
Book Section:
Tattersall, A. orcid.org/0000-0002-2842-9576 (2016) Resources and Tools. In: Tattersall, A., (ed.) Altmetrics A Practical Guide for Librarians, Researchers and Academics. Facet , London , pp. 109-135. ISBN 9781783300105

Chapter 8. Resources and tools – Andy Tattersall (8111 words)

Introduction

This chapter will guide the reader through the myriad of tools and resources available to help promote, share and measure scholarly output. The aim is to describe the catalogue of tools and techniques that LIS professionals can utilise or teach to academics and support staff and help get their research out into the world. The technologies are broken-up into various sub-headings for easier understanding, with considerations and implications for usage and are listed in alphabetical order. This is by no means an exhaustive list of technologies, but looks at the key tools with reference to how some can be employed.

Main Body

One of the biggest problems of writing a chapter like this is what technologies and platforms to include and exclude. Given that technology is moving rapidly, it is important to acknowledge that the area of altmetrics and scholarly communications now maintains that pace. Therefore this chapter is by no means an exhaustive list and by the time this book is published there will be more tools and resources available. Whilst the theme of this book is altmetrics it is important to note that despite the core altmetric tools, i.e. those that collate, measure and report scholarly and other forms of communication; we look at the many other tools within the communication of research and beyond. Some of the tools may be of use to those working in the sciences, whilst others more so for medicine, there will be of course much cross-over. There will also be many tools you have no doubt read about and used, but hopefully still plenty new ones to discover. Whilst this book also sets out to identify new ways of employing some of these technologies and as the saying goes, there are many ways to skin a cat.

How this guide works

There are a growing number of tools and technologies that LIS professionals and academics can use to help improve the communication and impact of their work and profile. These have been broken up into several different areas. These include academic networks, audio and visual technologies, content hosting and tools for measurement. The tools below are by no means a comprehensive list and it is very likely that notable additions to the list will have appeared whilst this book is in press. There are several useful ways to stay up to date with the discussion and developments revolving around altmetrics which are listed at the end of this chapter. We also look at the implications for using some of these tools and the ethics and issues LIS professionals and academics face when making a choice as to where to invest their time and energy. With a growing number of technologies comes a growing number of choices, and whilst some academics may be navigating the waters of technology for measuring and disseminating their work, many could find themselves lost as they dip their toe in for the first time. The fear is that if academics have bad or unrewarding initial experiences with altmetrics and scholarly communications that they may be even more reluctant to invest more time in such ways of working.

There are a large number of tools that can be used to share and measure academic content, some are more important than others. Whilst some tools are purely transient and may only be used once

to share knowledge and outputs others require greater investment. LIS professionals and academics are limited to a finite amount of time to discover, setup and manage these tools. Therefore it is essential that there is a good understanding as to what a tool does and where it can be applied. Academics are precious of their time, and as touched in other chapters often need support and evidence as to why they should change how they work. By encouraging them to use a tool that has no or limited benefits may have bigger implications for the future when they show reluctance to try other new tools. To some extent discovering and investing time, energy and on occasion money on new technologies and ways of working is like being a stockbroker. By this I mean that they have to carefully pick technologies to invest in and the ones that will reap the biggest rewards.

This chapter contains a list of tools which LIS professionals can use to aid researchers communicate and measure their research. Many of the platforms listed below are supplemented by an animated video from the Research Hack series I created. This collection of videos can be found on the ScHARRvids YouTube Channel or on the University of Sheffield's iTunes U profile. You will note that some topics overlap and some tools could possibly sit under several themes. For example a tool like Mendeley can be considered a reference management tool, a database, a social network and an altmetric platform. For the majority of technologies covered we will focus on that tool's key strengths. Also considering the number of tools covered in this chapter and the constraints of this book's word count it is impossible to cover many in any real depth. These are markers for tools that you may already be aware of but perhaps have not recognised the altmetric connection. Whilst some tools might not have the criteria of being an altmetric tool, many still deserve mention under the umbrella of scholarly communication. Whilst researching this chapter it has become evident that many of these new generation of scholarly communication websites are also very good at explaining what they do and how they work should you chose to investigate any further.

Building academic networks.

Part of this chapter will focus on the many academic and professional networks that exist

and the reasoning in joining them. The section will cover tools such as Twitter, Academia.Edu, Mendeley, LinkedIn and ResearchGate and Google+ to name but a very few. Over the past five or so years social networks have grown rapidly in numbers, whilst the users of these platforms have multiplied from hundreds of thousands to millions and in the case of Facebook over one billion. This growth has lead to the development of more niche social networks that are limited to hobbies and interests, geographical location, gender, religion and for the purpose of this book academic networks.

Networking plays a large part in academia, whether it be conferences, seminars, workshops, meetings or more recently technological innovations such as webinars and teleconferences. A large part of what LIS professionals and academics do is underpinned by the ability to communicate, share and network. The growth of commercial and academic social networks helps facilitate this so that conversations no longer have to end at a conference or when a project is completed. Compared to many of the other tools, social networks need greater consideration over the longer term for academics.

Social Networks

About.me

One of the problems some researchers have is that they can have multiple social network profiles but have no way to tie them in together. They may not have their own website or blog, and may not even have their own staff page if they are casual or honorary academics. There is also a problem for researchers who move jobs regularly, that trying to build that consistent online CV with links becomes increasingly harder. About.me is an aggrigator of online prescences which also allows for a one page text profile and photo. Despite being far from a comprehensive tool in terms of where it links it does have a few tools you can connect with including Twitter, LinkedIn, Facebook, Blogger and Google+. In addition you can add all of your contact details, links to such as your Mendeley profile and even apply various keywords that describe your area of expertise.

Academia.edu

Academia.edu alongside ResearchGate are two of the bigger, more established social networks for researchers. It's primary purpose is to encourage researchers from around the world to network and share papers. With over 20 million users and nearly 6 million papers, it is a huge database that allows users to read and share each other's research and provide analytics based on views and downloads from these papers.

BiomedExperts

BiomedExperts still deserves a mention and was owned by Elsevier but no longer exists as a social network in its own right any more after users were encouraged to move to Mendeley. This was following Elsevier's acquisition of Mendeley in 2013.

Facebook

Facebook deserves a worthy mention as it is a tool used by many academics, not just on a personal level, but professionally. Mark Zuckerberg's social network provides possibly the greatest angst and concern for any LIS professional and academic when applying it on a professional level, and that extends to altmetrics. In that Facebook is more often than not seen as a personal social network; and is often regarded by many in the workplace as a distraction and not work. This is understandable, in the age of digital distraction and decreasing attention spans, Facebook operates within the subconscious of many of its one billion plus users. The updates that happen by the second can be a constant lure to anyone not entirely interested in the work they are undertaking. In addition many users work on the principle of it being solely for personal purposes, talking about work in your timeline could put friends off from following personal updates. There is also the criticism of Facebook's privacy settings and how all too often users are left open following a change to Facebook's privacy terms.

These issues can act as a barrier to academics using other social networks to share their ideas and knowledge, especially if they are not too sure who they are sharing it with. Social networks can seem

like all the same to outsiders, imposing, boisterous and impractical. This is where the LIS professional can allay these concerns by having a good understanding of the privacy and ethical issues. Facebook is the biggest social network globally, the chances are if you do not use Facebook you will know someone who does. It allows its users to share thoughts, links, photos, videos amongst other things. Users can form private or public groups and can filter the posts from other users known as friends from the timeline which they subscribe to.

How Facebook can be applied

Many journals, blogs posts and other web artefacts now have Facebook 'Likes' on their pages to allow users to share or like the content they read. The value comes from users who create public posts which are monitored by tools such as Altmetric.com and can be viewed on the Altmetric dashboard for that particular journal or web article.

Google+

Google+ is Google's social media platform and direct competitor to Facebook and works in a very similar way. Google's well documented and public failure to create a social media platform to rival Facebook has meant it has struggled to gain anything like the number of users that Mark Zuckerberg's platform enjoys. Google+ allows users to connect, form communities, communicate in video Hangouts as well as post updates and create events. Google+ data is captured by the likes of Altmetric.com

Labroots

Labroots is a another academic network focusing mainly on the scientific community and was launched in 2008. It allows users to create a personal profile, follow topics of interest via various personal and news feeds. Visitors can access videos, job posts, references and other content without signing up for an account.

LinkedIn

Primarily a professional social network, LinkedIn has grown over the years to about 260 million users in around 200 countries and territories. The social network site is particularly popular in the commercial professional sector, but many academics also have accounts. This lead to LinkedIn creating a higher education strand called Higher Ed Professionals. LinkedIn allows users to connect, have group discussions, post questions, advertise and discover jobs as well as build an online professional profile. Content from around the web can be linked and shared through LinkedIn giving it a higher profile. Whilst many popular websites and blogs have a Linkedin share button as standard. Linkedin is potentially a useful tool for academics who may want to forge connections in public and private organisations.

Mendeley

Mendeley has long established itself within the academic and altmetrics community and has four main purposes. First and foremost it is a reference management tool, that works in ways very similar to Endnote, Zotero and ReadCube. Secondly it is a social network for academics and other aligned professionals, imagine it as a cross between Facebook and iTunes for research. Next it is a huge database of white papers, conference proceedings, book and journal references and other kinds of grey literature that is searchable by other Mendeley users. Finally it is an altmetric tool in that it allows users to discover how many other users have a copy of a paper in their collection. Mendeley as with many other tools such as Evernote comes in three different versions, a desktop version (usually the version that is most used), a web version, allowing users to access their accounts whilst away from their computers; and finally a mobile version via IOS, Android and via a third party Kindle App called Kinsync

How Mendeley can be applied

Because Mendeley is a collection of many tools it is worth taking advantage of this by ensuring you use as many as possible. The social network aspect is very good for researchers trying to find like-minded academics for potential collaboration. By making connections with a global audience of researchers in search for similar research it can be useful by discovering not only what they find but by communicating your own outputs.

Piirus

Piirus is one of the newer, second wave of research social networks but one that is gaining traction since starting in 2011 as Research Match. Run by The University of Warwick it aids users to make connections within your institution and further afield. As with these platforms its main purpose is to improve the connections and potential collaborations you make whilst improving the visibility of your research.

ResearchGate

Alongside Academia.edu, ResearchGate is one of the more established larger academic social networks with about 6 million users. As with the other research networks it allows users to find and follow academics with the same interests. ResearchGate allows users to share their papers, ask questions, form groups, have private chats and has its own metric system for each individual. There is also a job market and a tool to help researchers find the best journal to publish their paper in, called JournalFinder. Journal Finder allows users to copy and paste their paper abstract into the tool which then suggests a suitable journal to publish in. Despite not always being accurate it is certainly worth trying for the sake of five minutes.

Twitter

Twitter is probably the most utilised social media tool by academics across disciplines. There an incredible number of ways that it can be used in an academic setting. The platform allows users to follow, share, discuss and communicate publicly and privately with their social networks and beyond. There are several important things to remember when using Twitter in a professional setting that have been discussed in the previous chapter. Twitter is a very open tool, most

conversations take place in public and are limited to 140 characters. LIS professionals and researchers can use Twitter in a variety of ways, here are just a few of them.

- To stay up to date with peers in your area of research.
- To follow events and conferences via their hashtags and join in the conversation.
- To communicate with colleagues and your personal network in short, succinct, informal messaging.
- Create personalised searches for topics you are interested in using dashboard tools like TweetDeck or HootSuite that will automatically feed new content to you.
- Use Lists to create lists of people and expertise so you can filter through your Twitter timeline.

Another useful aspect about Twitter in the academic and altmetric setting is that there are an incredible amount of tools that you can employ to analyse your account. These tools allow you to see the reach of your Tweets and profile, those in your network and helps you make informed decisions on who to follow and unfollow. Just a very few of these tools are listed below. There are several useful resources on how you can apply Twitter in an academic setting which are listed below.

Collaboration

Authorea - Authorea is a collaborative online writing tool for academics.

Google Docs

Available to individuals or groups as part of a personal account or via the Google Apps for Education Suite for universities and colleges. Google Docs is their equivalent of word, spreadsheets and presentations. It allows for real time collaboration across the web.

Hivebench

Allows scientists to create an online ‘lab notebook’ where they can conduct and analyse experiments in one place.

Overleaf

Overleaf allows researchers to collaborate using a rich text editor as well as write and edit directly in LaTeX. Manuscripts can be edited and reviewed directly in the Cloud

Audio and video

AudioBoom

Audioboom (formally known as AudioBoo) is a micro-podcast site for your own recordings, it is what Twitter is to Blogging. The tool works across all platforms but is most useful on mobile devices and allows you to record short audio recording which you can then tag, add a picture to and geotag before uploading to your collection.

How AudioBoom can be applied

A quick and simple way to apply Audioboom is to record a short abstract of your published research. This may be just in the format of reading your abstracts, so that interested parties can listen to you talk about your work whilst they commute. Though that might sound a little daunting, an alternative is to ask a colleague or someone from your marketing team to conduct a short interview about your work. It helps break down your research into an easier digestible, shareable artefact that can be shared using social media.

ExplainEverything

ExplainEverything is a useful mobile app that allows users to screen capture web content directly. It captures all of actions carried out by the user from navigating a website to zooming in and out. It is a useful and quick way to capture what a webpage or website does. Videos can then be exported and exported to such as YouTube, Google Drive and Vimeo. It is a very simple tool and certainly used more in a teaching setting, but nevertheless has some use for instruction and training.

How ExplainEverything can be applied

This app could be used by LIS professionals to create instructional videos that help academics understand and navigate various altmetric tools such as Figshare and Altmetric.com.

iTunes U

iTunes U, with the U standing for University, is Apple's academic equivalent of their popular iTunes model which is a marketplace of mobile apps, music, books, video and podcasts. It allows academics and universities to host a variety of useful materials relating to teaching and research. The content can be video recordings or audio podcasts and not restricted to length. The materials can be stored in collections which users can subscribe to and receive new additions to the collections automatically. Unlike many other major web and technology companies, iTunes U is not blocked in some countries that some of Apple's major competitors might be. It is not a platform for direct marketing such as courses, but is a place where academic content can be shared globally. Not every institution has an iTunes U account as you cannot obtain one as an individual, but if you work for a university that does have iTunes U it is worth encouraging academics to upload content to it. Managers of iTunes U have the ability via their dashboard to view downloads and play statistics for each collection and item.

How iTunes U can be applied

Video is becoming increasingly important in the academic community as a way of delivering ideas, research and knowledge. Whilst podcasts remain a very popular way for users to listen to materials whilst on the go. Videos and podcasts do not need to be long, and there are several examples of what could be uploaded. These include short tutorials, solutions to common problems, as well as explaining research strands such as information literacy in a short video.

MixCloud

Mixcloud is primarily a DJ mix and podcasting site, although that should not put users off. It has diversified and had a section where seminars and lectures are hosted. Mixcloud is a very functional and good looking site that has social media sharing functionality as well as allowing users to embed the recordings into their own website. Academic institutions such as the London School of Economics and Stanford University host their content on Mixcloud. Like AudioBoom it is a site that lives outside of the academic arena, but nevertheless it is a useful and easy to use option to host academic outputs.

Vimeo

Vimeo is a less popular, but nonetheless quality alternative to YouTube. As with YouTube, users can upload videos and audio to the site and then share it via links and social media. Vimeo does not get anything like the kind of web traffic YouTube enjoys but it also has less adverts and from my experience, less trolling and inappropriate material. Whilst uploading to iTunes U gives your content academic credibility, YouTube also brings a potentially bigger audience. That said, if you do have time, uploading to Vimeo as well is advised. It takes very little time to upload content and duplicating them to another site only becomes a problem should you decide to remove older defunkt videos.

YouTube

YouTube is one of those web tools that most people will have heard of alongside Google, Twitter and Facebook. It is the dominant video hosting tool on the web that has 300 hours of content uploaded every minute of the day, but we can presume that number will increase. So it makes sense that if you have any video and audio content that you host it there. As with some of the tools mentioned in this chapter you can log into these tools with just one Google account. If you work in an institution that has a GAFE Agreement (Google Apps for Education) then you could either upload through your own account or via a shared one. It is important to stress at this point, that you should check with your institution to see whether the GAFE agreement covers YouTube and whether there is any risk of it being rescinded. Therefore it is important always to know where the actual video files are stored should you need to use another platform later on, which in reality is very unlikely.

Infographics and Visualisations

It could be fair to say that research conference posters are not the most attractive of academic outputs. Usually they are shorter, mirror image versions of the publication it was created from. The rules around posters may have relaxed a little in recent years at some conferences, but the majority

still seem to be chunks of text with the introduction, methods, results copied and pasted onto a large sheet of paper or material. Added to that are the obligatory pixelated images stolen from the web and the odd table or chart. Rarely do we see extended contact details, QR codes, shortened, easy to copy URLs or social media links. The conference poster for the most part feels very much after the Lord Mayor's Show as the research paper takes centre stage.

In addition there are the non-conference posters which do allow for more artistic licence, but nevertheless some of these can look as appealing as reading the terms and conditions for Facebook. There are several tools that can be employed to deliver a striking and informative poster. At conference poster sessions often the hardest part is to lure delegates to walk over from the cafe area to view and discuss your hard work. A more colourful, inviting poster could just help with that. It certainly is not a given as some academics do very much enjoy the swathes of text and graphs that stretch out in front of them.

Infographics are as the word suggests, very informative and graphic. They take key messages from a piece of information, whether that be research or otherwise, and turn it into an eye-catching, easy to digest poster. Many of the best examples can be viewed on David McCandless' website 'Information is Beautiful'. There are several tools that offer a variety of infographic options from basic, simple posters that can be exported, stored and printed, although this can involve a fee to obtain a higher resolution version. Whilst other non-infographic tools can be employed to make your posters more visual with such as Google Slides and PowerPoint being useful.

Some infographic sites have now become marketplaces where designers can be matched with those wishing to commission an infographic. It is important to note that with any infographic tool you are likely to only gain access to the basic features and templates. So whilst infographics are still gaining acceptance there is already thousands of them on the web. As a result it does mean similar posters using the same templates are likely to appear. Therefore the chances are that many of the free templates have already been used many times and whilst the chances of having the same template as another person at the same conference is slim, it could still be like turning up a party in a matching dress, with the other person wearing it better. This can be negated somewhat by paying for the more premium templates or if your funds will allow it, have someone design and create one from scratch.

Rather than cover infographic tools in any depth it is better just to list the more prominent ones and allow the reader to explore them at their own leisure.

Presentations and posters

As with infographics there are several tools that researchers can use to host their posters and presentations. Most are incredibly simple to use and can be an effective way to host academic content and share via social networks.

F1000 Posters

The F in F1000 stands for Faculty and has various strands with Posters being one of them. It is an open repository of academic posters that can be linked to the journal paper, as well as allow for comments and feedback. Posters can be shared via various social networks as well as import into a user's Mendeley account.

Figshare

Figshare is covered in other parts of this book, this chapter especially. Nevertheless it is important to note that Fighshare also hosts posters as part of its services. Among other research artefacts, academics can upload their poster and then share it more easier across their scholarly networks.

Impactstory

Again, another altmetric tool like Figshare that is multi-faceted. Impactstory also allows for the archiving of posters.

ScienceOpen Posters

Despite not featuring that many posters, ScienceOpen Posters is a repository of posters hosted on the research and publishing network.

SlideShare

Out of this long list of tools there are some that can be regarded as no brainers that academics should employ to aid the discoverability of their research, SlideShare is one of them. Slideshare was acquired by LinkedIn in 2012. SlideShare allows users to upload documents, posters and presentations to the web so others can view them. These materials can then be shared across the web using social media as well as allow them to embedded into web pages and blogs. It is incredibly simple, and only takes a few minutes to upload presentations, along with a brief description and tags to aid discoverability. The main considerations for researchers to think about are whether they have the rights to share the presentation and whether there are any copyright breaches in the materials. The issue of copyright can be a grey one at times, but there are certain things that academics should not use in their presentations and just taking content from such as Getty Images and putting a copyright symbol by the slide of does not make it any more legal. This is very much where the skilled librarian is able to help. Very often presentations are filed away after being delivered, and if that is to a very small audience it seems a shame and missed opportunity. The chances are that there are others on the web who would be interested in seeing the slides. So by hosting them on SlideShare there is a post-talk legacy which can then be shared with others across social networks and the web. In addition, Slideshare users can gain analytics such as views and downloads.

Zenodo

Zenodo's primary purpose is to share a variety of research results from across all fields of science. As well as being a digital repository for text, spreadsheets, audio and video, it also hosts research posters.

It is important to note, that whilst some tools might not be pure academic ones, it does not mean they should be excluded. Part of this book's purpose is to improve the process of scholarly communication. If that means encouraging academics to host content where the people are to be found, then it makes sense to go there, although measurement and pure academic feedback is less likely to happen. There is no reason that publicly available research posters be added to popular image hosting websites such as Flickr and Pinterest, if the content is accessible enough.

Blogging and informal modes of communication

Blogging

Blogging has been part of the academic communication cycle for some time. It is far from new within research and the LIS sector, yet has come a long way from the early text heavy versions that appeared a decade ago. For a while it looked like blogging was in decline as social media and video started to gain popularity. Yet blogging is still very much alive and an excellent platform for sharing and discussing ideas and research with peers and a wider audience. Part reason for this is probably down to the growth in the size of the Wordpress support community who use the that blogging tool in a variety of ways, not just to run blogs but also build websites. Whilst Blogger remains a very popular tool, blogging was given a shot in the arm when Tumblr appeared as an alternative to the blogging heavyweights.

Blogging is a superb way to convert your formal research into an easier to digest, informal bite-size summary. It is good practice on how to write lay summaries of your work and helps condense content that may be 6000 words long into just 600. For some in the academic community it is regarded as 'dumbing down' their serious work. Whilst impact increasingly becomes an inherent part of the research process, practices such as blogging aid the job of getting research out to existing and new audiences on a professional and public level.

LSE Impact Blog

Anyone who has an interest in the area of scholarly communication and impact should look to the LSE's blogging platforms, in particular their Impact Blog. It is a valuable resource for sharing advice and ideas closely related to altmetrics and other ways to measure and communicate research. The blog accepts guest articles, so if you are a blogger and interested in the themes around this book, I suggest you try and pitch an article idea to them.

The Conversation

The Conversation is an online publication that pairs up academics with journalists to write newsworthy articles based on their areas of expertise. The Conversation started in Australia and then launched in the UK and now has U.S and Africa editions. It is a great way for academics to share their content to a wider audience that extends beyond the boundaries of the modern university. The format is simple, the academic submits a short pitch based on what they would like to write about. If

any of the corresponding editors in that topic area like it they request a longer article, usually less than 1000 words. Once the article is submitted, the editor alongside fellow journalists edit it to make it more in line with the style of a piece you would read in such as The Guardian or The Times. The article is then passed back to the academic to agree or disagree with the revisions. Once agreed the article becomes public and the academic is given access to an internal dashboard that includes Tweets, comments and views.

Altmetrics and other metrics

Altmetric.com

As you would imagine with altmetric as a company name that their business is that of scholarly measurement and communication. One of the chapters in this book is written by Altmetric.com founder and CEO Euan Adie and covers much of what Altmetric.com's remit is. As with other tools focused mostly on altmetrics they argue that the end product is not to offer something wholly different from traditional metrics but supplementary information. These alternative indicators include Tweets, blog posts and news media coverage among other things. One of the criticisms of traditional metrics, in particular citations, is that they take an awful long time to accrue. A quality research paper could have been published a year or two earlier but may only accrue a couple of citations in shortly after publication if it is lucky. The existing system offers very little feedback to the author/s as to how their research has been received and how far it may have spread globally. The focus is on articles, not journals as with much of traditional journal metrics such as the impact factor score. Altmetric.com and its bookmarklet tool which you use in your web browser as an extenstion gives up to date information from a wide range of social media and web resources. These include social media: Twitter, Facebook, Google+, Pinterest, Sina Weibo and blogs. Traditional media: both mainstream (The Guardian, New York Times) and science specific (New Scientist, Scientific American). In addition, many non-English titles are covered. Altmetric.com monitors reference management tools such as CiteULike and Mendeley. Other resources such as Wikipedia, YouTube, PubPeer, Reddit, Publons and Reviews on F1000 are also included. Altmetric.com then takes this data and creates a visual badge in the shape of a doughnut with various coloured bands, each one reflecting where the posts mentioning the article have come from. For example a red strand means the article has been mentioned by the mainstream media, blue means it has been Tweeted about. This data can then be drilled into deeper to show where the media coverage has happened and who has Tweeted about it. The altmetric data can provide geographical information as it is not only important to know who is talking and writing about your research but where they are located. All of this data is collated and is used to create an altmetric score which appears in the centre of the donut. The score is weighted and ranges from 8 points for news coverage to 0.25 points for mentions in LinkedIn, Reddit, Pinterest, YouTube and Facebook. Additional information regarding the Altmetric.com score can be viewed here:
http://support.altmetric.com/knowledgebase/articles/83337-how-is-the-altmetric-score-calculated

Altmetric.com also provides an exploxer bookmarklet which gives an altmetric breakdown and score for any papers in PubMed, arVix or pages that contain a DOI. Researchers make up just part of the potential Altmetric.com user base, as its data can be accessible to fund holders and publishers to they can see the influence and impact of their research, whether it be funded of hosted.

Figshare

Like Altmetric.com, Figshare is a platform that has been at the forefront of the open research movement. Started by Mark Hahnel in 2011, Figshare is on online repository of digital research artefacts. These can be figures, datasets, posters, presentations, images and videos and is free to use. In 2012 Digital Science stepped into support the fledgling platform and it has continued to gain traction within the research and library communities. Since then it has gone into partnership with PLOS and now offers an institutional repository service. Whilst another partnership was established in 2013 with fellow altmetric-led company ImpactStory. The success of Figshare is widely acknowledged by the research community and the fact that they made 200,000 files publicly available in their first year gives a clear statement of intent. By September 2013 that figure had risen to over one million artefacts. Figshare allows users to upload files in any format with the intention that these files can then be disseminated more easily across the web. Uploaded data can be made private or public, with limits currently set on the individual private space at 1GB. Another aspect that Figshare promotes is the uploading of negative data, making everything researchers do citable with a DOI. Whilst academia has not always taken the best advantage of cloud-based packages, Figshare does allow users to access their content anywhere on the web. Figshare does offer a variety of packages at the time of writing this chapter that would satisfy even the most data hungry of researchers.

Harzing Publish or Perish

Not an altmetric tool as such, but is a software programme that can retrieve and analyze academic citations. It uses Google Scholar and Microsoft Academic Search to seek out raw citations and then analyses them to provide a collection of metrics. Some of these metrics include the contemporary h-index, Egghie's g-index, Hirsch's h-index, average citations per paper, citations per author, papers per author and citations per year.

ImpactStory

ImpactStory has the tagline on its homepage as; 'Your CV, but better'. Again like Figshare it began life in 2011 and is one of the champions of the open research and altmetric movement. The platform was set up by Jason Priem and Heather Piwowar on the back of a hackathon project that took place at the Beyond Impact Workshop in 2011. It was afterwards during a 24 hour coding marathon that the collaboration and platform was born. ImpactStory takes a philanthropic approach to its funding and is not for profit. ImpactStory is driven by open source, and the idea of free and open data to the extent permitted by data providers. As with other key altmetric organisations there is a high level of transparency and open communication. Unlike much of today's formal academic hosting platforms, journals or otherwise, ImpactStory gives full control over their data. Anyone who wishes to stop using the site can export their data at any time, whilst the ImpactStory software that hosts it is fully open source. Individuals who create a profile with ImpactStory can see the impact of their content spread across articles, datasets, figures, posters, slide decks and software products. From there visitors to an academic's profile can drill down into their data and see download statistics, geographical information, Tweets as well as views on ImpactStory and Figshare. ImpactStory also shows where the artefact is with regards to percentile on ImpactStory. Articles also have the additional data showing their citation, viewing and discussion activity, so that a researcher can gain a quick snapshot of how their work is being received on the web. Software products are also measured using GitHub and ImpactStory, in addition to citations and views can also have a varying level of recommendations.

Klout

Much of the drive behind most of the academic tools and resources in this book is that of improving impact of the communication and measurement of research. Kudos is not exclusively an academic tool but it can be used to measure social media reach and influence on a variety of platforms. Like Altmetric.com, Klout creates a score based on a person's impact on social media from a starting point, not their research output per-say. In reality the more you use Klout and the more successful you get at it, the higher your score will go. To some extent you have power to influence your score, more so than you could with Altmetric.com. For example if you Tweet about your work and it gets retweeted by others that aids your score, but you still need to Tweet it. The Klout Score runs from 1-100, the more influential you are, the higher your Klout Score. Klout looks at a variety of networks including Facebook, Twitter, LinkedIn, Instagram among others. It does not look at academic-focused platforms such as ResearchGate and Slideshare.

Kred

Again like Kudos, Kred focuses on mainstream social media and looks at the data to create a score to distinguish a person's influence.

Kudos

Kudos' explains its remit as helping researchers explain, enrich and share their publications for greater research impact. As with some of the other platforms covered in this chapter, their goal is to help researchers get discovered, read and cited. It recently aligned with Altmetric.com to include their metrics as part of its package. Kudos works with several publishers, including major ones like Taylor & Francis and Wiley. As with Altmetric.com Kudos also looks to provide metrics for publishers and fundholders so they can get a better picture to how the influence and impact of research they fund and publish.

Lazy Scholar

Lazy scholar was created by a Ph.D student called Colby Vorland and works as a Firefox, Opera or Chrome extension. It allows users to collate a number of metrics including the altmetric, journal impact, Web of Science scores as well as links to full text, author contact details. The extension does not always pull in the full data which is often a result of it not being there in the first place. It is however a useful and quick tool for checking the metrics, new and old in relation to a paper.

Mendeley

Much of a previous chapter explores Mendeley and is authored by Mendeley's Head of Academic Outreach William Gunn. So therefore there is little need for expansive coverage in this chapter. Mendeley is many things, it is a repository of research, a social network, a reference management tool and finally has its own alternative metric in how many Mendeley users have saved a certain reference. Mendeley can be regarded as the Google Docs, with Microsoft Word being akin to the previous generation of reference management tools. This means it took an existing and useful tool

such as reference management and applied a web 2.0 makeover. This resulted in a cloud-based, social, constantly-evolving technology. The advancement of web 2.0 and social technologies meant that tools like Citeulike, Connotea and Zotero came about as academics desire grew for accessing their research whilst on the go using mobile and web-based platforms.

Mendeley works like any traditional and modern reference management package, users can add a variety of different references to their database in a variety of ways. They can manually add references, import several of them from journal databases, use Mendeley's own web importer tool that extracts several selected results from such as Google Scholar and Pubmed. Users can also instruct their Mendeley programme to look at a watched folder for any new PDFs they place in it, as well as a 'drag and drop' function for putting PDFs into their database. The reason it belongs in this part of the chapter and more notably the book is that Mendeley has a real interest in the data that is generated by its users. One important strand of that data is who is saving papers to their accounts. How many people are saving a particular piece of research to their folders, which becomes an altmetric. If a paper is saved by hundreds of Mendeley users it could mean this is a very good paper, one that may get cited. By saving that paper in Mendeley it might mean there is an intention to cite it. Certainly if a paper is in a reference management database, such as Mendeley, it has more chance of being cited than it would if it was just tucked away on a shelf. Mendeley is able to drill down into a host of different statistics that show those who have saved a paper by discipline, geographical location and career demographics.

PLOS Article Level Metrics (ALMs)

The Public Library of Science (PLOS) looks at a wide range of article level metrics for articles that have been published in their own journals. These can be usage statistics such as PLOS and PubMed Central (PMC) views and downloads in PDF and XML format. Citations are counted from PubMed Central, CrossRef, Scopus and Web of Science. Other platforms including social networks are also monitored including CiteULike, Mendeley, Twitter and Facebook. In addition PLOS looks at the comments that are left for publication, notes and ratings within its own database of research. Finally PLOS' ALMs take into consideration blogs and media which include Nature Blogs, ScienceSeeker, Wikipedia and trackbacks. The aim of these metrics is to aid researchers and their institutions as well as funders and publishers.

Plum Analytics

Plum Analytics is now part of EBSCO Information Services and like the tools covered in this section aims to track and assess the impact of research. Plum Analytics categorise their metrics into five separate types, usage, captures, mentions, social media and citations. The platform looks at a long list of metrics that include usage statistics including downloads, full text and abstract views in addition to clicks among other things. These are retrieved from such as Figshare, GitHub, EBSCO and Dryad. Other things are measured such as bookmarks on Delicious, favourites on Slideshare and YouTube. Readers are captured via websites such as Mendeley and Goodreads, whilst mentions and comments from Facebook Reddit, Slideshare, Vimeo and YouTube are also included. The list is very extensive and can be explored further on their metrics webpage.

Snowball Metrics

Snowball Metrics agenda is to create a set of metrics that are defined and agreed by research-intensive universities. The long term aim is to create a global set of standards that are not tied to any particular provider of data or tools. As with the aforementioned metric focused platforms, Snowball Metrics do not aim to replace peer review or expert opinion. It is another set of alternative indicators that works alongside existing models of scholarly measurement.

Other notable academic tools

The number of web technologies and tools that researchers can employ to measure and communicate their research is growing at a rapid pace. Added to that are the many other useful tools for managing, citing, hosting and collaborating on research. In fact there are simply too many to mention that by the time you read this chapter it is quite likely that dozens more will have surfaced on the web. Below are a list of just a few of the more useful tools that LIS professionals should consider encouraging academics to employ.

CiteULike

DataCite

Dryad

Google Scholar

Orchid ID

ReadCube

Research Compendia

ShareLaTeX

WriteLatex

Conclusion

All the above mentioned tools can aid scholarly communications in some shape, although not all of them can be badged as altmetrics. As with so many terms commonly used in academic institutions they can be open to different interpretations. Terms such as impact, copyright, big data and open access can be seen by different people as different things. In essence only a few of these tools are truly altmetric when we think about scholarly communications and metrics. Many of them such as Twitter are instrumental in providing the data for some of the pure altmetric tools, and are themselves proving altmetric scores. If a researcher Tweets a paper and that paper is then again Retweeted by those in their field of work that provides some kind of figure. As with someone Tweeting about your latest research does not mean they will read it. The same can be said for someone downloading your paper from an institutional repository, it is no guarantee that it will get read or even cited. It could mean however that there is more chance these things will happen. For a start, by sharing your research on some of the aforementioned platforms or across the various channels there is more chance it will be viewed, shared, downloaded and possibly cited. The biggest problem for any LIS professional and academic is choosing the ones to invest their time in; hopefully this chapter helps clear the water rather than muddy it.

Key Points

As with so many areas of research, there is a growing number of technologies that can be employed by LIS professionals and academics. These technologies show any signs of slowing down in their breadth and depth. Altmetrics are just part of the equation and many of the tools covered in this chapter help shape that. For LIS professionals and academics there are many choices to make when deciding where to invest their time and energy when employing a new technology.

Web Resources

Social Networks

https://about.me/

https://www.academia.edu/

http://www.biomedexperts.com/

https://en-gb.facebook.com/

https://plus.google.com/

http://labroots.com/

https://uk.linkedin.com/

https://university.linkedin.com/

https://www.mendeley.com/

https://play.google.com/store/apps/details?id=com.mendeley

http://www.kinsync.com/

https://itunes.apple.com/gb/app/mendeley-pdf-reader/id380669300?mt=8

https://www.piirus.com/

https://www.researchgate.net

https://www.researchgate.net/publicliterature.PublicLiteratureSearch.html

https://twitter.com

Useful tools for managing Twitter

Social Media Analytics https://sumall.com/

Manage your Twitter Followers https://manageflitter.com/

Turn other's Tweets into a daily news briefing http://www.news.me/

Turn yours and other's Tweets into a daily news papge http://paper.li/?utm_expid=72755654-17.m4jg63hLTw2rNg4T1M9buw.0

Create a Twitter dashboard of timelines, keyword searches and mentions https://hootsuite.com/

Another useful aggregate tool like Hootsuite, from Twitter https://tweetdeck.twitter.com/

Guides on how to use Twitter

LSE Guide: Using Twitter in university research, teaching, and impact activities
http://blogs.lse.ac.uk/impactofsocialsciences/2011/09/29/twitter-guide/

Twitter Guide Book - How to, tips and instructions by Mashable

http://mashable.com/guidebook/twitter/

Collaboration

https://www.authorea.com/

https://docs.google.com

https://www.hivebench.com/

https://www.overleaf.com/

Audio and Video

https://audioboom.com/

http://explaineverything.com/

http://www.apple.com/uk/education/ipad/itunes-u/

https://www.mixcloud.com/

https://vimeo.com/

Infographics

Easel.ly - http://www.easel.ly/

Gapminder - http://www.gapminder.org/

Infogr.am - https://infogr.am/

Many Eyes - http://www-01.ibm.com/software/analytics/many-eyes/

Piktochart - https://magic.piktochart.com/

Plot.ly - https://plot.ly/feed/

Visual.ly - http://visual.ly/

Presentations and Posters

http://f1000research.com/

http://figshare.com/article_types

https://impactstory.org/

https://www.scienceopen.com/collection/scienceopen_posters

http://www.slideshare.net/

https://zenodo.org/collection/posters

Blogging and informal modes of communication

http://blogs.lse.ac.uk/impactofsocialsciences/

https://theconversation.com/uk

Altmetrics

http://www.altmetric.com/

http://figshare.com/

http://www.harzing.com/pop.htm

https://impactstory.org/about

https://klout.com/home

http://home.kred/

https://www.growkudos.com/about/

http://www.lazyscholar.org/

https://www.mendeley.com/

http://article-level-metrics.plos.org/

http://plumanalytics.com/

http://www.snowballmetrics.com/

Other useful web Resources

Useful websites to stay up to date with scholarly communications and platforms.

101 Innovations in Scholarly Communication - the Changing Research Workflow

http://figshare.com/articles/101_Innovations_in_Scholarly_Communication_the_Changing_Research_Workflow/1286826

400+ Tools and innovations in scholarly communication

https://docs.google.com/spreadsheets/d/1KUMSeq_Pzp4KveZ7pb5rddcssk1XBTiLHniD0d3nDqo/edit#gid=1519702055

Altmetric Blog

http://www.altmetric.com/blog/

https://www.eventbrite.co.uk/

Digital Science Blog

http://www.digital-science.com/blog/

Figshare Blog

http://figshare.com/blog

Impactstory Blog

http://blog.impactstory.org/

Kudos Blog

http://blog.mendeley.com/

LSE Impact Blog

http://blogs.lse.ac.uk/impactofsocialsciences/

Mendeley Blog

http://blog.mendeley.com/

ScHARR Research Hacks

https://www.youtube.com/playlist?list=PL1mJ7IZ3qFxjR8HhL9HX-ETHUFJz639Bt

https://itunes.apple.com/gb/itunes-u/scharr-research-hacks/id985562918?mt=10

Further Reading

Carter, R., Wood, A. & Bancroft, D., 2013. *The Legal Side of Blogging: How Not to get Sued, Fired, Arrested, or Killed* Third Edit., JENTS. Available at: http://www.amazon.co.uk/Legal-Side-Blogging-Arrested-Killed-ebook/dp/B009K4U5RU/ref=sr_1_1?ie=UTF8&qid=1444833924&sr=8-1&keywords=legal+side+of+blogging.

McCandless, D., 2009. *Information is Beautiful* First., Harper Collins. Available at: http://www.informationisbeautiful.net/.

Raubenheimer, J., 2014. *Mendeley: Crowd-sourced reference and citation management in the information era* First., True Insight Publishing. Available at: http://www.amazon.com/Mendeley-Crowd-sourced-reference-management-information/dp/062059442X.