Chaotic Transitions: How Today’s Trends Will Affect Tomorrow’s Libraries

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SUMMARY. Marshall Keys’ entertaining presentation serves as an inspiring and thought-provoking stroll down today’s technological trends and how they will impact libraries down the road. His examination of chaotic transitions within users, information technology and information seeking provides tremendous insights into the changes libraries will need to undertake in order to successfully serve the next generation of library users. Only by transforming ourselves to handle the needs of emerging users will we be successful in the future. These emerging users value community over privacy, want to be able to personalize the technology they use, and carry more technology in their pockets than libraries provided users just a few years ago. [Article copies available for a fee from The Haworth Document Delivery Service: 1-800-HAWORTH. E-mail address: <docdelivery@haworthpress.com> Website: <http://www.HaworthPress.com>]

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INTRODUCTION

This is your twentieth anniversary, and I want to talk about the things that have been the big issues at each of the five years since you began. In 1985, the hot technology was the fax machine and the big concern for librarians was the OPAC. The large libraries had them, but many smaller ones did not. We were asking ourselves how our workflows and processes were going to fit into the OPAC environment. In 1990, the issue was the Internet. As incredible as it sounds today, the big question at the time was, “How are we going to get people to use it?” By 1995, we were on the World Wide Web and many were switching from MOSAIC to the Netscape browser. The answer to the big question of Internet use was giving people a graphical user interface. By 2000, we had seen the rise of Google and the collapse of the dot-com bubble. We had learned the lesson that the old lessons still apply. The failure of many dot-coms proved that new technology alone would not fuel the new economy. My presentation today will look at what is critical for 2005 and the next ten years.

I will start out with the assumption that the future of libraries, good or bad, depends on their ability to meet the emerging needs of users. Not last year’s needs or the needs of ten years ago but the future needs of users. Who will these users be and what will these emerging needs look like? How will library operations change to meet these emerging needs? In other words, how can libraries respond to the changing needs of users?

The unifying theory for today’s presentation is that of chaotic transitions. Everyone understands the basic growth curve. One of the ideas of a fascinating book by Theodore Modis is that for every growth curve there are competing alternate growth curves. If you take a look at the growth of personal computing, for example, the first growth curve would be the early computers developed by Apple. The alternate growth curve would be those computers with Windows-based operating systems, which started later and has surpassed the growth seen in the earlier Apple curve. And for each growth curve, there can be many competing growth curves that overlap.

The period of time where these different curves are competing with each other is the period of the chaotic transition. There are never neat and easy transitions between one curve and another. A good example of chaotic transitions is the variety of formats for recorded music. Currently, one can see cassettes, CDs, DVDs, and digital formats such as MP3s, competing for the attention of music listeners.
Chaotic transitions exist for libraries. There is currently no dominant technological model. More specifically, we do not know what tools people will be using in ten years to access information. Secondly, there is no dominant business model for the distribution of information content. Finally, there is no dominant conceptual model for what the library should look like ten years from now. When we were children and were told to envision what a library looked like, we all had a very similar picture in our minds. That is not true today. What is the library of 2005 and what will it be in 2015? In the areas of technology, business models and even intellectual concepts, libraries are experiencing a series of chaotic transitions.

**CHANGES IN USERS**

The next generation of library users is quite different from what we are used to. This really came home to me one day on the subway when I overheard a young woman—someone who looked like a college senior—ask, “What is a cassette?” It was then that I realized that there was another world out there that I did not know much about. And so I began to explore this world to better understand what young people are doing.

One thing I discovered pretty quickly was Buzznet. Buzznet is one of the earliest photoblogs. People with camera phones take pictures and post them on Buzznet for others to comment on. This whole blog concept was completely new to me.

And what have I discovered about the blogger mentality? The first thing is that what I, the blogger, think is important. The second thing is that what I, the blogger, think is important to other people so I am going to publish it. The third thing is that things are important because I, the blogger, think they are important. The philosophers in the room may recognize the Latin phrase “esse est percipi” or “to be is to be perceived.” I know I exist, because you are listening to me and reacting to what I am saying. Teens overcome their sense of powerlessness through blogs. They exist and feel validated when others respond to what they are saying. Fifty-one percent of bloggers are between thirteen and nineteen; ninety percent are under thirty. Critical for libraries to understand is that privacy is not valued by bloggers. It is all about communities. And bloggers are our users, future users, and the next generation of library staff. Negative reactions to the blogosphere from library leaders, such as Michael Gorman and Blaise Cronin, are not encouraging. They
are smart individuals, but from a different generation and are missing the point.

When we look at emerging users, we see three dominant themes: community, personalization, and portable, ubiquitous technology. Web sites such as Friendster foster communities among Internet users. Customizing one’s cell phone is an example of the growing trend to both personalize and to carry our technology. We, as librarians, have a tradition of providing technology for our users, but users are now carrying around more technology in their pocket than we provided on our desktops ten years ago.

**CHANGES IN TECHNOLOGY**

The cell phone is no longer a phone but an information appliance. Through the cell phone you can send and receive e-mail, send notes to friends through text messaging, surf the Web and more. The marketing message here is that you are no longer tied to old stuff like computers. Messages depicting the library as a place with computers as well as books are behind the curve. You can use your phone as a modem. You can take pictures with your phone and send them to your friends. Nowhere in the advertisements does it mention using the phone to actually speak to people. It’s not a phone anymore, but something else. We are increasingly living in a world of ubiquitous, multi-media communication.

The old slogan “everything is on the Internet” is quickly becoming “everything is on the phone.” In the United Kingdom, there exists a reference service called AQA–Any Question Answered. Cell phone users can text message a question and get an answer back within ten minutes at the cost of one pound. This phenomenon is quite interesting in both completely bypassing the library and establishing the value of a reference question.

What does this mean to libraries? We are seeing an emerging generation of users for whom the phone is a major information appliance, if not the major one. Libraries will need phone-based interfaces to local catalogs and other information resources. There will be more reference services provided through text messaging. Libraries may also be utilizing camera phones for interlibrary loan. Instead of pulling an item off a shelf and taking it to a copy machine or scanner, the library staff person will simply take a picture of the page and send it on. We have users who are willing to pay for information. They are willing to pay as long as it is
delivered the way they want it. And this growing use of portable technology to access networked information is resulting in major bandwidth and graphical interface issues that need to be dealt with.

Besides the phone, a lot of other transitions are taking place in the area of information technology. Wireless networks are here, and ubiquitous computing is the next step. The coming generation does not see much difference between television and the Internet as they watch their favorite shows on their laptops. They are accustomed to the idea of watching or listening to anything on any device that is nearby.

Making predictions is always a risky business, but I’m going to make some anyway. The failure of Apple’s Newton was simply because it was an idea ahead of its time. We are now in the era of portable computing. OVID databases and library catalogs, such as Innovative’s Airpac, are available through wireless Personal Digital Assistants (PDAs). The tyranny of the unified computing model is being increasingly undermined by distributed computing. You are all familiar with the foldable keyboards that you can use with your PDA. Siemens has a virtual keyboard product which projects an infrared keyboard onto your desk. Distributed storage is being made available through flash drives and iPods. And the iPod is more than just a storage device. Accessories make it possible to capture sound, for example. Distributed processing can be seen as Linux becomes available in portable devices like watches and iPods. The increasing miniaturization of portal computing devices raises output issues, but digital glasses, projecting displays on walls, and paper-thin screens are some options to address that.

CHANGES IN INTELLECTUAL PROPERTY

The information industry is quite concerned about keeping their intellectual property intact. In Japan, bookstores complain about digital shoplifting, wherein someone with a camera phone, instead of buying a magazine, snaps pictures of the magazine’s pages and e-mails them out to friends. With a camera phone, anything you see can be captured and shared with others. We’ve seen the lawsuits by the Recording Industry Association of America, and we’ve seen the hackers shut down the RIAA Web site. The courts have consistently sided against the RIAA. The issue is coming to a head with the United States Supreme Court and it will be interesting to see what the Supreme Court judges have to say. Will they get it?
But it doesn’t really matter what the courts decide. Earth Station 5 is a peer-to-peer Internet site that lets people swap files with each other. And it has one very important competitive advantage. It is located in the Jenin refugee camp in the Palestinian West Bank. Filing a lawsuit against Earth Station 5 would be an exercise in futility. Today’s technology allows thieves of intellectual property to move just about anywhere. How about Vanuatu, an island in the South Pacific, whose business laws make it very easy for individuals to remain anonymous and untouchable? The next generation does not care about intellectual property, and all the lawsuits in the world are not going to stop them.

**CHANGES IN CONTENT PROVIDERS**

We are seeing chaotic transitions in the content business. The fluctuation in Elsevier’s share values over the past five years is an indication of this chaos. Business models are changing. Elsevier’s Big Deal unraveled in 2004. Elsevier recovered by changing it. We’ve seen consolidation in the publishing industry, such as Taylor & Francis purchasing Marcel Dekker for 138 million dollars. A big unknown will be the impact of the Google Print project, wherein Google is digitizing books and making them accessible to the world. It is not an era of stability for publishers and information providers. We’ve seen numerous companies go bankrupt. Others are merging or being purchased by venture capital firms. Obviously these venture capital firms intend to make a profit on their investment. And who else besides libraries will be providing these profits?

More service work is going offsite. At a McDonald’s in Cape Girardeau, Missouri, when you place your order through the drive-thru you are actually speaking to someone in Colorado Springs. The technician in Colorado Springs takes your order and sends it back to the McDonald’s along with a picture of you so the staff at McDonald’s knows who to give the order to. The argument here is that the work can be done more effectively by people who are not distracted by the hustle and bustle behind the McDonald’s counter. Consumers are going offshore. Knowledge work is going offshore. The movement of information technology jobs to India is old news. How will this trend affect libraries? It will be fairly easy to move technical services, technology services, and reference services offshore in much the same way as moving them from one building on campus to another.
CHANGES IN INFORMATION SEEKING

The information gathering model is also changing. The previous model was that of the individual studying in the library, using formal resources “authorized” by the library through the selection process. It was a solitary activity. Today’s studying is a group activity utilizing peer-to-peer networks. Learning takes place through social networks, and everyone is in touch all the time through virtual study groups.

There are new ways of finding information. Portals are becoming increasingly personalizable. RSS feeds enable people to get the information they want without having to go anywhere to get it. Amazon is an example of the increasing value of the community experience. Amazon users can easily see how others have rated specific titles. We are not seeing this in libraries because of privacy concerns. What would the American Library Association say about this? Emerging users value these community interactions over their own privacy. We have personalized search engines, search engines with social networking, and we are also seeing social cataloging. We are seeing interesting innovations in how search results are being displayed. Belmont Abbey College uses a visual map to browse for materials within Library of Congress subject headings. A common theme is this use of visual representations instead of text-based results lists.

We are seeing the economics of attention in action. A wealth of information creates a poverty of attention. The response to that is personalization, customization and delivering the information the user wants the way they want it.

CONCLUSION

What will libraries have to do to serve a world in which users expect information to be delivered to them, expect technology and interfaces to be highly personalized, and care more about convenience and community than privacy? We need to answer that because those are the fundamental values of the next generation of users. What does the library look like if the medium isn’t a browser and the hardware isn’t a PC?

We have administrators who are no longer seeing the value of the library. We have content providers who know we have no funding. We have user populations who do not know what we are doing. We have huge investments in current technology with all this new stuff on the horizon. We are committed to the medium and not the message. Does the
American Medical Association have a center for the stethoscope in the same way that we have a Center for the Book? We’re committed to places not missions. We’re building large central libraries instead of putting branches on each corner like Starbucks. We need to really think hard about our future.

We need to be user-focused, not library-focused. We need to rely on user technology, not library technology. What they have, not what we have. The message will be anywhere, anytime, any way you want it. Users who do not come to the library are not failures. Research from the dorm is the norm becomes research from the car or wherever you are. Our challenge for the next twenty years will be shifting from what we know to creating library services for a digital way of life.

NOTES

10. Examples of knowledge-mapping sites include: KartOO (http://www.kartoo.com), Grokker (http://www.grokker.com), and Anacubis (http://www.i2.co.uk/anacubis).

CONTRIBUTORS’ NOTES

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