Social Media and Niche Sports: The Netball ANZ Championship and Commonwealth Games on Twitter

Portia Vann, Darryl Woodford, and Axel Bruns

Social Media Research Group

Queensland University of Technology

Brisbane, Australia

p.vann / dp.woodford / a.bruns @ qut.edu.au

Abstract

This paper analyses and compares Twitter activity for the niche sport of netball over the 2013 trans-Tasman ANZ Championship competition and the international Commonwealth Games event in 2014. Patterns within the Twitter data that were discovered through an analysis of the 2013 ANZ Championship season are considered in terms of the Commonwealth Games, and thus compared between a quasi-domestic and an international context. In particular, we highlight the extent to which niche sports such as netball attempt to capitalise on the opportunities provided by social media, and the challenges involved with co-ordinating event-specific hashtags, such as the #netball2014 hashtag promoted by the Commonwealth Games Federation.

Introduction

Both the Commonwealth Games and the ANZ Championship are preeminent events in the world of netball. A Commonwealth Games gold medal is one of the ultimate achievements in international netball, rivalled only by winning the Netball World Cup. Likewise, winning the ANZ Championship, netball's elite competition in Australia and New Zealand (comprising of five franchise teams from each country), is the highest goal for state and provincial teams from the two countries. Netball has the highest female participation rate out of all team sports in Australia, and also the second highest participation rate overall, falling behind only outdoor soccer (ABS, 2012). Participation rates for both of these sports significantly eclipse those of broadcast codes Australian Football League (AFL), National Rugby League (NRL), Rugby Union and Cricket, yet they continue to struggle when it comes to attracting the same level of media coverage.

The sports mentioned above (particularly NRL and AFL) are part of dominant sports culture, or sport space, within Australia. Markovitz and Hellerman (2001) use the term 'sport space' to describe a space in which dominant sporting cultures are pervasive, filled with the 'cultural meanings' of a sport, which carry significant value for a large number of people in that culture (Tomlinson et al., 2003: 1470). NRL and AFL are extremely prominent in mainstream media, often monopolising on-air discussion, and the Australian public is said to have an 'intense, frequent, perhaps even constant, preoccupation' with them (Markovitz and Hellerman, 2001: 11). Dominant sports have been established in the sport space for some time and demand significant resources (cf. Markovitz and Hellerman, 2001: 14-16). As a result, marginal sports in countries with dense markets find themselves 'crowded out' of this space (Markovitz and Hellerman, 2001: 52). By contrast, netball and soccer are sports that are on the 'cusp' of the sport space – they have very high grassroots participation, professional elite competitions and organising bodies, and although they do have a following at the professional level, it is not (yet) as great as those dominant sports.

The media play a particularly powerful role in determining which sports become dominant; if a sport is not shown on television and talked about in the news then it is highly unlikely that this sport would be able to amass a large following and become established in the sport space. Nonetheless, Markovitz and Hellerman acknowledge that sport space is a contested terrain, 'disputed and contested by social groups, and actors with particular sets of interests' (2001: 15). The media, fans, players, funding bodies, codes, leagues and organisations all have stakes in fighting over, creating, and maintaining sport space. There are also external factors which can influence the sport space. A significant event in the wider cultural, media or sporting environment – such as Australia's repeated qualification for the soccer World Cup, and its win of the 2015 Asian Cup – can disrupt the existing power relations and 'open up' the space, reducing barriers to entry for marginal sports. Recent changes in the media environment due to the emergence of new media and internet platforms have also directly influenced sports space (particularly in changing the way sport is broadcast), due to the strong connection between media and sport spaces.

The development of a more participatory and complex media environment due to the emergence of internet-based media has been well documented (Flew, 2008; Gauntlett, 2010; Jenkins, 2006; Bruns, 2008; Shirky, 1999; Spurgeon, 2009), and moves the media ecology away from the rigid top-down structures that had previously existed. Social media, as a key component of this shift towards more interactive media platforms, can open up new spaces and can provide new opportunities for passionate fans of niche sports. Hutchins and Rowe (2012: 75-76) believe that social media have 'personalised the flow of viewing sport in a way not previously seen' and provide ample opportunities for fans to connect and discuss sport. Bruns (2008: 32) shares this view, and considers social networks to be the glue that holds different elements of transmedia activities together, providing a key link for fans to talk amongst each other, share opinions, find out information on their favourite sporting codes and interact with athletes.

The uptake and utilisation of internet platforms and social media has previously been observed in other fan cultures and subcultures (Jenkins, 1992, 2006; Wilson, 2002). Similarly, as sport cultures have always been home to 'intense collective passion,' in offline sports communities, fans are driven to seek out alternate forms of media in which these collective identities are sustained. As the internet offers more individualised content than television, fans of specialised and specific sports that are being overlooked by conventional media outlets can direct their enthusiasm to online fan spaces instead. For these overlooked interest and sports groups, this creates a particularly potent sense of coherence and community on the internet (Crawford, 2004: 143).

Social media platforms such as Facebook and Twitter may thus have a role to play in addressing the structural imbalances related to the disparity of media resource allocations between dominant and niche sports. Therefore, we present two basic ideas that underline this case study of netball and Twitter. First, social media may be used by sports bodies and fans alike to promote their code where mainstream media coverage is sparse; such 'push' activities through social media may eventually also result in greater mainstream media coverage. There is evidence to suggest that another comparatively niche sport in Australia, the soccer A-League, has been pursuing such a strategy in its concerted and successful embrace of Twitter and other social media platforms in recent years (Bruns et al., 2014; Jackson and Christensen, 2012). Second, a complementary 'pull' effect may already result in a considerable uptake of social media by fans of niche sports even in the absence of such deliberate promotion of social media use, as social media can provide a wide variety of individualised content as well as a sense of community to fans of marginal sports.

Due to the two different contexts (domestic/international) in which netball is operating throughout the two competitions we examine in the present article, it is likely that there will be different indicators to gauge what is considered a 'successful' utilisation of the platform; however, a direct comparison of overall patterns is nonetheless valuable. As the ANZ Championship season takes place

over a number of months every year, it is likely that there would exist an ingrained community of Twitter users around the competition, evolving from year to year. This situation differs from that of the Commonwealth Games, which take place only over a short timeframe of two weeks every four years, and thus provide less time for community structures to emerge and be observed. However, specific contests within the Commonwealth Games, such as the netball competition, may also connect with pre-existing Twitter communities for these sports.

Methods

This study used data collected from the public Twitter streaming API, and so captured publicly available tweets posted by, or referencing, specific accounts, as well as tweets containing relevant hashtags (Borra and Rieder, 2014). Importantly, therefore, it does not purport to present an analysis of the totality of all netball-related discussion during both events; rather, it focusses on the core conversations which specifically include tweets by and @mentions of the relevant accounts, or tweets containing the hashtags promoted by official netball bodies.

The 2013 ANZ Championship season was held across Australia and New Zealand, with five teams participating from each country. Data were recorded throughout the season (8 February to 28 July 2013), beginning the month before the competition commenced and continuing until after the Grand Final in mid-July. Mentions of and tweets sent by the accounts of all ten official teams were tracked, as well as the league's overall @ANZChamps account, a number of game-specific hashtags (e.g. #SWIvFIR) (cf. Vann, 2014: 451-453) and the Queensland Firebirds' promotional #sparkswillfly hashtag. Data were collected for the accounts of the Adelaide Thunderbirds (@AdelaideTBirds), Queensland Firebirds (@TheFirebirds), Melbourne Vixens (@MelbourneVixens), West Coast Fever (@WestCoastFever) and New South Wales Swifts (@theNSWSwifts), as well as the Waikato/Bay of Plenty Magic (@MagicNetball), Central Pulse (@HaierPulse), Southern Steel (@SteelNetball) and Mainland Tactix (@TactixNetball). Unfortunately there was an error with capturing data from the

Northern Mystics account (@northernmystics) and thus tweets to and from this account could not be included in the analysis.

The Commonwealth Games were held in Glasgow in July and August of 2014, where the Australian and New Zealand netball rivalry continued both on and off the court. The hashtags and accounts tracked here were #2014netball, #GoDiamonds, #SilverFernsNation, @NetballAust, @NetballNZ, @AussieDiamonds, and @SilverFernsNZ. #2014netball was the hashtag promoted for the netball event by the Commonwealth Games @Glasgow2014 Twitter account. These data were collected throughout the Games period as well as over one week before and after the event (15 July – 11 August 2014).

Having collected the data, it becomes possible to generate a number of key metrics and visualisations of tweeting patterns which provide a standard basis for comparisons between the two events. Drawing on the methods utilised by Vann (2014) and Bruns et al. (2014), this approach is able to examine the broad quantitative patterns of fan activity on Twitter over time, which are at the centre of the present analysis. Further qualitative analysis of these datasets, for example by manually coding tweet contents, will be able to reveal more detail on the specific engagement activities of participants in the Twitter conversation, but such close reading of the content is beyond the scope of the present study. The quantitative analysis which we present here also helps to pinpoint specific selections from the overall datasets which are especially promising sites for further qualitative investigation.

Overall tweeting activity and patterns over time

Figure 1:   ANZ Championship
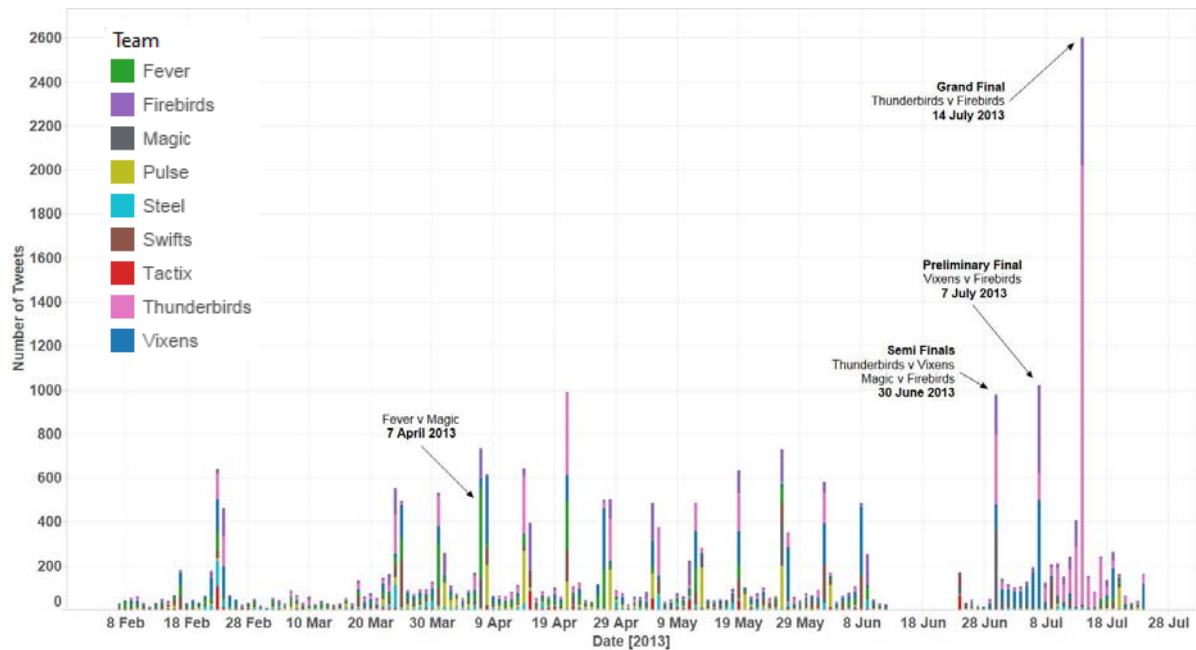
As these two events were held over different timeframes and in different contexts, patterns of

Twitter activity varied notably. As Fig. 1 shows, the ANZ Championship has distinctly regular patterns

of activity – with spikes occurring on game days for all teams. This activity cycle recurred consistently

throughout the season, with the volume of tweets increasing as the finals approached, culminating

in the highest levels of activity during the grand final. It should be noted that our analysis in Fig. 1

contains only those tweets specifically @mentioning the teams' accounts, of course: there would

also have been further activity using game-specific hashtags such as #SWIvFIR, which should be

expected to follow similarly regular patterns.

Figure 2:   Commonwealth Games

Mentions over time
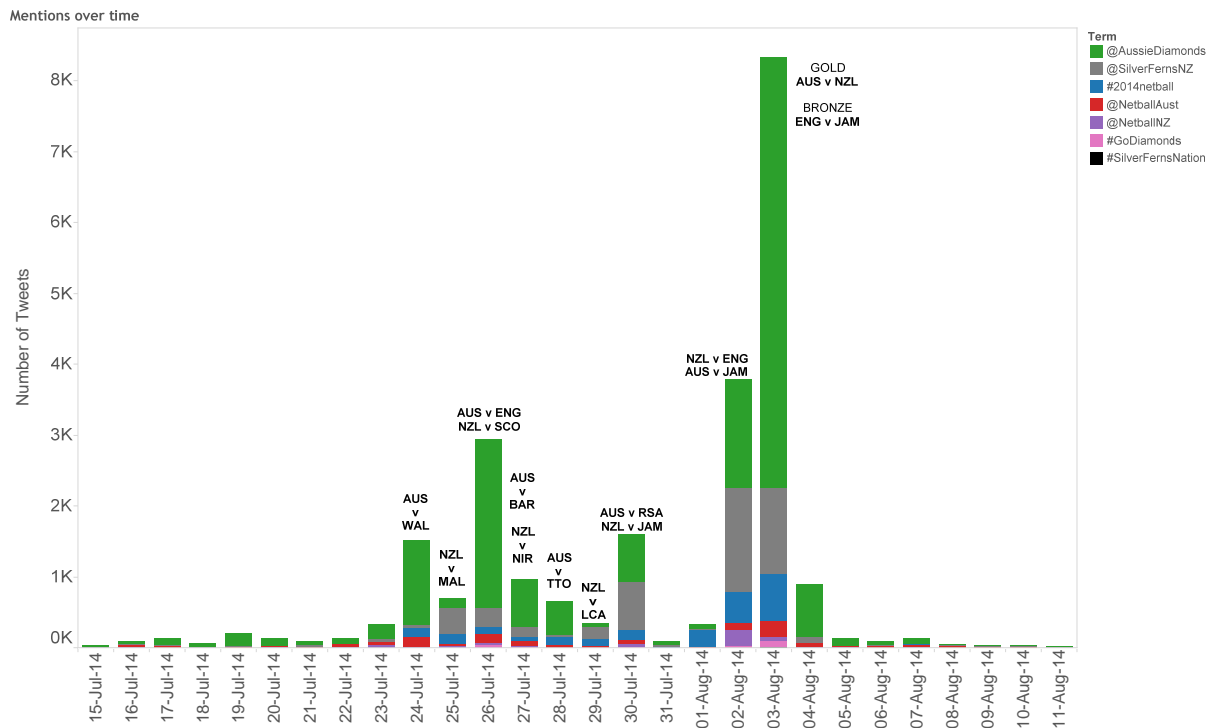
By contrast, activity patterns during the Commonwealth Games (Fig. 2) were far less defined by

matchday-to-matchday cycles. There are varying levels of activity per day, with a major spike

occurring only for the pool match between Australia and England. While it should be kept in mind

that only data relevant to the Australian and New Zealand teams were captured here (and as such it

is less likely that a clear daily pattern would emerge, as not all teams involved in the competition

were tracked), other inferences that can be drawn from these data: we see less defined patterns due

to the tournament style of play at the Commonwealth Games (as opposed to a longer season),

resulting in important matches being accentuated. On days with relatively low levels of activity,

Australia and New Zealand were playing the 'minnows' of the competition: teams they were

expected to defeat relatively easily. Additionally, the geographic and timezone distance of Australian

and New Zealand fans from the Glasgow Games also meant that fewer fans were likely to be

physically present and tweeting from each of the matches at a consistent level, or to have tuned in

to watch games that were considered easy victories. While there is no consistent day-to-day activity

pattern throughout the Games, then, there is of course a clearly defined peak in activity for the semi-final and gold medal matches, corresponding to a similar increase in activity for the ANZ Championship finals.

The question of 'tuning in' raises another useful comparison. In 2013, the ANZ Championship was shown primarily on subscription service Fox Sports (with one game per week on the minority free-to-air channel SBS), while the Commonwealth Games were broadcast by Network Ten over two mainstream free-to-air television channels and six live streaming channels. On television channels One and Ten, important Australian matches were shown in full, while less important games were only crossed to briefly. The fact that some of the Australian team's matches at the Games generated a greater volume of tweets than ANZ Championship matches in 2013 thus also points to the effect of such matches being broadcast to a potential audience that was substantially larger than that commonly reached by Fox Sports.

Match-based patterns

A closer examination of Commonwealth Games Twitter activity reveals the impact of playing performance on Twitter engagement: for example, minute-by-minute activity from both New Zealand's and Australia's semi-final games (against England and Jamaica, respectively) follows similar patterns (Fig. 3). With both teams winning their matches, the greatest spikes in activity occur at the end of the game, as victory is confirmed. This also indicates that fans are largely focussing on the match during the playing periods, and take to tweeting mostly during the intermissions and after the conclusion of the matches.

Figure 3:   All tweets containing @AussieDiamonds or @SilverFernsNZ throughout semi-final matches
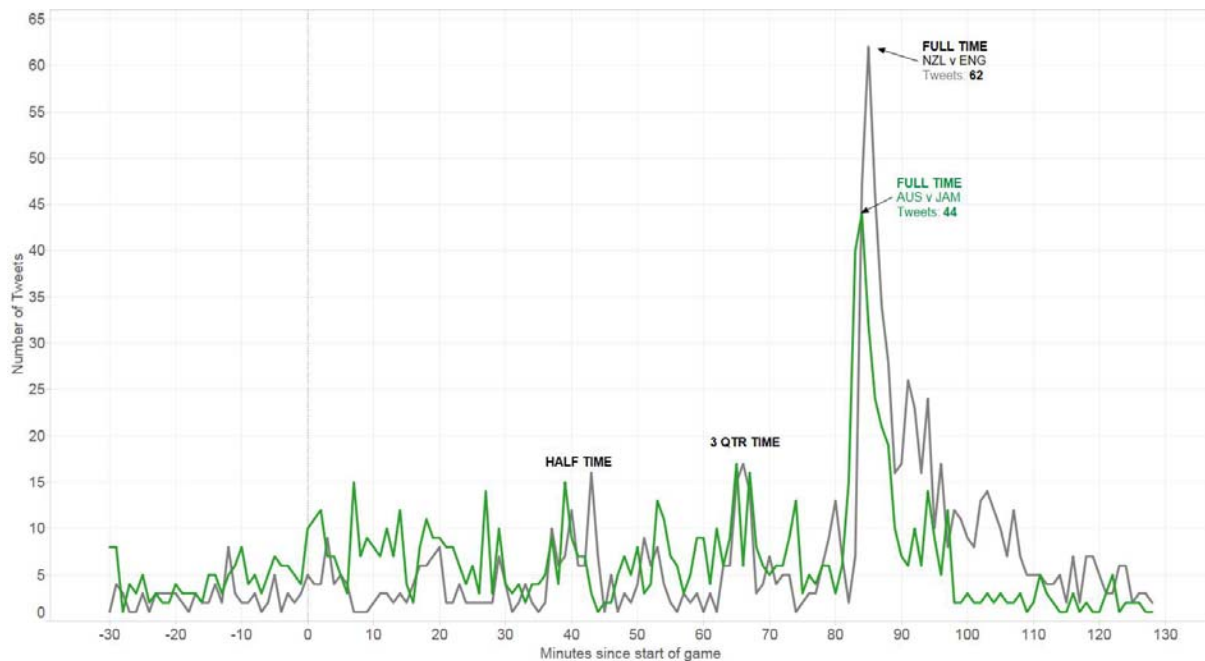
Notably, both matches generate broadly similar spikes in engagement. New Zealand received a greater final peak of 62 tweets per minute, compared to Australia's 44, while in total, the @AussieDiamonds were mentioned 1,039 times to the @SilverFernsNZ's 1,045 times over a period of approximately two and a half hours beginning 30 minutes before the start of each match. But this should not be misunderstood as indicating that both sides have a broadly similarly sized supporter base, as a comparison of activity for these two teams as they play against each other (and as the Australians record a convincing gold medal victory) demonstrates very different levels of support (Fig. 4).

Figure 4:   All tweets containing @AussieDiamonds or @SilverFernsNZ throughout the gold

                 medal match
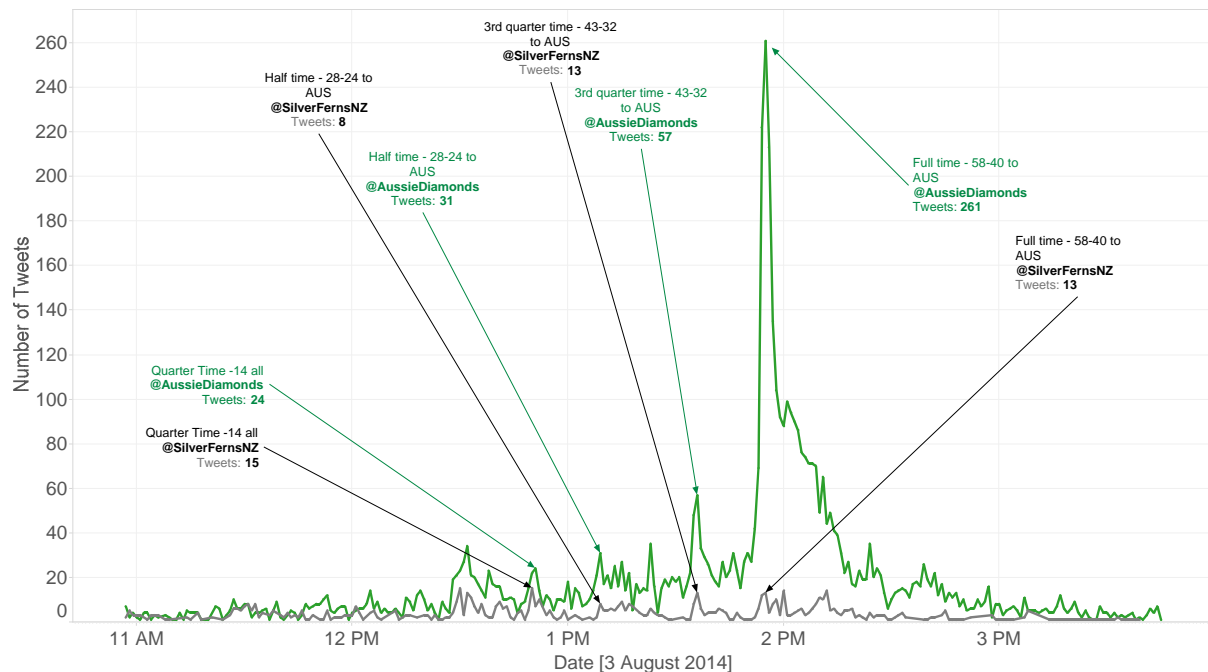
While mentions of both the @AussieDiamonds and @SilverFernsNZ are fairly similar in the build-up

to the gold medal match and throughout the first quarter as scores are level, they begin to

accelerate for the @AussieDiamonds as they gain ascendancy in the game. This is particularly

evident in the activity spike occurring during the third quarter break (the first break in play after the

score line began to blow out) and after full time. At their peak, the @AussieDiamonds are

mentioned in 261 tweets per minute, while @SilverFernsNZ receive only 13 mentions during that

same minute. This significant divergence indicates flagging (or at least less vocal) levels of support

for the Silver Ferns as their defeat is becoming increasingly certain over the course of the match.

Additionally, as we will show below, the disparity in the number of tweets mentioning the two

teams also runs counter to other indications of a well-developed Twitter audience for netball in New

Zealand, even compared to Australia.

Although we are drawing on somewhat different datasets in our present study (focussing on @mentions of accounts, rather than on hashtags), the activity patterns during Commonwealth Games matches are comparable to those found in the ANZ Championship, as well as in mainstream codes such as NRL and AFL. As previous research has shown, in both the 2012 NRL and AFL Grand Finals, there were 'clear spikes for the match beginning and the end of each quarter in the AFL, and spikes around the start, half-time and full-time whistle in the NRL final' (Woodford, 2013). In the Commonwealth Games data, there are similar clear (and usually game-high) spikes at the end of each match, with lesser spikes also identified in each quarter-time break (Fig. 4). For the codes' social media teams, this presents an opportunity to further build their Twitter buzz: as higher levels of activity continue to be found during breaks in play, teams can and should utilise this time to engage with their fans on Twitter.

Overall, then, while day-to-day patterns of activity are necessarily different between the ANZ Championship and Commonwealth Games, on a match-specific basis there are similarities. The indication that the successful on-court performance of a team and the perceived importance of a match will influence the overall levels of Twitter activity supports the findings from a more detailed analysis of ANZ Championship data, which revealed that there was a general correlation between a team's ladder position and overall levels of Twitter activity (Vann, 2014: 448). It is also evident that television and mainstream media are still an important influence on the amount of activity niche sports receive on social media, as much activity stems from the live broadcast of games. This is especially relevant for international events which, due to geographical distance, a large number of domestic fans are not likely to attend in person.

Activities around 'official' and 'unofficial' hashtags

Prior to the commencement of the Commonwealth Games, each sporting event was assigned an 'official' hashtag following the format #2014sport (e.g. #2014athletics, #2014gymnastics, #2014netball etc.). Users were encouraged to include these hashtags in their tweets in order to have a chance at having their posts shown live on large screens at each event. The #2014netball hashtag was included in a total of 2,143 tweets between 15 July and 11 August (Table 1), of which a majority were original tweets, rather than @mentions or retweets. Patterns of activity within this hashtag dataset were not affected particularly much by specific matches, although activity did peak, unsurprisingly, on the day of the gold and bronze medal matches. User engagement with the #2014netball hashtag was characterised largely by a long tail distribution spanning both official and unofficial Twitter accounts: 1,210 of the total 1,250 users posted only one to five tweets using the hashtag, contributing some 80 per cent of hashtag activity. Although there were users who tweeted more frequently, such as the International Netball Federation, these tweets did not dominate the discussion using this hashtag.

Table 1:   Engagement with Commonwealth Games hashtags

Hashtag	Total tweets	Unique users
#2014netball	2,143	1,250
#godiamonds	208	148
#silverfernsnation	33	15

This is similar to activity patterns found in other hashtag events, such as #stopkony and #royalwedding, where community structures and therefore lead users did not have time to emerge, or the bulk of users' involvement with the hashtag was limited to just a handful of tweets (Bruns and Stieglitz, 2014: 78). These activity patterns make sense within the context in which the hashtag was

used – as a live companion for those physically present at the Commonwealth Games. Although there was relatively consistent use of this hashtag over the match days and building up to the gold medal match, the moderate number of tweets including the hashtag – compared to the volume of tweets @mentioning the Australian and New Zealand team accounts – suggests that its use perhaps did not resonate with the television audience.

In addition to #2014netball, the #GoDiamonds and #SilverFernsNation hashtags were promoted by the respective team accounts in the build-up to the Games, and tracked by us to compare the take-up of these official hashtags between the two countries. However, use of these hashtags was not widespread throughout the Games – with only 33 tweets including #SilverFernsNation and 208 including #GoDiamonds. This correlates with previous observations for sports event hashtags: historically, official hashtags do not receive a strong take-up. This was also the case in the ANZ Championship, where the Queensland Firebirds' #sparkswillfly hashtag, for example, received little use in comparison to the total mentions received by the team account. Similar results were also found throughout the 2013 NRL Grand Final, where the promotional hashtag of each team (#RiseAgain for the Sydney Roosters and #GoManly for the Manly Sea Eagles), were not frequently utilised throughout the game, and traffic for other keywords was significantly higher (Woodford, 2013). This suggests that this type of promotional hashtag is not well suited for mass uptake around sporting events, though it could still be employed by teams and players to link their promotional efforts in a way that is visible and easily discoverable by fans.

In contrast to the often very limited take-up of such promoted hashtags, however, it should also be noted that an investigation of Twitter activity during the 2014 Melbourne Cup (cf. Woodford and Prowd, 2014) has highlighted the extent to which users create *ad hoc* hashtags that respond to events during the live broadcast itself: for example, several hashtags related to the horses, the fashion, and the gambling associated with the event also emerged. In spite of the significantly more

niche nature of the ANZ Championship and Commonwealth Games netball competition, similar emergent phenomena may have occurred in these cases as well; future studies of such events should therefore replicate the approach outlined by Woodford and Prowd (2014) in order to take account of such 'unofficial' user activities.

Instead of (or in addition to) seeking to promote their own hashtags, teams and codes might therefore need to engage more fully with these fan-generated hashtags, if it becomes evident that they are much better able to attract significant participation. This is feasible for many such hashtags, but could also be problematic where such hashtags are critical of official bodies or may cause offence to other teams and players. It may also undermine longer-term social media strategies (for example where official hashtags are incorporated into longer-term advertising campaigns in print and broadcast), or run counter to commercial interests (for example where fans prefer generic hashtags such as #ALeague to more sponsor-friendly hashtags like #HyundaiALeague). However, if such 'official' hashtag campaigns fail to generate significant popular take-up, they are unlikely to be worth continuing anyway.

Promoting Twitter in Australia and New Zealand

Finally, while the overall patterns of engagement with both netball competitions on Twitter show common distributions of attention both across teams (with well-performing teams favoured) and over time (with the most important matches receiving most attention, and that attention being expressed on Twitter mostly during breaks in play), there are also considerable differences between the Australian and New Zealand teams, as we have already noted in passing. In total numbers, Australian teams receive considerably more attention than those from New Zealand, although per capita of the respective population of each country (at current estimates, 4.5 million for New Zealand, 23.6 million for Australia) there is significantly more engagement with netball in the New

Zealand Twittersphere than in its Australian counterpart (Table 2). To establish the combined

Australian and New Zealand figures present in the table below, the data from the five Australian and

five New Zealand teams in the ANZ Championship (shown in Table 1) were combined, as were data

from the organisational and team accounts and official hashtag (e.g. @NetballAust,

@AussieDiamonds and #GoDiamonds) for the Commonwealth Games.

Table 2:   Twitter activity around Australian and New Zealand accounts

	ANZ Championship		Commonwealth Games	
	Australia	**New Zealand**	**Australia**	**New Zealand**
Total activity	21,772	5,477	16,568	5,201
Total tweets posted by official accounts	5,227	1,290	1,531	428
Unique users mentioning	3,903	959	4,866	1,876

Independent of obvious variations in activity levels that are due to the different population sizes of

each country, the data presented also clearly show that New Zealand teams do not tweet as much as

their Australian counterparts, even though an equal number of official accounts exist on both sides

of the Tasman. The lack of posts by New Zealand teams does not encourage fans to 'join the

conversation,' nor motivate fans turn to Twitter as a platform that caters to their fandom by

providing new or exclusive content. As the performance of a team does seem to affect the overall

volume of activity on Twitter, the comparatively poor performance of New Zealand ANZ

Championship teams (only once has the premiership ever been won by a team from New Zealand,

compared to six wins for Australian teams), and by the Silver Ferns in the Commonwealth Games

final, is also likely to have influenced the disparity of the overall number of tweets between

Australian and New Zealand teams, and potentially the lack of activity by official accounts in New

Zealand.

However, as stated above, on a per-capita basis the engagement with New Zealand teams on Twitter is strong. The relative strength of netball-related tweeting in New Zealand even in the face of limited official activity and poor competition results may be due to the different contexts in which netball operates in each country, then – and as the sport of netball continues to grow, the difference in communication between Australian and New Zealand teams may become more pronounced. Typically, teams from New Zealand will receive considerable coverage in mainstream media (Bruce, 2008), while netball in Australian media is 'crowded out' due to a saturated sport space filled with other highly popular (and male-dominated) codes. As netball in New Zealand tends towards the mainstream rather than remaining a niche sport as in Australia, it is reasonable to conclude that New Zealand *teams* do not need to rely on social media tools as greatly as Australian teams do, potentially causing them to overlook the benefits and increased publicity that can come from active use of social media, while New Zealand *fans* are already using social media quite actively even in the absence of orchestrated official campaigns aimed at getting them to do so. It appears likely that further strategic embrace of and sustained activity on Twitter by official accounts in New Zealand might serve to further strengthen netball-related Twitter activity in the country.

Conclusion

Our analysis of Twitter activities around the Australian and New Zealand netball teams at the 2014 Commonwealth Games in Glasgow, and comparison of these patterns with previous observations for the 2013 ANZ Championship season, paints a rich and varied picture of the social media activities around these contests, and adds to the evidence about social media engagement with sports that has been gathered by previous studies. Overall, it shows a preference amongst fans to back winning teams (or be more vocal in their support of successful teams), which receive considerably stronger engagement on Twitter than less successful teams. The position of a sport within Australia and New

Zealand's sport space also influences social media take-up amongst fans. The marginal status of netball in Australia, with a precarious hold on any broadcast airtime, is likely to drive teams and fans alike to supplement a lack of mainstream media coverage with their own social media activities, while the more developed market in New Zealand, with stable and regular mainstream media commitments, presents less impetus for official social media use but is nonetheless complemented by additional fan activities. For international events like the Commonwealth Games, the reliance on television broadcasts to spark Twitter activity demonstrates that traditional media still have an integral role to play in the expansion of niche sports. However, the considerable engagement of users on Twitter throughout the Commonwealth Games, beyond the officially promoted hashtags, also indicates that fans are certainly willing to take up alternate forms of media in their fandom of niche sports.

We have also documented what appear to be stable practices, even across diverse sporting codes, of tweeting along with matches from the stadium or the second screen at home: here, activity is concentrated on key moments of matches, and especially on quarter time and half time intermissions as well as the conclusion of the match. Such patterns indicate that for most fans social media appear to be not a distraction, but an enhancement of the sporting experience. Social media provide fans with an instant space for commenting on match events, and thus also with a sense of belonging to the wider fan community for individual teams, in the first place, as well as for the sport as a whole. This is necessarily especially important for niche sports such as netball.

The practices and patterns as we have outlined them here are therefore also of considerable importance to the teams and official bodies facilitating the competition, as tapping into such existing fan enthusiasm and engaging with it in meaningful ways to foster and grow support for the code constitutes an important pathway towards a less precarious, more mainstream future for the sport. It is beyond the scope of this paper to formulate a detailed strategy for engaging with sports fans

through Twitter, but some obvious opportunities emerge from our research: for example, if fan engagement drops off considerably on non-matchdays, due to the lack of a shared fandom experience around which fans can gather, then teams may seek to create such common non-match experiences by staging their own Twitter events, including Twitter Q&A sessions with players and team officials (as an example, see the fan engagement activities of FC Köln as outlined in Bruns et al., 2014: 273). Conversely, if fans are especially likely to participate on Twitter before and after matches and during intermissions, official accounts would be well advised to capitalise on this potential for engagement by providing shareable content for and engaging with fans especially during these periods of heightened attention. Central to such initiatives is a detailed analysis of common fan engagement patterns on social media which proceeds further beyond the observations we have made here – but what is obvious already is that teams and codes must learn to engage with fans on the fans' terms, rather than expect fans to follow the precedents set by the official accounts themselves, if they want to fully utilise social media platforms to boost fan engagement with niche sports.

References

ABS (Australian Bureau of Statistics), 2012, 'Sports and Physical Recreation: A Statistical Overview,' http://www.abs.gov.au/AUSSTATS/abs@.nsf/ProductsbyTopic/289CF52A52475081CA25765 700161E11?OpenDocument

Borra, Erik and Bernhard Rieder, 2014, 'Programmed method: developing a toolset for capturing and analyzing tweets'. *ASLIB Journal of Information Management,* no. 77, p. 262.

Bruce, Toni, 2008, 'Women, Sport and the Media: A complex terrain,' in C. Obel, T. Bruce and S. Thompson,*Outstanding Research About Women and Sport in New Zealand*, Wilf Malcolm Institute of Educational Research, Hamilton.

Bruns, Axel, 2008, *Blogs, Wikipedia, Second Life and beyond: from production to produsage,* Peter Lang Publishing, New York.

Bruns, Axel and Stefan Stieglitz, 2014, 'Metrics for Understanding Communication on Twitter,' in K. Weller, A. Bruns, J. Burgess, M. Mahrt and C. Puschmann, *Twitter and Society,* Peter Lang Publishing, New York.

Bruns, Axel, Katrin Weller and Stephen Harrington, 2014, 'Twitter and Sports: Football Fandom in Emerging and Established Markets,' in K. Weller, A. Bruns, J. Burgess, M. Mahrt and C. Puschmann, *Twitter and Society,* Peter Lang Publishing, New York.

Crawford, Garry, 2004, *Consuming Sport: Fans, sport and culture,* Routledge, London.

Flew, Terry, 2008, *New media: an introduction,* Oxford University Press, Melbourne.

Gauntlett, David, 2011, *Making is connecting: the social meaning of creativity from DIY and knitting to YouTube and Web 2.0,* Polity Press, Malden.

Hutchins, Brett and David Rowe, 2012, *Sport Beyond Television: the internet, digital media and the rise of   networked media sport,* Routledge, New York.

Jackson, Sally and Nic Christensen, 2012, 'Twitter Flies In to Meet Leaders,' *The Australian*, 26 Nov, http://www.theaustralian.com.au/media/twitter-flies-in-to-meet-leaders/story-e6frg996-1226523789033

Jenkins, Henry, 1992, *Textual Poachers: television fans and participatory culture*, Routledge, New York.

Jenkins, Henry, 2006, *Convergence Culture: where old and new media collide,* New York University Press, New York.

Markovitz, Andrei and Steven Hellerman, 2001, *Offside: Soccer & American Exceptionalism,* Princeton University Press, Princeton.

Shirky, Clay, 1999, 'Rip the Consumer, 1900-199,'

http://www.shirky.com/writings/herecomeseverybody/consumer.html

Spurgeon, Christina, 2009, 'From mass communication to mass conversation: Why 1984 wasn't like 1984,' *Australian Journal of Communication,* no. 36, p. 143.

Tomlinson, Alan, Andrei Markovitz and Christopher Young, 2003, 'Introduction: Mapping Sports Space,' *American Behavioural Scientist, no.* 46, p. 1463.

Vann, Portia, 2014, 'Changing the Game: The role of social media in overcoming old media's attention deficit towards women's sport,' *Journal of Broadcasting & Electronic Media,* no. 53, p. 438

Wilson, Brian, 2002, 'The anti-jock movement: reconsidering youth resistance, masculinity and sport culture in the age of the internet,' *Sociology of Sport Journal,* no. 19, p. 207.

Woodford, Darryl, 2013, 'Sporting Twitter Analytics: Comparing the Australian Grand Finals,' http://mappingonlinepublics.net/2013/10/15/sporting-twitter-analytics-comparing-the-australian-grand-finals/

Woodford, Darryl and Katie Prowd, 2014, 'Development & Testing: The Melbourne Cup,' http://www.telemetricsproject.com/?p=13508

Word Count: 5,319