RESEARCH PAPER

Digital Public Engagement through Social Media in Archaeology – How to Choose

Doug Rocks-Macqueen*

Since the creation of the World Wide Web in the 1990s we have seen exponential growth in digital engagement platforms. Archaeologists are now faced with a wide range of digital engagement tools to choose from, especially in the area of social media. However, it is not possible to use all the available social media tools and many people are at a loss as to which one is the 'best.' This paper investigates what criteria one should use to evaluate the different social media options. This is done through a series of examples from the author's personal experience.

Introduction

Engaging people through 'social media,'[1] a digital engagement medium, is a constantly growing field. On the 30th of April 1993, CERN announced that the World Wide Web (Web) would be free to use by anyone (Camilliau 1995). Roughly twenty years later, in 2013, it was estimated that the number of active websites was 672 billion (Netcraft 2013). In September 2012 Facebook had a billion active users[2] yet the website only came into existence eight years earlier in 2004 (Fowler 2012). The term blog is believed to have been coined in 1999[3] (Economist 2006), but by September of 2013 it was estimated that there were around 137 million Tumblr (Tumblr 2013) and 70 million WordPress.com (WordPress 2013) blogs in use. Since the advent of the Web there has been exponential growth in the use of digital mediums for engagement.

At the same time, how one engages people through social media is evolving and the different channels to do so are multiplying. The idea of 140 character 'micro blogging' was launched with Twitter in 2006. As of 2013,[4] the service AddThis listed 345 different digital services for engaging others and sharing content (AddThis 2013), which gave an indication of the minimum number of platforms available to share digital content socially. Many of these new tools would fail but some would succeed in becoming viable routes for archaeologists to use to engage with other people, and each other.

The pace of change in social media is so fast that many of the sources cited in this paper come from news articles or websites. The peer review process of journal publication, which can take several months if not years, cannot move fast enough to publish on this topic. Universities cannot produce PhD experts on the topics of digital engagement in archaeology fast enough to study the exponential growth in this field.

Such growth presents several problems. One, being the lack of literature[5] to draw upon in discussions, but another problem is presenting information that will be out of date very quickly. One solution to the latter problem is to present information as a time and/or place-specific case study. Another solution is to discuss general concepts that may be of relevance for longer periods of time. That is the path this paper took, discussing general concepts to be aware of, but using studies that were current at the time to illustrate them.

The Problem You Cannot Do It All

An issue, and the focus of this article, is that this growth in platforms causes a lack of scalability to engage people. Simple math tells us that it is impossible to use every possible social media platform. Taking the AddThis list of 345 different digital services and assume a person spent one minute a day on each service we would find that they would need 6 hours of work per day to cover them all.

Of course, not all of those 345 different platforms are relevant to everyone's work. Not being a Dutch speaker I have no need for Hyves, a Dutch social networking website. Even then, one or two social networks can easily overwhelm one's time. In 2014, a search of Facebooks' social graph tool found a 1000+ groups involving archaeology. The results are limited to 1000 returns but at least 400,000+ people mention archaeology in their profiles/interests.[6] A single platform can have hundreds if not thousands of sub-channels that one could interact with. Taking a 1000 Facebook groups and the one minute of interaction we find 16 hours of work is required.

Even if you are only engaging with a small group research has shown a significant time required for social media. A 2011 study of people who use social media professionally found that it takes 15 or more hours a week of working on social media to see any to noticeable returns, in their case

* University of Edinburgh, Landward Research Ltd., GB
  drocksmacqueen@gmail.com

sales or visibility (Stelzner 2011). That 15 hours is across only two to three platforms; a result that matches my own personal experience with social media. Moreover, surveys of internet users have found ranges of use from an hour (Hurst 2013) to 3 hours (Iposos OTX 2013) spent per day by individuals on social media platforms. Any search on this topic will find multiple studies with different ranges of use making it hard to determine the average usage. However the general findings of these surveys are that social media takes up at least several hours of an individual's time a day.

There Are No Short Cuts

It is possible to post to multiple platforms at once, for example by linking Facebook and Twitter so that a post on one platform shows up on the other. However, that saving in time is almost inconsequential when it comes to engaging with audiences. All the aspects of digital engagement, such as answering a query, participating in a debate or having a conversation take time. Writing a 500 word response takes time no matter if it is a Facebook post or broken up over multiple tweets. While there might be short cuts for broadcasting there are not enough hours in the day to use all of the available services and interact with your audience. You have to choose a few platforms to use.

Criteria

How do you choose? The rest of this article will present criteria to use in evaluating which platform may be best for your needs. It will run through examples and case studies from my own personal experiences with social media. However, this is not meant to be the final word on the subject. It is meant to be the starting point for further conversations and debates about social media and which platforms to use in digital engagement.

Personal Circumstances

All of the criteria discussed in this paper should be examined from the subjective needs of the user or organization. For example, while this paper raises the long-term availability of a resource as one of the criteria to consider, it is important to remember that different users will have different needs. If a user only needs to use a tool for the weekend than long-term use is a non-factor. All of the criteria should be applied to meet the needs of the user.

Should You Even Use Digital Engagement?

While I assume that if you are reading this paper you have an interest in using digital engagement tools, it is important to keep in mind that just because it is there does not mean it needs to be used. A quote from a survey of Australian Archaeologists' thoughts on social media is particularly relevant:

> "(asked about social media use) Er, no. [Q: But are you on archaeological discussion lists?] Oh yes – I suppose discussion groups, but none of

those young people things. I could see they could potentially be very useful. I just don't see enough use to get into them. **It's that thing with all technology – it needs to reach a threshold of how good it is for you before you embark on the learning that it takes to do it. Because it can be quite a big investment of time and effort – new technology – it needs to have a clear outcome for you.** So GIS you have to sort of leap in and get into it. Social media for me – not yet, not to say that it won't come at some stage." (Colley, 2013).

There needs to be a clear reason for using such tools. That reason could be as simple as wanting to test out the technology or for fun. Reasoning is subjective and there is no one right answer. Still, consider that reason before embarking on a potentially time-consuming endeavor.

Will It Be There Next Week?

The Onion, a satirical news organization that posts fake news stories, put together a video story about 'Internet Archaeologists' finding the 'lost Friendster civilization' (The Onion 2013). The subtitle of the humorous video stated, 'Researchers conducting the Friendster excavation say the site has been deserted since the year 2005 A.D.' For those unaware, Friendster was an early social networking website like Facebook, that has since become defunct – it is now a gaming platform. While primarily created to entertain, the video highlights a real problem with digital tools: longevity. Some websites and social media tools will not survive for months, let alone years. The internet is covered with websites that were once highly used but are now defunct, forced to change focus (like MySpace), or at risk of being shut down.

When looking to build a digital community or spend years using a digital tool stability is a concern. A project could involve investing hundreds or thousands of hours of work. To have to start over again because a service that was being used is no longer running can be both frustrating and damaging to the connections made. Unfortunately, billions of dollars, pounds, euros, etc. are spent each year trying to guess which companies and platforms will be successful or fail and we are no closer to predicting the results. We cannot predict which platforms will fail and which ones will succeed but there are ways to mitigate this issue.

Can You Take It With You?

Can you take your information and work from one platform to another? Some services allow you to download your data and work in standard formats, like XML or CSV. That way you can store your work or move it to another service. Wordpress.com and Facebook are platforms that have this feature. Even if these platforms close down, the work carried out on them can be moved and reused. This can mitigate the problem of sustainability in platforms. Check if data can be moved.

The Pressure Cooker

Many digital engagement tools are offered free to the users, but this can have its drawbacks. Someone has to pay for programmers to make the system and maintain it. Someone has to pay for the servers to host the system too. In some cases, it is not just supporting the service that the owners have to worry about, but profits too. Operators' need to support the service and make profits can conflict with the needs of users.

To highlight this point is an example for the Open Access Archaeology project[7] that I am involved in. A Facebook page was created to inform people about Open Access resources in archaeology. This page was at first very successful, reaching many of the people who 'liked 'it through their newsfeed. This changed in September 2012 when Facebook altered its algorithm for its newsfeed and started to offer sponsored postings where one could pay to have their posts seen by more of their followers. As show in **Figure 1** postings are still seen but by a significantly smaller number of followers before this change, a problem observed by others (Copeland et al 2012). Essentially, to make money Facebook is now charging for the ability to reach the majority of one's followers. As the purpose of the Facebook page was to communicate with other people through postings this change in Facebook is a direct conflict with my and Open Access Archaeology's needs.

The lesson learnt from this experience was to look for potential conflicts between your needs and those of the people running the service. It was not possible in this example to predict that Facebook would move towards sponsored posts at the expense of page owners. It will be very hard to predict anyone's future moves that may conflict with one's own needs.

However, it is possible to see that some organisations have pressure on them to make such changes. **Table 1** shows the ratio of profits or revenue to the valuation or estimated valuation of these social media companies in 2012. To put this in perspective, if one were to browse a stock option website, like Reuters, most companies were in the 10–20 ratio range (circa 2012). That is the norm. This means that there are expectations that these social media companies will raise their profits i.e. lower the ratio, to justify their high value. Best practice would be a cautious approach when using a service that has been valued much higher than their current revenue because they have pressure to make changes.

Audience

What is the potential audience that needs to be reached? Different digital mediums have different audiences that use them. For example, LinkedIn primarily caters to those looking for a job or job related subjects. If your project is looking to engage people working in archaeology professionally than this would be an ideal platform.

Potentially, just as important might be the unknown audience that you engage. In 2012, I set up a Tumblr Blog,[8] for the Open Access Archaeology project to post information about Open Access resources in archaeology. This was done without consideration for the audience but
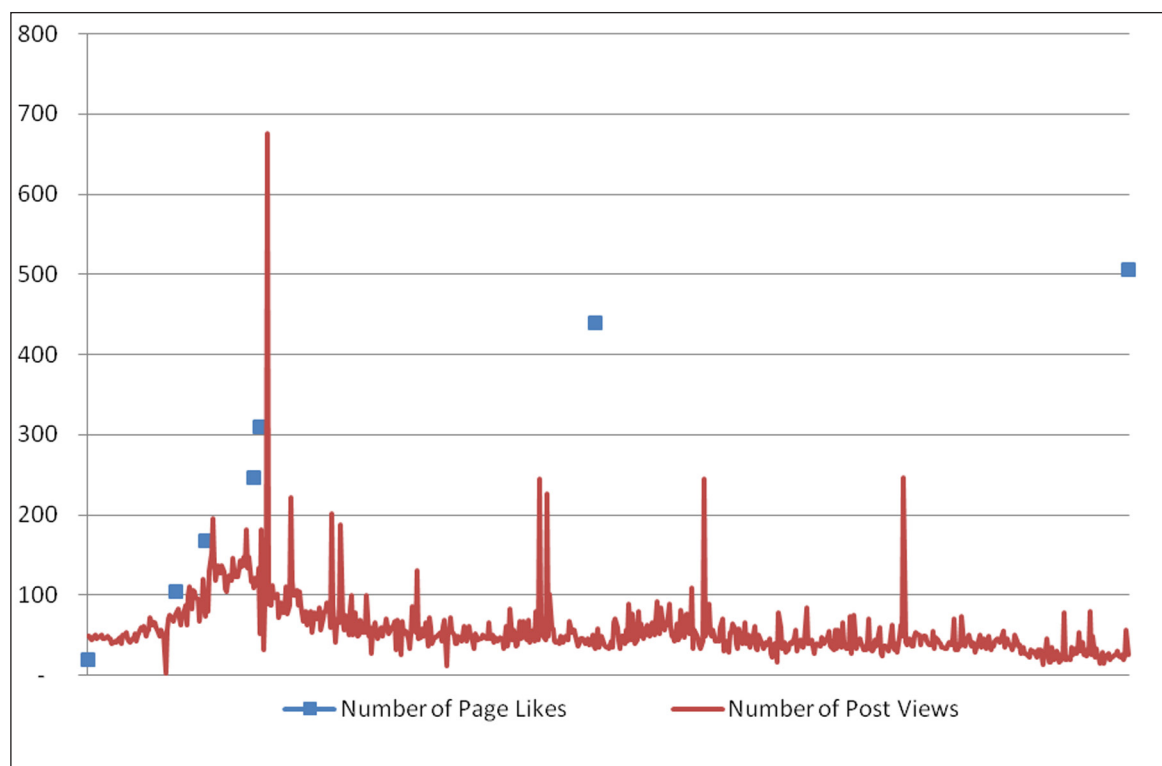

Figure 1: Number of individuals liking the Open Access Archaeology Facebook page and theoretically able to see posts and number of actual views from 1 January 2012 to 1 Sept 2013. The high peak of views occurs as Facebook changes its algorithm for viewing in September 2012.

Name	Revenue (profits)	"Valued Price"	Ratio profits/revenue to valued price	Founded
Facebook	3.7 B (1 B)	104 B	1/100	2004
Twitter	110 m	8.4 + B	1/76	2006
Tumblr	No Money?	800 m	unknown	2007
Wordpress.com	45 m	Private	unknown	2005
Skype	860 m (260 m)	8.5 B	1/40	2003
Myspace	24 m? (2005)	580 m (2005)	1/24 (2005)	2003

Table 1: Valuations, revenue or profits and ratio of earnings to value of popular social media sites in 2012. M = million. B = billion.

out of interest in using a new platform, Tumblr. I quickly discovered that many of my followers self-identified on their blogs as LGBT (lesbian, gay, bisexual, and transgender). When the blog had less than 300 people following it, 30% of its followers were from the LGBT community.

There was no specific goal to find some of the LGBT community interested in archaeology but due to the nature of the audience on Tumblr that is who was engaged. This was an engagement that resulted in fruitful work, at least from the stated goal of the project to get the archaeology community interested in Open Access. The audience you initially target may not be the audience you end up engaging.

How to Interact

This point might seem so obvious that it is redundant to mention it but a consideration may be how one wants to engage with others. Do you want to engage with short sentences and links to other content? Then Twitter may be the platform for you. Do you want to share longer pieces of work? A blog in that case might be the best tool. Even though there are hundreds of platforms to engage with people many of them limit the way in which you do so. As such, the first consideration when starting to use a new social media platform is how you or your organization wants to engage. This will significantly limit the choices of platforms available.

The Power of Dark Social

The beginning of this paper laid out the problem of time management and too many platforms to choose from. That problem still stands, but that does not mean that platforms cannot interact with each other. The Internet is inherently interconnected and material will spread and engage people in different ways. Many times this engagement occurs outside of established social media websites.

Dark Social is a term coined by Alexis C. Madrigal (2012) in a piece he wrote. He described his frustration with current analytical tools for determining where people came from to view his content,

"Here's a pocket history of the web, according to many people. In the early days, the web was just pages of information linked to each other. Then along came web crawlers that helped you find what you wanted among all that information.

Some time around 2003 or maybe 2004, the social web really kicked into gear, and thereafter the web's users began to connect with each other more and more often. Hence Web 2.0, Wikipedia, MySpace, Facebook, Twitter, etc. I'm not straw-manning here. This is the dominant history of the web as seen, for example, in this Wikipedia entry on the 'Social Web.'

But it's never felt quite right to me. For one, I spent most of the 90s as a teenager in rural Washington and my web was highly, highly social. We had instant messenger and chat rooms and ICQ and USENET forums and email. My whole Internet life involved sharing links with local and Internet friends. How was I supposed to believe that somehow Friendster and Facebook created a social web out of what was previously a lonely journey in cyberspace when I knew that this has not been my experience? True, my web social life used tools that ran parallel to, not on, the web, but it existed nonetheless."

Many web analytical tools are incapable of determining how people came to a webpage. The exception of course being large websites that have the necessary resources to ensure that web analytical tools know that the inbound person came from them. The results of which is a skewed view of the internet where it appears traffic is dominated by certain social media websites.

My personal blog can serve as an example of dominate views and Dark Social Media. **Table 2** shows the top five sources of traffic to my blog for one year. Looking at these numbers one could come to the conclusion that Facebook is the social media site that drives the most traffic to my website and as such I should be engaging with it.

However, one just has to make the necessary calculations to account for all those other sources not captured in the statistics from Wordpress (**Table 3**). Looking at those stats it is Dark Social e.g. other websites, forums, etc. that drives the most traffic to my content.

Open or Closed Gardens

The point of Dark Social is that the Web is interconnected but to utilize its benefits one has to choose a platform that is open. Some platforms block search engines while others lock webpages behind password protection. Features like these can be of use if one wants to conduct more private engagement. However, if wide-ranging digital engagement

Referrer	Views	Percentage of views
Search Engines	25,562	44%
Facebook	9,826	17%
Reddit	6,322	11%
StumbleUpon	3,106	5%
archaeologyfieldwork.com	2,793	5%

Table 2: Top five referral locations to author's personal blog from November 2011 – November 2012.

is the goal than you need to consider the platform's openness. Can others use search engines to find your material? Can your content be easily shared on different platforms? If one chooses a social media platform that allows participants to share what is on the platform outside of the website it runs on then the reach of the content is far greater.

Thoughts

The problems laid out at the beginning, exponential growth in platforms and use, are still occurring. Will this growth continue? It is hard to predict the future. Still, this problem is here currently. If archaeologists hope to engage with each other and others with social media we need to deal with this issue. This short paper has highlighted a few examples of what to consider when looking for a platform to engaging people online:

· Personal circumstances
· Longevity
· Data movability
· Whether your needs align with their commercial interests
· Intended/actual audience Types of interactions desired
· Open or closed platform

By no means are these meant to be a comprehensive list, simply a starting point for future conversations. Ideally, we can begin to discuss some of these points and others as we learn to engage with others digitally.

Competing Interests

The author declares that they have no competing interests.

Acknowledgements

Notes

[1] For this paper the term is used broadly to describe almost anything that involves social interaction with the internet. For example, while not commonly included in discussion of social media e-mail would be an example of a digital medium that allows one to interact with others.

Source	Referrals	Percentage
Facebook	9,826	16.86%
Reddit	6,322	10.85%
StumbleUpon	3,106	5.33%
Twitter	968	1.66%
tumblr.com	182	0.31%
linkedin.com	154	0.26%
Google+	50	0.09%
Dark Social	**12,096**	**20.76%**

Table 3: Social vs. dark social referral locations to author's personal blog from November 2011 – November 2012.

[2] Active user is defined as someone who logs into or visits Facebook at least once a month.
[3] With most issues of folklore it is hard to know the exact first instant the term was used.
[4] As of 2013.
[5] This paper was originally presented at a conference in November 2012. At that time there were no publications in archaeology on the topic and since then only a nominal number have been published. – This seems to me a crucial and fascinating point that might work well in the abstract?
[6] This search was conducted in September 2014.
[7] www.openaccessarchaeology.org
[8] http://www.openaccessarchaeology.tumblr.com/

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