SERIALS AND ENTERPRISE-WIDE INFORMATION MANAGEMENT

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Paper presented at the UKSG 23rd Annual Conference, Keele, April 2000

In the new or knowledge economy, the importance of innovation and creativity to business is high. The journal article is a true knowledge product – context rich, focused, a route to new networks and probably under-utilised. This article explores the current challenges and new roles for serials librarians in the private sector, as they face both technical opportunities and complexity, as well the challenge of seeking value from the investment in serials and justification for the investment itself.

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Key words: Knowledge economy; new economy; innovation; entrepreneurship; business drivers ; value chain, knowledge management; partnership; negotiation; digital library; process optimisation

Introduction

Businesses are changing dramatically, both the ones that the corporate librarian and information managers inhabit, and those that supply their enterprises with published information. Any discussion of serials management in business organisations must use these changes as its context. The changes provide challenges to those responsible for the provision of published information. They also increase the importance of effective, enterprise-wide information management. This paper explores some of the issues that face the corporate information professional today in providing access to journals.

The new economy

Whether you favour the term 'new economy', knowledge economy or information society, it has been difficult during the past year to ignore the messages from politicians, observers of society, and senior managers in business and industry that economic life is changing rapidly with huge societal implications. The knowledge economy is based on economic values far removed from those of the industrial economy. Value has shifted from tangibles to intangibles; towards increasing value by incorporating knowledge into services and products. The traditional factors of production in the industrial economy – machinery, mass labour, and capital – have ceased to be primary

assets, although the importance of human talent has dramatically soared.

The knowledge economy is based on entrepreneurship and power is moving from an organisation to its employees whose creativity, drive and expertise will create the innovation required by customers. The ability of individuals to acquire new skills and capabilities is key. As is the ability of the organisation to attract and retain those individuals. The new economy is also customer led.

Experience, knowledge and entrepreneurship drive businesses in the Knowledge economy

The shape of organisations

The move towards the knowledge economy is also changing the shape of organisations.

The industrial model is diminishing in importance. Here there were very clear boundaries between an organisation and its competitors and the organisation itself owned and directly managed all aspects of its operation, from research and development through to publication and sales. It is being replaced by models, which more resemble a co-operative network, in which players work together, where it suits their mutual interest, and where it is more important to own the brand than the means of production.

In fact, networks and clusters of companies, large and small, academic and research institutions, are vital to the knowledge economy because they can provide a platform for innovation and entrepreneurship. They can also provide a route to the rapid response required by rapidly changing marketplaces – and a route to rapid penetration of new markets. Partnership can also create additional capability. For instance, the partnerships to link citations to articles that are a growing feature of the published information marketplace, and which are, in fact, partnerships of direct competitors – co-opetition. Europe's strength on telecommunications, for instance, derives from co-opetition, which has created the standards and regulatory platforms required for growth of the sector.

Attracting partners and managing the relationships with partners is becoming a critical capability for organisations. The trend to partnership is very evident amongst the different organisations that make up the published information scene – publishers, agents, database and software suppliers. Sharing content, linking content, leveraging another organisation's delivery channel, exploiting its technology, and so on. It is also very evident in R&D based organisations that are substantial commercial users of serials and related published information sources and services.

And mergers and de-mergers continue apace.

Organisations are changing. Networks and partnerships are the new business models and co-opetition.

The business drivers

Our businesses are changing, driven by:
- Information and knowledge
- The innovation imperative
- Inter-linking and communications technologies
- Globalisation
- Increased customer sophistication and the importance of satisfying the customer
- More demanding shareholders
- Competition
- The need for flexibility, speed and the ability to change

Innovation driven by information and knowledge is a powerful driver, second only to IT. The power of information and communications technology to transform the way businesses work, to drive new products and to support globalisation is a critical competitive force. Winning enterprises exploit IT well.

As customers become richer, better informed, they become more demanding – they want more intelligent products; they expect a regular flow of new products and better delivery models.

Shareholders are not content with a steady company that pays a steady dividend. They want rapid capital growth and positive evidence of a company's capability to continue that growth – and of its ability to change.

Additionally, companies are facing competition in all parts of their value chain.

Challenges to the value chain.

The knowledge economy and these new business drivers combine to make enterprises vulnerable to competition in all stages of their value chains – (all the activities which an organisation performs to design, produce, market, deliver and support its product or service). This includes publishers, agents and database producers – and information and library centres.

Competition is driving the development of new business models, new businesses, new forms of library provision. Companies are focusing increasingly on those parts of the value chain where they can be market leaders – partnering and outsourcing where they cannot – and also partnering to create new business opportunities. Libraries and information centres need to do the same.

Competition is becoming more and more fierce – for our organisations, our suppliers and ourselves

The responses of organisations to these challenges are various but are often drawn from the following themes:

- Focus on core competence
- Own the customer interface – the knowledge economy is customer driven
- Develop products with added value
- Shorten product cycles – swift development, rapid introduction and rapid succession
- Entrepreneurship and the taking of risks
- Exploiting knowledge and information more
- Change, change and change

It is all a tremendous challenge. The business responses are all around us and, as we shall see later on, there are also responses that corporate libraries need to consider, as they face changing internal and external environments.

So what has this to do with serials?

Knowledge and information management

Although one can be very suspicious of the hype surrounding knowledge management, there is no doubt that companies are reaping benefit from:

- Ensuring that they know what they know
- Developing a strong capacity to learn

- Promoting sharing and teamwork
- Fostering innovation and entrepreneurship

A previous speaker has talked about KM and roles for LIS professionals and this is not the point for another discourse on knowledge management approaches. Nevertheless in the knowledge economy, knowledge management is becoming normal management practice in successful organisations, and what I want to do at this point is to reinforce an interpretation of KM.

Knowledge Management is …

- Connecting people with people
- Connecting people with information
- Encouraging sharing and use of information
- Enabling conversion of information into knowledge
- Encouraging innovation and creativity through knowledge
- Adding value for the customer

Knowledge management is the art of making creative, effective and efficient use of all the knowledge and information available to an organisation – for the benefit of clients. In short KM practice aims to create a working environment which supports exploitation of internal and external knowledge.

Companies which are moving positively towards this sort of environment can be characterised, and exhibit a number of values in common. They:

- value information and knowledge;
- value creativity and innovation;
- value awareness of their environment;
- are so aware that they can react by instinct;
- value their employees for their knowledge and skill;
- value creative people and risk takers – and aim to attract and retain them.

Many companies now see knowledge management and knowledge sharing as giving them a competitive edge.

Do they buy serials? Certainly in R&D and technology centred industries they still do! But only as one component of the enterprise-wide information scene. In a corporate setting, librarians and information managers, are focusing on identifying and leveraging enterprise-wide knowledge and information.

Complex information and knowledge

The information and knowledge available to an organisation is increasingly diverse and complex. The range of information and knowledge required in any job is also increasingly diverse and complex. Information and knowledge may be generated, acquired, and stored in many different forms – documents, databases, websites, shared areas, e-mail, intranet, internet, books, news and so on. Serials are just one of the resources that need to be managed.

To make sense of this environment, organisations are developing maps. Maps visualise the organisation's information and knowledge assets in a way that:

- provides a route to learning about the organisation itself and its know-how;
- can be used in an integrated way through selection of appropriate technology platforms and tools, e.g. the portal;
- embraces both its own and external information;
- includes people and communities, as well as data stores.

This is the environment that serials management has to support by optimising access to published information, which will be used to innovate and to take competitive decisions, and will be delivered increasingly through the enterprise portal in a way that enables intelligent use.

The value chain for the serials manager

The value chain for the serials manager is built from very similar components and processes to those seen in the standard business value chain:-

- Establishing market need
- Innovation and research
- Product definition and design
- Development
- Negotiation and procurement
- Marketing and promotion
- Delivery
- Product Support and gathering user experience

This value chain now needs to be re-considered in the context of rapidly changing businesses, where innovation is a priority, and in the context of a rapidly changing external information environment.

Serials have the potential to be a tremendous asset to an organisation. The pressure is on to use the information to be found in serials quickly, and be better than the competition, everywhere that this will give a competitor edge.

Focus for success or review

I have selected five points, which, in a commercial enterprise, I believe are the key foci for success in serials management:

1. Understanding serials potential
2. Designing the infrastructure
3. Partnership and negotiation
    - with the organisation in which you work
    - with the vendors
4. Process optimisation
5. Accountability for use

All these are core aspects of the responsibilities of librarians and information managers: to secure access to business critical content; ensure its quality and usability, and acquire material rapidly and reliably.

Given the plethora of other available routes to serials and articles, other than purchasing them via the library, it is particularly important to re-understand where serials now fit in. Let us look at each of the above themes in turn.

Understanding serials potential

The journal, or more properly, the articles that it contains, is generally accepted to be a core stimulus to innovation and for checking out and challenging ideas. People who are consistently exposed to new ideas create them; experts require access to external expertise. At its best, the journal article is an excellent example of the best type of knowledge transfer, fulfilling many of the following criteria.

The journal article can be described as:

1. a knowledgeable product, i.e. one that embodies knowledge;

2. context rich and possibly under-utilised; containing background to the work being reported, the work itself, and the citations to previous relevant work; a window on the work itself and a route to related work.

3. assessed by experts and valued and trusted

to the degree that one trusts the calibre of the journal and the conscientiousness of its editorial board;

4. representing and establishing ownership of intellectual property;

5. providing a route to best practice and to personal contacts, enabling its reader to grow their expertise.

It is also easy to read, although it requires time and space in which to read, reflect and use.

The journal article is, of course, only one of the stimuli for innovation. Hence the need to use its content together with internal data, colleagues' experience, access to previous decisions, etc. Many articles do not match the description above. At its worst, an article can be poorly written and, therefore, opaque. Also, suffice it to say, that for its benefit to be realised, the delivery as an electronic and/or printed publication must be rapid , otherwise, some of its potential as a stimulus to others is lost and the risk of duplication of already undertaken work is heightened.

Given my experience in an R&D environment many of the business users with whom I have worked do give journals the credence of a major asset. Most technical and scientific R&D staff grow up with journals, whether their education progresses beyond a first degree or not. However, despite their users having a built in recognition of the importance of the journal article as a channel of communication, many serials librarians find attitudes to the role of journals and the preparedness to invest in them ambiguous.

Even in the most stimulating locations, physical libraries in industry and business are rarely highly used, despite the high investment in the facility. Yet they are still evident in companies of all types. Likewise, attempts to monitor their use, the use of journals and the value of this use, are fraught with difficulty. Indeed, one of the joys of the digital library is the "simple" access to usage figures. Correspondingly, one of the appealing aspects of transition to the digital library is the opportunity for librarians and information managers to redevelop, with their enterprises, a clearer sense of purpose around the reasons for acquiring journal articles and better tools for extracting the meaning lodged within them. In large organisations, therefore, we have

to understand what role the serial can now play in our organisation and deliver this appropriately.

Re-design of the infrastructure

I am amazed that still many libraries circulate journals but circulation has the advantage of delivering what you want to read to your desktop, albeit often tardily. Now, we have the opportunity to provide instant access at the desktop – to fit the serial delivery into the user's work processes. E-journals and the digital library will become, therefore, the preferred route for serials delivery within this decade and probably sooner. Already, many libraries in commercial organisations have access to more than half of their current journal selection electronically. Although contractually they still need to take hard copy, the preferred route to browsing is becoming electronic although, for reading the full article, a print copy is sought by many.

Infrastructure design is, therefore, a critical role for the serials librarian. It includes selection of not just content but of architectures and technical platforms, deciding what to bring inside, what to access remotely and how best to do so. In designing the infrastructure, we need to be concerned with much more than just delivery. The features now demanded include:-

* Compatibility with the user's processes. This is a must. Unless use of information can be integrated into business processes, information will not be used.

* Linkages between title, abstract, citation and article.

* Supports for alerting and searching – and in a business environment, support for both personalised and team alerting.

* Support for personalised, vertical and horizontal views – the ability to browse and to drill down. Integrated with other enterprise information including access to intermediary services for content analysis.

* Tools for making sense of the volume.

* An environment conducive to interactive use, e.g. opportunities to share comments, ideas, who's read the same article.

* The infrastructure also has to be practically and commercially viable with the right combination of products and interfaces.

The article is only one component of the published information map. Technology is now enabling it to be used at a number of levels and in the context of its subject material and its references. With e-journals, we have the potential to get close to the ideal innovative environment. Serendipity is often judged to occur at the boundaries – an electronic environment which supports browsing and searching has the potential to stimulate far greater exposure to a breadth of published information than the conventional library.

Easy access is essential and in many enterprises, journals and articles are starting to be integrated with the enterprise knowledge map through the Intranet. This integration will progress further, e.g. searching across both internal and external material as links, such as chemical structure, other unique identifiers and the application of thesauri and metadata allow. Vendors are recognising the importance and starting to develop solutions that support integration; offering taxonomies and portal structures as a route to integrating their published resources with an enterprise's own information.

Tools for making sense of the volume are also being seen as essential. Selecting articles to read is only the first stage. Text mining tools, which can be applied to gain new insights from a mass of literature, are being experimented with by many commercial libraries and information centres.

The overall aim?

- an environment compelling and conducive to use
- the right combination of products and interfaces
- investment which is practically and commercially available

Partnership and negotiation

Dependent on the subject area, there may be a number of potential vendors of serials, articles and other published resources (e.g. biology, medicine) or a few (e.g. chemistry). More and more enterprises are now organising this procurement globally – particularly since the advent of the e-journal. Negotiation is more complex – the stakes in terms of cost effectiveness and cross-enterprise awareness and access to key resources are high.

Effective procurement requires partnership as well as negotiation with the supplier. Key features of this partnership from the purchaser's perspective include the following features:

- respect for a buyer defined product mix;
- recognition that the global deployment is a fact of life;
- open standards to support the development of integrated platforms;
- supporting functionality;
- cost which does not deter use;
- future proofing;
- the desire for a partnership model.

The most critical aspects of these features are:

- the ability to define exactly what your organisation will need and not to be pushed into irrelevant, supplier defined bundling schemes;
- to acquire the content that you need today in a way which will not tie you in for too long a period given the rapidity of business and technology change.

I have already mentioned the varying types of partnership that are being developed between vendors. New models are also required between vendors and their purchasers. Organisations will increasingly seek partnership with imaginative, innovative suppliers, who are sympathetic and supportive of the needs of their enterprise. Preparedness to share risk is another aspect of the vendor/buyer relationship that needs to continue to be strengthened. Partnership models of the knowledge economy apply – the enterprise and its suppliers are partners in solving the enterprise's problems.

Partnership with the enterprise

The partnership model applies in two directions – with the vendor and with the enterprise. Serials purchasers also require new partnership models with their enterprises. The underlying principles on which these can be based are fourfold:

- The business provides the funding.
- Listen to users – do not over defend the serials budget.
- Users are the only group that can reap the benefit of the serials investment for the enterprise.

• Budgeting responsibility is better shared.

Why is it so difficult to increase or even maintain the serials budget? Most of us will have encountered significant pressure on the published information budget, almost every year that we have been responsible for it.

Libraries and librarians do find it difficult to achieve real partnership with the business –in the area of published information infrastructure design and serials budgets. One reason is that many senior managers are not direct users. Their published information reaches them via colleagues and their management teams. Neither are they often in touch with the reading habits and needs of their staff in any real sense.

Joint project teams involving the business can be a tremendous asset, right the way through the process of defining the content, the infrastructure, the potential in good use of serials information. Practically, however, many organisational librarians have found it difficult to secure this level of involvement.

Part of the partnership must involve reaching agreement on the impact of the serials process on the business. In terms of business process, is serials availability:

a) competitive – a process by which the organisation will outperform the competition;
b) transformational – a process which is creating the capability required by the organisation for its future viability;
c) operational – a process where inadequate performance would create organisational disadvantage and where one needs to be as good as, but not better than, the competition?

The serials librarian

Unfortunately the serials librarian is still caught between the proverbial rock and a hard place. Caught between rising costs and dwindling budgets. A shift in perspective may help. The role of the serials manager is not to justify the serials budget but to work in partnership with the organisation to understand the use and the value of the investments made and the directions needed for the business – rather than to fight the business. The digital library offers the opportunity for a new definition of library collection. An electronic library becomes part of the enterprise workspace, immediately

accessible, and, if managed well, increasingly useful.

The role of the serials librarian is becoming more complex as the richness of the landscape of choice increases. Challenges include:

• understanding the new publishing model;
• selecting who to deal with – publisher, database host, aggregator, subscription agent;
• training on how to use e-journals;
• managing copyright, contract awareness and risk.

Process optimisation and accountability for use

• The acquisition of published information is a business process.
• Serials management is one component.
• Where is the value-add?
• What can be beneficially reduced or automated? What is low priority?
• Be prepared to kill sacred cows in favour of a more important cause, e.g. staff intervention in interlibrary loans, centralised book ordering and processing for users

One characteristic of serials management is that it needs lots of detailed stuff – precise processes, regularly checked. However, its key value add is in creating the environment, in which serials can be effectively used, and in selection of content in liaison with the business. This means understanding serials use. At the very least, starting to think about serials from the above perspectives brings their role in supporting the business objectives into the debate.

The serials librarian has always enabled users to obtain and read journal literature quickly and has aimed to provide an environment conducive to use – although in the past it has been one to which the user has had to travel. We now need to fit the use of journals into the users' processes and begin to market their potential actively.

Do we sell the journal? My experience is "no". We tell people that they are there and leave it to them to decide on their personal use pattern. Do we now need to sell the excitement of them, the reason why people must read them?

The journal is a key component of the creative environment of an organisation. Browsing fuels creativity. The web is probably on of the most

important tools for fuelling creativity. Can the exploitation of the serials, that are accessible through it, be left to chance?

If e-journals are a key component of the creative environment of an organisation, they need to be used. The user is responsible for that use. The serials librarian shares a part of that responsibility. Both the physical and the virtual library require promotion and education. Usage and non-usage are essential signals for planning. They should be shared with the enterprise. In fact, to ensure effective deployment of a key asset in a competitive environment, this information must be shared.

An accessible serials environment is a key asset – sell the excitement!

Conclusion – Roles for library and information professionals

In summary the roles of the serials librarian have changed significantly. A serials librarian must now:

- manage the risk that end-users will use unreliable content. Corporate end-users should not need to question source reliability;

- create the vertical integration – journal, abstract data, internal information around particular business topics, and the wider browsing capability;

- pro-actively raise issues with vendors aiming to influence the content and effectiveness of the publishing process;

- where their internal colleagues are authors, collaborate and lobby jointly for improvements;

- partner with the users to share the accountability for ensuring that serials are used effectively;

- promote their effectiveness in the parts of the value chain that they want to own:-
    - architecture and access tools;
    - selecting content;
    - negotiating supply;
    - maintaining and managing quality of supply;
    - stimulating use and training.

There is much to do and much to change. Whilst these are platitudes, we should be reminded of the words of W.Deming, the guru that taught the Japanese the art of quality management, having found that nation more receptive to the principles than his fellow countrymen of the USA.

"Learning is not compulsory, but then neither is survival"
– W. Deming