

Information industry developments: the more things change, the more they stay the same

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Every major technology leap in the information industry has been accompanied by the expectation that it would profoundly alter the fundamental processes of research creation and consumption. A pattern can be detected in such shifts indicating that while the participants in the process may be forced to change their behaviour, the end result may not be all that different. The evolutionary process of the information industry involves development through three distinct phases. We are still some way off the third and final phase of the current evolution, and as we approach it many industry participants will be forced to re-think their roles if they are to continue to add value.



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Imagine the scene. Gutenberg's product development office. July 1454. Gutenberg has assembled a focus group of key library buyers to present an astounding new technology breakthrough.

Gutenberg: *"Gentlemen [female librarians were rare in the 15th Century] – I am about to unveil a new process for distributing manuscripts to your patrons which will*

allow you to reduce your library and subscription budget to a fraction of its former cost

increase the amount and timeliness of the content you provide to your patrons by a factor of several times

bring learning and scholarship within the reach of the many at last.

Plus two more added benefits:

no more smudging of ink from sweaty-fingered patrons

your entire quills budget will be freed up.

With a flourish Johannes Gutenberg unveils his printed Bible to gasps of astonishment all round.

As an afterthought, Gutenberg, being the techie that he is, can't resist talking about his next planned innovation:

"And next, gentleman, I plan to tackle the peer review process. The manuscripts submitted to this Bible

were accepted for publication between 1,400 and 5,000 years ago. I believe we can reduce this publication time, using new technologies, to less than six months".

This wild claim was immediately dismissed as being utterly impossible and publishers' production departments have spent the last five centuries chasing this ideal without identifying that the real problem lies not with technology but with authors and editors.

We were lucky enough to interview the focus group participants after Gutenberg's presentation and capture some of their immediate reactions:

"Wow – this is going to save me a fortune."

"Great – now my patrons will be able to find what they want, up to the minute, direct to their lectern."

"More bang for my sovereign and less administration costs – sounds too good to be true!"

And like most things that sound too good to be true, it was.

We went back for follow-up interviews with the same librarians five years later and found a rather different reaction:

"This new 'printing' thing is a real headache. We now have so many books readers can't find a thing any more."

"Cost savings? – I haven't seen them. All the money I saved sacking my scribes has been spent on extra

people to catalogue the vast amount of new information that nobody was asking for anyway.”

“Printing – a disaster. I ran out of shelf space after three months and have had to build an entire new wing on my library. So much for easier and cheaper.”

Eventually, of course, things returned to a steady state and readers were once again able to access the content they wanted easily and cheaply.

Fast forward the clock a mere 550 years and you will find some remarkable parallels.

The online revolution promised and will deliver benefits to all participants as great as, or perhaps even greater than, the introduction of the printing press. But the current revolution, like earlier ones, has to evolve through several stages:

1. Information adrenalin

This is the phase we lived through in the heady days of the mid to late 1990s. Early adopters evangelised and invested indiscriminately. Current industry participants joined in by spending large amounts of money wantonly out of fear of being left behind. A new vocabulary was spawned, and those not privy to the language of the ‘new paradigm’ were made to feel somehow inadequate. Throughout the calm world of library land and the hallowed halls of publishers, jargon and fog ruled.

2. Content chaos

This is where most participants in the information business, and in particular the scholarly information chain, find themselves today. Large numbers of ordinary end users (formerly known as readers) try to work out how to use the services the early adopters have created. Customers ponder why their suppliers produced things they hadn’t asked for and didn’t use. Things which seemed quite simple before now seem very difficult. And while in principle we’re all sure it’s a great idea, it is difficult to analyse the benefits clearly.

3. Nerd-free Nirvana

With only mild apologies to my colleagues in our software engineering and development groups, I have categorised this state as the one to which we still hope we are headed. (We must be getting there

as I’m told by my teenage children it’s now cool to be a nerd.)

In most technology-driven revolutions, at the beginning you have to know quite a bit about the technology. Take the motor car. In the early stages you needed to know a fair amount about engines to ensure you had a reasonable chance of arriving at your destination. Today, I suspect many people know only where to put the key and the petrol, and would have trouble locating even where the engine oil goes.

We will know we have arrived in Nerd-free Nirvana when the technology gets so clever you don’t notice it’s there; when librarians can easily review and select what they want to purchase; when readers easily get what they are looking for without thinking too much about where it is, or how much it costs.

Unfortunately, since today the online revolution is still in the grips of ‘content chaos’, the way ahead seems dark and difficult. Numerous industry initiatives from publishers, entrepreneurs, library vendors and authors have been launched, grown and sometimes failed. And on the way the previous activities of readers – asking librarians to help them get what they wanted – have become confused. Some modern-day real life examples:

‘31% of undergraduates used internet search engines as their primary research tool. Half of them found they failed to deliver what they needed.’

Source: OCLC – Library hotline August 2002, Charleston Adviser Oct 2002

‘While readers see the library as the principal source of articles in print, only one-fifth give the library credit for being the source of electronic material.’

Source: John Cox, Ingenta Institute Report Sept 2001

Getting to Nerd-free Nirvana is what absorbs the energies of large numbers of clever people. And they will succeed. Current initiatives like the rise of blogging and RSS feeds point the way to a future where what you want just gets to your desktop without much effort.

The result in the world of scholarly information:

Consolidation and de-duplication of resources

At present information users still have to access different services to get a complete picture of the information in their field. Whilst librarians are

being offered tools to help with this integration, there are still huge barriers to achieving seamless access to the whole of a library's electronic resources.

Furthermore, librarians are buying resources of varying types (such as online journals and aggregated databases) which often include the same content a number of times. They do not have the tools to identify this accurately enough.

Increasing connectedness of content

While significant progress has been made towards connecting content to other relevant content, there is a very long way to go before the researcher can jump intuitively from an item of interest to all the other kinds of relevant resources he or she may find interesting, and to have this process assisted by computational power rather than a hand-crafted link.

More sophisticated and transparent access control

The marketplace in which we operate has a plethora of different business rules for the accessing of content. From the simple site licence to the consortium deal, from timed access to limited simultaneous users, from carnets to pay-per-view. Even in an open access world, the uploading of content is constrained to small groups of people who belong to recognised classes with suitable authorisation.

And the users themselves are multi-dimensional. Professor Higgins may be installed in a hotel in Tokyo, wanting to access all the resources of his University campus, as well as the periodicals available at the corporation in which he is a part-time researcher, plus the society journal to which he has a personal subscription.

In a world this complex, it is not surprising that one of the main causes of frustration to users of online resources is the fact that they are inexplicably denied access to things they think they should get, or can't follow a simple link without being challenged to enter yet another instantly forgettable user name and password.

Simplification and reduction of the number of access points for content

'It's all there, but where do I start?' The library OPAC is probably not the most ideal entry point for a search for online resources, nor even the library website. The more content is out there, and

the more places it is in, the harder it is to find what is high quality and relevant.

Development of new and simpler content licensing processes

In their anxiety to climb on the online bandwagon, publishers have invented almost as many licensing regimes as there are customers. This has introduced a huge overhead into the system in managing the process of licensing, for both publishers and libraries.

If only we could just overcome these little last details, we could get to a world where librarians would be able to focus on the key aspects of their new role in the online world:

- providing the right IT infrastructure
- licensing the content their readers need and paying for it only once
- providing a convenient web access point for that content
- presenting these online resources within the context of the total library resources.

Ingenta has consistently pursued the vision of supporting publishers, libraries and end users in achieving these goals. We are amongst those working on the tools that can enable them to happen. Our objective: empowering the exchange of scholarly and professional content – in ways that make us as invisible as possible.

Because ultimately, the triangular relationship that matters is between the content owner, who wants to provide access to content to maximise his return – be that monetary or in other ways; the librarian who wants to spend her library budget in such a way as to maximise value created for her patrons; and the end users themselves who just want the thing they are looking for – now.

As we move into this final stage of the online revolution many industry participants are being forced to re-think their role in the value chain in the longer term:

If journal publishers can license their content direct to libraries, will they still want to participate in aggregated databases which generally provide them with a lower income?

If metadata is freely available and search tools are getting smarter, will libraries be able to justify spending money on A&I resources?

If the majority of content becomes available under online licences, negotiated directly with the publisher, and which have a higher sales

and support cost than paper subscriptions, will subscription agents be able to continue to make money out of the business of managing a library's purchasing?

And it is forcing content owners to review how they should go about licensing and distributing their content:

If users want to review content on a subject-related basis is there any point in a publisher having its own content delivery website?

If librarians want to buy integrated subject-based resources and lecturers want to create supplementary reading lists for online courses, publishers will need to consider banding together to create multi-publisher packages they can license to libraries and course participants.

Again, these are all activities that Ingenta, as a neutral online intermediary, is assisting in developing.

And the results of all this revolution? Well, if the market continues to evolve the way we at Ingenta expect over the next few years, it would end up with readers having simple and seamless access to one interconnected, well-indexed, easily accessible subject sign-posted store of information.

Sounds familiar?

The marketing copy could have been written by Gutenberg.

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