SITE LICENCES: A NEW ECONOMIC PARADIGM

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In this paper some well-known facts about journal pricing practice are examined within the framework of a formal economic model of supply and demand. Commercial policies are then related to the traditional cost structure of academic publishing. The effect on costs of the transition to electronic formats is highlighted. Site licences are shown to be one way of exploiting new technology to break out of the vicious cycle of rising prices and declining circulations. Finally, I point to some of the other, non-economic, advantages of site licences, while recognising the issues which still need addressing.

Introduction

We all know that the real problems in this industry have less to do with technology than with business practice and law. A lot of the eLib money is going to projects testing the technical feasibility of doing things differently. What the HEFCE licence scheme does is to test the commercial and institutional viability of doing things differently. It is worth remembering that the new software which gets picked up by PC users is seldom the best or most advanced, but usually that which requires the least change to current work habits.

Electronic versions make site licences more valuable and add a new dimension to them, but you can also have a site licence to a hardcopy journal. One of the key advantages of site licences is that they depend on contract law, not copyright law, and I do not think prospective changes in the latter are going to benefit the consumers as much as they might have hoped.

The background on copyright, licensing and pricing

Where are we headed as far as intellectual property rights are concerned? As many of you know, there is a firm belief among many Internet enthusiasts that information should be free. The key question is what governments are likely to do. The European Green Paper published last year seems to be pro-producer, in as far as one can understand from the Eurospeech. The American White Paper is more plain-speaking and important. It was produced by a Federal panel called the Working Group in Intellectual Property Rights. The fact that this is chaired by the Assistant Secretary of Commerce might give us a clue as to its leanings. The thrust of the recommendations are decidedly pro-business:

"Unless the framework for legitimate commerce is preserved and adequate protection for copyright work is ensured, the vast communication network will not reach its full potential as a true, global market-place."

In brief, it comes down squarely on the side of commercial exploitation. It recommends the minimum adjustment possible to existing law. More specifically, its recommendations include:
1. Libraries can make three copies of a digital publication provided they only use one at a time.

2. The sole right to transmit digital work rests with the copyright holder.

One of the most interesting suggestions coming from the White Paper is that copying devices designed to break the law - to allow unauthorised copying - might themselves be made illegal.

Why this unequivocal support for commercial exploitation? Cynics might say it is because governments are in the pockets of big business. And I do not mean academic publishers. Far more important than mere academic research are the entertainment and software industries. Others might see the marketplace as the only alternative to government sponsorship and control. How realistic is it to expect governments, which are everywhere withdrawing from economic management, to want to oversee the dissemination of academic research? A more straightforward explanation is that where there is commercial activity there are taxes to be paid. Industries in which a country enjoys a comparative advantage, which create jobs and earn foreign currency, are likely to find their governments listening to them sympathetically.

Why have I gone on at such length about intellectual property rights? Because many who are dissatisfied with the current system, with some justice in my view, are not looking for gradual change, but for revolution. By holding themselves aloof from the current system, trying to overthrow it rather than work for change from within, it is my conviction that they are actually helping to sustain a commercial environment which is doing a very poor job of satisfying its customers.

How bad a deal are they getting? Table 1 shows the change over time of the average price of periodicals. This is by now a familiar story.

| Year | Humanities & Social Science | Medicine | Science & Technology | Average Great Britain | Average US & Canada |
|------|-----------------------------|----------|----------------------|----------------------|---------------------|
| 1989 | £51                         | £124     | £214                 | £115                 | £147                |
| 1994 | £88                         | £226     | £403                 | £214                 | £266                |

*Source: British Library Research & Development Department

Table 1: the average price of a periodical

particularly in a modular environment, are increasing all the time. But are these students buying books?

"Since 1985 student numbers have risen by 68%, while, after adjustment for general inflation (RPI), expenditure on academic/professional books has increased by only 24%." (Book Trade Yearbook, 1995, Publishers Association)

No, they are not, and this is putting increased pressure on to libraries and encouraging publishers to invest more in journals and less in books, and to toughen up on photocopying of both. Each turn of the screw seems to make everyone, with the possible exception of publishers, worse off. My contention is that, with this system, even publishers will be worse off in the end.

It cannot be good for a business to see the increase in its revenues coming from an increase in prices ahead of inflation. A lot more is being published, but the average customer has access to a decreasing proportion of that growing pool of knowledge. This is not a very healthy picture for publishers or their customers, or for the industries - teaching and research - which they both ostensibly support. This is particularly aggravating when the prices of other intellectual property, such as software and CD-ROMs, appear to be falling.

Publishers are chasing their tails. With each drop in unit sales they try to recover the gross margin and satisfy the imperative for profit growth with a swingeing rise in prices. Is this a self-fulfilling prophecy? What is cause and what is effect?
The traditional economic model

Figure 1 shows how it looks intuitively.

Figure 1: the vicious cycle of rising prices and decreased usage

Now let us try to describe what is happening in economic terms. Like all stories about economics, this one starts with the supply and demand curves (Figure 2). This figure is straightforward. The main points to keep in mind are that:

1. the vertical axis is money; the horizontal one is volume;
2. the normal pattern is for supply and demand to be inversely related, ie the higher the price, the lower the demand, and vice versa;
3. where supply and demand curves intersect (marked X in Figure 2) is the so-called equilibrium point where a deal should be struck, a market made.

Figure 2: traditional economic model

Of course, all of this assumes that the customer does not have to buy the product, that they have a choice between competing products. As we shall see, this is a critical assumption.

How does traditional journal publishing differ from the 'normal situation'? Figure 3 illustrates inelasticity of demand. Demand is more or less fixed and does not fall with a rise in price. The equilibrium point shifts from X to Y as publishers scrabble to take advantage of this 'sticky' demand by raising prices and thereby revenues. In a perfectly competitive market you might expect demand to decline roughly in proportion to the price rises, thereby leaving the publisher with the same revenues. Here the publisher can raise revenues just by raising prices - at the customer's expense, of course. Other publishers are forced to follow, if not willingly, then in order to avoid losing revenue share to the price leader.

We will look next at the publishers' costs (Figure 4). In traditional publishing we know that there are the fixed costs - what you spend to make the first or 'camera' copy - and variable costs - what you spend to physically manufacture and distribute each individual unit. With longer print-runs the average manufacturing cost declines as does the proportion of fixed cost in each unit. As volumes decline, the proportion of fixed costs in costs increases; publishers lose economies of scale.

A possible new economic model

Figure 5 shows how an electronic version changes this cost structure. Electronic journals are different because:
1. origination costs may well be higher;
2. the cost of replicating and distributing each copy of the master is much less.

If journals were a standard commodity, with any one as good as any other from the consumer's point of view, and the market were competitive and information about relative prices and quality freely available, then we could expect the selling price eventually to end up somewhere close to the marginal cost of production. In the case of the electronic format, this should be well below the traditional price.

There are two problems with this theory of course. First, the market for academic journals is not competitive but monopolistic. It is in the consumer's interest to encourage as much competition and 'substitution' as possible in order to keep prices down.

Second, if a customer wants both hardcopy and electronic versions, the two together are going to cost slightly more than either separately. In a world of inequality, where some countries and institutions may not be able to make use of electronic versions for some time, the publisher will be required to make both versions available. During this interim period, publishers and their customers are unlikely to reap the full economic benefits of the digital revolution.

What is important here, however, is that, in both the electronic and the traditional hardcopy worlds, the marginal cost of supplying each additional customer falls dramatically. In a fully electronic environment, the marginal cost of satisfying each additional customer declines much more rapidly. It is in everyone's interest - users and their agents, governments and publishers - to move to a fully electronic environment as quickly as possible.

For the purposes of the model presented here, however, there are two important conclusions.

1. To the extent that there are additional unsatisfied potential customers out there, their demands can be met even if these customers are very price-conscious. The trick for a publisher is to distinguish those customers for whom purchase is essential from those for whom it is optional.
2. Another way to look at it is that, once the master has been created, once the camera-copy has been prepared, it costs virtually the
same to satisfy 3,000 electronic customers as it does 300. So, in theory, publishers should be no worse off than at present if they gave electronic versions of all their titles to all their customers. The consumers, of course, would be incomparably better off!

Although much of this argument holds true for the traditional hardcopy journal, the possibility of reducing reproduction and distribution costs to almost nothing reinforces the logic of moving the equilibrium point to the right, from X to Y to Z in Figure 6, in favour of lower prices and higher volumes.

Figure 6: pricing in the electronic world

Of course this model does not represent the entire cost of moving to electronic formats as far as libraries are concerned. There are additional costs related to hardware, software, training and archiving. I would argue that there will be commensurate savings with respect to binding, storage and cataloguing of hardcopy versions. What is now needed, it seems to me, is some case studies of both the publishers' and the libraries' costs to test out these hypotheses.

Where do site licences fit in? Site licences operate by pushing down the average unit price of information to the consumer and increasing usage. As such they present, in my view, our best way out of the current deadlock, a way of getting the average cost of 'use' down, and giving the customer much better value for money. But they have lots of other things going for them as well.

1. Empowerment. Fair use and copyright are fuzzy and subject to national and international law. In contrast, it only takes two 'consenting adults' to make a contract. Psychologically it can be liberating not to think you have to pay every time you use something.

2. One transaction. The purchase price and/or subscription fee eliminates transaction/monitoring costs.

3. Apparent fairness. Electronic site licences can be geared to the technological infrastructure and the size of the customer's universe. If copyright is 'one size fits all', then contracts are 'tailor-made'. This should help the 'little guy'. At present a journal or book costs the same to a university with 200,000 students, 10,000 PCs and 20 sites as to a further education institution a tenth that size. There is nothing to stop small institutions banding together to get better terms and increase their holdings where none might have subscribed before.

4. Reproducible models. Publishers are used to managing with lots of different contracts already; they are called authors' agreements. Some worry that the cost of negotiating each sale will be too high. Models will emerge, I think, to make this easy.

5. Precedents. Models for rights and pricing already exist in the software industry and we can draw on these.

6. Predictability. The budgetary infrastructure to deal with site licences already exists within institutions. People do not have to worry about overspending as they would in a pay-per-view system. This is the way most institutions are set up already; it does not require massive re-engineering.

7. Renewable. Similarly, if publishers can rely on a continuing income stream they will provide better support and ongoing development.

So a site licence is a clever way of buying in bulk and getting round the worst limitations of copyright. This is not to say that there are not...
problems and pitfalls. Getting the packaging and pricing right is more difficult than my model suggests. This is always the case in launching a new product; we can only learn through experience. Customers often cannot tell a producer exactly what they want until they see a prototype. Pricing and packaging will improve over time.

There is concern that decision-making will become more centralised. In my view collective bargaining is already emerging and will give the consumer greater power in the relationship with producers.

There is genuine concern that societies will lose their members if the journals they publish are available electronically on a campus network. Societies will have to think hard about the individual's needs and concerns and offer new services to keep them on board.

Of course, there is also a real worry that publishers will take advantage of the new system and get librarians to pay by the bushel-load. A site licence price unrelated to usage and based only on the number of titles or articles will simply encourage publishers to push out more titles and accept more articles, fuelling the information explosion and doing nothing to ease the financial strain on libraries.

Despite these pitfalls, I think the move to site licences is inevitable because we are making little headway on the copyright side. When they are talking about something as global as copyright law, publishers are going to take the most conservative position. If they are making a deal with a specific individual or organisation for a fixed time period, they may take a more relaxed view of 'fair use', knowing it is not opening up the floodgates worldwide. There is a second reason for thinking site licences are the way of the future, which is that the customers I have talked to think that, given that information is not going to become a free good tomorrow, site licences are the lesser of three evils, with the current system and pay-per-view being the alternatives.

Most importantly, I think that, once a few publishers have taken the plunge and are succeeding in making their material much more widely available thanks to site licences, other publishers will be forced to follow suit or risk losing the best articles to others. They will not stand by and watch other publishers employ site licences as a tool for gaining competitive advantage.

From this dynamic I see a virtuous cycle (Figure 7) replacing the vicious one.

*Figure 7: the virtuous cycle of falling costs and greater access*

The publishers using site licences will be pricing more keenly and allowing much freer use and distribution of their titles, thereby gaining more readers. This in turn will lead to more citations and a higher profile, which in its turn should lead to more and better submissions, and then to more readers. This is the virtuous cycle I would like to see emerging. What publisher or society can stand by and watch a competitor steal a march in this way? If the HEFCE experiment can demonstrate that users are making more use of materials available on a site licence basis - and the assessment exercise needs to focus on this aspect - then publishers and librarians will be motivated to create this new virtuous cycle.

**Conclusion**

Radical change - 'revolutions' - occur not just because things are bad, but because people have an expectation that things should be better. Unfortunately, revolutions do not always bring about the results desired by their instigators. The expectations of librarians are not unreasonable, but there is a peaceful way out of our current predicament if producers, consumers, publishers and librarians will only seize it.

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