

# **Knowledge, Networks and the Public Library**

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**A discussion paper highlighting key issues facing public libraries in the knowledge society**

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## **INTRODUCTION**

While every public library branch is distinct, we speak about all public libraries as if they were a single entity. This paradox asks us to consider what is actually common amongst all public libraries. One commonality is that they're all adapting to the changing nature of knowledge in a networked world.

In this networked world, knowledge is no longer mostly static like content. It's becoming more fluid, flowing and growing in an ongoing collective act driven by new technologies and literacies.

While both knowledge and information are easier than ever to locate, it can still be difficult for people to produce and add value to them. This disparity is significant because adding value to information is the main source of productivity in the knowledge economy. It's also what many consider to be the highest use of human capital.

This paper briefly highlights key features of the emerging knowledge society, including the complementary dynamics in the tensions between the public and the private, scarcity and abundance, the individual and the collective, networks and institutions, and the physical and the digital. The paper discusses the implications of these trends and issues for reframing the value of public libraries in terms of their relationships with knowledge, their communities and one another.

## **Knowledge Economy vs. Knowledge Society**

To understand the changing nature of knowledge, it's important to recognize how the knowledge economy and the knowledge society are related. Whereas the knowledge economy describes how people use information and communication technologies for economic benefit, the knowledge society is an inclusive idea of using knowledge for the improvement of the human condition.

The knowledge economy is driven by private actors who push it at a faster pace than the knowledge society. The knowledge economy moves so quickly because it focuses almost exclusively on producing products and services for customers who are central to business objectives. In contrast, the knowledge society moves slower because it doesn't have customers. Instead, it has a complex and broadly defined public that gradually adopts some of the innovations of the knowledge economy for the public good.

Private actors in the knowledge economy don't always strive for the advancement of the knowledge society. In fact, the knowledge economy can actually disrupt and destabilize the knowledge society.

### **Private vs. Public**

Another way of framing the difference between the knowledge economy and the knowledge society is in terms of privatization. The forces of privatization are reshaping several core knowledge and learning institutions. A major factor is that private actors are providing services that have been offered publicly, including many of the offerings of the public library.

In the discussion of privatization, it's helpful to recall what makes the public library distinctly public. Unlike private actors, the public library makes direct investments in the public and its resources. It also represents a series of ideas about the role of knowledge and participation in the public sphere. Maintaining continued inclusivity of the public sphere in the face of privatization is one of the public library's core challenges.

### **Networks**

There are major benefits for public libraries when they heighten their awareness of the resources contained in all the networks in which they play a role. These networks include schools, community organizations, museums, workplaces, streetscapes, and even that which is online. With an intimate grasp of the players and resources, public libraries can then facilitate for people valuable new connections across their networks.

All sorts of activities -- intellectual, economic, political, social, cultural -- can now happen across a network of locations and media. This means that people can interact with the public library in countless ways. They can still use it as a quiet retreat, or as an on-ramp to the Internet, the world's information and numerous local resources. But within the public library people can also engage their personal and social networks and identities that link them to the world of 24/7 continuous connectivity.

Digitally-enabled social networks have turned the connections between people into advanced conduits for collective communication and learning. Similar networks have emerged in areas that range from government and journalism, to education and industry. That institutions can readily transform themselves into networks also offers great promise for the public library. Because they are vital nodes to local and global knowledge resources, public libraries can leverage their networks to improve the way the public adapts to the changing nature of knowledge.

Public libraries already organize branches into local networks. These networks coordinate activities, share physical resources and learn from each other. Yet public libraries will increasingly be able to consider themselves in larger-order networks. This isn't just because of networked tools. This is because more public libraries will share in the experience of connecting to increasingly comprehensive commercial and non-commercial digital knowledge resources.

The effect of public libraries connecting to common knowledge resources is not just the increase in availability and access to information. When many public libraries connect to common knowledge resources it allows them to independently explore what they share in common and

communicate their explorations with each other. This is ground-breaking because libraries could be able to see and compare each community's unique perspective on knowledge resources historically and in real-time. It's likely that these deeply revealing perspectives will become vital social and geographic context for understanding the variations in the knowledge society. In short, because public libraries will increasingly share knowledge resources, they will be able to relate to each other in new and surprising ways.

For public libraries to relate to each other in new ways, they will need new sharing tools. These tools would help public libraries reveal to each other the many ways to engage the public in common knowledge resources. The effective techniques and good ideas of a wide range of public libraries could be catalogued according to their objectives and effects. This would permit successful experiments and initiatives to quickly spread across the entire network. What spreads could provoke dialogue, and accelerate the ways that public libraries can try out each other's ideas.

### **Data**

Data is becoming integrated into the everyday existence of people and things. It can reveal how people expose themselves to information and the world. In fact, our actions in digital and physical environments now produce data by default. One example is how reading creates data. Many digital books record the pace and style with which one reads. This allows authors to modify their future work accordingly. Watching a video creates data in a similar fashion. The character, plot and structure preferences of millions of subscribers to streaming video services can now inform the creation of new content.

Interactions that people have in the physical world can also produce data. For example, how people move reveals much about their identity and daily life. Mobility patterns can indicate a person's wealth, health and politics. This also works on large scales. Data produced from actions by many people in the physical world can produce insights about the public. For instance the movements of all drivers considered in aggregate can improve everyone's knowledge of traffic conditions and road performance.

There is a growing appreciation of the vast insights contained in the flows of corporate, government and private data. 'Big data' has personified the economic and social value to be found in much of the data that's constantly produced. Meanwhile, 'personal data' has captivated individuals and the entities that cater to them. Private and public actors rely on this 'personal data' to create sticky user experiences in digital environments. A significant counterpoint is the growing 'Quantified Self' movement that inspires people to use this same personal data for self-knowledge and growth.

In an effort to promote transparency, governments are opening their public data sets. The 'Open Data' movement has orchestrated efforts to extract value from these public stores of knowledge. They're helping people to recognize that public data increase in value when seen from new angles. Public data can also take on a new life as an input for inventive new public and private services.

Whether it is 'big,' 'personal' or 'open,' data is getting more fluid. Fluid data requires new tools to make sense of it as it accumulates. One set of tools that does this is called dynamic data visualization. It blends aesthetics and information architecture to pause and crystallize fluid data. The result is that people can grasp the meaning of all types of fluid data on their own terms while interacting with and even adding to it.

### **Scarcities**

Information will no longer be scarce. It will be available anywhere, at any time on an expanding array of devices. This seems to diminish the role of the public library in helping overcome information scarcity. Yet abundant information actually creates new scarcities for the public library to overcome, most notably scarce new digital literacies.

Every new form of fluid knowledge brings another know-how to unlock its potential. Finding the potential in these forms of knowledge requires new literacies that range from software programming and media production to general fluency in the use of the Internet and networked communications.

Public libraries have been proactive in creating dedicated programs, services and spaces to spread digital literacies. A prominent recent example is the rise of 'Digital Media and Learning Labs.' These spaces are embedded in existing libraries and offer the tools and know-how to playfully produce original digital content. The outputs have shown an impressive range of forms, including reportage, autobiography and pure creative expression. Programs that help people produce digital media can accomplish numerous aims. These include drawing attention to civic concerns, enhancing the self-expression of at-risk youth, and helping people gain the skills to thrive in the knowledge economy. The net effect is that spreading digital literacies catalyzes the public library as a hotbed of creativity and learning.

### **Networked Environments**

Networked digital environments encourage people to create and share experiences in mutually-reinforcing communities. The social web, multi-player online worlds and peer-sharing platforms can all spark new forms of collective creation and learning. They can also have divergent effects on the people who take part in them. For on the one hand, a flattened community structure can de-emphasize the individual relative to the group. But on the other hand, networked digital environments can actually lead to isolated individual experiences.

One can see these divergent effects at play in Massively Open Online Courses (MOOCs). MOOCs use video lectures as the central content of a networked collective learning platform. MOOC's encourage group learning but generally allow students to work at their own pace. The result is that students often proceed on individual learning journeys. Some MOOC's automatically adapt to individual learning styles, which aids in knowledge retention and mastery. This adaptive element speaks to a larger trend in networked digital environments; granular filters increasingly shape and anticipate individual relationships to the knowledge society.

### **The Individual vs. the Collective**

A central tension in the knowledge society is between the individual and the collective. In many ways the individual and collective are complementary. For instance, we need the tools of

collective intelligence to surface expertise and insights. Yet for knowledge to be personally relevant, we increasingly need the tools of individualization.

Both the tools of individualization and collective intelligence can fragment the public. Individualization can isolate people from their broader social context. Similarly, collective intelligence can make it easier for individuals and groups to find consonance in familiar ideas and people. The public library can address the complex dynamic between the individual and the collective by further grounding both in a community context.

To overcome the individual-collective divide, public libraries can extend their roles as emblems and curators of local culture. Public libraries can continue collecting items and information related to local interests and heritage. But they can go even further by facilitating new ways for communities to encounter their own past, present and future. One example of an expanded relationship between a public library and its community is in Ashland, MA. It is installing the work of a local designer that helps tell the story of a nearby toxic Superfund site and its effect on the town and its residents. The installation weaves news stories, personal interviews and deep history in order to bring into the library a moving account of Ashland's industrial legacy.

Bringing deeply local histories into a public library is one way to connect to issues of public concern. Another is to focus on stories in the present. Because public libraries and journalism share in the goal of providing civic information it is logical to anchor local journalism projects in public libraries. Librarians could work alongside professional and citizen journalists to investigate matters of great local importance. Such an effort would augment the public library as a center for civic engagement and public discourse. Skokienet.org, created through a collaboration between the Skokie (IL) Public Library and Northwestern University's Medill School of Journalism, is one such example of a library-journalism partnership.

Many public libraries are beginning to leverage their community contexts by providing tools for collaborative filtering. Offered by companies like Bibliocommons, these tools allow people to sort and comment on material together. This can lead to spontaneous grouping around common or community interests. It can also incite the serendipitous discovery of new ideas. The success of these efforts largely depends on the public library's ability to entice a community into participating in collaborative filtering. And increasingly, it will also depend on how the public library chooses to shape the software and tune the algorithms behind filtering tools in order to balance individual and collective interests and goals.

### **Physical Space**

That digital information can be delivered most anywhere means that public libraries will hold less material locally. This reframes the public library's physical space. Some think it should be reduced in scale and reoriented to digital materials. Just look at the recent example of the Bexar County book-less library system. Yet public libraries are still important physical spaces. Communities rely on them to interact with each other and the flows of global knowledge. Physical space also holds immense intangible value that has been to this point incredibly hard to measure.

Altering the physical infrastructure of a public library is an advanced activity in branch reinvention. But doing so can facilitate new types of learning and interactions with knowledge. For inspiration, public libraries can look at new learning initiatives like ‘hacker’ and ‘maker’ spaces. These help people master applied knowledge and promote shared experiences, techniques, and resources in a community of creators. Other emergent learning spaces incubate companies or provide common resources to do knowledge work. They often borrow ideas from education, entrepreneurship and cultural programming to foster group learning and instigate serendipitous connections and collaborations.

A public library’s physical space is not only an instrument for the collective engagement with knowledge. It can also amplify the value of the human connections that form within them. For instance, the public library is a vital public venue for people to collectively take part in critical programs and services. These invaluable offerings range from health care and after-school activities, to job training, employment counseling, and social programs for the elderly. This breathtaking array of programs and services displays the public library’s great capacity to innovate and pioneer new civic roles. Most notably, the programs and services at public libraries are proof of its ability to create partnerships and foster networks across a city and community.

## **CONCLUSION**

So much is changing in the world around the public library. Information is becoming abundant, the physical-digital divide is closing, networks are getting denser, and knowledge is flowing more freely. The public library will creatively respond to these changes both by adapting to outside innovations and by leaving its role with respect to knowledge and society unchanged.

The public library will continue to promote its enduring values. Nurturing the intellectual, social, economic, civic and personal needs of individuals and communities will remain amongst these. But in adapting to the rapidly changing nature of knowledge, the public library needs to welcome a new set of values. These are values that will equip public libraries with the mindset of continual and purposeful adaptation. These are values that champion a culture of large-scale responsiveness.

Adaptation has been a constant part of the historical project of the public library. What’s different now is that the current disruptions are arriving with greater speed and with possibly irreversible long-term effects. Translating the innovative developments of the knowledge economy into benefits for the knowledge society is becoming harder and more complex. This calls upon public libraries to collaborate more closely in their adaptations.

A common mindset of adaptation and responsiveness could inspire alignment amongst public libraries. It would certainly help if they also had a mutually reinforcing community that rigorously evaluates, tests and deliberately responds together to outside disruptions. This community could have an architecture that’s highly centralized or loosely-structured. Either case would likely birth a profusion of creative approaches that advance the knowledge society while getting the most from the knowledge economy.

Finally, today’s democracy demands higher levels of self-governance on the scale of the community. This asks people to master group skills and network behaviors like collaborative

learning and collective action. These are exactly the skills and literacies that the public library is starting to excel at spreading. So as the public library continues to adapt to the changing nature of knowledge in a networked world, it's entirely possible that their many centrally-located aspirational buildings will become community-oriented civic laboratories. After all, there is not a more abundant and universally respected space in which to expand the engagement of people with their own knowledge and communities than the public library.