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Virtual attendance at an international physical activity meeting using Twitter - How can data visualisation provide a presence?

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Attendance at international sports and physical activity conferences is extremely useful for networking but has economic costs (conference fees, accommodation and travel) as well as opportunity cost. The use of social media, especially Twitter [1] has increased in many global meetings. It is now possible to map, virtually attend, influence, and interact with a meeting remotely, This provides a new channel for global networking.

Data science has progressed rapidly to create complex forms of visualisation to help us understand interactions between humans. The speed and rate at which data are produced can be phenomenal. "Big Data" is now an acknowledged specialist area of science. Processing, analysing and relaying data presents challenges. The main goal of visualisation is to present data clearly and graphically [2]. Twitter hashtags and handles (e.g. @BJSM_BMJ) are a useful way of grouping data, studying and ultimately building networks [3].

A real-life success story: ISPAH 2016 (Thailand)

For example, the 6th ISPAH, International Congress on Physical Activity and Public Health, [4] ran between 16th and 19th November 2016 in Thailand. For the @ISPAH2016 meeting the hashtag was #ISPAH2016

During this meeting both the infographic “Best investments for Physical Activity” [5] and the “Bangkok Declaration on Physical Activity” [6] were launched. Specialist NodeXL software was used to illustrate how these specific communications progressed through Twitter.

We mapped the metrics and visualised the Twitter social media interaction using specialist social media tools for entries recorded under #ISPAH2016 to assess the user interactions and patterns of networking.

Simplur Health Hashtags

We used this tool to describe the simple @ISPAH2016 meeting metrics (to end 20 November 2016, GMT). In total there were 4,888 Tweets, 1,693 Participants and 9,639,062 Twitter page impressions over this period.[7] Additional information from #FollowTheHashtag website showed an audience of at least 929,000 Twitter users. [8] These two tools can also provide information about top tweeters and tweets.

NodeXL

We used the NodeXLtool[9] to map the development and social media interactions for each day of the conference and for the full period between 10 and 20 November 2016. The top webpage (URL) for this period was the Investment for Physical Activity infographic in the BJSM. Hashtags and word pairs summarised main areas of interest in the Twittersphere, including the Global Matrix national report cards for physical activity in childhood[10]. Sentiment analysis by NodeXL showed largely positive language in these physical activity related tweets.

INSERT FIGURE 1 AS UPLOADED

By using social media tools we were able to visualise and measure the Twitter interactions in detail. Simplur hashtag descriptive statistics describe a simple snapshot of activity. Approximately 1,100 delegates physically attended the meeting, while CWO, ADM and GM joined the 1,693 following online. The @ISPAH2016 meeting had a large number of global Twitter impressions. It is possible for tweeters with large numbers of followers to have a disproportionate impact on Twitter impressions, whether to good effect (e.g. disseminating a positive health message) or ill (e.g. spam accounts that latch onto a trending topic).

Crowds in social media have complex structures as highlighted from the NodeXL. It was possible to participate in assisting the launch of a key paper, “Infographic: Investments for Physical Activity” while being remote to the event [5]. The NodeXL tool can indicate key influencers during meetings and the bridges and subgroups that can build and interact during the meeting. This takes our understanding beyond a count of tweets and impressions [1] and, allows us to extract learning and understand interactions and influence.

Top tips

- Consider who is the “top influencer” of your hashtag and follow them. Often they will follow you back if you share a common professional interest.

- Organisations should publish a hashtag prior to the meeting, include in pre-conference programme and provide links to high quality images.
- Tweeting delegates should include an image and/or link to webpage to increase engagement and reach.

Quality Over Quantity

Noting the above we also observed that some of the pictures often of PowerPoint presentations taken and tweeted in lecture theatres can be very poor, and tweets rarely link with published information that would allow others to read further. This is a missed opportunity in disseminating work, an essential part of the whole research process. The quality of tweets is not analysed in this study but we recommend healthcare and science tweeters to think carefully about the quality of tweets to improve impact. As with much of Big Data analysis, the quality of individual tweets becomes less important when watching the whole picture, extracting main webpages, hashtags, word pairs and influencers using a tool such as NodeXL.

Take-Home Point

Using data visualisation tools, one can still attend and influence a meeting virtually. We all still require face to face learning sometimes but interacting remotely with an international meeting can add value for the individual and the event itself. We recommend that everybody carefully consider the potential impact and opportunities of using social media in this manner.

References

1. The social media revolution is changing the conference experience: analytics and trends from eight international meetings. Wilkinson SE, Basto MY, Perovic G, et al. (2015) *BJU Int.* 115(5):839-46. <http://onlinelibrary.wiley.com/doi/10.1111/bju.12910/abstract> [accessed 09/12/2016]
2. https://en.wikipedia.org/wiki/Data_visualization [accessed 09/12/2016]
3. <https://support.twitter.com/articles/49309#> [accessed 09/12/2016]
4. <http://www.ispah2016.org/> [accessed 09/12/2016]
5. Infographic. Best investments for physical activity. Schiphorst C, Murray A, Kelly P, Oliver C, Bull F. (2016) *BJSM* Nov 13. pii: bjsports-2016-096999. doi: 10.1136/bjsports-2016-096999 <http://bjsm.bmj.com/content/early/2016/11/01/bjsports-2016-096999.extract>. [accessed 09/12/2016]
6. http://www.ispah2016.org/images/pdf/Bangkok%20Decaration_ISPAH%20Congress.pdf [accessed 09/12/2016]
7. Symplur report. <http://www.simplur.com/healthcare-hashtags/ISPAH2016/> [accessed 09/12/2016]
8. FollowtheHashtag report. <https://scotpublichealthdotcom.files.wordpress.com/2016/11/ezgif-com-crop.gif>

[accessed 09/12/2016]

9. Pew Research Center in association with Social Media Research Foundation. How we analysed Twitter social media networks with NodeXL.
<http://www.pewinternet.org/files/2014/02/How-we-analyzed-Twitter-social-media-networks.pdf> [accessed 09/12/2016]
10. The Global Matrix 2.0 on Physical Activity for Children and Youth.
<http://www.activehealthykids.org/> [accessed 09/12/2016]

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