# The Future of (Library) Discovery (Services)

**EDS Conference: London July 2016** 

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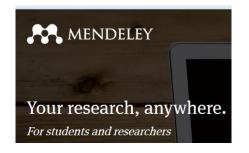
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My aim is to provide some food for thought for the rest of the conference ...and some helpful references along the way...

I hope you will disagree with some of what follows.....

## No single solution: an ecosystem of discovery













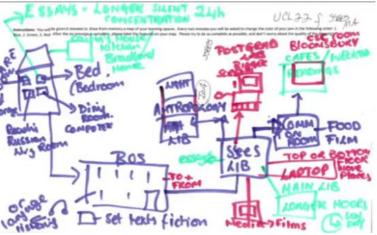


Intelligent results, brilliant connections

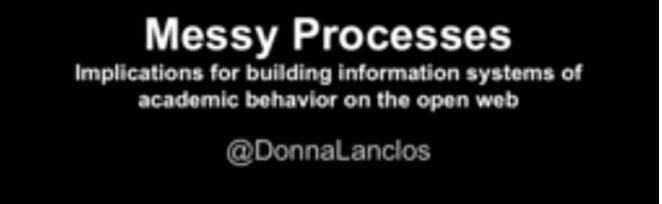
### "Messy processes"

"Messy Processes: Implications for building information systems open web"





"a bus can be a learning place"



"People start with the networks they know and trust"

http://www.donnalanclos.com/?page\_id=189

### Discovery is not the same as search



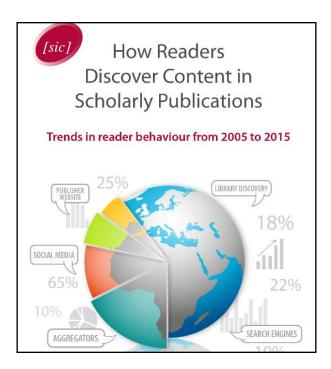
BOOKS, DISCOVERY, LIBRARIES, RESEARCH

#### How Readers Discover Content in Scholarly Publications

POSTED BY ROGER C. SCHONFELD - MAR 30, 2016 - 23 COMMENTS

"The report finds that search accounts for approximately 40-45% of discovery ....a figure that varies only slightly by sector. While the report emphasizes that "search is dominant," for me, the headline finding here is that the other means of discovery specified — everything from personal recommendations and social media to alerts and citations — collectively add up to drive more traffic than search".

https://scholarlykitchen.sspnet.org/2016/03/30/how-readers-discover-content-in-scholarly-publications/



http://www.simoningerconsulting.com/nar/how\_r eaders discover.html

## Users have many choices....

## You have to compete for attention.....

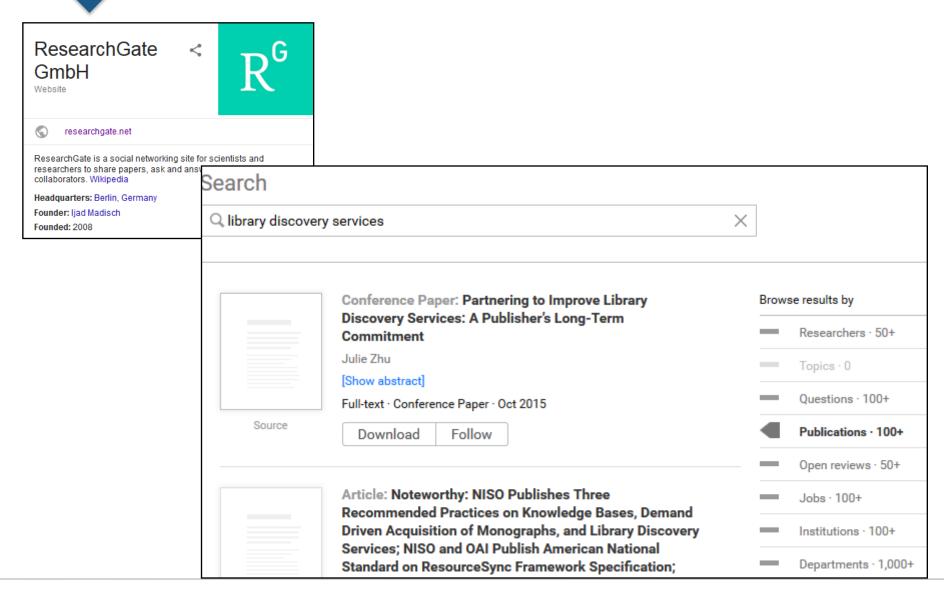


Libraries are so valuable they attract voracious new competition with every technological advance

## LIBRARYJOURNAL

http://lj.libraryjournal.com/2013/09/future-of-libraries/start-ups-take-library-jobs-reinventing-libraries/#

### This is one of my choices....



Kenchadconsulting helping create more effective libraries.....

## alternatives to using library discovery services

# WIRED.CO.UK

## How to access free academia

CULTURE / 07 NOVEMBER 13 / by KATIE M PALMER #

### Ask for help

Certain internet-dwellers can do your highbrow dirty work for you. **On Twitter, post the URL** of a paper with #icanhazpdf. Delete the request afterwards, and remember not to thank the sender by name.

### Go incognito

If a site offers a limited number of articles for free per month, **try browsing via Chrome Incognito**. Your cookies get dumped when you exit, so sites can't recognise that you've been there before

## alternatives to using library discovery services

# WIRED.CO.UK

## How to access free academia

CULTURE / 07 NOVEMBER 13 / by KATIE M PALMER 🚅

Ask the author

Many academics post copies of their work online. Search for titles with "site: [theirdomain]" and "filetype:pdf". Or **just ask directly**, by sending a brief, slightly fawning message to the author.

Search smarter

Use **Google Scholar** to search for the full title of the paper you require. Can you see "[PDF]" on the right? Then you're in luck -- some learned and helpful soul has made a copy available elsewhere.

## of course.....Google



## Musings about librarianship

Thursday, July 16, 2015

<u>5 things Google Scholar does better than your library discovery</u>
service

#### 1. Google Scholar updates much quicker

Google Scholar simply updates very quickly using it's crawlers compared to library discovery services which may use other slower methods to update.

#### 2. Covers scholarly material not on usual "Scholarly" sources

Here we see the great ability of Google Scholar's harvester to spot "Scholarly" papers (famously with some false positives), even if it resides on non-traditional sites. For instance it can link to pdfs that authors have linked off their personal homepages (which may or may not be university domains).

This is something none of our library discovery services even attempt to do. In general our discovery services build their index at a higher level of aggregation, typically at journal level or database level, so there is no way it would spot individual papers sitting on some unusual domain.



## Musings about librarianship

Thursday, July 16, 2015

5 things Google Scholar does better than your library discovery service

- 3. Greater and more reliable coverage of Open Access and free sources It's a irony that I find discovery services generally have much poorer coverage of Open Access than Google Scholar.
- **4. Better Relevancy due to technology and the need to just support article searching** Going through the few head to head comparisons between Google Scholar and discovery services in the literature (refer to the excellent Discovery Tools, a Bibliography), it's hard to say which one is superior in terms of relevancy, though Google Scholar does come up on top a few times..

A somewhat lesser often expressed reason why Google Scholar seems to do so well is that unlike library discovery services, Google Scholar is designed for one primary use case - to allow users to find primarily journal literature.



## Musings about librarianship

Thursday, July 16, 2015

<u>5 things Google Scholar does better than your library discovery</u>

service

#### 5. Nice consistent features

Google Scholar has a small but nice set of features. It has a "related articles" function, you won't find in most web scale discovery services unless you subscribe to BX recommender.

Many users like the "Cited by" function. Your library discovery service doesn't come with that natively, though mutual customers of Scopus or Web of Science can get citation networks from those two databases.

Because Google Scholar creates their own citation network, they can not only rank better but also provide the very popular Google Scholar Citations service. Preliminary results from this survey, seems to indicate Google Scholar citations profile are popular than on Academia.edu, Researchgate etc.

## So what does Google think..?



# `search has become embedded into everything'

"In just a few years we have gone from search engines -- the name now sounds as archaic as the Victorian "difference engines" -- with **their roots in the staid academic discipline of information retrieval,** to, simply, "search",

Search has become embedded into everything, and has reached well beyond its web-based roots".



# understanding & meaning & context

"One of the things we're trying to do is first to **catalogue everything in the world** you might want to know about,"

"We're also trying to marry that with the knowledge that the search engine already has about what people are actually looking for."

## Answers, not links



## the 'knowledge graph'

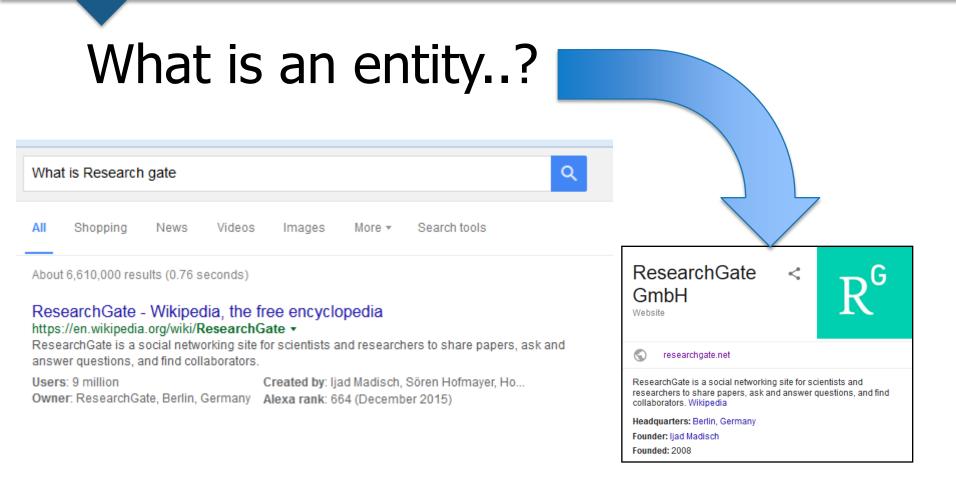
With the Knowledge Graph, Google has taken a different step towards the future of search: **providing answers, not links. This raises the question of authority,** long on the mind of Google engineers.

## Things not strings



## understanding entities-'things not strings'

"With the Knowledge Graph," says Singhal, "Google has become smarter. **Search now understands** that the Taj Mahal is a building, but also a music band, a casino and a bunch of restaurants." Things, not strings, as Google likes to say.





## the future of search.....

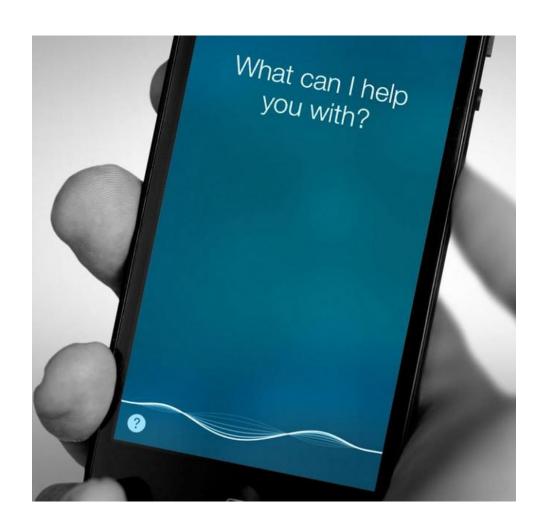
These are the pillars of Google's future of search:

the vast knowledge of **user behaviour and intent** it already has and is compiling every second;

the **Knowledge Graph**, in which strings become things

Google's advances in **artificial intelligence**.

# That was 2013...what is Google thinking now....?



#### The future of search lies in voice search

### **Voice Search Is Growing Faster than Type**

According to Behshad, speech recognition word error is as low as 8%. This is a huge improvement over two years prior, when the error rate was over 20%, and has led more and more people to rely on voice over type because it now actually works.

"It's kind of a magical experience. Just take your phone and ask it about the things around you"



Behshad Behzadi, Director of Conversational Search @ Google

http://www.wordstream.com/blog/ws/2016/03/02 /smx-west-google-voice-search

#### The ultimate assistant

## The *Ultimate Assistant will* understand your *intent*

the ultimate assistant should understand the world, you and your world, and your current context. It will be an intent expert.



http://www.wordstream.com/blog/ws/2016/03/02/smx-west-google-voice-search

#### A new take on an 1980s idea...

"Belkin and other researchers at City University London conducted a series of studies in 1980's with a goal of revealing the functions and structure of information seeking interactions between intermediaries and information seekers by using methods and techniques developed for discourse linguistic studies...The studies suggested that analysis of interactions between a trained intermediary and an information seeker can contribute better designs of IR systems"

2.2 Discourse Analysis and Information Seeking Based upon the ASK hypothesis http://onlinelibrary.wiley.com/doi/10.1002/meet.2009.14504603116/pdf

#### The future of search lies in voice search!

#### **Voice Search Is Conversational Search**

we simply don't search the same way with our keyboards that we do with our vocal chords.

For instance, on desktop you're more likely to type "weather paris," but with voice search you're more likely to ask: "What's the weather like in Paris?"



Behshad Behzadi, Director of Conversational Search @ Google

http://www.wordstream.com/blog/ws/2016/03/02/smx-west-google-voice-search

# What going on in corporate -- 'enterprise' -- search?

# ENTERPRISE SEARCH: 14 INDUSTRY EXPERTS PREDICT THE FUTURE OF SEARCH

Last updated 08:10h 27 May, 2016 in Enterprise Search by Cóbhan Phillipson





Steven Nicolaou, Principal Consultant, Microsoft

#### **Big Data**

As the cost of storage decreases exponentially, companies are becoming increasingly liberal in their storage choices. They are putting **less emphasis on pruning and curating data** and more on using search engines as tools to wade through the ever increasing volumes...

it also increases the demand for handling poor quality data with duplicates, corrupted files and files with missing or incorrect metadata becoming a fact of life. The burden of data quality management is falling increasingly away from content management and onto enterprise search.



John Challis, CEO & CTO, Concept Searching

The future of enterprise search seems destined to continue with simple keyword and Boolean searching, augmented by faceted navigation based on metadata....Virtually every e-commerce web site today offers guided navigation based on metadata.

users immediately understand how a simple text query can quickly be focussed to a specific domain by clicking on a metadata filter.

This ..search model is increasing demand for auto-classification products which can generate descriptive metadata automatically based on an analysis of the document's unstructured content



Seth Redmore, VP Product Management and Marketing, Lexalytics, Inc **Open source will continue to get better** and drive out inefficiency in the market – closed source better add value.

More, better information about the searcher: location awareness, profile sharing, time dependence, deeper **understanding of the context** and content of the search.

Lower tolerance for hassle: people expect search to "just work"

#### Search all the things!:

Integrated understanding of objects, video, speech, as well as traditional semantic sources like text will combine together better into a whole that allows for information retrieval no matter what the format – or question.

Why should you have to ask first?: Search has been traditionally driven by the searcher (duh), but interesting projects that allow for integrated understanding of where/what the user is doing allows for proactive intervention. Why wait for the slow brain to catch up to the fast machine, when the machine can push out what the user needs right then?



Jim Jackson, Product Manager, MaxxCAT

Search will continue to become more implicit, connecting users to knowledge transparently. **Users do not want to** "search", they want to get information. We are trying to collapse the "time to information",

We are trying to improve .. by returning finer grained results that are not documents, but the exact sentence, the exact spreadsheet cell, or exact information the user is looking for.



David Murgatroyd, VP Engineering, Basis Technology

Search will be increasingly **entity-centric and collaborative.** 

Collaborative search enables a virtuous cycle where the user's engagement with a search platform – honing in on items of interest and discarding the misfires – allows the computer to learn from the user's actions and present the next results with greater awareness of what is being sought.



Nick de Toustain, Director of Sales, LTU technologies Whether it's web sites or social media, everything is becoming increasingly visual. There's a corresponding need to "make sense" of all that online imagery, which is where image recognition technology comes in.

Future enterprise search tools will need to include image recognition capability to keep up with the massive amount of imagery being tweeted and posted every second.



Jordi Prats, CTO, Inbenta

In my opinion, on one hand the future of search goes through natural language processing (best understanding of user intention, even evolving into rather interactive systems such as the commonly known "virtual assistants", which may allow users to accurately define the real search scope by means of taking a few and simple extra steps before launching a search query),

on the other hand it'll entail the capability of providing advanced information analysis during indexation time (best understanding of the sources of information contemplated, for instance grouping information from different sources by meaning and thus granting the ability to bundle together pieces of information from different sources into a single search result).



John Felahi, Chief Strategy Officer, Content Analyst Company

the search industry has made significant progress to improve the relevancy of search results are:

machine learning, to identify relationships between terms/words that the pre-defined dictionaries and other word/grammar rules based tools miss, and

visualization to help see how content is related to the initial question/query. At the end of the day we are trying to make the machine have the knowledge model of a human so the results are relevant and understandable.



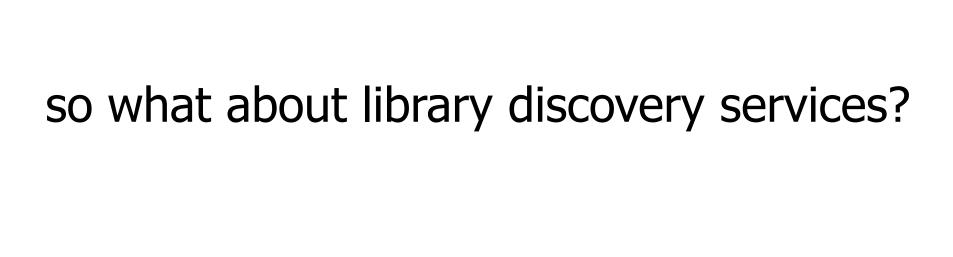
Gorbansky, CEO, Docurated

There will be **less emphasis placed on organizing data**, instead the focus will be on effective search.

The facility to **search within the document itself is becoming vital.** The age of time-consuming manual tagging and naming convention programs is nearing its end. Organizational inefficiencies – such as time wasted searching for documents – have no place in the rapid paced business landscape of today

# Recap.....themes so far....

No single "one-stop-shop"
Library discovery services just part of the picture
Context/intention
Big data...role of metadata?
Voice-conversational search
'Ultimate assistant'
Should I even have to ask?
Search across many resources, inc visual
Give the answer not the link, knowledge not the document





# Now: discovery happens elsewhere

Then: discovery happens in the library

The inside out library: scale, learning, engagement

**Lorcan Dempsey** 

@LorcanD

http://www.slideshare.net/lisld/the-inside-out-library

Insights – 27(3), November 2014

Doing away with the library catalogue | Simone Kortekaas and Bianca Kramer



# Thinking the unthinkable – doing away with the library catalogue

Based on a paper presented by Simone Kortekaas at the 37th UKSG Annual Conference, Harrogate, April 2014

At Utrecht University we strongly believe that **academic libraries have lost their role in the discovery** of scientific information and should focus on delivery instead.

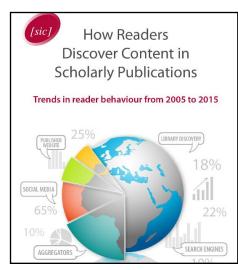
Without your own discovery tool you might feel stark naked. However, we have to admit that **others can do a better j**ob on discovery, so don't spend too much time on this. **Make a priority of your delivery task** and rethink the way you can provide value for your users

#### How readers discover content: some findings...

Library discovery services have made significant advances in importance in search for academic researchers, and for all roles in hard sciences in the academic sector. As an average across all subjects and sectors, however, they have not grown in importance in since 2012.

As a starting point for search, **A&Is seem to be in a slight decline** when looked at in aggregate across all regions and sectors, **but remain the most important.** A&Is continue to be the most important search method in the medical sector.

Academic researchers in high income countries now rate library discovery as highly as A&Is



http://www.simoningerconsulting.com/nar/how\_readers\_discover.html

#### How readers discover content: some findings...

There appears to be an **increased role for social media** in discovery. Across all demographics there is no significant appreciation of the availability of social media sharing or article-level metrics, even though most publishers feel that these are essential features.

Online book discovery varies significantly by sector, with academics preferring library web pages marginally over general web search engines, the medical sector preferring A&I services and library web over search engines, but all other sectors preferring search engines over other forms of discovery.

Publisher web sites are becoming more popular as a search resource, although this is less true for people in wealthier countries.

**Google Scholar is** used more than Google in the academic sector, but less than Google in all other sectors.



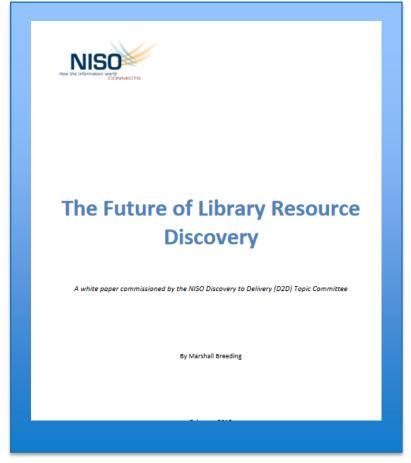
http://www.simoningerconsulting.com/nar/how\_readers\_discover.html

How readers discover content: some findings...

Librarians behave quite differently to everyone else in search, preferring professional search databases and library-acquired resources.



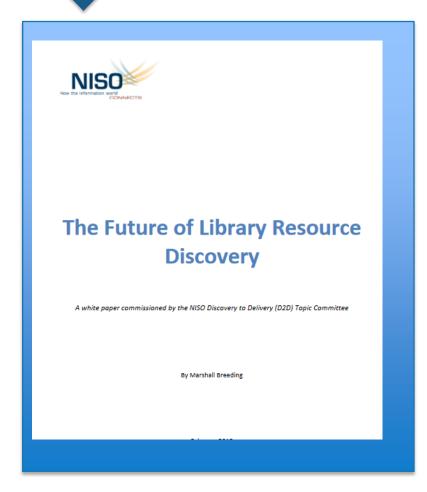
http://www.simoningerconsulting.com/nar/how\_readers\_discover.html



Future discovery services may be able to offer search tools more able to exploit the

visual content and qualities of video

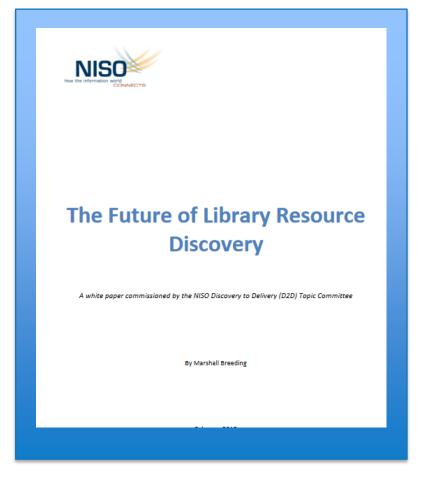
http://www.niso.org/apps/group\_public/download.php/1 4487/future library resource discovery.pdf



One area of opportunity for further development lies in the increased social interactivity with the realm of discovery services.

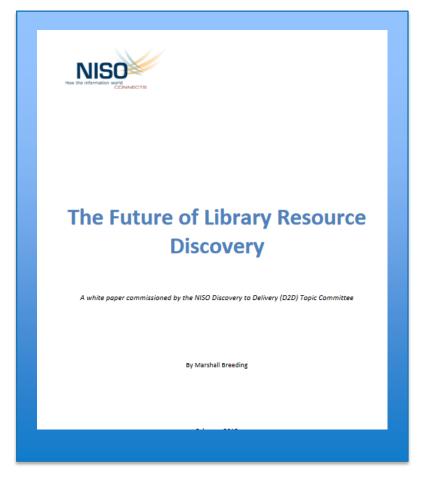
many libraries are interested in enabling individuals to interact with collections in a variety of ways. Collaborative communities of scholars might be able to lend their expertise within a subject discipline to provide additional points of access, or to express relationships among materials beyond the possibility of library-based cataloging or commercial abstracting and indexing services.

http://www.niso.org/apps/group\_public/download.php/1 4487/future\_library\_resource\_discovery.pdf



There are a variety of opportunities in expanding the involvement of discovery services into the realm of research data

http://www.niso.org/apps/group\_public/download.php/1 4487/future\_library\_resource\_discovery.pdf

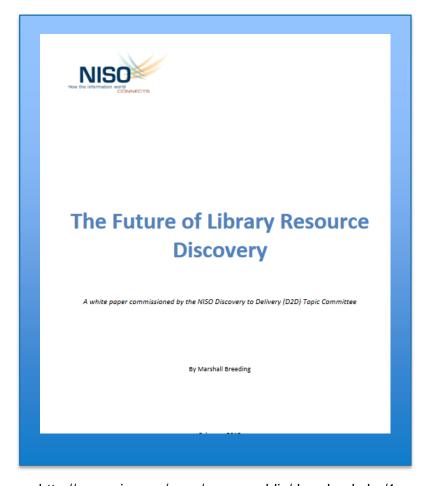


http://www.niso.org/apps/group\_public/download.php/1 4487/future\_library\_resource\_discovery.pdf

The current generation of discovery services does not necessarily provide adequate access into the **specialized** collections of the library, the archives of an institution (whether it be part of the library or a separate institution in the university), or in other departments that manage unique information resources



http://www.rluk.ac.uk/wpcontent/uploads/2014/12/RLUK-UDC-Report.pdf



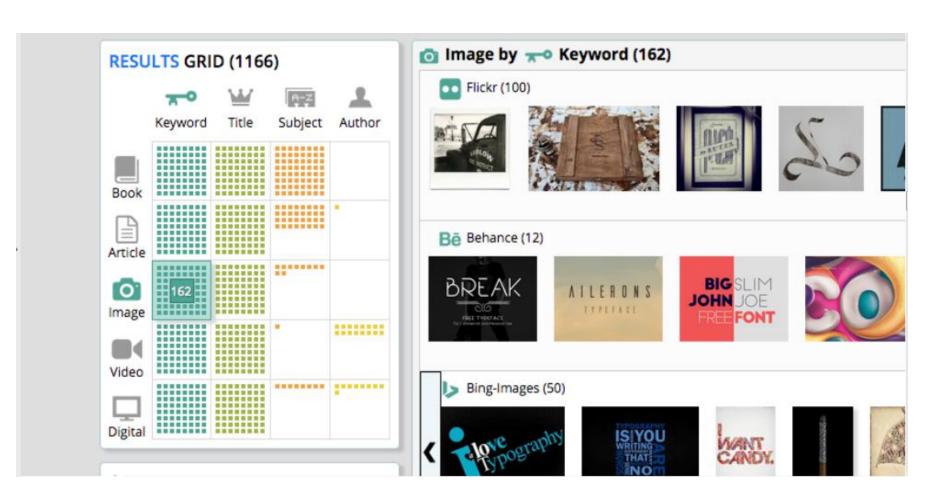
http://www.niso.org/apps/group\_public/download.php/1 4487/future\_library\_resource\_discovery.pdf

It should be possible, for example, to generate objective statistics that demonstrate the performance of the discovery environment relative to the content offerings of the library



http://www.niso.org/apps/group\_public/download.php/14820/rp-19-2014\_ODI.pdf

# New (and old) approaches to library discovery



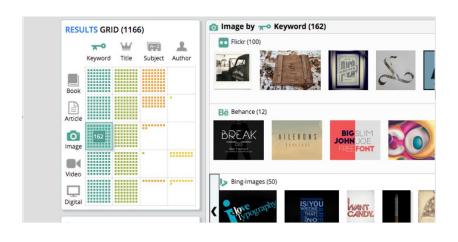
http://www.seesearch.io/

#### Searching the old way

Traditional search engines present pages of text based results showing just a few at a time. They are slow and difficult to look through

#### **Transforming the Search Experience**

all of your results in a single interactive visual display. It enables you to see, understand and access all your results in one go, so you find everything you need in one query.



http://www.seesearch.io/

# usable libraries

#### To Bento or Not to Bento – Displaying search results

(S) January 4, 2016 Lemily Singley

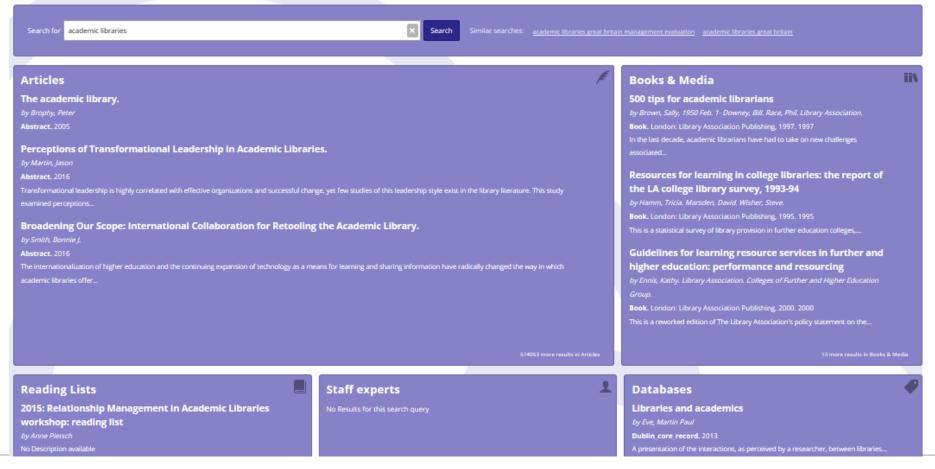
Many academic institutions – including my own – have moved to a "bento-box" style search result display: a single search box that returns side-by-side results from multiple library search tools, e.g., library catalog, article index, institutional repository, website, LibGuides, etc. In this post, I explore the pros and cons of "bento-ing."

http://emilysingley.net/to-bento-or-not-to-bento-displaying-search-results/

## CAPITA

## **Full Library Discovery**

## **IIII** Explore the library



#### Federated search is not dead....

#### Pre-harvested Metadata

- Bad metadata = bad links
- Publishers' metadata # Discovery collection index
- Content bias
- Technical issues in linking

Conceptually: modelled on Google-style search so similar to superficial web searching





#### The Information Landscape

PTFS Europe Customer Day, 4th December 2015 Paul Mellinger, University of the Arts London

#### Federated Search

- Tailored search subject or custom
- · Real-time results
- Databases and publishers are visible!

Conceptually: encourages and facilitates deep research



The aim of the presentation ..explain the seemingly unusual choice of employing DWT's [Deep Web Technologies] **next-generation federated search engine** 'Explorit Everywhere!', branded as 'Articles Plus'.

http://deepwebtechblog.com/page/2/

#### What about reading lists?

#### Table of contents

Week 2: Betrayal. The row over prescription charges, April 1951

Week 3: Suez. No End of a Lesson

Week 2: Betrayal. The row over prescription charges, April 1951 12 items

A history of modern Britain - Andrew Marr c2007

Book Suggested for Student Purchase Essential Core Reading. See pp. 100-108.

Attlee: a life in politics - Nicklaus Thomas-Symonds, ebrary, Inc 2010 (electronic resource)

Book Essential Available as an ebook. See chapter 21.

http://readinglists.nottingham.ac.uk/lists/B70F0C40-E183-67F1-C8F8-C1F93EB9538B.html

Kenchadconsulting helping create more effective libraries.....

# What is the *purpose* of library discovery services?

#### What does the *library* want.....?





"Leganto transforms reading lists into a collaborative, streamlined experience, helping institutions boost student engagement, foster meaningful learning, and maximize the use of library collections. Leganto bridges the gaps between instructors, librarians, and students by creating end-to-end workflows, facilitating collaboration, and integrating with the institutional environment."

### What do users want.....



#### a structured approach to understanding user needs



What is the *job* -problem that needs to be solved?

Who needs to get the job done/solve the problem?

What is the particular *circumstance* of the problem?

Gains/Outcomes-what (measurable) criteria does the user consider in order to decide if the job has been successfully accomplished?

Pain points and barriers to getting the job done

http://www.kenchadconsulting.com/how-we-can-help/innovation/

What doesn't the user like about the process they use now to get the job done

- I don't know I have looked in the \*right\* place
- Can I trust the resource-book/article? E.g. Is the author to be trusted?
- I am unsure if I have fully/correctly understood what the article/book is about
- Not sure results will deliver high marks
- Have I cited it correctly?

## What does scholarship look like?

# Shelley Gullikson Usability and user experience in academic libraries. Mine mostly. HOME ABOUT UXLibs conference: thoughts MARCH 23, 2015 ~ SHELLEY



"One of the many things we did was watch videos of students trying to find information. A second year student needed to find peer reviewed articles but clearly had no idea what this meant. A fourth year student came upon an article on her topic from the Wall Street Journal and thought it could be useful in her paper because it sounded like it was on her topic and came from a credible source (not seeming to realize that a credible source is not the same as a scholarly source). I found it striking that neither of these students seemed to understand what scholarship looked like; what it meant for a thing to be a scholarly source."



Conclusion....no single solution will do it all..so...

Work to better understand your users jobs/problems-what are the most important ones to focus on.....?

Use that understanding to acquire or invent the

How?

How?

Gain

enhancer

Pain

reliever

Gain/

Pain/

barrier

outcome

Job

solutions needed

"The best way to predict the future is to invent it."

Alan Kay

Quoted in "The Everything Book: reading in the age of Amazon" By Casey Newton The Verge December 2014

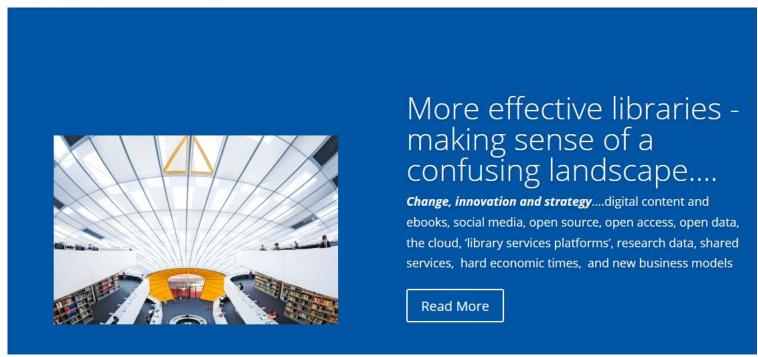
http://www.theverge.com/2014/12/17/7396525/amazon-kindle-design-lab-audible-hachette

#### THANK YOU..... .happy to help...

#### www.kenchadconsulting.com

kenchadconsulting

About How We Can Help Resources Contact



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**EDS Conference: London July 2016** 

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