Social media analytics in an imperfect world

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REVISED ABSTRACT

Social media statistics are a fluid area. We explore the strategy of measuring social media, with specific case studies. What are the statistics which count? Are all 'likes' equal? Data will be from the State Library of NSW Public Library Services use of social media and the NSW Readers' Advisory Working Group's Twitter-based reading group.

The State Library has a few public library related social media channels, with a well-defined audience of NSW public libraries. We encourage the use of #nswpubliclibraries. The Twitter reading group focuses on a different theme each month and people tweet about what they are reading, watching or playing using the relevant hashtags (#rwpchat and the hashtag for that month's theme). Data from both of these streams are captured and evaluated and used in planning.

Efforts to evaluate the effectiveness and the reach of these online conversations are not straightforward. One of the main barriers to measuring a Twitter-based initiative is that the tools, which are readily available to assist with the analysis of a particular set of activities change. The tools adopted for this initiative quantify hashtag use differently. There are variations in the number of Tweets recorded as contributing to a particular discussion. This workshop explores the reliability of such tools (including Archivist, TAGS explorer and Eventifier). The analysis of hashtags is vital to record both current performance, and continued growth, of the reading group. There will also be exploration of the effectiveness of the Twitter reading group's blog and the posts that support each month's theme (views, comments and sharing of posts) and the associated Pinterest account which has been established to support the various reading themes (analytics and benefits of collaborative pinning). Some of these tools are being used by Public Library Services, and the different results will be explored.

Social media analytics in an imperfect world

Although social media has been around for several years, there are still questions about how the data is analysed, as demonstrated in the recent academic work *Twitter and society* edited by Karen Weller. The different analytics tools present different results and allow the data to be seen and accessed in diverse ways.

The paper will have practitioner focused discussion of social media analytics. The authors will explore some of the possible meanings and look at what indicative conclusions can be drawn. We will be showing how the data from two different kinds of accounts may be interpreted, any influences on planning, and how not all likes and follows are equal. We will discuss the importance of evaluation of social media use, and how we need to be at the edge of thinking and planning to be effective in how we use and evaluation social media within libraries.

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PAPER

Issues with measuring social media in libraries

One of the key points made repeatedly by the commentators is that social media is just that – where the interactions are about people and relationships, rather than formats and channels. Laura Solomon advocates "Be human." Social media interactions are all about the conversation and the individual. Spending time in the conversation with others rather than pushing out various forms of communication is critical.[1]

Social media versus traditional mass media has a number of points of difference. A critical and obvious one is 'consumer involvement'. This renders most of the communication theories that underpin mass media assumptions irrelevant. Senders and receivers, consumers and producers are all now one and the same in the social media world.

Measuring human communication and connection is challenging, and measuring social media and libraries is made more difficult, as are many aspects of measuring library performance, because of the lack of a bottom line/profit and loss perspective. This is one of the reasons commentators in this area (Allen-Greil[2], Solomon[3]) suggest using both quantitative and qualitative methods. While this makes measuring more complex and will not lead to quantification of progress as a single number, it means that the analysis and conclusions are more nuanced.

Blowers[4] points out the social media measurement adds considerable complexity to measuring the library's digital world. Blowers likens this new world to a 'scavenger hunt'. In the same way as none of the social media platforms are the same, no two tools are alike, nor are the applicable metrics.

A couple of broad frameworks/rules of thumb are outlined in the literature. These are activity/engagement and sentiment, by Solomon[5] and usage and influence, by Blowers[6].

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[1] Solomon, Laura (2010) Doing social media so it matters: a librarian's guide (ALA editions special report) ALA via iG Publishing eBook Library p 57

[2] Allen-Greil, Dana (2012) in Conversations with visitors: social media in museums: selected essays. Museumsetc: Edinburgh and Boston

[3] Solomon (2010) and Solomon, Laura (2013) The librarian's nitty-gritty guide to doing social media. ALA, via iG Publishing eBook Library

[4] Blowers, Helene (2012) Measuring social media and the greater digital landscape www.infotoday.com September, 2012 p 29

[5] Solomon (2013) pp 153-4

[6] Blowers (2012) p 27

Solomon also offers a word of warning re big (referring to follower numbers) automatically conflating to better, and signposts the potential upside of this for libraries. She posits that really large networks do not scale in terms of interaction and engagement. Given that libraries are likely to have a locally based/user focus, with a commonality of interests, this can work to their advantage. Quality - that is users who will interact and share your content - rather than sheer quantity of followers, many who may not be interested, is what counts, Solomon states[7]. We look at the measurement frameworks and techniques proposed by Allen-Greil and by King in some detail later in the paper.

Why measure – what are the implications
In Public Library Services at the State Library of NSW part of the purpose in evaluating the use of social media is to demonstrate the possibilities this evaluation provides to NSW public libraries and councils, our clients. We realise other people and organisations may be contributing to the social media streams as well.

With the data from the Read watch play Twitter based reading group, the social media use is evaluated as a way of reporting to the participating libraries to help them report back to their communities, and for them to be able to see the data for the whole.

Part of the reason we measure is so we know what is working, what may not be working yet, and to help us plan how we use social media as part of our service delivery.

We also explore the statistics available on social media to work out how this data can be used, and explore what it may represent as there still seems to be a range of viewpoints about interpretation. *Twitter and society[8]* edited by Katrin Weller, Axel Bruns, Jean Burgess, Merja Mahrt & Cornelius Puschmann, a recent publication looking at Twitter analytics, has the work of many academics exploring the meaning of statistics and other data on Twitter. Different approaches has been taken, and it encourages thoughtful and varied ways of looking at this content. Most of their data sets are significantly larger than the ones we are working with.

Hashtags
Public Library Services launched the hashtag #nswpubliclibraries on 19 December 2013, with a blog post called *Hashtag, Instagram and NSW public libraries[9]*. We wanted to encourage public libraries to connect across the state using the hashtag. We also wanted to encourage them to

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[7] Solomon (2013) pp 155-7

[8] Twitter and society / edited by Katrin Weller, Axel Bruns, Jean Burgess, Merja Mahrt & Cornelius Puschmann. New York Peter Lang, - Digital formations, 1526-3169 ; vol. 89, 2013

[9] Hashtag, Instagram and NSW public libraries, Public Library Services blog, 19 December 2013, http://blog.sl.nsw.gov.au/pls/index.cfm/2013/12 viewed 29 October 2014.

use their own library hashtag, connecting their community to them, and thought that by encouraging the use of a state wide public library hashtag, we could encourage them to use some local hashtags. This has had limited success, but there are some libraries using their own hashtags, and their use appears to have started after the state wide public library hashtag.

We are using two different methods to count the tweets, Tweet Archivist and TAGSexplorer beta, and so have two different counts. As of 29 October on Tweet Archivist we have 414 uses of #nswpubliclibraries[10], while on TAGSexplorer beta we have 380 uses of the term. Two different Twitter accounts from Fairfield Council account for about half the tweets, with half a dozen other libraries also participating as well as several individuals. There have been two tweets using the @statelibrarynsw account for this hashtag, while the #libraryact75th hashtag has almost one third of the tweets provided by @statelibrarynsw. Different strategies for different purposes. The #libraryact75th hashtag has been used 302 times on Twitter since February 2014[11], but only twice on Instagram. This data changed after 3 November. All the hashtags mentioned in this paper are also being tracked using Vizie[12].

Public Library Services launched its Instagram account in February 2014[13] and encouraged the use of #nswpubliclibraries there. By 29 October this hashtag had been used 210 times by Campbelltown, Canada Bay, and Inverell Libraries, as well as by Public Library Services staff taking photographs of public libraries in NSW. There were a small number of other uses too. This highlights how few NSW public libraries are on Instagram. The Instagram images with this hashtag have received 107 comments and been liked 1135 times. It is a small set of numbers, but it can still be used to show that the hashtag is being used and that people are interacting with these photographs. It is broad indicative data. We will present this information back to public libraries via blog posts, to showcase the libraries which are using it, how they are using it, and to encourage others to consider it, or other image databases.

This provides a contrast to the statistics for the Twitter reading group hashtag #rwpchat on Instagram, and highlights that statistics often can not be used in a comparative way, but have to be used to explore very specific data. Public Libraries Singapore is very active on Instagram, and their use of the #rwpchat could seem to be influencing its popularity. There are 45 images

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[10] Tweet Archivist data for #nswpubliclibraries 29 October 2014
http://www.tweetarchivist.com/readwatchplay/7 accessed 29 October 2014
[11] Tweet Archivist data for #libraryact75th 29 October 2014
http://www.tweetarchivist.com/readwatchplay/8 accessed 29 October 2014
[12] Vizie provides social media monitoring to identify customer needs http://www.csiro.au/Outcomes/ICT-and-Services/Social-media-monitoring.aspx accessed 2 February 2015/
[13] Public Library Services is on Instagram, Public Library Services blog, 10 February 2014, http://blog.sl.nsw.gov.au/pls/index.cfm/2014/2/10/public-library-services-is-on-instagram accessed 29 October 2014

using #rwpchat as a hashtag, they have 75 comments and have been liked 1361 times (29 October 2014). These images are working harder than the ones with the #nswpubliclibraries, but that could be reflecting a wide range of influences.

Public Library Services has been using Flickr since September 2008, with 552 photographs which have been viewed 138, 718 times (as of 29 October 2014). Again, we have used blog posts to encourage adding images to groups, with posts in March[14] and June 2011[15], December 2013[16], and earlier on sent emails to NSW public library email lists about this. To aid the discovery within Flickr we have been consistent in the tags and format of description for the images. We add images to show good practice examples of buildings and other areas. As well we have groups, one for people to add images of NSW public libraries, one for public libraries anywhere else, and a more recent group for images uses of #nswpubliclibraries. The NSW public library buildings group has 19 members and 77 photographs, the public library building group has 32 members and 477 photographs and the newest group #nswpubliclibraries has six members and 108 photographs. As well as the three groups we administer, the account is a member of three other groups. 112 people or organisations follow the account.

The Read watch play Twitter reading group, which one of the paper's author's works with has been using the hashtag #rwpchat since 1 January 2013, although there were a small number of earlier uses to inform people of this hashtag. The reading group has been in existence for four years, but for various reasons used two different hashtags for the first two years. Data has been collected on this using Tweet Archivist since April 2013. It did not start at the beginning of 2013 as there were some changes to the service delivery of Tweet Archivist over this time. In this time there have been 8340 tweets[17]. The volume over time data is helpful in showing how active the discussion each month is.

Another tool to measure activity and interaction of the Twitter discussion is Martin Hawkseys' TAGSexplorer beta. This has been tracking the use of #rwpchat since December 2013. It provides a range of useful data including number of unique tweets, number of tweeters (ranked by number of tweets), number of replies (so good for showing conversations) and tweet volume over time. It also has a searchable archive of tweets, which is helpful for readers'

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[14] Learning 2.0, Public Library Services blog, 23 March 2011, http://blog.sl.nsw.gov.au/pls/index.cfm/2011/3/23/learning-20 accessed 29 October 2014
[15] Have we visited your library? Public Library Services blog, 4 June 2011, http://blog.sl.nsw.gov.au/pls/index.cfm/2011/6/4/have-we-visited-your-library accessed 29 October 2014
[16] Hashtag, Instagram and NSW public libraries, 19 December 2013 http://blog.sl.nsw.gov.au/pls/index.cfm/2013/12/19/hashtag-instagram-and-nsw-public-libraries acessed 29 October 2014
[17] Tweet archivist data for #rwpchat 29 October 2014 http://www.tweetarchivist.com/readwatchplay/4 accessed 29 October 2014

advisory work, and you can see a visualisation of the interactions using the hashtag. You can look at all of them, or target an individual and their tweets. You can replay tweets from individuals as well as all their interactions. The basic visualisation shows that quite a few tweeters are not interacting with others. This is mainly accounts of people and organisations who do not participate in the Twitter discussion, but tweet to promote it. This is an important role. The participants in the discussion are shown as connecting to at least one other account, as they receive a reply to at least one comment. This is a deliberate strategy of the group managing this discussion as by demonstrating a connection (by replying to a tweet), they are in turn encouraging the person to reply to or comment on what someone else has tweeted.

Pinterest
Read watch play uses Pinterest to give people another way to engage with the reading group. Each year boards are set up, one for each theme, and each month followers are invited to pin to the relevant boards (or any boards they are already a pinner for). There are 37 boards, with 282 pins, 5 likes and 659 followers[18].

A search on Pinterest using #rwpchat turns up quite a few results, which would have to be manually counted. There are at least 156 pins on a relevant board managed by Surrey Libraries, and another 113 pins on boards run by the Co-op Bookshop containing that hashtag, and these are not the only accounts which have been using the #rwpchat hashtag.

Public Library Services uses Pinterest to share information and to encourage public libraries to consider using Pinterest for their own services. Of the 14 boards, two are for collaborative pinning by public library staff, one is for celebrating 75 years of free public libraries in NSW, and the other is for public library events around the commemoration of the centenary of the First World War. One of the boards partners with the publication Public Library News making coloured photographs of NSW public library events and services available. On the 14 boards there are 604 pins, 859 followers and 61 likes[19]. In the 14 boards there are also four boards which belong to other State Library of NSW accounts, which Public Library Services staff may choose to contribute to.

Blogs
The Public Library Services blog has the staff of this area as authors, with guest bloggers also being invited to participate and having their posts loaded by one of the Public Library Services staff. This blog has 247 entries with 274 905 hits. The average hits per entry are 1112.98. The most viewed post has 21214 hits, which is three times as many as the next most viewed.

[18] Read watch play on Pinterest http://www.pinterest.com/readwatchplay/ accessed 29 October 2014
[19] Public Library Services on Pinterest http://www.pinterest.com/slnswpls/ accessed 29 October 2014

The Library Act 75 anniversary Tumblr has 37 posts, with a small percentage of these being reblogged from other (mainly) State Library accounts. There are 93 likes on these posts. This account is managed by two of the Public Library Services staff.

The Read watch play blog is crucial to the functioning of the Twitter reading group. Since it went live in June 2012 there have been 156 posts, 136 comments, and 47 605 views, with the biggest single day of viewing being 24 January 2013 with 1 311 views. There are multiple authors for this blog, and 2014 was the first time that partner library staff in New Zealand and England have been adding blog posts directly.

For Read watch play, there is also a Tumblr which uses the approach of 'if you like...why not try". This is a readers advisory tool to help readers and library staff. There is no reblogging from other sites. The 40 posts have received 202 notes. The notes include comments, likes and reblogging of the posts.

What do the statistics mean?
We initially proposed this topic as a workshop as we wanted the opportunity to discuss with others how they are collecting and interpreting their social media statistics. It is still an area where the authors would welcome discussion and questions, as discussion with others who are exploring similar areas would help inform and educate our thinking.

There are some broad generalisations which come from the statistics, firstly looking at the Public Library Services related statistics. Hashtags can take a while to socialise. Some libraries have been enthusiastic in their use, and have used them in their social media. Hashtags take up valuable real estate in some social media, like Twitter, which may not be able to be spared. Some libraries may not want to have demonstrate a wider, state view, by using a hashtag which connects them to other public libraries. This would need to be explored via focus groups, or other discussions. It is still worth doing, and we will continue to use, promote and encourage the use of #nswpubliclibraries. This builds on the hashtags which we have been using for many events run by Public Library Services, or co-run with State Wide Working Groups, for example the annual Reference and the Readers advisory seminars have both been using hashtags for several years. This is also supported by the use of the #libraryact75th hashtag which is for the build up to, as well as the event.

Public libraries use the #nswpubliclibraries in ways which are effective for them, whether on Twitter, Instagram or Flickr. Different libraries have access to different social media tools, and people may be keen to use the hashtags, but may not be the person managing the account.

We have started collecting, via Storify, examples we find of NSW public libraries using their own hashtags for their library or other services. This is a different kind of data exploration.

Showcasing examples of which libraries are using the hashtags can help. It provides examples for other public libraries to demonstrate in their workplaces. It also shows libraries of different size and location able to participate, and so provides a selection of precedents to consider.

Flickr works well for Public Library Services. It is highly curated, and we use good practice examples, as well as some historical images, but they can be easily found and have been frequently viewed. Reminding public libraries about how we use it, and how their content can be part of the groups is important.

Pinterest is working well too. It is giving libraries an opportunity to participate in collaborative boards and to see the information as a stream. A small number of public libraries have Pinterest accounts, but this is growing all the time.

The statistics for the Read watch play group show different patterns which is appropriate. Each month there is a peak of tweeting on the last Tuesday, as the discussion takes places in overlapping time zones from New Zealand to England. The graphs of use always show a spike, and there be concern if this was not the case, unless it maintained at the peak of tweeting every day. This group shows the diversity of how the hashtags are used, with Public Libraries Singapore having high Instagram usage and interactions. The patterns of the tweets also show the importance of library staff to facilitate the discussion, as these account are influential in the overall statistics.

The visualisation and other data in Martin Hawkseys' TAGSexplorer beta provides other ways to explore the data. The visualisation is very helpful for seeing connections in the discussion as the tweets are bundled with others in the conversation. There are a different ways of looking at the data, depending on where you click, and each option provides another way to consider interaction and participation. Both are critical, both are not happening for all participants. This also data tool also has a keyword search option, so that as well as providing data for evaluation it can be used as a readers advisory tool, and give indicators of mood, which are different evaluation elements.

With Pinterest the value is in the participation of many pinners and of people using the #rwpchat hashtag on their own boards. Pinterest makes this harder to track than some of the

other tools like Instagram or Twitter, and the choice has to be made about how much time to invest in collecting this data.

Blog statistics for Read watch play show 49,602 views with most of the views coming from Australia, followed a long way back by the United Kingdom. This shows reinforces the strong role Twitter, rather than the blog is playing in the participation of Surrey Libraries. The Read_watch_play Tumblr shows that it is building its place in the Read watch play group of social media.

Case study

2014 marks the 75th anniversary of the NSW Library Act. To mark this, a program of celebrations was planned, supported by social media.

One of the activities was a social media campaign - #libraryaday – a call out of each NSW library service on Twitter during the month of October, in the lead up to the anniversary date of 3 November.

The #libraryaday campaign, launched on 1 October, featured each NSW public library service on Twitter, via the SL Twitter account @statelibrarynsw, and on the Libraryact75th blog[20], throughout the month of October in the lead up to the anniversary of the Library Act on 3 November. The hashtags #libraryaday and #libraryact75th were promoted. There was a very positive response from public libraries to this campaign, with libraries tweeting about their own library services, other library services and the anniversary of the Library Act.

The Celebrating 75 Years Pinterest board[21] now has 167 followers, and more than 15 libraries have shared 120 of their own photos.

Libraries were encouraged to hold events locally in the week beginning 3 November and many did so. Libraries shared photos of their events on social media using the hashtag #libraryact75th. Events were also covered in local media across the state.

Analysis of Twitter activity for the 75th anniversary

The State Library employs Twitonomy to provide search analytics on its Twitter activities. In the period 2 November – 8 November 239 tweets were counted using the #libraryact75th with a potential reach of 545,072. The number of users in this period were 123. Twitonomy also provides a listing of the most influential users, the most engaging users, and the most active.

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[20] Libraryact75th blog http://libraryact75th.tumblr.com/
[21] PLS Pinterest, Celebrating 75 year http://www.pinterest.com/slnswpls/celebrating-75-years/

State Library of NSW topped the list of most engaging and active. Some of the most influential users included the ABC Book Club Show @thebookclubABC and the magazine Inside History @InsideHistory – both media outlets with specialist audiences aligning well with those interested in libraries. Twotonomy also provides a listing of some of the top related hashtags. The second listed after #libraryact75th was #nswpubliclibraries. #welovelibraries and #yayforlibraries were also listed in the top hashtags – these hashtags were generated by non-library tweeters and were very effective.

The top three retweeted tweets in this period emanated from 1. @InsideHistory 2. @ShoalhavenLibraries, featuring a picture of old library technology and 3. @thebookclubABC The three most favorited tweets were 1. @statelibrarynsw, a modified tweet of a photograph of Mona Vale Library's celebrations 2. @thebookclubABC 3. @camdenlib. This library developed a local Twitter campaign: "75 days of LibAct" featuring specific library activities ie storytime, technology sessions, knitting clubs etc. Again, some of the best received Twitter activity came from media outlets with specialist aligned audiences.

The Twitonomy data was triangulated through deploying an advanced Twitter search covering almost the same period. This search for the words '75th anniversary library act' and the hashtag #libraryact75th gave a slightly different set of results and because all the tweets and retweets using these terms could be located in full, enabled contents analysis. All the tweets located were positive about libraries, librarians and the Library Act.

Establishing a framework: some approaches
Measuring a library's performance can be complex. Libraries can typically fairly easily measure inputs and outputs and related activity. Measuring impact (quality of research undertaken; social outcomes) is not easily achievable as the library user is a key factor in this and is not controllable by the library. Many methodologies for measuring value have been explored and tested. This area is not straightforward either, however more achievable that measuring outcomes. A number of approaches have been identified and outlined by Berryman[22].

Identification of critical success factors is one way of determining how success is measured. Matthews writes on identification of key success factors as critical in determining key performance indicators[23].
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[22] Berryman, Jennifer (2005) Sustaining Communities Measuring the Value of Public Libraries Phase 1 A review of research approaches. State Library of NSW: Sydney.
[23] Matthews, Joseph R (2008) Scorecards for results: a guide for developing a library balanced scorecard. Libraries Unlimited: Westport CT p 28

What to measure also depends to some degree on the strategy the library is pursuing with its use of social media. Visser and Richardson[24] distinguish between types of cultural institutions and their strategies in recommending suggested metrics for measurement of digital engagement. For example, for a local library who had determined that their strategic objective was to act as a recommendation service, their suggested metrics are:

Hits on website
Engagement on Facebook
Visitors to events

Another example given was for digital engagement for an exhibition or a heritage site, a relevant example for some types of libraries. Suggested metrics in this instance were:

No. of mentions on local blogs
No. of visits to our websites
No. of links to our info from other sites.

Allen-Greil[25] suggests that defining success and determining best practices in social media is still some way off. She proposes a framework that starts with determining what outcomes are sought from social media activity and determining how to measure progress towards the outcomes.

In new areas of activity, benchmarking is a useful tool. Establishing targets can be more difficult until time has passed and patterns emerge. Qualitative and quantitative data are critical to evaluating this activity as quantitative data will indicate the extent and degree of engagement, where qualitative will give you the type of engagement – is it positive, negative or benign.

The six step Allen-Greil [26] framework starts with listening – what is being said about your organisation? This overview can be achieved through use of Twitter's advanced search function for variant names/abbreviations, relevant phrases and looking through mentions of your organisation and the context of those mentions - a useful starting activity for an organisation's social media evaluation plan, and a way of establishing a baseline for brand perception. "Listening" in this way also assists with designing campaigns and on the fly monitoring of a campaign or an issue being managed.

Knowing your own benchmark/starting point is vital. If the organisation has not set up social media account/s, and is at the beginning of its exploration of this medium, mentions in social

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[24] Visser, Jasper and Richardson, Jim (2013) Digital engagement in culture, heritage and the arts. Inspired by coffee p 53 and p 58
[25] Allen Greil (2012) p 35
[26] Allen Greil (2012) p 38

media will form part of this benchmarking exercise. If social media activity has commenced, it is important to have data about the current state of activity that is number of followers, number of tweets: week on week/month on month, retweets and replies.

Benchmarking by looking at comparable peers/competitors can provide valuable insights. Measuring where a basket of peers/competitors are in terms of followers and activity and remeasuring this periodically for comparison with one's own data should provide valuable. Recording this data and making it available as part of the ongoing assessment and discussion of social media activities will broaden organisational thinking.

Website traffic analysis is also part of this mix including referrals from social media.

Goal setting is also critical. This is where looking at different aspects of your objectives such as growing influence; engagement; relationships and level of effort comes in. These may all be measured in different ways. For example influence can be measured by number of followers, retweets and web traffic; engagement by number of tweets, replies, types of content; engagement on the website of referred visitors; relationships by satisfaction ratio (positive versus negative), followers with influence; and effort by total number of tweets sent and time spent creating content and engaging with followers.[27]

Measuring is where key decisions need to be made. These include what tool to use, how to align the available data and analysis against goals, when to take a census approach and when to rely on a sample approach, and how to use other research ie web analytics and client and community surveys. Finally a decision needs to be made how much effort to put in, given the scale and meaning of the activity being measured. Making sense of the data is where selection of key metrics is vital ie what metrics reflect your goals; do they reflect context; are they easily understood; and will they lead to action? [28] Lastly, it is critical to ensure that in reporting data, the data makes sense, provides context, shows trends, and provides insights.

David Lee King, in the most recent ALA Library Technology Report[29] describes how his library evaluates their use of social media. It looks at individual library accounts and provides useful information about how to do that, with some hints about why specific data is helpful. David Lee King's library is tracking metrics for

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[27] Allen Greil (2012) p 44
[28] Allen Greil (2012) p 65

[29] King, David Lee. "Managing your library's social media channels." *Library Technology Reports* 51, no. 1 (January 2015): 26. *MasterFILE Complete*, EBSCO*host* (accessed January 29, 2015).

- activity
- audience
- engagement
- referral
- ROI

Activity metrics tracks the number of posts on different social media by staff. This is needed for the ROI metrics. Audience metrics looks at new followers each month by each social media tool. Engagement metrics counts likes, repins, clicks and similar. Referral metrics tracks click referrals from social media to library website and you can use your website analytics for this. ROI metrics is the number of visits to the website per post created and the number of interactions per post created

The following table lines up the main elements of the Allen-Greil and the King approaches:

TABLE 1: Measuring Social Media Activities: A comparison of approaches

DANA ALLEN-GREIL: KEY METRICS: SUMMARY Ref: http://danamus.es/2010/04/01/Twitter-for-museums/		DAVID LEE KING: WHAT TO TRACK: SUMMARY Ref: http://www.davidleeking.com/2015/01/09/managing-your-librarys-social-media-channels/	
Analysing influence Keywords: *awareness, amplification, reach and visibility*	*Followers* Look at: • Growth of followers; growth of followers who are engaged with your content; consider factors influencing any sudden growth in followers	**Audience Metrics** Keywords: *growth, growth trends*	*How many followers on what channels and over what timeframe.* This will show growth over time and trends
	Retweet ratio To get this divide # of retweets by number of tweets.		
	Clicks These can identify what is of greatest interest		
Analysing engagement Keywords: *conversation, exchange, interaction, participation*	*Conversation ratio* Calculate this by comparing mentions to tweets sent.1: 1 is ideal Also, check if the interaction is positive.	**Engagement metrics** Keywords: *activities: like, share, click, repin, watch, comment*	This is achieved by using each tools insight capabilities to come up with a total engagement metric across all channels for the relevant timeframe.
	% of followers who retweet Calculate by taking the # of unique retweet senders and divide by followers.		

DANA ALLEN-GREIL: KEY METRICS: SUMMARY Ref: http://danamus.es/2010/04/01/Twitter-for-museums/		DAVID LEE KING: WHAT TO TRACK: SUMMARY Ref: http://www.davidleeking.com/2015/01/09/managing-your-librarys-social-media-channels/	
	Conversions Two areas of analysis: • Did people take action as a result and how much time do your Twitter followers spend on your site versus other visitors?		
Analyzing relationships Keywords: *loyalty, satisfaction, being human*	*Likelihood to recommend*	**Referral metric** Keyword: *redirection*	Google analytics will provide this information. A number can be calculated through adding referrals from all channels together for the timeframe.
	Satisfaction score Calculate by subtracting negative mentions from positive mentions and divide by the overall number.		
	Churn rate		
Analysing effort Keywords: *efficient, effective*	*Tweets sent* # per average day	**Activity metrics** Keywords: *how many* **See also ROI**	*How many posts have been created* # per channel Total for the timeframe
	Time spent Creating content, administering accounts		
		Return on investment Keywords: *Link with actual work in the library*	*# of visits to the website per post created* *# of interactions per post created*

While the Allen-Greil approach provides some precision in measuring and evaluating the use of Twitter, the King approach is more appealing in that it is simpler and scalable to the reality of working in libraries and the approach is more easily understood for reporting and planning purposes.

Conclusion

Shaping your organisation's framework and approaches to measuring social media requires a variety of approaches and tools. It is critical to set goals and evaluate the social media success against those goals. The availability of tools, content types, and organisational purpose are all key considerations.

While accountability is critical, being experimental is also key, as tools and platforms are in a continual state of evolution. Using different tools to look at data enabled us to triangulate and cluster data. This led to a better understanding of the tools, together with their limitations and strengths. It is worth considering the use of statistics from your digital branch and your bricks and mortar library to measure return on investment ie numbers attending events/website visits. Both King and Visser and Richardson advocate this approach.

There is no one size fits all in the imperfect world of social media analytics. Think about using different elements of the frameworks, and consider their usefulness and applicability to the different ways your organisation uses social media. You may care to distinguish between and adopt different approaches to evaluating corporate communications, specific programs or a one-off campaigns.

Tools and the data we obtain from them, accounts, purpose, use, audience
PLS – Flickr – views, comments, favourites, number of images added to groups
PLS - #nswpubliclibraries – number of uses, range of accounts using – using Tweet Archivist http://www.tweetarchivist.com/readwatchplay/7 and TAGSexplorer beta
PLS - #libraryact75th – using Tweet Archivist http://www.tweetarchivist.com/readwatchplay/8 and TAGSexplorer beta
PLS instagram – likes, follows, reuse
PLS and Read watch play - Tumblr – comments, reposts, likes
PLS and Read watch play - Pinterest – images added to groups, likes and repins
Read watch play - #rwpchat Tweet Archivist http://www.tweetarchivist.com/readwatchplay/4
Eventifier http://eventifier.com/event/rwpchat/tweets TagsExplorer beta
https://docs.google.com/a/sl.nsw.gov.au/spreadsheet/ccc?key=0AsmcD5ziFsg_dEVCQmc4RW1veTQ5bHJqUzM5c1U2eHc&usp=drive_web#gid=82 and
http://hawksey.info/tagsexplorer/?key=0AsmcD5ziFsg_dEVCQmc4RW1veTQ5bHJqUzM5c1U2eHc&sheet=oaw
PLS and Read watch play – statistics for the blog