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**Book Section:**

Tattersall, A. [orcid.org/0000-0002-2842-9576](https://orcid.org/0000-0002-2842-9576) (2016) *The connected academic: implementing altmetrics within your organization*. In: Tattersall, A., (ed.) *Altmetrics A Practical Guide for Librarians, Researchers and Academics*. Facet , London , pp. 137-161. ISBN 9781783300105

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## Chapter 9

### The Connected Academic - Implementing Altmetrics within your Organisation - Andy Tattersall (9500 words)

#### Introduction

Information and library professionals experience major problems implementing change, especially in academia. Reduced budgets are one reason, but the cultural fabric of their organisations and fields of practice are the principal problem. When trying to change organisational practice it is common to come up against a myriad of reasons why colleagues and students are reluctant to explore new ways of working. This chapter will look at the two issues facing library and information professionals in their task of providing their organisations with relevant skills and knowledge regarding Altmetrics.

#### Part 1. Getting the Horse to Water

First, there is the cultural and organisational resistance that is usually identified at an individual level and is built around time constraints, apathy, lack of technology awareness and support. The chapter will look at different ways information and library professionals can engage and encourage users to adopt a new technology or way of thinking in reference to altmetrics.

#### Part 2. Staying on Track.

The second part will look at methods of support for instructors and academics when applying altmetrics to their work. Given that academics and students are increasingly busy with more deadlines, commitments such as meetings and an increasing pressure of email and other information overload; it is essential not to over-burden their workloads with non-essential distractions. This section will look at the issue of information and technology overload and the effects on attention span, work flow and output and will provide a collection of solutions and methods to help those employing altmetrics to do so in an effortless and streamlined way.

#### Part 1. Getting the Horse to Water

Library and information professionals will come across a wide range of groups and individuals as part of their role to help and support people. For those working on the front line they will respond to a multitude of enquiries and requests. These interactions offer library and information professionals an ideal opportunity to build up their customer skill sets and their own skills as they are often asked to investigate a new unsolved problem, often using technology such as social media.

As discussed earlier, altmetrics offer many opportunities for library and information professionals as a way of showcasing their skills. Librarians have been active on the Web since its conception and increasingly through the development of Web 2.0 and more recently via social media. Many library and information staff use these technologies in a way that transcends their workplace into out of hours social networks about their profession. They blog, Tweet, and have actual weekend meet-ups to talk about library technologies and policies. A good example is the unconference event Library Camp where those with an interest in libraries, meeting at weekends. The point being that many advocates at such initiatives are willing to put aside extra time to discuss their field of work and interests. The same can be said for technologies and librarians, they spend much of their own time investigating new tools they can employ as part of their own work. They are also interested in information literacy,

copyright, critical appraisal and good practice, all of which can be translated through their role within the library to researchers.

If you are an academic librarian or information professional the chances are that you will come into contact with academics, teachers and students. And if you share a natural interest in technology, the chances are some of these people you work with will share the same interest in developing technologies and the use of social media. That said the majority will either be happy working as they already are or are blissfully unaware that their world is changing thanks to social media and technologies. Roger's Theory of the Diffusion of Innovation states that the majority of users of technologies and innovations embrace a new technology after the minority of innovators and early adopters have done so. The take up of a new technology relies heavily on four elements, the actual innovation, so in this case altmetrics; the communication channels, which for a large part operates within social media and therefore can be a barrier to those not using it. The other two are time, which we will discuss further on and a social system, which we have as the organisation or wider group the library or information professional is trying to engage with.

The problem for academia and to some extent altmetrics is that there is a huge shift happening that could have the potential to affect every researcher, teacher and student in the future. The main protagonists being Massive Online Open Courses (MOOCs), Open Access (OA) whilst there have been a rapid growth in interests regarding Information and digital literacy. Add to this the continued expansion of social media and mobile learning as a means of communication alongside that of altmetrics, professional support staff have a lot to consider. For those working in more focused roles it will be easier to decide where they use their time and effort to support staff, for others they could be overwhelmed by the changes going on around them and the demands to help others adapt to them. There is also the increasing demands on researchers to create better quality research, more of it and more recently measure the impact of this research. For the majority of academics they may not be aware of the implications of these shifts and working practices could continue as they are for many years before we see a widespread technology-driven change and for some academics it will not make a difference as they will have already retired.

Before undertaking any kind of development, support and outreach for something that can appear wholly alien to a large percentage of academics and aligned professionals it is only realistic to expect limited success in some areas. This is especially so for anyone working on their own and across different teams and departments. Those in liaison, technical specialist, subject, development and impact roles are often left to work in isolation for large periods of time. This means they are a finite resource, whereas a large shift in working practices using technologies can take up a lot of that time, not only in deploying technology but understanding it. Therefore it is important to understand your limitations and where you can achieve quick wins and in turn highlight what can use up your time. Benjamin Franklyn was a man of many quotes amongst other things, but this one typifies what many agents of change come across in their daily role; "All mankind is divided into three classes: those that are immovable, those that are movable, and those that move."

Therefore for those who have limited resources and time should look to work with the last two groups as identified by Franklyn. By identifying those that 'move' you are able to make connections with useful champions who in turn can help promote altmetrics to those that are movable. It is important for anyone who facilitates any kind of change within an organisation through staff development and the take up of something like altmetrics that they know how far their resources and patience can stretch. It can be exhausting trying to bring about a change in how people work and use technology,

too many defeats can have a negative effect on the morale of the teacher. So by understanding the academics better, defeats can be less by avoiding the battles you are never likely to win.

### **Altmetrics and Social Media – A blurring of boundaries**

One of the biggest challenges facing library and information professionals by persuading academics and students to engage with altmetrics is the fact that some of the tools employed cross over professional and personal boundaries. If you consider some of the tools that are used to create the metrics within altmetrics with Facebook and Twitter being good examples. If you consider two of their most important components Likes and Tweets, how they applied and then transfer it to an academic setting you can understand why researchers have some reservations. This is because Facebook and Twitter for the most part are considered personal social media tools and more importantly personal spaces. If we consider who is most renowned for using Twitter such as Stephen Fry with his six million followers, whilst Facebook is regarded for mass advertising of products based on algorithms derived from personal data from discussions, Likes and Shares. This creates a huge barrier for academics who for the majority have worked purely in the mostly protective domain of academia throughout their career. We hear about universities being referred to as ivory towers in that they remove academics from everyday life. Social media is the opposite in that it puts people in the spotlight of everyday life.

Social media within altmetrics work on connectivity, communities and measurement of the information and data that is hosted and shared via the various platforms. It is a system of sharing and highlighting research, not always good research, but it aids a quicker and simpler communication process. Whilst social media reflects much of what happens in real life in that it captures the good, the bad and quite often the ugly. At any given moment on Facebook people are sharing kind words, funny web-links and hateful messages. This can be a concern for anyone who decides to step from using social media on a personal level to a professional one, or from a position of not using it at all.

### **Academics need evidence**

If you consider how many academics carry out their research it can be quite a laborious and methodical process and one that has to be under-pinned by as much evidence as available to them. This way of working will have been taught to them from their time at university as a student. They will have been taught to question hypothesis and not take things on face value. So with regards to embracing altmetrics and technologies as a whole, there are various questions they may have, that the library and information professional will have to answer.

- What are the benefits?
- Is this a good use of my time?
- Is this system good quality?
- Is this system stable?
- What are the pitfalls?
- Why use this technology, could it just be a fad?

### ***What are the benefits?***

Obviously there are chapters written on this topic within this book so it would be fair just to cover this question briefly in tandem with the second point – it this a good use of my time? To do so it is a good idea to include a couple of real-life scenarios which capture both ends of the spectrum academic librarians may come up against.

### *Is it a good use of my time?*

The problem many of us have is utilising our time more productively and efficiently, especially given the growing demands on our time and attention on our modern lifestyle. The answer may lie in who is asking the question as to why they should work in different way. We have to remember at this point that even though many academics use social media on a personal level, they can struggle to make the transition towards a professional use. There are some tools that academics will see as very personal, Facebook, Instagram and FourSquare, whilst others that are professional, such as Mendeley, ResearchGate and LinkedIn. The problem lies in that some of the tools sit in between the personal and professional sphere, as to what the famous cricket commentator Geoffrey Boycott would refer to as the 'corridor of uncertainty'. These tools can include Twitter, YouTube and Google+ amongst others. The first two examples can highlight what a confusing world social media is with regards to altmetrics. Twitter is extensively used by celebrities and the media and there have been several high profile stories featuring celebrities, sports people and politicians who have publicly fallen foul of its misuse. As there have been so many high profile scare stories it is likely most academics will have come across them and this can only build up their reservations and fears and can become a barrier to their use in an academic setting. The thing we have to remember is that for the most part, no one expects academics to engage with social media and altmetrics, and by choosing to engage it can be perceived that they are taking leap of faith, very much into the unknown.

To help answer whether using Altmetrics and social media is good use of time it will help to set a few scenarios up.

#### **Scenario 1**

Say for instance the academic asking the question; 'is this a good use of my time?' is a couple of decades into their career, they are a senior academic, possibly a professor and have several published papers in a high impact, peer-review journals. They are thinking about engaging with social media and altmetrics but are not sure whether it would actually benefit their career at this stage. For senior, established academics they are potentially more likely to be interested in what is happening in their field and the discussions taking place on social media than improving citations for their papers as they have already gained plenty of recognition from this area.

Senior academics engaging with altmetrics and social media carry more influence than their junior colleagues and there is the possibility that they may have come across peers who are using social media and altmetrics as part of their own learning and impact agenda. It is highly likely that some of their peers will be active on Twitter, so this is a good place to start and something the library and information professional can find evidence for them. A good place to start is to find out who from your own institution, but more importantly at other institutions are actively Tweeting about their work. It is particularly useful to find those that are actively debating and open for conversation about research topics they are interested in. Given that there is also a competitive element to academia and publishing, tools like Twitter can enhance that as it is seen by some as a massive multi-levelled computer game where users try to achieve new goals via followers and ReTweets. That said, the real benefits come from finding useful research, sharing content, promoting your own outputs, forming networks and having discussions.

If you are able to help your senior academic build their network of peers and useful resources, the next issue will be that of helping them manage their time and what they can actually start to share online. We will cover that further on. Certainly one good case you could argue with regards to such as

Twitter and getting users to engage is to explain it like this; 'there is a conversation about a topic that interests you, whether you decide to join the conversation is down to you'.

So whilst using altmetrics to improve citations may not be of the utmost importance to the more established academic, it could be a potentially fruitful route into discovering new hot topics and debating them with established peers and new global audiences.

## **Scenario 2**

An early career researcher who uses social media every day, mostly for their personal life wants to use social media and altmetrics within their professional life. They have an idea of the basics, but are also concerned that their line manager who is an older, established academic might perceive the use of such tools as not constituting as work.

Taking evidence from the individuals who have set up altmetric focused companies, Figshare, Mendeley, Altmetric.com, ImpactStory et al and others pushing the altmetrics agenda they are usually younger, PhD level early career researchers. So the early career researcher is not alone and may discover they have the same reasons to investigate altmetrics as those who originally started the platforms. For example. They may have datasets that they want to share publicly for others to use, they may wish to convey their research via a blog, or open up discussion with their peers on Twitter. To some extent there is the force of technology change driving this agenda, whilst there is also a desire by early career researchers to modify or change an established system of research dissemination and evaluation. This is very much felt within other such changes in academia, open access and MOOCs as some leading the charge are doing so because of altruistic reasons or that they just want to shake academia up from the last hundred or so years. There is to some extent an underlying ethos of there is nothing to lose by those who have not yet established their research careers. Yet for the young academic with their first contract in a research facility it can be daunting to work in a way that is alien to that of your departmental colleagues.

The answers lie in providing evidence as to the benefits for this user, in addition to time management tools for altmetrics. Like the first example, the researcher can benefit by creating social ties, except they may focus towards following the influencers in their research field as well as their peers. This may be journal editors, established academics, professionals and organisations. By getting involved in the conversation that is happening in their area of research they can help establish potential networks and future collaborators. With a little ground work the young academic can start to get their own work and expertise broadcast out to the web and start to have conversations that they may never have had, even at an international conference. Social media is great icebreaker; it allows users to make opening informal, brief contacts with other people. An ideal use is at conferences, especially if the junior academic is following such as the conference hashtag. By replying to Tweets by other delegates they have the potential to open up channels of communication that can last well after the conference has ended.

The time issue is key, especially when careers can be defined by the worryingly short sentence of 'publish or perish'. There is real pressure on early career researchers to maintain a consistently good quality standard of work for them to move up within their field of research and obviously to work very hard. Yet as mentioned previously altmetrics can potentially afford those developments if used wisely to establish contacts and discover useful knowledge. The problem is that managing these extra streams can be seen as a distraction from the work a researcher is often contracted to do. A useful tactic to solve this issue is down to good timing and when a user communicates or

shares something interesting. There are tools out there that allow users to schedule their Tweets, blog posts and even their emails which are covered previously in chapter three. Another useful tool that can be employed is to use mobile devices more fluently. Many academics now have smartphones and an increasing number have tablet devices. These tools allow users to interact; stay abreast of research and share ideas whilst travelling or in-between commitments, whilst there is no longer a need to be behind a desk to do all of this. Modern workforces are increasingly becoming mobile, working whilst travelling, at home and at conferences and in hotels. Some of this time can be applied to building and establishing academic networks, sharing ideas and published work. By using some of the short cuts available thanks to technology with such as IFTTT, TweetDeck and Google Docs, all covered in chapter three, researchers will be better placed to engage with altmetrics without disrupting the periods they spend actively conducting research.

### *Is this system good quality?*

Perhaps the hardest question to answer out of them all, as what defines quality these days? A larger factor as to why altmetrics appeared was that many felt the existing methods, citations, impact factors etc did not only fail to capture everything but they did not always highlight quality research. Yet it is a question that is being asked, do altmetrics work and do they highlight quality? Whilst critics of altmetrics question this quality, it is understandable when a new system appears that users would wish to scrutinise it and test it out. This is especially so in academia where there is a strong need for a good evidence base and debate and criticism come with the territory. Also with any kind of new technology and innovation there is the Hype Cycle curve; where a new technology idea often goes through the journey of being lauded before critics start to dissect and pull it apart. Such as altmetrics, we have seen the various platforms go through a period where for the most part their has been positive interest, but with that comes more criticism as some look to uncover the technology's shortcomings. If altmetrics continue to grow in interest and backing from such as publishers and in time researchers and their institutions we may start to see that curve flatten out into what Gartner would refer to as the plateau of productivity, but that may be some years away yet.

The answer to the question whether Altmetrics provide quality, or certainly an improvement on the existing systems is only just starting to be answered. Research has been undertaken by various academics and are varied in their conclusions. Some will see Altmetrics as the one stop shop for academic output measurement, whilst others as part of becoming something else in time, whilst detractors will see it as nothing more than a fad. Detractors of altmetrics see it merely as a distraction or attention tool, a distraction to researchers and their work, or it just measures the attention of readers and viewers, not the actual quality of the research. Some critics are concerned that altmetrics will measure and reward a researcher's ability to communicate, not the quality of their research. Certainly how research is measured will continue to change as we continue to change how we produce, share and find such resources. We are talking about research on the Web more than we have ever done, from academic blogs such as The Conversation to Twitter hashtags, discussion fills every second of every day.

The tools systems that have been created to carry out and measure impact and sharing are good quality, they work very well. Mendeley was bought for an estimated \$100 by Elsevier in 2013 and is widely respected as an excellent academic network, research discovery and management tool. Altmetric.com have established collaborations with Springer and ScienceOpen in 2014, whilst Impactstory receives funding from the National Science Foundation in the United States. The more relevant question is perhaps are there too many tools and systems? Whilst the biggest problem for academics, fundholders and administrators may be that an overburdened system may become increasingly so.

That said, systems do evolve and the current ways of measuring research have been with us for sometime and as identified by various organisations and academics, such as Figshare and Mendeley do not best measure the breadth and depth of current research outputs. What they do with these new outputs and how it affects the research community and society as a whole is still not answered fully.

### *Is the system stable?*

This is not just a case of systems remaining stable and online but also will the systems be around in years to come? In recent years those working in universities and research facilities have become more reliant on third party software hosted from outside of their establishment, this has become increasingly so with the introduction of cloud computing. Many academics are now using social media as part of their work, tools like ResearchGate, Twitter and Citeulike to name but a very few. These tools host information about the user, their professional interests, thoughts and ideas, they are very unlike the previous ways of working where all of this content was often stored on a single, local hard drive. So the concerns for researchers moving more towards the cloud and the use of social media and altmetrics are usually these:

1. Is my data secure?
2. Who is behind this platform?
3. Who owns my content?
4. Will it still be here in the future?

These are usually the biggest concerns any researcher will have when using third party applications, in many cases they have no concerns. If we consider the widespread use of Facebook with over one billion users, we can safely say that despite many have concerns over their privacy and the changes Facebook makes to it, the majority have never read the terms and conditions to its use. The same can be said for most tools used in a professional setting. Even so, that is no big concern with the majority of these tools, the real problems arise with using online technologies when they involve your bank details or personal home information.

Many web-based software providers have SLAs, which are Service Level Agreements, which state the level of service you can expect from them. This can include the expected down time they may have in a year, or the estimated time they will take to resolve problems users may have. It is very unlikely that any software provider would offer a 100% SLA. Over the last decade web and storage hosting has become much more reliable and it is rare for third party tools, especially established ones like ResearchGate and Mendeley to go offline for more than very short periods.

As to whether your data is secure, this very much depends on what kind of data you are putting out there. Is it personal data that you would not be willing to share, is it research data that is sensitive such as patient data, or is your own actual data? Often websites and companies are targeted to obtain information relating to user's personal details, for example their home address and bank details. Most altmetric tools do not capture this information as the majority are free, whilst others such as Mendeley have secure payment methods for premium versions. With any online account you set up, it is important to assess the security measures each platform puts in place. The rule of thumb is to apply common sense, if you are wanting to use a platform like Figshare to host your data it is important to ensure it is data that you can host on a third party tool.

The first three questions can be answered by reading the terms and conditions and 'about us' pages of altmetric tools. Many of these tools are now aligned with academic institutions, publishers and fund holders, this at least gives some reassurance to their motives and stability.

As more and more tools and applications appear on the web for academics, library and information professionals to use the more the question will be asked about which one should they invest time in, hopefully chapter three will help with that, and will they be about in the future. Certainly nothing is guaranteed and Web 2.0 tools have in the past disappeared without a trace. Useful tools like Pageflakes and ScreenToaster both used within the academic and library settings are good examples of this. Yet many of the applications academics use such as Mendeley and Twitter have millions of followers and have created sustainable business models. Many are funded by publishers or by offering premium paid accounts and many of the tools covered in this book have been around for almost a decade with no sign of going out of business. Technologies within academia is a growing business and although some of these tools are not directly involved in altmetrics, the increased interaction by many of them with their API development and collaborations helps sustain their future.

Many of these tools also have good export functionality, so that your information and data can be pulled out and used in other platforms, so there is no need to be tied to one platform. The constant change in the technological landscape can be for many academics frustrating and disorientating with altmetrics being just part of that shift. Library and information professionals can help their colleagues understand the reasons for engaging with these technologies, diffuse their concerns and provide solutions. This is a skill that they are very adept at, whether it be through the adoption of eBooks, new databases or catalogues and technologies.

## **Part 2. Staying on Track**

Academics can be used to prolonged periods of being focussed on single problems or projects. They become experts in their field of research by working in this way and with the support of library and information professionals they can take advantage of altmetrics and social media in a way that should not affect that system of working. As previously discussed, getting academics to first investigate and engage with new technologies can be a challenge but can also have rewards. For the embedded academic librarian this can be helped by building professional relationships with other aligned professions such as learning technologists, research support staff, IT and marketing professionals. Encouraging academics to stay on track with new found technologies can be hard, they can be concerned they do not have the time and often they can feel alone in using a technology and be left wondering what are the benefits when they are yet to reap them. Encouraging academics to change how they work using technology can have varied results, but for the better positive outcomes it is important the library and information professional remains visible as support mechanism. If not the academic may only need one or two bad experiences, failures or disappointments to unravel the earlier work gaining their trust to first use the technology. Below are some strategies library and information professionals can employ to help academics stay on track once they start using altmetrics.

### **Find a twin**

Quite similar to the idea of a buddy system, which is often used to create a support network between two people who work towards the same goal. Finding a twin is the idea of seeking out someone you regard as a professional equal, this may be same job, department, grade or research interests. Whilst all of the above may not be enough for some academics this is another tactic library and information professionals can try to win over the more sceptical of users. That is to find a twin, someone the academic can genuinely relate to and in particular respect. This is very different to finding champions where you look at your own organisation for natural allies to champion change, often a researcher who carries much influence, career or personality-wise. Twins can include peers from outside of the campus, even possibly in another country. This of course can take a bit of time and research and sometimes it is just as well to ask the reluctant academic who their peers are. The chances are that

they will name one or two who are active on the social web, sharing references, presentations and publicly chatting about their research. Given that some senior academics are highly competitive there is always the chance they will look upon their peer as being connected this way, having a certain number of followers and an audience, as a challenge. Champions will help the library and information professional push the message across campus, but twins will help spur on (often without knowing it) a peer to engage more with this kind of technology. This only works by first and foremost showcasing academics who they can directly relate to. It is unlikely you will be able to encourage a professor of health economics to use Twitter by showing them a professor of history by the number of followers and Tweets they have, and visa-versa. In our Information Resources department at the University of Sheffield it is a tactic we have used for many years with moderate success. The idea of using the term 'twin' was created by Claire Beecroft who writes the chapter on the use of apps later on in this book and who is herself a twin in real life.

### **Understand the researcher**

This is something that cannot be understated as a mechanism for successful engagement. Academics come with all sorts of different personalities and agendas, some are more approachable than others. There is no hard or fast rule, there are some professors you can approach comfortably, whilst junior researchers you cannot. Nevertheless it is in the interest of the LIS professional to understand how the modern academic works, especially as that has changed dramatically in the last two decades, mostly thanks to technology. We only have to think about how technology has impacted every aspect of our lives, social media, email, smartphones and cameras have changed how we work, communicate and think on a tremendous scale. So we have to think about the modern academic who unlike those a generation or so before had a very different workflow. Twenty years ago there would have been very little access to the Web and email, mobile phones were the size of bricks and you had to take your camera film to a chemist to see the results of your holiday snaps. All of the things above had little impact on academics, they wrote papers, read journals and books, gave lectures, attended conferences and meetings. They still do all of this and like for the rest of the modern world their workflow has had the potential to become incredibly fractured and distracting. The reason for this is simple, that we are only ever a click away from the latest news, updates from friends, funny videos of cats and from buying goods. That is not to say academics are affected like this, but the development of Web 2.0 has opened up opportunities for distraction and the social web has increased this incredibly so. So with altmetrics and the close association with social networks and media it is important that any support and outreach is delivered in a way that considers this. This is why it is crucial that LIS professionals trying to deliver new ideas and ways of working understand not only what their users want, but also how they work. By introducing altmetrics into an academic community it can be a disrupter, one that can be argued is well overdue, nevertheless it will be met with varying degrees of enthusiasm. Also taking into consideration changes in technology to support teaching and communication it is important to remember that academics have had their workflows disrupted already. Consider that many now use virtual learning environments (VLEs), Google Apps, web conferencing, more technology systems for uploading their research and applying for funding; and this is before we consider how email has left many feeling overwhelmed by information overload. We also have to consider how such as working online has led to ethical and technical questions over privacy, copyright and security; remember we are talking about encouraging academics to become more visible on the Web. There will be academics highly sceptical about this change, they will have concerns about what they can say, share and reply to. So therefore it is crucial that LIS professionals remain as allies and supporters not burdens and the best way to do that is understand their users, this being not just what they want, but how they work.

To some extent this happens throughout the course of a career, it is tacit knowledge that the LIS professional gains whilst in an organisation. It becomes easier as you make contacts and build relationships to see who appreciates your support and looks for change as opposed to those who are happy to carry on as they were. Whether you agree in the digital immigrant, digital native narrative, whereas the researcher of today is technologically fluent and the previous one ignorant is irrelevant. We have to consider that the academics of the future will be very different from those of today, their experiences of being a student will be hugely different from that of their senior colleagues, mostly influenced by technology. We have seen a new generation of web users who engage with the web in a more immersed and fluid way and for some will go on to become academics and in turn will be more likely to embed Web 2.0 and social media into their workflows, as they have done whilst as students.

You may already have made useful contacts with academics in your organisation and have a good understanding of how they work and the pressures placed on them. If not, then a good approach for any LIS professional wanting to understand the modern researcher and how they work is to ask whether you can shadow them or undertake a survey as to their perceptions of technology and such as social media and altmetrics.

### **Make a good start**

As previously touched on, many of the altmetrics measurement tools fall within the boundaries of professional and personal use. It is a fair assumption that some academics are already comfortable in their use, or at least believe themselves to be. Nevertheless, that may be on a personal level, within a personal setting and at a time when they are away from work where they may be more carefree about what they say and share. Because so many people now use social media, and that it has been established for almost a decade, there is a tendency to think we know how to handle it. That said the purpose of this book is not to explain how to use social media, that has been done many times before. The purpose is to explain how it can be applied fluently within an academic setting, why it matters and what the pitfalls are. One of the biggest problems is that social media reflects life, the good and the bad and that can stretch to the workplace.

For academics to continue to engage with Altmetrics they need, for the most part, a beneficial and positive experience from early on. Using technology, especially social technology for the first time can be a bit like going to a restaurant someone has recommended and not having an enjoyable experience for one of various reasons. The chances are that person would never go back, technology can be like for some users; in that they try something new and have problems only to decide not to do it again, or at least for some time. A good example is when teaching staff accept students as friends on Facebook only to regret it later as they see it comprising their personal-professional boundaries. As a result they can be put off using social technology. Another problem can be that social media is renowned by its very open and informal nature. As a result academics can be put off by its openness and that others can use the channels to direct criticism and even abuse towards them. Whilst there is the common problem that these tools can take time to propagate, nurture and grow, especially if the academic is on a steep technology learning curve. Take for example an established career researcher who is moderately well known within their area of work. They may decide to start sharing their research and knowledge on the web using Twitter. They may already be aware that a few of their peers have been doing this for some time and have gained quite a good following from colleagues in the same field of work. So the academic new to Twitter may expect to gain similar results fairly quickly and with minimal effort. Yet for most academics it does take some effort on their part and peers are more likely to follow and ReTweet them if they Tweet something that interests them. Once the academic finally launches their professional, social profile there is another issue relating back to

the earlier one of professional and personal boundaries. Even though many academics use tools like Twitter on a wholly professional level, others may want to show a personal and informal side. This can be off-putting for some fellow academics who would rather just know about their peers' research outputs than what they had for breakfast. Despite some users trying to lay down ground rules for social media use in academia, it really does come down to personal taste. As to whether an academic is using social media and altmetrics correctly will come down to a few basic identifiers. Firstly have they gained an audience, and is it the right audience? If the academic is to engage with social media for their research they need to reach the right people, those being with the same or similar research interests, whether that be journal editors, fundholders, academics, journalists or public servants. It is fine to have others follow from outside these groups, but if they work in medicine and all of their followers are from arts and humanities; the chances are they are not talking about medical research via these channels. As a result there is less chance of their content being shared to the right communities and any metrics used such as altmetrics could reflect that later on.

### **Use your networks**

It becomes increasingly important that academics stepping into the world of altmetrics and social media for their scholarly communication and measurement are given as much support as possible. It is also important to remember that this support, where possible, does not have to come from the library and information professional alone. Remember that often academic support staff often work in isolation or as part of busy teams, so trying to get a group of academics to become socially and technologically adept can take up a lot of resources. This is where established networks and creating new ones can help. Often LIS professionals, especially the more social and technology enabled ones network and collaborate with other academic and professional groups. Through this networking they are able to gain more knowledge and techniques for enabling and helping others. In some institutions and organisations there will be a hive community of like-minded individuals who share knowledge and champion change. Whilst others will operate in silos, doing great work yet unaware of their colleague's efforts. By being part of a network of like-minded peers from information and learning technology, libraries, marketing, communications and pro-active academics already using social media and altmetrics the library and information professional has a better chance of success. The chances of successful altmetrics adoption is to provide a consistent and helpful support base.

### **Find Champions**

Another approach library and information professionals can take to encourage academics to engage with altmetrics is to discover and connect with those already engaging successfully with these tools within their organisation. If the environment within the academic institution is just right, in that there are few barriers preventing users from engaging with technology; there is a good chance that technology champions will already exist on campus. These champions may have already done work with the support of professionals such as librarians, learning technologists and IT staff, or on their own initiative. Working with champions can have multiple benefits, firstly to share knowledge, resources and ideas, secondly to provide support to a user who may be receptive to additional help; and finally the additional bonus and help champion the library's cause. This can be very beneficial when trying to support an academic new to altmetrics as they may be more receptive to change if it is under-pinned by evidence from a colleague, especially a respected, pro-active one.

### **Practice what you preach**

For a librarian to have greater success in encouraging academics to engage with altmetrics there is one simple rule they must try to follow at all times. That is simply 'practice what you preach'. Therefore, if you are instructing a student how to manage references using a software package, you also use a software package to manage yours, if you are instructing them how to use altmetrics to promote and measure their research; you use altmetrics in the same way where possible. Given that many library and information professionals work using technologies and web tools aligned with altmetrics that should not be too much of a dramatic shift. Whilst for others it could be a large under-taking, especially given busy workloads and changing environments within academic organisations. Yet for academics to understand and utilise altmetrics better there needs to be an understanding, translation and continued support. Using the tools and technologies, which many LIS professionals already employ, can help enhance the profile of library and information staff if adapted and used correctly. Given that many LIS professionals have strong networks, attend conferences, seminars, webinars, workshops, committees, write papers, books, reports, give presentations, talks, write blogs amongst many other things; there is no shortage of content that can be broadcasted to expert communities synchronously and asynchronously. There are many quick wins to be had if taken and by doing so it has the three-fold return of promoting your expertise, building networks and gaining skills to help academics to do the same. Below is a short list of how LIS staff can use social and altmetric tools to promote their own work, which in turn can easily be translated across disciplines.

### **Stay on focused on your topics**

Another way for the modern LIS professional to engage with altmetrics and associated technologies is to try and stay up to date with new developments, discussions and ideas. This can come from Twitter and RSS feeds, following altmetrics, bibliometrics and academic blogs, joining Mendeley, LinkedIn, ResearchGate groups. Curation tools like Pinterest, EverNote, Readability, ScoopIt! And Padlet can all be used to build evidence based resources and hot topic lists. This of course can be quite overwhelming, so it is important to use tools that can help create digests and streamline content for you. Also it is important to resist the desire to read everything on a given topic, even with something like altmetrics, the chances of being able to read everything published on the matter is highly unlikely.

### **Raise awareness**

Time is increasingly an issue for any professional who supports a wide user base, especially a proactive one who may work largely in isolation. Many reading this book will fit into this category and will often spend large periods of their time working in isolation, either attached or unattached to a group or team. Therefore it is important to follow the other suggestions covered previously as they all form part of a strategy for supporting for colleagues. For liaison librarians, information specialists and academic support professionals it can be increasingly challenging to get amongst academics and their busy workflows to encourage how they maximise their outputs and use different methods to measure them. Academics may not always understand the diverse skillset that LIS professionals have, they may associate you with a library, books, databases and possibly how to review literature. The chances are that the academics you support will all have different ideas of what your job entails; they will know a large part or very little of what your role can do to help them. Yet LIS professionals can have a wide range of skills, including teaching, training, appraisal, academic and blog writing, technical, communication and problem solving skills; all of which can be applied to altmetrics.

Despite this wide set of skills and potentially diverse set of users to help support there are still issues to how best apply your time to creating awareness initiatives. Whilst these are not exclusive to altmetrics training and dissemination, they are good strategies to employ when encouraging

academics to assess and understand these and other technologies. Also, given that LIS professionals can receive a large number of enquiries on a daily basis it is good practice to build processes that remove duplication and repetition where possible. There are several ways LIS professionals can use awareness sessions to encourage academics to understand altmetrics and associated technologies better.

### **Instructional materials**

These can be delivered in many formats and are various pros and cons that are highlighted below.

#### **Paper technology guides**

Creating something as simple as a one page instructional guide can be an effective way to help academics and others to understand the complexities of a technology by providing an abstract of what it does and a list of possible applications. Also, by adding such as QR codes to web resources and videos you help the user to explore the technology further.

Pros: A quick and simple way of explaining a technology to a user without excessive cost with regards to time and production. Guides could be hosted online for users to download and read on a variety of platforms.

Cons: Technologies change at a growing pace, such guides would require updating on an 'as and when' basis. The more technology guides you compile, the more work it is making sure they stay relevant.

#### **Video guides**

There is no better way to explain to a user how to use a technology than by actually showing them in practice. Users can feel very anxious when faced with a technological change, especially one that could have a large impact on how they have worked for many years. By producing a video it can help demystify what a technology does, highlights key features and can provide practical usage tips. Videos can be created in a multitude of settings, from screencasts to spoken head and do not have to be epic works of cinematography to put across how a technology can be applied. As for the cost of producing videos this can be done fairly cheaply thanks to free screencasting and production tools such as Screencast-O-Matic and Windows Movie Maker. There is also the option of using video cameras and your own smartphone or tablet. Ideally in this age of shortening attention spans, for you to make a real impact with your video it needs to be short, preferably between one and three minutes, but that depends on the topic. Some videos may need more time and become mini lectures lasting up to twenty minutes. If this issue arises ask yourself whether you can 'chunk' the video up into more manageable pieces. This has three practicalities, firstly that it allows you to drill down into a technology and explain a key feature. Take for example Twitter, which some users can take a while to fully understand how it works and benefits the academic community. They may feel that Twitter is a tool used exclusively by celebrities and teenagers which in turn becomes another barrier. You could make a video that explains hashtags and their use within a conference or teaching setting, or for asking a question to their peer group. Whilst another other benefit of chunking your videos up is that it will be easier for users to digest, that they can view at times that suit them. The final benefit is that as with any kind of guide, they can go out of date and re-recording just part of a video is much-less time-consuming than recording the whole thing again.

How in-depth and the quality of the video does depend by what time and technology resources you have to hand. The more complex a video is, such as multiple shots of yourself and the technology, the more time it will take to record and edit it. Nevertheless, this should not put you off as videos have become a common and effective media in terms of library and information instruction.

Another aspect that you have to consider if the audio, it is important that users can hear what you are saying clearly, especially when the topic may be alien to them. Audio offers another option as LIS professionals more wary of appearing on screen or giving a presentation can make screencasts of their desktops or audio only versions of tutorials, but only if they believe the content would translate to an oral guide effectively.

**Pros:** An effective way to explain to users what a technologies does and how they can use it. Can be viewed on mobile devices and a good way to build collections of learning tutorials. Helps the LIS professional build their own technology skillset.

**Cons:** Can be time-consuming if making more complex videos and increases the learning curve if there is a need for comprehensive video editing. Videos can date very quickly for some topics or technologies, especially if a technology or tool changes every few months.

### **Workshops, awareness and bite size sessions.**

LIS professionals often spend a lot of their time supporting users on a one-to-one basis which in time can be quite resource and time consuming. With anything that involves a change in practice, and again despite academics using social media in their personal life, applying this and altmetrics to a professional setting could still be a radical shift for them. Therefore it is important that for any LIS professional or academic thinking of running awareness sessions that they create them to suit a variety of situations.

A good way to engage with academics when talking about something like altmetrics is to offer bite size or short awareness sessions. This helps in teasing their interest out whilst not over-loading them with fresh content and ideas and making them commit to adopting to such technologies there and then. Part reason for this within the field of altmetrics is that the term 'altmetrics' can imply something wholly alternative to the traditional system of measurement. The term was first coined in 2010 by Jason Priem of Impact Story in a Tweet. Priem (2010) Tweeted: "I like the term #articlelevelmetrics, but it fails to imply \*diversity\* of measures. Lately, I'm liking #altmetrics."

Anyone who has ever run a workshop that lasts for more than an hour or so can vouch as to the amount of time they can take up with regards to preparation. So it is important that any Altmetrics workshop has a good structure and if possible a few objectives for participants to take away with them. There also needs to be follow ups if possible, these might be short one-to-one sessions or by acting as a point of contact for email enquiries, or better still Tweets. Whilst it is important to note that altmetrics can be pitched at various levels, there is no need to jump in at the deep end. For example as a way to get academics interested or at least a foot in the door it is better to start with shorter, informal workshops and seminars. One successful way to reach out to academics is to run a taster session that may last 20 minutes and allow ten minutes for questions. Short 'bite size' sessions like this have the benefit that it does not take as much time to prepare for, it also does not take up much time for the busy academic. A good way to facilitate such a session is to run it in an area on campus that is dense in population of academics. The reason being that many academics will only be prepared to give up so much time for a seminar or training session, especially one that they are not so sure of. This time will also have to include travel time, so if you run a session that lasts for twenty to

thirty minutes they are more unlikely to want to give another twenty minutes travelling to and from the session. Also, by making it informal, the LIS professional can work in the knowledge that the attendees can ask questions at any point as well as come and go as late or early as they wish. In effect it is a no-pressure sales pitch which can be applied to any form of staff development. Whilst on the flipside sessions like this can be offered as CPD points within some departments.

Again as with video, by running shorter less formal sessions there is good opportunity to capture these by either screencasting or video capture, so that those who did not attend can watch the recording at a later date, in the knowledge that they will not have to put aside a large chunk of their time.

Pros: A good way to capture several academics at a time and for them to also meet similar colleagues with similar interests. Saves duplication of effort and can be a way to actually meet with the academics and highlight what skills you can offer. Many altmetrics tools are quick and easy to understand, so a good way to give academics a good understanding of them in one go.

Cons: Can be disheartening when no one turns up. May leave academics with more questions than answers if not delivered right. Depending on complexity of topics and length of session, preparation can be considerable if trying to build a comprehensive workshop or seminar.

## Conclusion

Throughout the course of any LIS professional's career they will face many challenges, tough questions, tasks and users; especially when it comes down to trying to change practice. It is important always to keep in mind the individuals and groups they support and understand their own cultures and beliefs. Altmetrics are part of a large shift within academia, one that may not look anything like it does now. Therefore academics need to understand why they should engage with these technologies and tools, what are the benefits, barriers and pitfalls.

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## Key Points

- A one size fits all approach does not work when trying to implement technology or organisational change.
- Not all academics embrace technology, it is important to remember that everyone has their timeline when adapting to change.
- By librarians employing technology themselves to teach altmetrics and other innovations they can in turn improve their own skill set.
- Academics and LIS professionals must learn to understand the differences between social media and altmetrics and that the latter is not wholly reliant on the former for its data.
- LIS professionals need a good understanding of researchers and the research life cycle when advocating new technologies such as altmetrics.

- All new technology needs critical appraisal before use, especially when employing third party tools.

### **Further Reading**

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