VIEWPOINT

The role of the library in a wired society – compete or withdraw: a business perspective

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Abstract

Purpose – The paper aims to extend remarks made during a keynote speech at the Australian Library and Information Association annual conference on the Gold Coast on 24 September 2004. The paper discusses the strategic imperatives for the players in the library world and asserts that they must compete or withdraw.

Design/methodology/approach – Key trends towards a more connected society, more connected enterprises and connected objects and places are discussed. Several technology and process innovations are recommended as tactics to compete against the new players in the marketplace such as Google™. These include software and hardware innovations for federated search, OpenURL resolvers, federated identity management, next generation interfaces and third party content integration.

Findings – The author asserts that change in a changing world is possible and desirable. To not change and develop competitive strategies to differentiate library service offerings is to choose a slow decline and is, in reality, a choice to withdraw from the competition.

Originality/value – The paper points out the need for change and development in library services.

Keywords Management strategy, Libraries, Communications technologies, Business planning, Computer software, Australia

Paper type Viewpoint

Introduction

Sixty-five million years ago, the Cretaceous Period ended and with it, the dinosaurs. The Age of Reptiles came to an abrupt close – abrupt at least in the geological sense of time. This cataclysmic extinction is known as The Great Dying.

The term “dinosaur”, which is Latin for “terrible lizard”, was first introduced in 1841 by Sir Richard Owen in an address to the British Association for the Advancement of Science. Since then, over 300 types of dinosaurs, including the notorious Tyrannosaurus Rex have been found all over the world. Yet today, after all these discoveries, after all the time spent looking for the cause of this prehistoric catastrophe, there remains great controversy over just what happened to these fantastic creatures.

However, there is no shortage of theories. From the idea that a large meteorite crashed to Earth creating a giant cloud of dust that blocked out the sun, to the theory that continental drift caused radical changes in temperatures and sea levels, many possible explanations have been proposed. And, what is most interesting about these, and other theories, and the point of this introduction, is that, as wildly different as they may first appear, they all, in fact, agree on one thing – nothing actually killed the dinosaurs.
dinosaurs – the environment changed for one reason or another, and the dinosaurs died out – they could not change in a changing world.

Like the dinosaurs, we too are facing a time of extraordinary change – rapidly changing technologies like the internet, fierce competition from both traditional suppliers and brand new models, and increasing customer expectations. All of which are driving the pace of change in our organizations at a frantic pace and we must keep up or we too will be gone.

There is a great cartoon by Gary Larson, the creator of *The Far Side*, which captures the essence of our strategic advantage over these prehistoric monsters. In it you see a stegosaurus standing at a podium, addressing a number of his distinguished colleagues. The caption neatly summarizes their predicament:

*Ladies & gentlemen, the picture’s pretty bleak … the world’s climates are changing, the mammals are taking over, and we all have a brain about the size of a walnut.*

Theoretically, we are better positioned. However, there are a number of striking similarities between our situation and the one the dinosaurs faced. We must guard against becoming the bureaucratic equivalent of these dim-witted, lumbering beasts. Because the future is not what it used to be. Our business is no longer simply an extension of the past – but a complex mosaic of new opportunities. Looking into the future today is like looking into a kaleidoscope – everything is constantly changing – and changing fast. And although change is always challenging, today the speed of change has become almost overwhelming.

**Company at a crossroads**

Today, Sirsi is in a very strong position for the future, but three years ago, we were at a crossroads as a company. We asked ourselves an important question: “What do we do to continue growing and moving forward as a company?”.

What would it take to move forward? We recognized that it was critical to evolve and adapt. We needed to position ourselves to be responsive, innovative, competitive, flexible and circumspect. Otherwise, atrophy or decline would result.

I believe that Alan Kay, the PC technology pioneer, got it right, when he surmised that “The best way to predict the future is to invent it”.

Setting the course for Sirsi’s future required a clear vision – a well-defined and clearly understood mission that guides everything we do as a company. This vision naturally leads to imperatives that define focused goals for the future; and these imperatives are achieved by taking actions and completing tasks. Sirsi’s vision now guides us in every part of our enterprise … toward accomplishing our strategic goals for today and the future.

**Sirsi’s vision statement**

To be the premier partner in providing advanced solutions that enable our customers to be leaders in expanding knowledge performance within their diverse community of users.

Libraries deal with the same “business” challenges as companies like Sirsi:

- operations;
- organization;
We exist in the same environment and must adapt or react to the same economic, social and technological challenges and changes as they come along.

Combine this with the basic contradiction and ambiguity of leadership in our shared communities. There is a dichotomy of direction: we must simultaneously think strategically and pursue our vision, do new and exciting things while providing access to everyone (while keeping the lights on and toilets working), being open and responsive to new ideas, while working within our budgets and still find time to make sense of the morass of conflicting information washing over us. Indeed we share the need to attract great talent while competing with new and better-funded alternatives, invest in leading technologies while ensuring integration with older, legacy systems, protect children while protecting freedom of access to information, be responsive to users while remaining focused and substantive, and continue to invest in the physical library while providing the latest in electronic access to information. Ah, for the good old days! Compared to the last century, running an organization used to be straightforward, if not easy. But there is more to do now and less time in which to get the job done. It surely feels that way!

To overcome these hurdles, to remain on the forefront and to maintain relevance, libraries must be visionary, innovative, flexible, and responsive.

Change has considerable psychological impact:
- To the fearful – it is threatening because it means things may get worse.
- To the hopeful – it is encouraging because things may get better.
- To the confident – it is inspiring because the challenge exists to make things better.

We are excited about the future! The expanding role of libraries in the twenty-first century will be founded on a vision in which libraries are the first places people go for the information, resources, and services needed for their jobs, educations, and passions. Libraries are the recognized leaders for how content – from any source – is organized and shared in their communities.

Libraries’ roles are evolving and the future goes not to the meek and humble, but to those who focus on:
- Collaboration – what does it mean today for libraries?
- Communities – where are the new partnerships?
- Learning – in a world of continuous learning, whither virtual libraries?
- Knowledge access – how do we move beyond physical access and actually engage the user?
There is a lot to be excited about the challenges ahead. Achieving our objectives will not be easy. We must combine the ingenuity of leading libraries with powerful technologies and expertise to mine the great opportunities for the future. With a proactive vision, we can harness the power of today’s leading technologies and maximize the value of content available today to achieve great success – namely, taking library services to new heights and expanding the role of your library in the community. By embracing change and taking the proactive approach, we can evolve together. There are so many objectives we can achieve working together with a common vision. The future is no longer simply an extension of the past.

**Powerful trends**
Sirsi retains the Gartner Group, highly respected consultants and technology forecasters to advise us, on your behalf, about what technologies and other changes are coming down the pike. They have identified three major macro-trends in the library world that are worth paying attention to. They have also identified major technologies to keep our eyes on – some coming through fast and others with longer term impacts, although just as important.

*Trend no. 1: the connected society*
Over the horizon we can envisage a society that is far more connected than it is today. Emerging now, we see WiFi and wireless, devices such as cell phones, PDAs, and pagers reaching ubiquity. With the emergence of global broadband in the second half of this decade, especially with the North American market catching up, we will see an explosion in smart phones, collaboration devices and software, collaborative gaming and workplace environments that tie people’s identity to their device and so do not require them to seek a destination for solving the information, entertainment and workplace issues. That creates a challenge for us to develop the next generation of identity management and personal profile applications at the individual level and at the institution and community level. We will be challenged ever more by privacy, filtering, information overload, spam, spIM, spIT, spyware and viruses. Our challenge will be to balance the need for access with the requirements of regulations and user preferences not to be drowned in information.

*Trend no. 2: connected objects and places*
As individual objects become “smarter” and more connected, opportunities abound. In the near term, and already being implemented in hospital, retail and library environments, we see a world where objects “know” what and where they are and adapt to the benefit of users and enterprises. On chip wireless (RFID) has the potential to reduce costs and asset security in libraries, while on chip sensors can track traffic flow and advice on staffing needs for service centers. The new low power CPUs, paper thin displays and lower power flat monitors, and the ability to create *ad hoc* or mesh networks will allow for the creation of new environs that adapt to the users. Quiet user spaces can adapt and become classrooms or seminar meeting space. Our buildings will never be the same. Sensing individuals and their identity and needs can transform space to adapt to their individual or group situations. Smarter spaces can make smarter people. As we create these first generation information and learning commons in libraries, we can sense the exciting next steps. Then again, what do we want objects
like desks and rooms to know? About themselves, their owners, their users, safety? If telephones, monitors, television, etc. become disposable and knowledgeable – if the price becomes inconsequential, what is the impact on libraries? What are the unintended consequences of a connected society connected to ourselves and our objects? When something as simple as a smart store sets users expectations about what a building and service operation can do, what best practices will we adopt for our world of information?

Trend no. 3: connected enterprises
Lastly, what will our workplaces be like? Simple transformations like desktop access to the internet or intranets have made major changes but likely are small potatoes in comparison to what is heading our way. Simple innovations ubiquitous real-time infrastructure – being able to take data slices of everything taking pace in your library or enterprise and to make real-time adaptations and decisions; voice/data convergence and voice over internet protocol (VOIP) that brings communication costs into line and frees up resources for sharing and non-text and streaming media information delivery. Business processes become truly boundaryless with fewer barriers and eventual global village applicability. Indeed, this new infrastructure allows for global scale management and competition for services – shifting job roles, places and dramatically changes where knowledge work can be accomplished. The enterprise could move to a global ecosystem and we see evidence of this already starting. Combine that with global technology and information standards and we can an exciting opportunity and threat! Those enterprises and libraries that exploit these opportunities will find the future faster.

Top technologies to watch
Bluetooth, MEMS, real-time data warehouses, Grid, Linux, WLANs, Smartphones, CRM, portals, iSCSI SANs, IP telephony, BAM, instant messaging, SCM, Opteron, nanocomputing, LEP, UWB, Software as Services, Zigbee, Real-Time Infrastructure, mobile applications, Open Source, Open Access, natural language search, micro fuel cells, tablet PCs, MMS, speech recognition, 802.11g, trusted platforms, utility computing, OLED, mesh networks, camera phones, e-in, IT self-service, network security convergence, Smart dust, Semantic Web, RFID Tags, 4G wireless, taxonomies, location aware services, ontologies, unified communications, metadata management, power over ethernet (PoE), and more! Whew!

Some of the above are going to happen in a more long-term timeframe and some are happening now. If I were to make a short-term recommendation, I suggest that you might want to pay attention to:

- instant messaging for the enterprise;
- RFID tags;
- open URL standard/Z39.XX/federated search protocols;
- elearning – and it is not just for schools;
- web services;
- data harvesting protocols and data analytics;
- federated identity management;
context management systems and collaboration tools;
- support for multiple languages and diversity; and
- wireless – in all its forms and integrated devices.

Powerful opportunities

*Top short-term priorities for libraries – enhancing and improving the information and learning experience*

It is all about the user – or so we keep repeating. Let’s think about what technologies really improve the user and learner experience. We now have some pretty good track records on some new technologies that make access simpler and therefore, we hope, better. Access, in this context, is both intellectual and physical. Intellectual access is improved when barriers to learning and adaptation of information by the user are reduced. Physical access is simply getting at the information where you actually are and is improved when barriers are removed that add no value to the access process. Hurdles exist in both the physical and virtual worlds – requiring a PC or specific browser puts a hurdle in place in the virtual environment. Requiring use in a physical library during specific hours is a hurdle of sorts too. Here are five key technologies that improve the user experience in one way or another or both:

**Federated search**

Two of the key attributes of this new millennial generation are that they:

1. are format agnostic – they do not choose format first before seeking appropriate content (Google showed us a thing or two!); and
2. just do not know where to search in the first place.

Libraries and vendors exacerbate the problem by using arcane language and names for the services. Does SIRS say social studies to you? Does ABI/Inform say business? Does CINAHL say nursing? Is Electric Library for electricians?

Less time searching for information and more time using it – that is the goal of federated search technologies for learners. With the capability to search multiple designated resources simultaneously, federated search cuts search time dramatically for information seekers while delivering integrated results, and it still allows for the searching of the specially tuned original search engine.

Users (or librarians) choose the group of resources that they want to search – library catalogs, popular search engines like Google or Teoma, commercial databases like EBSCO or Electric Library (optionally from over 5,000 free and licensed information services). Then the learner sees their search results in one result set – making searching so much easier for users by actually delivering find, providing superior results due to its capability to speak to each source in its native language and delivering results merged into a single display set that enables users to limit searches, sort, de-duplicate, and filter. Libraries can simplify keeping access to resources reliable with continuous updates through subscription-based resource plug-ins and a dashboard tool to monitor performance and adjust access.

A key side benefit of this is that libraries’ special collections and repositories of electronic resources like local history, special collections and genealogical work can be
easily found without having to be directly promoted as a destination resource. It can be made to bring gems in the collection out of the backroom.

Since the future of search is in discovery and finding the most appropriate and best resources, the installation of a federated search tool and tuning it at the board level to the selected and collected resources (free or fee) that support the learners and users objectives as well as being tuned the level of learner, it is a powerful strategic intervention. By having libraries perform this work, it ensures that the full value of the investment is realized.

OpenURL resolvers
Until now, identifying or finding an article citation was only the beginning of the user’s search for more information. However, with OpenURL resolvers implementing the OpenURL standard, it also marks the end of searching. OpenURL resolvers make the citation information come alive by returning the full text of the article, professional reviews, author information – virtually any related information, free or licensed, to which the library has access.

The OpenURL standard is the key. By providing important data identifying the article, such as title, author, volume number, etc., various related sources are found. These data are provided by the source and do not always require the user to be proactive and enter it. Then connections to the different providers are “resolved” by the resolver software so that they can be returned to the user in a single response. This simple solution connects the right resources with the right users – seamlessly.

In addition to time saved, users also benefit from the extra breadth and depth of information they receive. No longer do their search results depend solely on their own search and finding skills. One click on and OpenURL link generated by the resolver can provide an impressive array of resources:

- full-text document databases;
- abstract and index databases;
- citation databases;
- online library catalogs – both local and remote – across the entire board supporting resource sharing;
- content databases with reviews, tables of contents, first chapters, summaries, author biographies, and more;
- interlibrary loan and document delivery services;
- web sites – selected for value, level and pedagogy; and
- electronically accessible resources of all kinds.

OpenURL resolvers are one of the supporting technologies that ensure and encourage discovery of actual resources that support learning – not simply links and citations and pointers. It is better to implement this discovery tool at the community or institutional level rather than to tune the resolver to the various needs of individuals, subject searches and business needs.

Federated identity management
Remove the barricades! Sounds simple and it is not. Our learners are just not getting seamlessly to the content they need. IP authentication, passwords, library barcode
numbers, proxy servers, all put hurdles in the way. We need to get past this. Soon! At the board level all of the issues of permissioning authorized access to the resources that have been carefully acquired for the learner can be accomplished with a view to improving the information experience. It is possible to federate the management of user, employee, learner, teacher and staff identities to ensure that the route from identified need to finding information to knowledge and learning is made as easy and pleasant as possible. How many passwords does one person need? Two is too many in my view. Authentication hurdles add no value to the learning experience. Let’s focus on developing the wherewithal to remove these barriers.

The interface
Sadly, for us, there is no one right answer to the interface issue for learning and discovery. Learners continue to come in a complex mix of intelligences and learning styles. On the positive side, this makes for a rich culture and society but, on the other hand, it makes for a challenge for those of use who want to empower learners in an information environment. We need the full Swiss army knife of options for the tools that help us find and exploit information – visual interfaces, text interfaces, experiential interfaces, and personalized interfaces – the works! In reality, this cannot be done effectively, Renaissance style, by letting 1,000 interfaces bloom. Let’s approach empowering the learner by developing a limited group of interfaces that support learners’ behaviors beyond using just words in search boxes. This kind of initiative needs to be developed collaboratively by cross-functional teams of professionals – experts in libraries, content, systems, curriculum design and more. Sirsi’s Rooms initiative has helped us learn a great deal about effective discovery and delivery of information. Then we need to share successes.

Third party licensed resources
Rich community, poor community – everyone should have access to a basic level of resources – electronic and print. If resources are acquired centrally (by states, consortia or enterprises), then the foundation is well set. These resources need to be integrated into the curriculum and shared across communities, classes, schools, boards and even states. Three strategies are needed here:

1. Acquire appropriate electronic resources for as many as possible as inexpensively as possible and integrate them into teaching, library and learning strategies.
2. Ensure all resources are accessible from home, dorm, library and classroom.
3. Supplement the online public catalog (OPAC) with “Amazonagoogle” type content – book covers, links, reviews, helpful webliographies, etc. Make the OPAC an adventure and learners will explore, discover, experience and learn. Millions of Amazon and Barnes and Noble users, reviewers and buyers cannot be wrong! Then ensure the OPAC is searched by your federated search engine for simpler and greater discovery of your valuable collections.

Why?
The benefits are huge when this is done at all. Furthermore, being done at the enterprise and community level (or even the state or provincial level) delivers tons of
benefits over the uneven but good-hearted efforts of individual schools and libraries. Just a few of the benefits are:

- **Increased use of resources**! You have to believe that if learners and users are using more resources, more often, then their learning is improving. Just like reading more improves reading and comprehension skills, using information literacy skills more often improves lifelong skills too. Indeed, in our experience when federated search technologies are applied over the OPAC, selected quality web sites and licensed resources, the OPAC comes out on top. This is a good thing.

- **Better asset management.** Our schools and libraries have invested millions of dollars over the years in specialized, hand-selected, curriculum-based collections and their management. This is likely one of the most valuable assets owned by the school outside of the physical premises. Increasing use of it is an educational imperative.

- **Equity of access.** Ensuring that all users have access to a wealth of resources ensures that all learners have the best support and not just those communities that are better funded or equipped. This seems so obvious but inequities continue to exist and that is a crying shame.

- **Sharing is improved.** We learned in kindergarten that sharing is one of our cultural values that we are intended to sustain through life. With effort, pricey cataloging can be copied and shared cheaply, professional cataloging can be acquired cost-effectively and used collaboratively and duplicate effort is avoided.

- **Collections can be exchanged.** It is a shame that curriculum units are taught in identical timeframes across a school board. For example, in some schools all Shakespeare units are taught in the same two-month period in all grades from 8 to 12. This taxes the collections for Shakespeare essays beyond reason and rewards the student with independent resources or who gets to their local school or public library first. Sadly, for the rest of the school year they remain largely unused – what we in the business world would call a non-performing asset. If collections were compartmentalized and exchanged in a cycle that allowed all students to share a larger collection then the asset is optimized.

- **It is just more cost-effective.** Buying software, maintenance, hardware, and licensed resources are the board level delivers economies of scale. There is no real value add in the physical assets – it is in the implementation that magic happens. Almost invariably costs per user go way down. Indeed, with professional and better-developed negotiation skills, budget dollars can be stretched further. It is incumbent on everyone to work effectively when financial resources are strained.

- **It is more time and effort efficient.** All of these technologies require a moderate degree of systems and technology talent along with appropriate servers and maintenance. This is much more effectively done in an entities systems department environment in partnership with their suppliers – as long as there is commitment and understanding of the goals and well formed partnerships with talented folks with technology, library, subject and teaching expertise.
If the reason for not adopting these technology strategies that enhance the learner experience is about protecting turf, then we must shine a light on that. If the reason is that we do not have enough financial resources then we must start with just one and build the future on a schedule in order to get the savings and results. If the reasons are inertia, then let's light a fire under the recalcitrants. Not encountering the future is not an option. Success or failure is a choice.

And what else should be done?
Of course these five are not nearly enough but they are a great start at building an enabling infrastructure for great and empowered neighborhoods, workplaces and learning communities. Other necessary initiatives are far softer and more culturally dependent. These relate to enterprise behaviors and not just to the simpler technological issues. User and learner focused support means that we need to break down barriers to success and get beyond some territoriality and organizational politics. Easy to write and say – harder to do. Then again, some visionary libraries are already moving down this path.

Conclusion – a vision revisited
William Gibson noted that the future is here already, it is just not evenly distributed yet. That could not be truer. Some libraries are already creating the next generation blended ecology for learning and libraries. It is time to look at these initiatives and find the best of them. It is time to collect the wonderful pilots and local initiatives at libraries, in courses and at the classroom level, learn from them and promote them to have an impact on more users than those fortunate enough to be near the innovations. Let's commit.

Our challenges are endless. We share a powerful vision for twenty-first century libraries:

- To be the first place children, parents, students, professionals, seniors, and all information seekers go for knowledge.
- To create a powerful brand for libraries as the recognized authority on quality information – no matter where it comes from.

Those of us who care – about great libraries, great user experiences and a positive future – are actively seeking to discover and build this future together. As Alan Kay said, the best way to predict the future is to invent it – and what better people to do that than us?

Epilogue
So there you have it. Libraries, publishers and vendors and all of us who care about creating a positive future vision for libraries and our communities – and achieving it – must evolve. A Great Dying is not an option in my mind. We can change in a changing world – because we will make the changes, together.

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About Sirsi. In 2004, Sirsi Corporation (www.sirsi.com) celebrates 25 years as the strategic technology partner to more than 10,000 libraries around the world. A strong, growing company, it is dedicated to providing the library community with forward-thinking information technology solutions, including Sirsi Unicorn® Library Management System, the first client/server-based and UNIX-based integrated library system; Sirsi iBistro and iLink, the first e-library solutions with streaming enriched content; Sirsi Rooms, the first suite of context management solutions; and Sirsi Director’s Station, the first information analysis tool for library executives. Sirsi maintains operations in the USA, Canada, Mexico, Colombia, the UK, France, Spain, Denmark, The Netherlands, Saudi Arabia, Australia, and China.)