THE INFORMATION VALUE CHAIN:
EMERGING MODELS FOR PROCURING ELECTRONIC PUBLICATIONS

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1.   INTRODUCTION AND ACKNOWLEDGEMENTS

The first part of this paper examines the information supply chain and some of its concepts; particular attention is paid to features differentiating electronic from printed information. The second part discusses the procurement process and, in the light of the analysis made in the first part, evaluates the various emerging models for procuring electronic information.

We are indebted to Mark Bide for his analysis of the information value chain discussed below. We also acknowledge the contributions of colleagues in the Southern Universities Purchasing Consortium to discussions of the models of purchasing electronic information.

The opinions expressed are the authors' and do not necessarily represent the views of their employing institutions.

2.   THE INFORMATION VALUE CHAIN

We can identify the following activities or functions in the information supply chain: creation, publication, aggregation, access and use.[1] To a greater or lesser degree, each of the activities, or links, adds value to the information, until it is used and the value realised. This account is somewhat simplified: we shall not discuss exhaustively the roles of all the players in the chain, but concentrate on the key ones. Some of the main concepts applied during this discussion are: branding, authority, monopoly, and the product-to-service shift.

Each link in the chain confers an element of **branding** or **authority** on the information. Authority has to do with reliability, informed opinion, having status or expertise. One thinks for instance of the BBC: a news broadcast in the World Service carries a great deal of authority. Branding has to do with consistency and quality. Examples might be the BBC's *Evening News* or Channel 4's *Evening News*: these are different brands, with different qualities, consistent in themselves and having different purposes.

Each link in the chain also has a greater or lesser degree of **monopoly**. This is obviously particularly important in procurement. We shall therefore highlight where monopolies and competition lie, how they can be used to advantage, and the problems they cause the purchaser or user.

One major factor differentiating electronic from printed information is the **shift from product to service**. With printed information, much labour and cost are tied up in producing, distributing, storing and handling a physical product: books and serials. With electronic information, libraries

and other intermediaries generally only provide **access** to information held in a remote location, a service not a product. It is worth noting that this shift follows a general trend, as companies and public bodies outsource more and more activities.

2.1 Creation

Creation is a familiar concept, and needs no great discussion. Creators may be authors or compilers. They may be directly employed by publishers, as are journalists and technical writers. Alternatively they may be independent agents.

Particularly in popular fiction, the creator confers authority. One example is Colin Dexter: picking one of his novels from the shelf one knows what one is getting. Similarly, Inspector Morse is not simply a character, but a brand. The creator is also a monopolist: only Colin Dexter produces his novels. This monopoly, protected by copyright, is then generally transferred to a single publisher.

2.2 Publication

Publication is essentially concerned with the selection and editing of information into consumable form. In one sense it is a form of quality control.

Publishers also package information into usable and buyable units (titles, series, journals), market the product, and undertake, or subcontract, physical production and distribution.

For librarians, authority is conferred in part at least by the imprint – Oxford University Press, for instance, or Butterworths. The end-user is more likely to focus on the brand – *British Medical Journal*, *Nature* or *Who's Who*. This holds equally true for academic publications, where the editorial and refereeing process is concentrated at the level of the title, as for general publications.

The publisher's monopoly, often transferred from the creator, is also jealously preserved.

For those involved in procurement the delivery of information in electronic form embodies some important differences from the delivery in printed form.

There is essentially no physical production and distribution of electronic information. There is a physical realisation at the moment of use – as an image on a computer screen or a print-out. But this occurs only at the end of the information chain, not close to the origin, as happens with print. For the rest of the chain we are talking about access to the information, not a physical product containing the information. We, as purchasers, are therefore now buying a service as opposed to a physical product.

We should also note that, with electronic information, authority is potentially diluted. It is easy to publish and disseminate information on the web, far easier than publishing and disseminating in print, which require considerable investment of money and time. It has become correspondingly difficult to establish the authenticity and provenance of information.

2.3 Aggregation

One may define aggregation as: bringing together in a coherent collection disparate information

sources. Clearly this is core territory for the information professional. The traditional activity of acquisition that formed our large historical libraries is now increasingly underpinned by the procurement process and the support and expertise of procurement professionals, who are bringing greater regulation and management into this process and increasing value for money for their institutions.

Libraries confer authority by virtue of selecting material. Users, whether students or members of the public, perceive a certain warranty of fitness for purpose if a book is on their library's shelves. Libraries also have a perhaps unrecognised near monopoly on such aggregations of printed information. There are few alternatives, except a bookshop, where stock, facilities and opportunities for consultation and loan are severely limited or impossible.

It is important to note in this context the accent on the physical product. Much of a traditional library's work deals with acquiring, processing and handling these physical products. Increasingly, as far as the acquisitions process goes, this is subcontracted or outsourced to intermediaries, such as booksellers or serials agents.

With electronic information, there is no physical product to acquire or handle. The role of aggregator therefore moves elsewhere in the supply chain, to the publisher or intermediary such as the serials agent. There is also a trend to 'virtual' aggregation, with services such as CrossRef, where the articles of major serials publishers are linked, while remaining on servers run by the publishers themselves.

Libraries' collective near monopoly, evident for printed information, is therefore lost: users need set foot nowhere near a library to have access to aggregators' sites; they simply need a network connection.

2.4   Access

Facilitating and controlling access to aggregated printed information is again core territory for libraries, needing little explication.

Selective dissemination of information raises awareness. Catalogues, bibliographies and indexes aid discovery and location. User education, particularly in academic libraries, trains users in gaining efficient access to and effectively exploiting information. Library management systems control access to collections.

Libraries here too have a perhaps unrecognised near monopoly on providing access and the tools that support it.

Providing access to electronic information is however fundamentally different.

One prerequisite is a robust IT infrastructure to deliver the information. In the UK this infrastructure is well established in academic libraries and is becoming widespread with current investment in the public library sector.

However, many of our users have their own PCs and Internet connections. Soon set-top boxes

will deliver Internet connectivity through the television screen. Provision and installation of such set-top boxes may follow the pattern established by mobile phone companies, which give away the hardware in order to be able to sell services. Libraries therefore are fast losing the monopoly on access: the majority of our users may soon be able to connect to information resources more easily from their living rooms than from a terminal in a library.

One can also foresee existing providers of online services offering alternative public information services too. The local Tesco supermarket might offer community information, Virgin prices of stocks and shares; Amazon has already been dubbed 'booksinprint.com'. Why should our users move from the comfort of their homes to use our connectivity? Why, even, should they connect to, say, a public library website when a commercial website they use frequently fulfils their perceived information needs?

Libraries' collective near monopoly on providing and facilitating access to information is therefore lost. However, authority is also diluted. How far can one trust the information offered as an add-on by a commercial service-provider? For the time being libraries will retain the authority conferred by their traditional roles as selectors and organisers of information resources.

2.5   Use

Finally we arrive at the end of the chain and its reason for existence, the user, who, of course, particularly in the academic sector may also be the start of the chain.

Hitherto we have stressed that, for traditional printed resources, we have been dealing with a physical product. What we provide to the user is however a service – access to the information – not the physical product itself. Even in the case of photocopies, a little thought should demonstrate that this is so: the product is returned to the shelf.

Here we also have one of the conundrums of the information chain: how, particularly in the print environment, do we measure actual usage of acquired stock? We as librarians routinely collect statistics on loans, footfall etc. But how well do these statistics reflect actual usage? Of five items borrowed only one may be used or needed; the rest may be rejected by the borrower for whatever reason. Also, how can we effectively measure reference usage within the library, and how many libraries regularly and accurately do so?

Furthermore, if we only have a very blunt measure of usage, can we equate apparent usage with value to the end-user? If we cannot, how can we justify our purchasing decisions?

Holding information electronically offers some help here: it opens the possibility of more accurately recording and measuring usage, as expressed in access to and downloads of particular texts or services. It is also possible to envisage systems of payment for such usage, either through actual cash transactions or through users having and exchanging a number of credits. Holding information electronically therefore opens the way to more accurate measures of both usage by, and value to, the end-user.

2.6.   Cash-flow

User

Funder   Library

Intermediary

Publisher

Creator
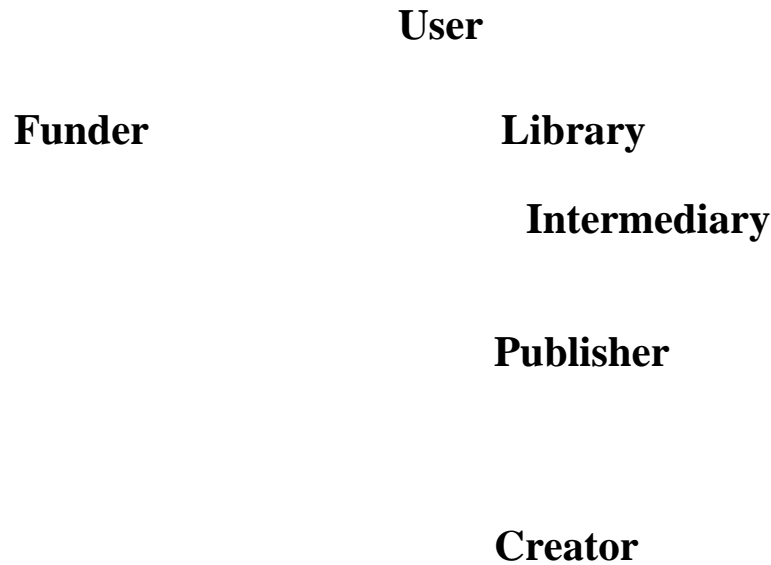
The above diagram illustrates the typical flow of cash in exchange for information; the arrows represent money changing hands.

Immediately remarkable are the discontinuities.

The most glaring is between user and library: there is seldom any direct cash transaction for the flow of information from library to user.[2] Users are almost universally divorced from the direct funders of libraries – universities, local authorities, etc.

This discontinuity, compounded by the difficulty of accurately recording usage, exacerbates the problem of determining whether libraries are actually providing value for money.

There is a further discontinuity – between library and publisher. Most transactions are handled by intermediaries – booksellers or serials agents. Sometimes they charge libraries; generally they take a commission from the publisher. If libraries do not deal directly with publishers, who set the prices, they have two major difficulties: a) they can only achieve discounts on the portion of the price that is the intermediary's commission; b) they cannot measure the value of the service provided by the intermediary against the actual cost, represented by the commission.

Finally, particularly in the academic world, there is the discontinuity between publisher and creator. Academics generally are not paid for the intellectual property in the research articles that they produce. They give their own or their universities' product away to publishers; their libraries then buy it back, and give agents a commission as well.

There is an indication here of the operation of a principle of scarcity. The scarce commodity in popular fiction is the output of the author; hence the advances and royalties paid. The scarce commodity in academic publishing is the authority conferred by the editorial process; hence the money remains with the publisher, and does not pass to the creator.

2.7.   Challenges for the information profession

As electronic information becomes more widespread, we see libraries losing their monopolies, particularly as far as aggregation and access are concerned. They do however retain strengths in these areas: the traditional expertise of selecting, organising, and creating access tools for, information are even more applicable and necessary in the electronic environment with fewer barriers to publication and worldwide access. They also have a role to play both in terms of branding and authority, and in the procurement of information, achieving and demonstrating value for money for the user.

3.   PROCUREMENT MODELS

In this section we examine first the procurement cycle and the operation of traditional print procurement for libraries. We then identify three different types of model for procuring electronic information:

The traditional model, borrowed from experience of procuring print, exemplified by California State University's Journal Access Core Collection (JACC);

The agent model, exemplified by the UK National Electronic Site Licence Initiative (NESLI);

New models, exemplified by the University of Michigan/Elsevier Science experiment Pricing Electronic Access to Knowledge (PEAK) and the UKB agreement, again with Elsevier Science.

We examine each of the models critically. We do not do so in any derogatory or carping sense: all these initiatives are in their own way pioneering; each has made its own particular contribution to shifting the landforms of information provision. Rather we are seeking to highlight the lessons to be learned from practice, which will always be imperfect, in order to strengthen for the future the position of purchasers vis-à-vis suppliers.

We are also writing from the position of external observers of these models. We have not worked within these projects and services; the protagonists may in due course correct any false impressions and conclusions. What we offer, as observers, are expertise in and detailed knowledge of library procurement.

From this standpoint of constructive, informed criticism, we feel that purchasing consortia, that is organisations collaborating by bringing together their purchasing power, can exercise a very powerful effect on the marketplace. We therefore attach most importance to the new consortial models, since they illustrate the opportunity libraries currently have to alter the business models under which they procure information.

3.1   The Procurement Cycle

The procurement cycle, briefly, comprises the following elements:

a) Identifying the need

What precisely is required, and on what basis should it be procured – bought, leased, hired, shared…?

It should be noted that in most procurement for libraries, the users are not consulted directly about their needs. The budget-holders, librarians, act as proxies; as we noted above there is a discontinuity between budget-holder and user. This may, or may not, debase the process.

We have already alluded to the product-to-service shift with electronic information: the need is for *access* to the electronic information, not *physical possession* of it.

b) Preparing the specification

The specification is fundamental: it informs potential suppliers of what is required, how and when. If the specification is wrong there is no chance of adequately satisfying the procurement needs.

c) Finding the supplier

Often the market place is approached through a tender process; in the UK this process is governed by the European Union's procurement directives. The offers and the capability of the supplier to meet the specification are assessed.

One fundamental question, alluded to earlier but seldom discussed, is: who is the supplier? Traditionally in library procurement the intermediaries – booksellers or serials agents – are regarded as the supplier. However they act only as an interface between the publisher and the library. They may provide some added-value services such as book processing and cataloguing (shelf-ready books), journal consolidation, consolidated invoices, claims. Their prime purpose is to make money, and they have a dual source of income – the purchaser and the publisher. So where do their loyalties lie?

Supply chains change. In the paper journal supply chain the intermediary or serials agent is generally perceived as the agent of the purchaser, whereas in the electronic model the intermediary is seen more as the agent of the publisher.

The publishers are the power and the controllers in the supply chain. They decide on what they will publish, the content and format of the publication and the price to the intermediary, and hence the end user. Traditionally they have not been accessible to the library.

d) Awarding the contract

The deal is concluded. The obligations of the supplier and buyer, based on the specification, are written into a contract. The contract will normally be supplemented by service level agreements and performance measures.

e) Measuring and monitoring suppliers' performance

This part of the cycle is often forgotten or disregarded. However, contract management, the process of ensuring that specification, service level agreements and performance measures are met over the period of the contract (which may be five years or more), is essential if purchasers' requirements are to be met.

With electronic information it is relatively easy to measure usage and value for money, both at the level of the individual library or academic department, and at the level of a consortium contract. The impact of this information on buying decisions and the marketplace has yet to be realised.

3.2   The traditional library consortium print contract

We shall illustrate the operation of the traditional consortium contract for printed materials by examining the long-standing, and groundbreaking, Southern Universities Purchasing Consortium's (SUPC) serials contract. Similar principles apply in contracts for other printed materials such as books.

The value of the contract is approximately £11m per annum. It is based on paper journals with some consolidation services. Pricing is based on publisher's list price, with a discount or handling charge and total contract volume-related discounts. The contract has no effect on the publisher's selling price, which represents typically about 94% of the purchase price. The intermediary has about 6% of the purchase price on which to provide a service, make a profit and give something to purchasers like the SUPC.

The SUPC's structure and procedures encourage and require frequent consultation with members' representatives not only at the strategic but also at the operational level. However, only the representative budget holders (i.e. librarians), procurement professionals and the intermediary have been involved in the identification of need, production of the specification, and the award, negotiation and management of the contract.

Professional procurement support acts as the conduit between the libraries' requirements and the intermediary or supplier, providing the commercial focus.

The contract has a detailed specification, which contains performance measures. It is actively managed by a team of librarians and procurement professionals, who hold regular contract management meetings with the intermediaries to review performance, based on library feedback and involvement. Procedures are adapted to improve performance and supplier developments are encouraged

While the contract is extremely tightly and professionally managed, there is little measurement of true value for money delivered, represented for instance by journal usage and exploitation by users. There is a concentration on quality of service to the library, but not to the user. There is no impact on the price of serials, determined by the publishers, who hold the monopoly on the information.

3.3   The traditional model applied to electronic resources - JACC

The California State University (CSU) libraries have operated as a consortium for more than 10 years, focusing on building system-wide access to electronic resources to support the core learning and distance curriculum.[3] CSU runs a common curriculum across all its 21 campuses. There is therefore a natural overlap in journal provision. The JACC project team identified 1279 titles that were taken by at least 15 of the 21 libraries across the system. They then approached the market for the supply in electronic form of precisely these 1279 titles.

Key requirements for JACC included:
  o A customised database of core titles selected by CSU, not tied to print subscriptions, nor to predetermined bundles of electronic journals packaged by publishers or aggregators;
  o JACC e-journal content should be equivalent to print in both content and currency;
  o Open access for all authorised CSU users supported by open systems and compliance with Z39.50 for information access;
  o Future access assured through vendor commitments to perpetual use and archiving solutions;
  o Aggregation of content, content licences and access solutions.

The responses to the tender were revealing, in that no major publisher submitted a proposal. Four candidates progressed to the final evaluation, all intermediaries. The contract was awarded to EBSCO to run for 18 months from June 1999.

There are a number of interesting features of JACC.

It seeks to replicate precisely in electronic form a collection of print journals. It is **customised**, based on a very tightly defined set of requirements. It seeks to evade one common problem: the packaging by publishers or intermediaries of the information made available to libraries; generally this takes the form of bundling, whether of print with electronic formats, or of collections of electronic titles. JACC also takes no account of the availability in electronic form of the titles required.

However, JACC makes no attempt to extend the range of material available to the end-user. Nor, in its current form, does it devolve decision-making to the user – although, if other universities' experience is a guide, the usage statistics available through electronic systems may call into question the selection of titles taken.

The question of funding remains open: the project was pump-primed initially, but that additional funding will be withdrawn. It is not clear to the authors what effect, if any, JACC has had on the price of journal titles; one assumes little effect, since the contract was placed with an intermediary, whose prices are dictated by the publisher.

As in the traditional print model, there has in effect been no attempt to deal directly with the publishers, the monopolists of information. The only competition has been between intermediaries. However, the corollary is that the libraries' position of authority, gained by virtue of selection of the titles, is unaffected.

3.4.   The agent model - NESLI

The UK higher education community's National Electronic Site Licence Initiative (NESLI) is an attempt to encourage the widespread usage of electronic journals as replacements for print.[4] NESLI is part of the Joint Information Systems Committee's (JISC) Distributed National Electronic Resource. It is the successor to the Pilot Site Licence Initiative (PSLI), which was initially set up as an experiment in reducing the cost of print journals to higher education. A by-product however was access to the electronic equivalents of four publishers' entire current journal range, and hence greater awareness and use of electronic equivalents.

After an EU tender process in 1997 a contract for the NESLI Managing Agent (MA) was awarded jointly to Swets

UK Ltd. and Manchester Computing, based at Manchester University.

There are four principal requirements of the MA:
- o To represent the UK higher education institutions in negotiations with scholarly publishers for better value electronic journal access deals;
- o Handling of orders and payment for titles included in NESLI deals;
- o Provision of a single interface for access to the titles included in NESLI deals;
- o Research into the use of new technologies such as Digital Object Identifiers.

One very welcome outcome of NESLI has been a standard licence applicable across the sector, although there is always the desire on the part of publishers to insert their own pet conditions.

NESLI was at the start funded by some JISC pump-priming, but it is expected that the Managing Agent should become self-funding. The MA will therefore rely, as any serials agent does, on discount from publishers for its income.

This reliance of course raises the question of whose agent the MA actually is - the publisher's or the library's – and exposes an inherent conflict of interest. What is the incentive for the MA to negotiate the best deals for the HE community when this could reduce its income? What effect does this reliance have on the MA's 'walk-away' point in negotiations? Surely, since the MA is actually a commercial company, there must be a readiness to accept deals offered by publishers, because any take-up by libraries will increase the MA's income.

The arrangement seems to run counter to a principle that holds good for any activity, such as buying a house or taking investment advice - he who pays the piper calls the tune.

Publishers are monopolists; negotiation with them is therefore a very difficult procurement and needs the skills of procurement professionals. These are completely absent from NESLI as currently structured. One fears that the deals concluded are very much on the publishers' terms – no-cancellation clauses, for instance, lead to increased market share for publishers with NESLI deals if serials budgets continue to lag behind serials price inflation.

Another disturbing feature of NESLI as originally constituted, although subsequently somewhat moderated, was the creation of a monopoly on NESLI deals for one of the (then) big four serials agents, Swets. University libraries whose regional purchasing consortium had an agreement for the supply of journals with a different agent, found themselves compelled to spend an increasing part of their serials budget with Swets if they wanted to make use of the NESLI deals. This brought practical problems for library staff and users (who had to cope with yet another interface to electronic information); it also increased libraries' costs across the sector, by depressing the volume-related discounts obtained through the serials contracts of the regional purchasing consortia.

How does NESLI know what the user requires in electronic format? Consultation with the user and library has, in the authors' experience, been very poor and mainly consisted of publication of offers from publishers to determine if there is any interest in those packages. There has been no detailed consultation with librarians or users on their requirements as to content and terms of the deals. This contrasts with the detailed consultations with librarian members routinely undertaken by the regional higher education purchasing consortia.

There seems little commitment to the NESLI offers by the library community. As in other procurement initiatives, a combination of clear specification and commitment has shown to be key in negotiating to get the best deal.

There is clear evidence here of the deleterious effects of not involving the procurement professionals and purchasing structures, already active in the higher education sector, in a potentially major procurement initiative.

An interim evaluation of NESLI has recently been undertaken by Loughborough University.[5] The two main recommendations are:

> *"That the experience of NESLI be built on with a view to:*
> - exploring alternative ways of providing a single negotiating agency;
>   - achieving some flexibility for libraries to obtain deals that meet their specific requirements, and to use the services they choose for subscription handling and service delivery."

These clearly demonstrate that our concerns about the potential conflict of interest for the MA, the monopoly for Swets and the lack of flexibility are widely shared.

The study also provides some interesting evidence of how good procurement practice, as detailed in §3.1 above, was ignored. There was little or no consultation with users to **identify their needs**, in terms of the content required, the timing and terms of agreements. The MA seems to have been given no clear brief, or **specification**, to work to, but was left to approach which publishers they saw fit (Fig.2, p.10; p.13). As a result take-up "has been very variable and in some cases an offer has had no take-up at all" (p.13). Librarians complain about, amongst other things, ignorance of the constraints imposed by the devolved budgeting under which most now operate (p.18).

The poor reception accorded to NESLI by the higher education community might have been avoided had good procurement practice been followed.

13 New Models

14 PEAK

Pricing Electronic Access to Knowledge (PEAK) is a trial in electronic access, pricing and bundling by the University of Michigan and Elsevier Science.[6] It provided access to approximately 1200 Elsevier Science journals for a period of 18 months to 12 campuses.

These institutions first had to buy a participation licence, which allows searching of the database of articles. PEAK then offered three access models:
- o **Traditional subscription** – Institutions and individual users can buy unlimited access to a set of articles that correspond to a print journal title.
- o **Generalised subscription** – Institutional users can buy unlimited access to bundles comprising any 120 articles from the entire database of priced content. Articles are selected after the fact of subscription and may be accessed by all authorised users at the institution. Similar terms are available to individual users for their personal access.
- o **Per article** – Individual users can buy limited access to a specific article for a fixed price.

PEAK is a most interesting model for almost the whole of the information chain: to the publisher it offers some degree of stability of income; to the library and its patrons it offers flexibility of collection and selection; it also offers the possibility of devolving purchasing decisions to the end-user.

As far as the publisher is concerned, the two subscription models replicate, or are at least similar to, current pre-payment practice. Publishers therefore have the prospect of some guarantee of stability of income in what would probably be a transition to a completely different payment structure. Moreover, the purchase from the publisher of individual articles for personal use would potentially divert an income stream from intermediaries, in the form of document delivery services, to the originating publisher

As far as the library is concerned, spending is, as now, limited by budget rather than driven by usage. However, at the same time, there is a great degree of flexibility in the selection of material, which should allow libraries to provide, within budgets, what their users require, rather than what is offered in publishers' bundles. The traditional subscription model is similar in effect to JACC, facilitating the purchase of core 'cover-to-cover' titles. The generalised subscription model breaks the tyranny of the title, allowing libraries to build the eclectic collections their users require. Publishers would retain their position of authority, through the editorial process, but the importance of branding inherent in the serial title would diminish.

The purchasing decisions in the generalised subscription (and per article) models can be devolved as the institution wishes: to the subject librarian, to faculty representatives, to individual members of academic staff or even the student body. This devolution helps to overcome the chief discontinuity of the cash-flow diagram above: individual users are much closer to controlling the spending of budgets in accord with their needs. This should result in better value for money from library spending.

The PEAK experiment telescopes the information chain, cutting much of the mediation between end-user and publisher. We applaud it as a general principle, even though it does call into question the future of intermediaries – whether libraries, subscription agents or document delivery services. If the model were to become general, however, with several publishers participating, there would be a major requirement for systems to manage the search and retrieval function and the payment (presumably by e-commerce) function; this might fall naturally to the subscription agents. While libraries lose some of their power of branding and authority, since they may no longer be the sole aggregators in the institution, there would, we believe, remain a major procurement role for them in defining requirements and systems, and in procuring the greatest value for money for their users.

A generally applied PEAK model, with the major publishers participating, might also have interesting implications for the position of publishers as monopolists. With purchasing decisions made at the level of the individual article, there may be more intense competition between publishers on content, price and terms of use. On the other hand, with document delivery providers increasingly cut out of the chain, the monopoly position of publishers as suppliers of information would be enhanced.

3.5.2 UKB and Elsevier Science

In June 2000 the UKB (a consortium of Dutch university libraries, the Koninklijke Bibliotheek and the library of the Koninklijke Nederlandse Academie van Wetenschappen), signed a five-year agreement with Elsevier Science.[7]

The purpose of the agreement is twofold:
- o To provide the members of UKB with electronic access to the full-text of all Elsevier Science journals;
- o For UKB and Elsevier Science to work together to experiment with ways of providing scientific information through the use of information and communication technology.

Pricing features of the agreement include:

o The universities will, from 2001, pay annually an increased amount for access to all the journals compared with their base year 2000 subscription package;
o A discount if information is delivered solely electronically;
o Contributions by both UKB and Elsevier Science to a fund for joint projects to improve the availability of scientific information, including the use of future technology.

There are numerous interesting features here (not least the similarity to terms negotiated under NESLI), although it is obviously too early to evaluate the agreement fully.

Firstly, users of the UKB libraries will have enhanced and electronic access to a wide range of publications. The collection is however not defined by the library or user but by the publisher. The value of this range of access will only become evident over a period, as usage statistics are collected.

Secondly, as with PEAK, Elsevier Science is involved in a major initiative. The conviction underlying this laudable repeated involvement in innovative projects is summed up by Derk Haank, CEO of Elsevier Science:

"When I started as CEO in July 1998, there was a situation that was unacceptable to everyone. Scientific journals were publishing more pages and becoming more expensive. Universities were forced to cancel subscriptions and, as a result, the readership of Elsevier's publications was declining. I am very pleased that this pattern has been broken with the growing use of electronic services. Certainly, as a publisher, I want our scientific publications to be widely read and used!"

Thirdly, Elsevier, by means of the annual increases in the base subscription price, have ring-fenced, and may indeed increase, their share of the serials budgets of all Dutch universities and the other UKB members.

Finally, Elsevier's apparently privileged position is enhanced by the research projects, which the UKB will co-fund and be involved in. Depending on the projects and how results are disseminated, there is a danger of Elsevier gaining a further competitive edge in the development of new products or services. There seems therefore to be some hard commercial sense underlying the sentiments of Derk Haank.

Our first point, about user-definition of requirements, may seem carping, given that the publisher is making available its entire journal output. However, subsequent points demonstrate that, from the procurement point of view, one needs to be wary of suppliers *et dona ferentis*. Agreements such as this, and those negotiated by NESLI, which guarantee publishers automatic annual price increases, often coupled with no-cancellation clauses, intensify the monopoly of those publishers party to the agreements to the detriment of other publishers. They also inhibit the future freedom of choice of libraries and users.

4.   THE IDEAL MODEL

From our analysis in the previous sections, we can identify some essential features of the process of bringing into being the ideal model for the procurement of electronic information resources:
o The involvement *ab initio* of procurement professionals with an understanding of the information

marketplace;
o A standard licence;
o Consultation with librarians and users when specifying requirements and monitoring and managing suppliers' performance;
o Specification and selection by users, not by suppliers, of the content to be taken;
o Unbundling – both of print and electronic forms and of electronic titles;
o No automatic annual price increases for services;
o No no-cancellation clauses;
o Competition at different levels: between publishers on content and price of content; between intermediaries on facilitation and price of access;
o Negotiation on price of content with publishers, on price of access/retrieval and e-commerce with intermediaries.

Our own preferred model is similar to PEAK, but extended to incorporate the products of all the major publishers. Smaller publishers' participation might be mediated by representative societies. This model would incorporate many of the essential features above. In particular: it devolves the purchasing decision to the user; it introduces an element of competition between monopolist publishers; negotiation on price is with the publisher; it enables complete flexibility of choice of materials.

There is some telescoping of the information chain, which should make it more efficient. Intermediaries, in the form of agents and libraries, remain involved; however, their roles change and shrink. Agents provide only the technical engines of search and retrieval and of payment. Libraries cease being aggregators; they thus lose some of their power of branding and authority, since material is selected by the end-user rather than the librarian. However they retain the all-important role of specification, negotiation and management of contracts with other intermediaries and with content providers, highlighting the importance of procurement expertise.

Time will tell whether this ideal model is achievable.

ACRONYMS AND ABBREVIATIONS

CSU	California State University
JACC	Journal Access Core Collection
JISC	Joint Information Systems Committee
MA	Managing Agent (of NESLI)
NESLI	National Electronic Site Licence Initiative
PEAK	Pricing Electronic Access to Knowledge
PSLI	Pilot Site Licence Initiative
SUPC	Southern Universities Purchasing Consortium

BIOGRAPHICAL NOTES

Susan Wright is a procurement professional; with over 20 years' purchasing experience. For the past five years she has led the Southern Universities Purchasing Consortium (SUPC), which, with 48 members, is the largest of the UK's seven higher education regional purchasing consortia. She has worked with the SUPC librarians to develop and implement purchasing strategies for print and electronic resources. She also manages a portfolio of contracts worth over £20 million per annum. This combination of extensive procurement experience, knowledge of the library market and training experience, is unique.

David Ball has unrivalled knowledge of library purchasing consortia, chairing the Libraries Group of the SUPC and the Wessex Libraries Purchasing Consortium, the only cross-sectoral consortium in the UK. As well as involvement in procurement negotiations, he has led the BLRIC-funded research project on UK library purchasing consortia and chairs the National Group on Consortium Purchasing in Academic Libraries, a body bringing together library and procurement representatives of all the higher education consortia in the UK. He is also much in demand as a speaker on purchasing, and organises regular exchange of experience seminars for library consortia.

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[1] Much of this analysis of the information value chain follows the categories suggested in Mark Bide's 1998 study for ECUP+: *Business models for distribution, archiving and use of electronic information: towards a value chain perspective*.

[2] Fines are levied not for the information delivered but for transgressions against an institutional code. Charges for photocopies are for the convenience of the user not for the actual information.

[3] For a discussion of JACC see: Leigh Watson Healy, 'New bottles for old wine? California State University initiates an electronic core journals collection', *Educom review* 34(3) (1999), at: http://www.educause.niss.ac.uk/ir/library/html/erm9935.html. Further information can be found on the CSU website at: http://www.csuchico.edu/lacq/jacc.htm.

[4] Details of NESLI and a bibliography of articles may be found on: http://www.nesli.ac.uk/.

[5] *NESLI interim evaluation: a study conducted by Loughborough University March – June 2000* is available on: http://www.jisc.ac.uk/pub00/nesli_evaluation_report.doc

[6] Details of the PEAK experiment may be found on: http://www.lib.umich.edu/libhome/peak/

[7] The press release of 27 June 2000, from which the quotations that follow are taken, announcing the agreement is available on: http://www.uba.uva.nl/en/projects/journals-pricing-ukb/pressrelease-ukb-elsevier.html.
Information on the UKB is available on: http://www.uba.uva.nl/en/projects/journals-pricing-ukb/policy.html.