly in the aggregation of printed material. Where else can one go for similar collections, except the large bookshop?

With electronic publication however, there is no physical product to acquire or aggregate. The role of aggregator therefore moves elsewhere in the supply chain - to the publisher or intermediary.

There is indeed a trend to 'virtual' aggregation, with products such as CrossRef, where the articles of major serials publishers are linked, while remaining on the individual publisher's server.

Libraries therefore lose their collective near monopoly as aggregators. Our users need set foot nowhere near a library to access electronic information; they simply need a network connection.

3.4 Access

Facilitating and controlling access to information is again a core library activity, needing little discussion here.

It is however worth pointing out that libraries have a near monopoly on providing access, particularly intellectual access, to printed information.

Again libraries confer authority by virtue of applying their professional skills.

Providing access to electronic information is essentially different. The user only needs a network connection, and other aggregators are also providing intellectual access.

An important role for libraries is however to compete on this provision of intellectual organisation of information, to retain some role for ourselves.

3.5 Use

Finally we arrive at the end of the chain, the reason for its existence - the user.

Here, even with printed materials, we are providing a service, not a product. We provide access to the information in our care, not the physical product itself. We preserve the product for our other users

With printed resources it is notoriously difficult to measure usage. We can count issues of particular items, but not so easily reference use.

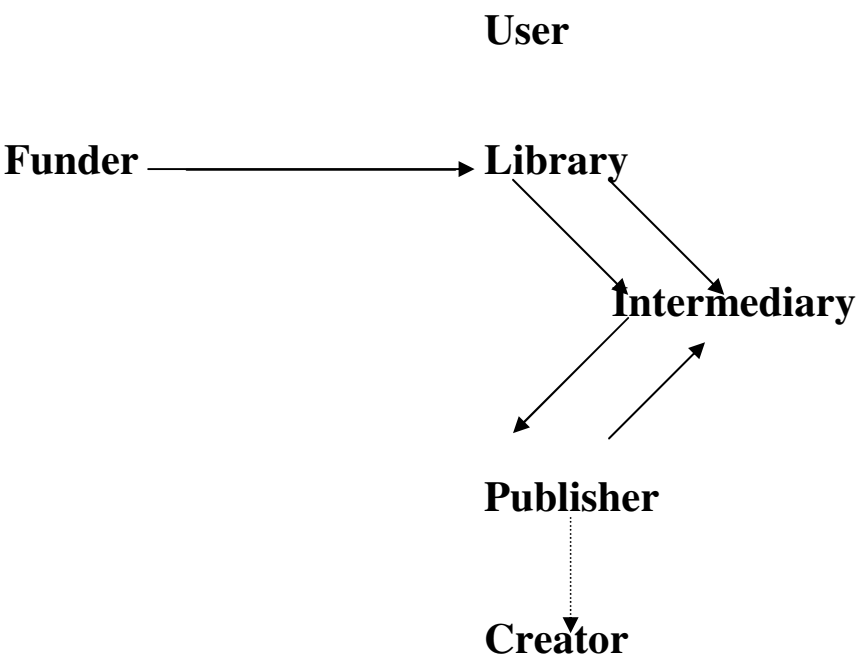
It is even more difficult to measure value for money. What is the value to the user of the information provided, compared to the cost of its provision? We spend large amounts of money on books and serials, but how many of us make this basic equation?

With electronic resources, use brings the first physical realisation of the information. It should also allow a much fuller and more accurate measurement of usage - the number of hits or downloads of particular titles etc.

However we are no closer to measuring **value** to the end user, simply consumption.

3.6 Cash-Flow

This diagram represents the typical flow of money in exchange for information. The arrows represent money changing hands.



Immediately apparent is the glaring discontinuity between user and library. There is seldom any direct cash transaction for the flow of information from library to user. This discontinuity exacerbates the problem of determining whether libraries provide value for money.

There is another discontinuity, between library and publisher: often we deal through intermediaries - booksellers, agents, aggregators. As purchasers this weakens our position: we are unable to negotiate with those who set the price (the publisher); we only have scope to negotiate on the intermediary's commission.

In academic publishing there may also be a discontinuity between creator and publisher: how many academics are paid by publishers for their contributions to academic journals?

4. CHALLENGES FOR LIBRARIES

I list here some of the challenges and opportunities of the electronic world:

- We remain knowledge management experts, but lose our monopolies.
- We are liberated by not having to manage a physical product.
- We have the opportunity to negotiate directly with publishers and to increase value for money.
- We also have the opportunity to develop new models of subscription and publication.

5. A NEW PUBLISHING MODEL

The traditional aim of the academic library is to collect and/or make available to **one's own** scholars the research of **all other** scholars.

Clearly this is an impossible task.

A manageable task is represented by the new aim: to collect the research of **one's own** scholars and make it available to **all**.

In one sense this is a return to the academic presses of the past. Important progress towards this goal has been made by projects such as the Open Archives Initiative (OAI).[2]

To achieve this aim we might develop the following model:

- Each university maintains a secure server to host the research output of its scholars.
- Each document in this distributed database is indexed in a central database.
- Peer review may be undertaken, and articles admitted into virtual journals. Admission to a journal is marked in the metadata of articles on the secure servers, and indexed in the central database.
- The central database also performs e-commerce functions.
- Scholars have access to the central database and to the documents by subscription.

Benefits of the model are:

- Print-based peer-review processes may be preserved;
- HE institutions become publishers again;
- The supply chain telescopes;
- Money circulates in the sector, not outside;
- The model is hospitable to commercial and non-commercial publishing.

[2] See: http://www.openarchives.org/

About David Ball:

David Ball has been Librarian at Bournemouth University for about seven years. As well as academic libraries, he has previously worked in newspapers (*Glasgow Herald* and *Evening Times*) and public libraries. He has particular knowledge of library purchasing consortia, chairing the Libraries Group of the UK Southern Universities Purchasing Consortium. As well as involvement in procurement negotiations, he has led the BLRIC-funded research project on UK library purchasing consortia and chairs the Procurement for Libraries, a body bringing together library and procurement representatives of all the higher education consortia in the UK. He is a member of the UK's Advisory Council on Libraries.