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The role of libraries in the open knowledge society

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Abstract:

Using the internet for research is common practice. And it's hard to tell whether this is right or wrong, if we take into consideration the fact that one of the main challenges the internet has brought about, as far as self-education and open knowledge are concerned, is setting apart valuable information from speculations; scholars from bloggers; researchers from attention seekers. This is why in the first part of my article I give my full attention to putting together a set of criteria that could help users make the difference between the two.

But establishing some criteria and following a set of principles does not solve this problem entirely, because things are not just black and white. Not all knowledge is institutionalized, especially in emerging subjects like those concerning the digital industry, such as social media, online communication or web and mobile development. I will collectively refer to them as underground knowledge and give them a dedicated place in this paper.

The last part of the present paper concerns the role of libraries in this complicated context, in a brief attempt to assess their place in nowadays education and see if we could identify some guidelines and principles aligned to the digital user's changed needs and expectations. To achieve this, I will make use of data from two recent studies conducted by Nielsen, respectively MIT, in order to see, on the one hand, how users reading behavior has changed and on the other, how libraries should transform in order to stay relevant.

Keywords: Digital libraries, digital user, information seeking, the future role of librarians.

Introduction

Nowadays, a Google search is probably at the core of every information seeking process. And it's hard to tell whether this is right or wrong. I would argue that this is great, provided one

knows what and where to look for. So we could state that one of the main challenges that the Internet has brought about, as far as self-education and open knowledge are concerned, is setting apart valuable information from speculations; scholars from bloggers; researchers from attention seekers. This is why in the first part of my article, I will try to put together a set of criteria that will help the reader make the difference between the two.

But establishing some criteria and following a set of principles does not solve this problem entirely, because things are not just black and white. Not all knowledge is institutionalized, especially in emerging subjects like those concerning digital industries, such as social media, online communication or web and mobile development. There are grey areas in this field and we should treat them accordingly. I will collectively refer to them as underground knowledge and give them a dedicated place in this paper.

Then, I would like to give my attention to the role of libraries in this complicated context, in a brief attempt to assess their place in nowadays education and see if we could identify some guidelines and principles aligned to the digital user's changed needs and expectations. To achieve this, I will make use of data from two recent documents (Nielsen's study on the profile of digital "book pirates" and MIT's report on the future of libraries), in order to see, on the one hand, how users reading behavior has changed and on the other, how libraries should transform in order to stay relevant.

Using the web for educational queries

As stated in the introduction, most academic or professional research probably begins with a Google search. In the context of an open knowledge society, self-education is a fast-spreading trend and information seeking for educational purposes is different. It no longer starts in a library, or at least, not in the traditional meaning of this word. It starts in front of a computer, where the user types a few keywords, presses enter and then scans the results: journals, lectures, blogs, magazines, even books. Even from its beginnings, this change provoked contradictory reactions. For some people, this seemed far from a rigorous, methodological process. And not because they were denying in any way the benefits brought about by the World Wide Web, but because they considered that education is not something you can gain while surfing the internet.

For example, in one of his articles within the "Digital Diploma Mills" series, David Noble argued that the automation of educational material - and by automation he means "the distribution of digitized course material online, without the participation of professors who develop such material" - would lead, in time, to lowering universities standards, making them redundant and, by consequence, the educational processes would become chaotic, without direction, guiding and leadership (David Noble, 1996, p.9). Moreover, he stated that this kind of educational practices caused a de-professionalization and transformed academic education into a training program. The same pessimistic view towards the future of traditional education can be found in Eli Noam's article, "Electronics and the Dim Future of the University", in which he states that: "the system of higher education is in the process of breaking down. The reason is not primarily technological. Technology simply enables change to occur. The fundamental reason is that today's production and distribution of information are undermining the traditional flow of information and with it the traditional university structure, making it ready to collapse in slow motion (Noam, 1996, p.7)."

In opposition, there were those who viewed the Internet as the perfect ecosystem for all educational processes. For example, here is how Tom Koch described the web in his book “The message is the medium”, published more than 20 years ago:

“In attempting to imagine this evolving medium, think of the best reference library in the world surrounded by an enormous conference center. Either the library or the conference center can be entered by one of a number of doors, magic portals that are available to anyone with a computer.” (Tom Koch, 1996, p. 35)

And here is how he explained the innovations of digital libraries:

”The electronic library is different. Simply, it is magic. Nothing is ever miss-helved, defaced, "on loan," lost or "mislaidd." Whatever the collection, it is always and wholly available to you. No need to wait your turn because every user is always first in line. Even better, the whole vast collection is dedicated solely to the subject you, its user, are currently most interested in. There is nothing else in the library but material that bears on the question you are asking at this minute” (Tom Koch, 1996, p. 38)

So here we have two old, but still very alive perspectives on a serious and altogether unavoidable fact: people use the web for documentation. And to my mind, there is no going back, especially if we take into consideration the rapid steps taken towards expanding available open source data.

Choosing right from wrong

But despite the technical literacy of most web users and even though seeking information online is already a common practice, digital research remains a challenging adventure. The main problem is that, on the world-wide-web, you don't always know from the beginning that the information you have just accessed is trustworthy. You no longer have the implicit scientific validation that the traditional library gives you, not to mention the counselling and professional guidance. You are on your own and it is not always easy to recognize quality information from bad one.

Fortunately, during the short but intense history of the internet, this medium has surpassed the statute of a no man's land. We can now gather a short, but useful list of precise criteria that help us choose right from wrong as far as information is concerned.

The first set of criteria regards authorship. One of the most important elements of any piece of information you find is its author. Look at the name by which it is published. If it is a renown author, proceed to verifying if that is indeed his research. If it's a name you have not heard of before, proceed to find out more about that person: where and what he studied, what references he has, what is his professional experience, citations, other papers etc. One of the greatest things about the way the internet works is that once they entered the web, no one can remove their trace.

The second set of criteria refers to the publisher. Is the page you found the information on a scientific magazine? Is it a website?; a blog?; or maybe an online library? What other kind of information is published on that page? Can they be attributed to an institution? These are the kind of questions you should find the answers to anytime you are in the middle of a research activity and the page you find the information on is not very well known. If the medium that

hosts that piece of information is informal, opinionated and just lacks scientific validation, then you should try someplace else. Sometimes, a more efficient search would be by adding a trustworthy provider to your query. (Martin Weller, p.24.)

This kind of query would have the following syntax:

“keywords x, y, z” in “Journal title”

Or

“keywords x, y, z” by “author/institution name”

If the information you are looking for concerns a time sensitive issue, you can add the year to your query, or even a specific date. This kind of syntax is useful when applied to a general query, within a general search engine, such as Google. For queries made on research platforms, there are usually implemented other ways of browsing and filtering information.

Research and information seeking in underground fields of knowledge

So by now we have briefly analyzed the challenges brought about by moving scholar research in the digital sphere and listed a few principles that can help us setting apart valid information from biased or just low quality data. Still, when we talk about seeking information on the web, in my opinion there are some academic fields that should be treated separately, because they do not follow the same rules. I am talking about emerging fields of study from the digital world, such as social media, multimedia and mobile design and development, which I will refer to as underground knowledge. In these fields, I think that the criteria of selecting sources, authors and pieces of information changes.

But before trying to see what rules do apply in these fields, let me explain why I think they are different. Firstly, I call them underground because they have an inherent experimental component. Secondly, they change so rapidly that most of the times institutionalized theory (university lectures, books, journals) cannot keep pace with professional practice. For these very reasons, the criteria written above do not stand. On many occasions, in these underground fields of knowledge, the most valuable information appears as a draft, on a personal blog or an open source software, in the middle of the night, without any previous peer review or any other kind of proof reading. In these particular cases, if the author is not a renown academic does not make the information less valuable; nor if the information was published on a personal blog of an otherwise very competent junior professional. So the question that remains unanswered is: in these fields filled with variables, what are the principles that could guide an efficient academic or professional research?

The first thing that comes to my mind is the virtual community. Most of the professionals and theoreticians in these areas have gathered significant communities around them that share opinions, solutions and information. In my opinion, this represents an important criterion to select a trustworthy piece of information from irrelevant data. If the community gathered around a person, an online project or a website is strong, qualified and active, than the information published there is most likely reliable.

Then, there are the professional acknowledgements. The people behind the information you find may not be published authors, but they probably have other kind of proofs of professional recognition. Look for them, verify their validity and if you can't find any, proceed to searching for other signs of validation.

In these underground fields of knowledge, I think reputation is also a reliable indicator of quality. If we think that the digital medium is also the arena where these professions live and prosper, then the traces that the authors and institutions leave behind them during their day to day activity could be taken into account as a filter. So check their reviews on social media and the way the media depicts their professional accomplishments. If they are good examples for the community, chances are they are good quality sources for you.

Before moving to the next topic I would like to address, I want to make a few amends to the list of principles from above. As you can see, I did not mention the authorship and publication related remarks I made before. This does not mean that they are totally irrelevant. These fields are also represented in scientific journals and these criteria should definitely be taken into consideration, with the sole remark that the rhythm they develop with is so intense, that some theories, analysis and explanations are long overdue by the time they get to be published in academic journals. So this is where applying other criteria is needed. In other words, in these underground fields of knowledge, formal criteria of filtering information apply to more perene topics, that are not subject to frequent change. As far as more dynamic topics are concerned, informal resources are to be taken into consideration.

Where do libraries and librarians step in?

By now, it seems that the educational context, as far as research and information seeking are concerned, is rather complicated. In this intricate process, a serious question rises: what role do libraries have in delivering access to information? How should a library be in order to be relevant for the tech-savvy user? Is there still a need for librarians and if so, what kind of need? These are just some of the questions I would like to try to find the answer to in the following part of this paper.

The digital user's needs and expectations

First, I think that in order to see what role libraries and librarians play, we have to take a look at the user they have to serve and try to identify his modified needs and expectations. A recent survey conducted by Nielsen, a media measurement company, called Inside the mind of a book pirate, revealed that people who legally and illegally download e-books are largely ordinary consumers, students and working professionals who access e-books from a wide range of digital sources, including online auction sites and via email from friends.

Another fact revealed by this survey which is relevant to this discussion is that a big part of the resources that are downloaded online are academic: about 40% professional books and academic texts and about 30% academic journal articles. The same study also highlighted the fact that 70% of downloaders have either graduated from college or have a graduate degree and they access digital content from a vast universe of web pages, social platforms and file sharing portals. According to this study, the majority of downloaders are 18-34 years old, educated and wealthy. Moreover, when being asked the reasons why they choose to download books and not buy them, besides conveniency, they also mentioned availability (51%), exclusivity - the resources are not available at retailers (33%) and habit (17%) - meaning that users are accustomed to finding online every piece of information they need.

That being said, if we were to make a profile of these users, it would include the following characteristics:

- They are young, well-educated, active and tech-savvy;

- They expect to easily find the information they need on the web, without making too much effort and, preferably, without extra expenses.

Scope and mission of the digital library

If the description above fits the digital reader's profile, what should the library that serves his needs look like? Let's start by looking at how Bill Crowley sees this problem in his book called "Defending Professionalism: A Resource for Librarians, Information Specialists, Knowledge Managers and Archivists", in which he tries to justify and defend the need for librarians, starting with the following assumption:

"There is no doubt that in some real sense the world has changed. Traditionally, librarians have always provided individuals with information access and organization. Now that vast stores of information are available in many forms and can be delivered directly into offices, homes, and handheld devices, librarianship is, in many ways, being transformed. The Internet has affected how information is delivered both inside and outside the library. People's expectations about the knowledge and skills required to locate information have dramatically changed. Many people believe that they simply need access to an Internet connection and a Web browser—no human intermediary needed, and certainly not a librarian!" (Crowley, 2012, p.24)

So, as the author also states later on in his book, the question that needs to be answered is if the librarian is becoming obsolete and if so, what will become of the library? In this complicated context, Crowley sees the library being more needed than ever, not as a depository, but more as a professional and trustworthy help to finding, selecting and understanding the vast information that the internet provides. And I totally agree.

In other words, the user's need that justified librarians' mission - that to be counseled and guided- is still there, maybe stronger than ever, if we take into consideration the amount of fake news and low quality content one can find while surfing the internet.

With this in our minds, it is easy to understand why the virtualization of libraries becomes extremely important. And by virtualization, I am not referring only to the mere virtualization of resources and giving access to online journals and open data, but also to offering a complete and satisfying virtual experience to its users. And this implies respecting a set of principles that I will approach below. But before that, I must mention that I will not refer to detailed functioning or technical conditions, but only to some necessary aspects regarding user needs and expectations.

In the first place, it is important to understand that unlike the traditional, physical library, the digital library is an interactive system that modulates and changes its appearance together with the user behaviour and actions within the platform.

A digital library must be user-centered, not content-centered. The content that the library hosts and offers is valuable only as long as it serves the user's needs. Being user-centered means taking into account every step the user takes in his journey of seeking information and then making each move easy to make. So in the first place, in order to satisfy the user's needs, a digital library should be easy to find (via web search) and easy to access.

Then, on such a vast platform, information architecture is critical. The way data is being organized within pages and menus and filtered by categories, tags or any other means is essential for a good user experience. Information architecture of a digital library must be

intuitive so that every query would feel natural and effortless. From this point of view, common web structures that are already being used at a large scale are preferable, because users are already accustomed to certain layouts. For example, placing the search button at the top of the page and navigation links to the left is almost the norm. (Hanumat G. Sastry , 2011, p.10)

Moreover, for the same reasons, aesthetic design should be at its minimum. This way, the user's main need - finding relevant content - remains the focus of the interface and the user is not distracted from his task.

It is also important that users are guided throughout their queries. Information seeking should be sustained by filters, categories, keywords and personalized suggestions, based on previous searches of the same user or other users' similar searches. The more specific and relevant is the search, the better. As stated before, an everlasting role of the library is that of professional counselling and guiding. This challenging mission must prevail into the digital world. And if in a digital library, the librarian cannot be physically there, his virtual presence must compensate the physical absence. This can be accomplished in two different ways.

On the one hand, the virtual presence of the librarian can be simulated by creating a user friendly interface, using a pleasant tone of voice and anticipating user needs every step of the way. Thus, although the user does not experience per say the contact with a librarian, he experiences the effects of such a contact.

On the other hand, a librarian can be almost as present as in a physical library if the platform allows real-time dialogue with users. Chat rooms, discussion forums or instant messaging applications within the platform are just a few of the many possible technical solutions.

All in all, the role of the contemporary library still seems to revolve around the same main features: offering access to information and counselling. The essence still remains, as far as its mission and scope are concerned, but one cannot ignore the details that make all the difference in the world: the changed nature of the content - which is now vast in quantity and diverse in form - , the virtualized presence of the librarian and, above all, the enhanced empowered and autonomous user.

Future prospects on the role of the libraries in the open knowledge society

It has become clear by now that easy access to important information anytime, anywhere is not just a temporary cultural trend, nor an utopian goal. It is a very real and strong need of any web user preoccupied with his academic and/or professional education. Open knowledge is not, by consequence, a buzzword. It is a state of mind, a new perspective on creation and sharing information that must be embraced by libraries all over the world, in order to preserve their significant role in supporting cultural progress.

This means not only doubling or shifting their presence into the digital world, but also changing the philosophy behind their entire existence. It means more than offering digital copies of print resources. It requires understanding the process of creating and sharing native digital and multimedia content and being an active part of it.

In my opinion, in order to continue to play a significant part in building users education, digital libraries will also have to embrace content that traditional academic institutions might have considered too informal. The rule that will most probably apply in every information query is

that if the content is useful and valuable to the user, then it must find its place in a library. It should not matter if the format which the information is presented in does not fit a pre-existent categorization; nor if its creator isn't a well-known published author. If it has a real value as far as the information goes, if it helps the user in reaching his educational goals, then it should be considered library material.

In a report made by MIT in 2016 concerning the way libraries should evolve in order to best advance the creation, dissemination, and preservation of knowledge, there are identified four pillars with an essential role for the libraries of the future:

- community and relationship with the audiences,
- discovery and use of information,
- stewardship and sustainability of offered information,
- a special attention towards research, development and experimentation.

The main focus, according to this report, should be finding a way to reach bigger audiences, on the one hand, and make them an active part of information creation and distribution, on the other hand. Moreover, as far as distribution is concerned, the report emphasizes the continuous importance of digitalizing all research that is available only in physical form and, at the same time, making native digital content available both to human consumption and machine interrogation.

As for future challenges regarding formats and types of data, a special place is given to image storage, filtering and manipulation:

“Scholars want the ability to create unique sets of images for their own research and teaching, enhance or otherwise manipulate those images, annotate them locally or share them with colleagues performing similar research elsewhere, and link them to other resources held locally or as part of a broader scholarly network.” (Institute-wide Task Force on the Future of Libraries, 2016, October 24. Retrieved April 24, 2017, from <https://future-of-libraries.mit.edu/>, p.13)

In fewer words, the library of the future must keep on encouraging, supporting and even lead the bold initiative of finding solutions to the grand challenges that the digital user has brought about. There is a general fear among traditionalists that these transformations will somehow pervert the noble role of libraries and librarians; that by focusing so much on users needs, libraries will move farther away from serving culture.

I don't think that this is the case. By assuming the role of an active player in providing open knowledge, libraries do not in any way compromise their values or professional ethics. On the contrary, as I stated before in this paper, it is now more important than ever for libraries to preserve their role as an authority in selecting and offering valuable information. Supporting knowledge as a commons does not mean that we allow any information being published become knowledge, but that we encourage that any information that contributes to epistemological progress should be available to everyone that can benefit from it one way or another. And libraries must act as a portal where this kind of information is to be found.

Conclusions

People will go on seeking information on the web, whether we like it or not. It is as natural as it is checking the inbox every morning at work or searching for a long lost friend on Facebook

and not in the phone book. The mental connection between information seeking and web searching is immediate and there is no way going back. So it is definitely not the place, nor the time for users to change, but for libraries to keep up with the users already changed behavior and find their place in this fast-moving, information-saturated digital world.

There are a few important guidelines to this process that if respected, can ensure that libraries preserve their key role in knowledge creation and distribution.

1. Learn and understand the users' needs, expectations and behaviour;
2. Build a user-centered experience;
3. Embrace non-academic, but valuable professional information from underground fields of knowledge;
4. Offer a wholesome virtual experience.

The challenges that we are facing in the process of evolving towards an open knowledge society are ongoing. They change at the same pace with information technology and it is only natural to happen this way. The key to successfully face them is not to try to solve them all, because that is probably impossible, but to equip oneself with a changed mindset - a mindset where information creation and sharing are free, open processes and where open knowledge facilitates, not endangers progress - and act solely in this spirit.

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