



**A YEAR IN  
THE LIFE OF  
TV & TWITTER  
IN THE UK**

# What's inside?

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# People love to talk about TV

## Introduction



This report is being published by Kantar Media as an independent overview of Twitter and its relationship to television.

In 2014 Kantar Media is launching its Twitter TV Ratings service in the UK which will allow broadcasters, media agencies and others to look at this relationship in much more detail.

**Twitter's relationship with television has been central to the debate about the future of both media. There is a good fit between the two. People have always loved to talk about TV, even before social media gave them a different outlet to do it. As a result, around 40% of all UK Twitter traffic at peak time is related to TV.**

The main focus of this study is on the relationship and correlation between TV viewing levels and Twitter. We also statistically examine causation (i.e. Twitter activity leading to TV viewing). The report is the result of extensive analysis of viewing data and Twitter data related to UK TV shows. The primary sources are data tracked by Twitter in the UK, combined with TV viewing data from BARB using Kantar Media analysis tools.

The period covered for analysis encompasses one year of TV, from 1 June 2013 to 31 May 2014 and takes in over 110 million TV-related Tweets from over 13 million unique users

It should be noted that these UK analyses do not include Twitter activity around sports and news broadcasts or events.

**Our analysis confirms that Twitter amplifies the power of TV as a medium, can increase ratings and is a rich source of insight about TV viewing.** As a metric, it can complement TV ratings and Audience Appreciation data. To make the most of Social TV analysis it is important to understand the nature of the relationship that different shows and genres have with the medium, both in terms of the volume and 'shape' of Twitter activity they can be expected to generate.

High quality analysis of Twitter data is essential. Simply counting hashtags will limit understanding, so contextual approaches like those from Kantar Media will be important in terms of seeing the full conversation whilst avoiding false positives.

# Key Findings

# 1

Twitter buzz covers hundreds of shows and the top 30 series in terms of volume of Tweets account for 50% of all measured UK Twitter TV activity, and 9% of viewing by volume. One talent show, the X Factor, dominates, inspiring 8.6% of all Tweets across the year, despite being on air for only four months in the year. In weeks when it was on air in 2013 it accounted for around a quarter of all TV activity on Twitter.

# 2

Across a broad time period, TV Tweet levels correlate with TV channel shares, although some channels (ITV, ITV2 and E4) over-perform on Twitter relative to audience shares. On a weekly basis there is less correlation: the 'Twitter TV Top 30' (the series that generate the most buzz on Twitter) can greatly change the channel share of Tweets from week to week, depending on whether they - or special events like awards shows and fund-raising events - are on air.

# 3

TV Tweets have a noticeable skew towards entertainment, talent shows, constructed reality, documentaries, some dramas, soaps and special events. We anticipate that, based on data from other countries, major sports and news events do also feature, but these are not currently measured specifically in the UK\*. Twitter also tends to be significant for dramas with either a cult or younger following, or phenomena like Sherlock, Downton Abbey or Doctor Who.

# 4

Twitter TV activity correlates with audience size at a very broad level: the shows with the largest volume of Twitter TV activity tend to have the higher audiences. Also the correlation is largely one-way: some of the top watched shows have hardly any Twitter volume. Consequently Twitter TV data are influenced by TV ratings, are complementary to them, but are not a replacement for them.



# 5

# 6

# 7

The **top 30 series** in terms of volume of Tweets account for **50%** of all measured UK Twitter TV activity

We were able to compare one full year of Twitter TV data to the preceding year. Of the top 30 TV series in terms of Twitter volume, 28 were on air the year before. 16 had increased their amount of Twitter activity and 12 had decreased. This correlated strongly with the direction in which their gross audience across the year had moved. Indeed for 20 of these 28 series Tweet volume moved in the same direction as total audience volume across the year. Short term changes – from episode to episode within a TV series – have far less correlation with Twitter activity, largely as viewing levels to the top shows tend to remain fairly level across seasons apart from season premieres and finales, so the Twitter volume of individual episodes of continuing series is more related to specific content.

Our analysis detected a causal relationship between Twitter activity and viewing levels. 11% of broadcasts had some form of positive causation during the transmission- that is an increase in Tweets followed by an increase in viewing levels. For those 11% of broadcasts where there was a positive effect from Twitter to TV, it added 2% to the total audience during the broadcasts.

We can see evidence of correlation between immediate pre-show Twitter activity and subsequent uplift in viewing at the start of the show, but this can't be statistically isolated from other contributory factors that may cause people to tune in (marketing, promotions, word of mouth for example). Consequently our causation analysis looks only at the Twitter effect during the broadcast itself.

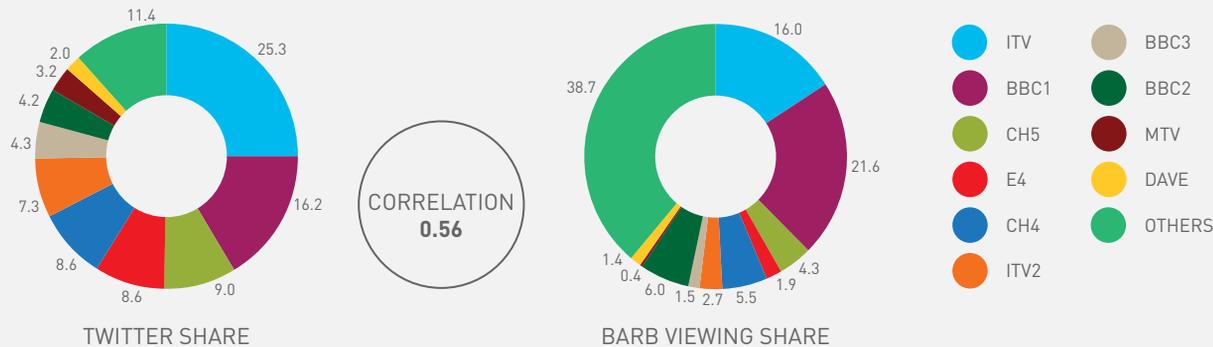


@wloveaudiences  
@kmuksocialtv

# How do Twitter levels compare across TV channels?

Across the full year of UK data analysed (1 June 2013 – 31 May 2014), there were over 110 million Social TV Tweets measured from over 13 million unique users. If we aggregate all UK viewing data across the 12-month period at a channel level, we can calculate a share of viewing and compare it to the channel share of TV Tweets. It is apparent that Tweets are far more focused on the top ten channels in terms of Twitter activity across the period, shown below. Just 11.4% of TV Tweets referred to broadcasts from outside these channels, compared to 38.7% of all viewing across the period.

**CHANNEL AUDIENCE SHARE VS TWITTER SHARE**  
1 JUNE 2013 – 31 MAY 2014



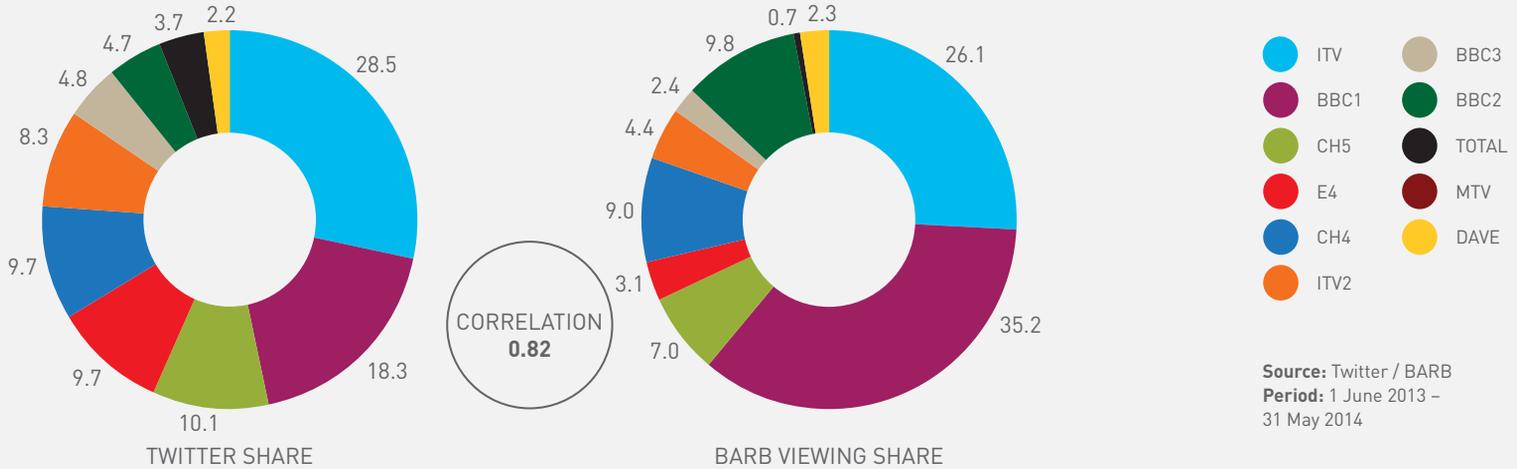
Source: Twitter / BARB  
Period: 1 June 2013 – 31 May 2014

If we exclude 'others' and focus just on these ten core channels, we can see that the Twitter hierarchy is more similar to that seen in actual audience share, with a high correlation score of 0.82. ITV performs better on Twitter share than on ratings – the X Factor effect – whilst E4 and ITV2 also over-perform due to their two marquee shows, Made In Chelsea and TOWIE.



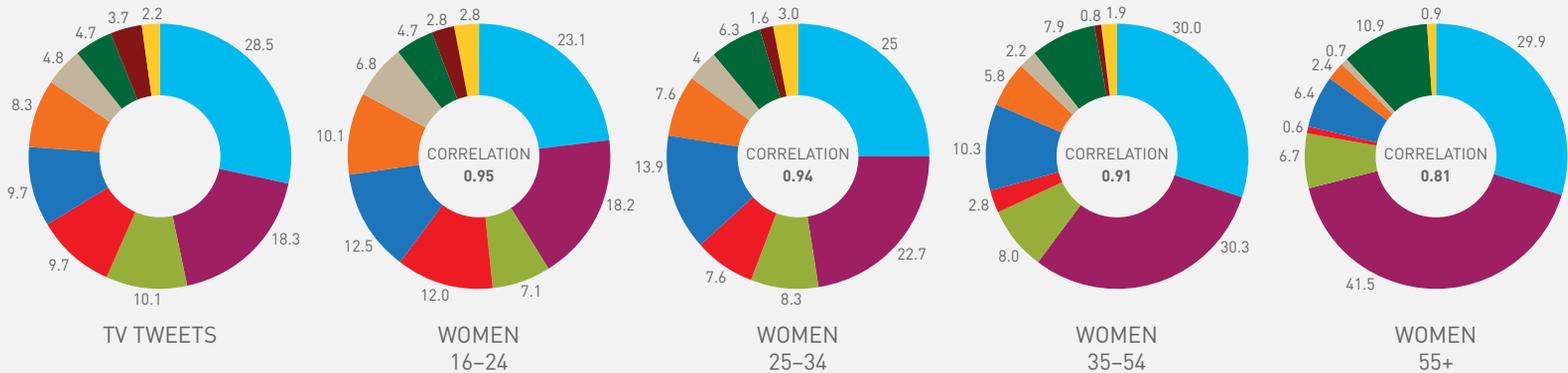
### CHANNEL AUDIENCE SHARE VS TWITTER SHARE (EXCL. OTHERS)

1 JUNE 2013 – 31 MAY 2014



### AUDIENCE VS TWITTER SHARE

(EXCL 'OTHERS') 1 JUNE 2013 – 31 MAY 2014

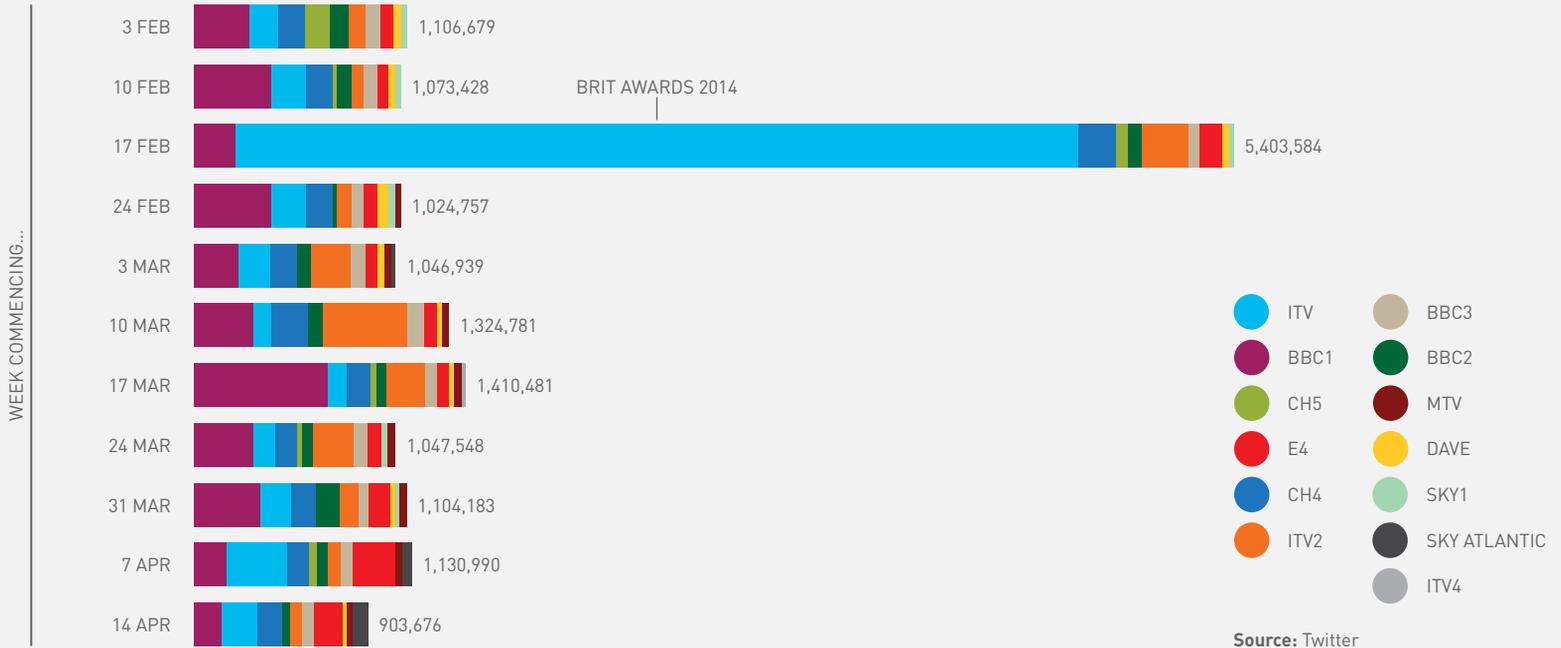


The best 'fit' between Twitter and channel share occurs if we compare Twitter overall to women 16-34s ratings. This also reflects a skew to ITV, ITV2 E4 and BBC 3 and as a result achieves a correlation of over 0.94 between overall Twitter channel share and BARB viewing share for women 16-34:

AUDIENCE SHARE

So overall Twitter share does broadly correlate with channel audience share across a wide time period. However it is less likely to correlate from week to week. Standout shows on Twitter - and whether they are on in a particular week - have a huge impact. As we will discuss (page 11) there is a clear 'Twitter TV Top 30 series' that can significantly change share of voice in a given week for individual channels - far more than any related changes in viewing levels.

**TOTAL TWEETS**  
TOP 10 CHANNELS EACH WEEK



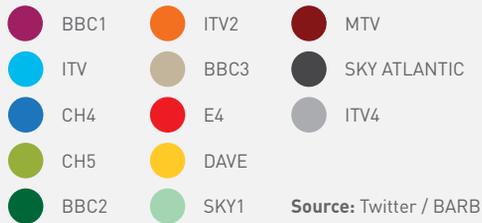
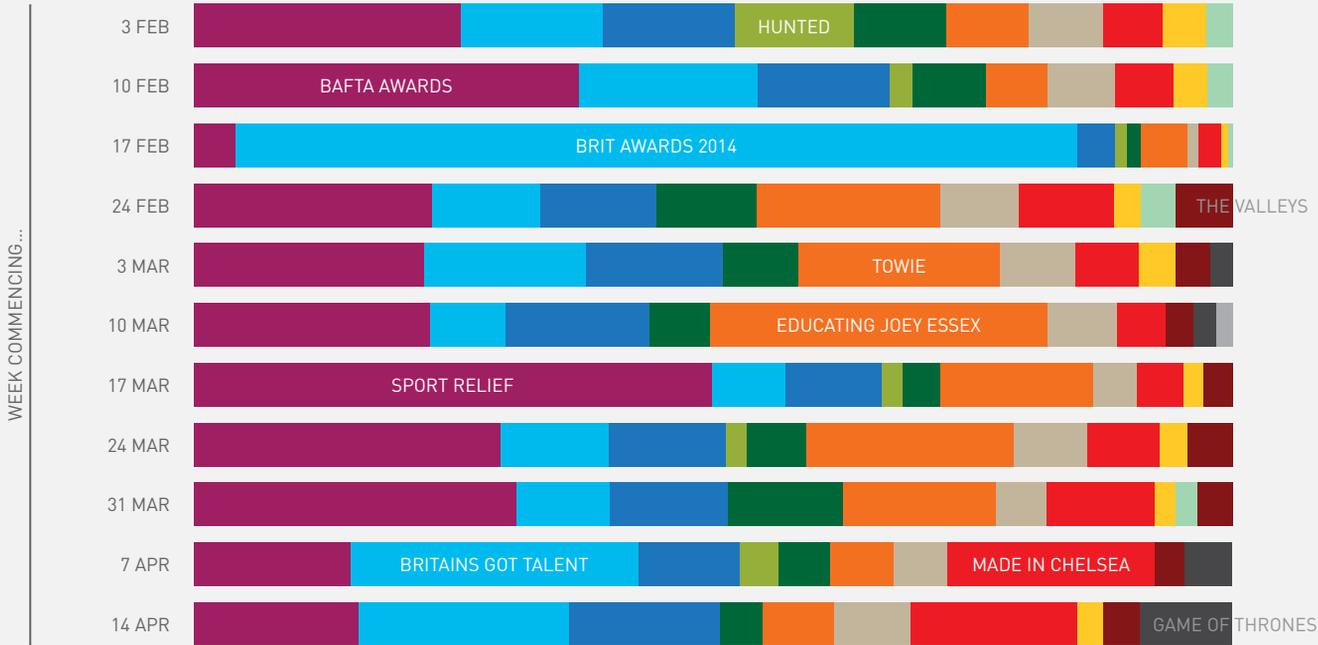
The chart above looks at the total number of Tweets for the top ten channels each week across a ten-week period. We can see immediately the massive impact of The Brit Awards, which generated a record 4,147,936 Tweets from 958,785 unique users, causing a huge spike in that specific week.

We can also reformat the chart to look at the share of Twitter activity for the top ten channels in any given week:

## TOTAL TWEETS

TOP 10 CHANNELS EACH WEEK

[% SHARE OF TWEETS TO TOP 10 CHANNELS]



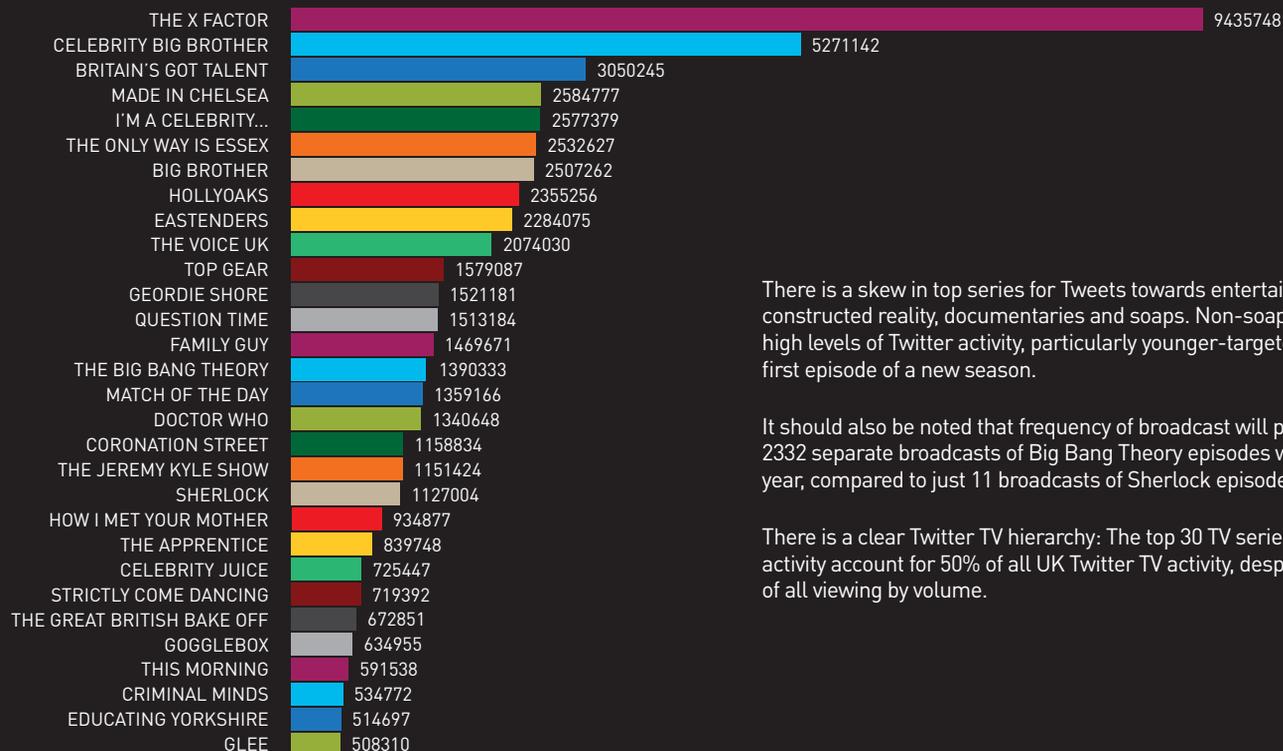
This gives a clearer view of how channel Twitter share can vary greatly from week to week, with some of the 'Twitter Top 30 series' shows marked on the chart to show their impact. So in the week of March 10th the combination of 'The Only Way Is Essex' and the related 'Educating Joey Essex' made ITV2 the top-rated Twitter channel. Sport Relief gave BBC1 a significant lead in the week of March 17th, whilst the return of Britain's Got Talent put ITV ahead in April.

# What kinds of TV shows have the most Twitter activity?

We now consider the top 30 TV series in terms of Tweet volume:

## TOP 30 UK SOCIAL TV SERIES

TOTAL TV TWEETS ACROSS 1 JUNE 2013 – 31 MAY 2014



Source: Twitter  
 Period: 1 June 2013  
 – 31 May 2014

There is a skew in top series for Tweets towards entertainment, talent shows, constructed reality, documentaries and soaps. Non-soap dramas can also cause high levels of Twitter activity, particularly younger-targeted or cult shows and the first episode of a new season.

It should also be noted that frequency of broadcast will play an important role – 2332 separate broadcasts of Big Bang Theory episodes were made across the year, compared to just 11 broadcasts of Sherlock episodes.

There is a clear Twitter TV hierarchy: The top 30 TV series in terms of UK Twitter activity account for 50% of all UK Twitter TV activity, despite accounting for 9.1% of all viewing by volume.



X-FACTOR  
 CELEBRITY BIG BROTHER  
 BRITAINS GOT TALENT  
 MADE IN CHELSEA  
 I'M A CELEBRITY GET ME OUT OF HERE!  
 THE ONLY WAY IS ESSEX  
 BIG BROTHER  
 HOLLYOAKS  
 EASTENDERS  
 THE VOICE UK  
 TOP GEAR  
 GEORDIE SHORE  
 QUESTION TIME  
 FAMILY GUY  
 THE BIG BANG THEORY  
 MATCH OF THE DAY  
 DOCTOR WHO  
 CORONATION STREET  
 THE JEREMY KYLE SHOW  
 SHERLOCK  
 HOW I MET YOUR MOTHER  
 THE APPRENTICE  
 CELEBRITY JUICE  
 STRICTLY COME DANCING  
 THE GREAT BRITISH BAKE OFF  
 GOGGLEBOX  
 THIS MORNING  
 CRIMINAL MINDS  
 EDUCATING YORKSHIRE  
 GLEE

These 30 series account for **9.1%** of all UK viewing across the period... but **50%** of all Social TV Tweets... **X-Factor** alone accounts for **9.4m** Tweets – **8.6%** of all Tweets across the year and **25%** of Tweets in weeks when on air... At times **9%** of **Big Brother** viewers Tweet... However less than **1%** of **Coronation Street** viewers Tweet... Reflects total volume of Tweets across period, so will favour recurring shows

One series, The X-Factor accounted for 8.6% of all TV Tweets across the period analysed, even though it was only on air for one third of the year. It was the only show with more than a 5% Twitter TV share. Whilst on air in 2013 it accounted for an average of 25% of all Tweets to the top 10 channels each week. The 2013 series finale had 663,005 Tweets from 320,631 unique users from a live audience of 8.3m

If we look at the top single broadcasts across the period, then special events (awards ceremonies, telethons, live events) feature more prominently as being Social TV events. This is echoed in Social TV data from China, Spain, France and the US. The chart below looks at 'unique users', how many separate people Tweeted at least once about the programme, as opposed to the gross volume of Tweets. For series, only the episode with the highest number of unique Twitter users is shown. So nearly one million people Tweeted about The Brit Awards on ITV.

### TOP SINGLE BROADCASTS FOR 'UNIQUE USERS' ON TWITTER

1 JUNE 2013 – 31 MAY 2014



Period: 1 June 2013  
– 31 May 2014



It is noticeable that 12 of the 15 most Tweeted-about broadcasts were live events. Twitter particularly thrives in a relevant live TV environment.

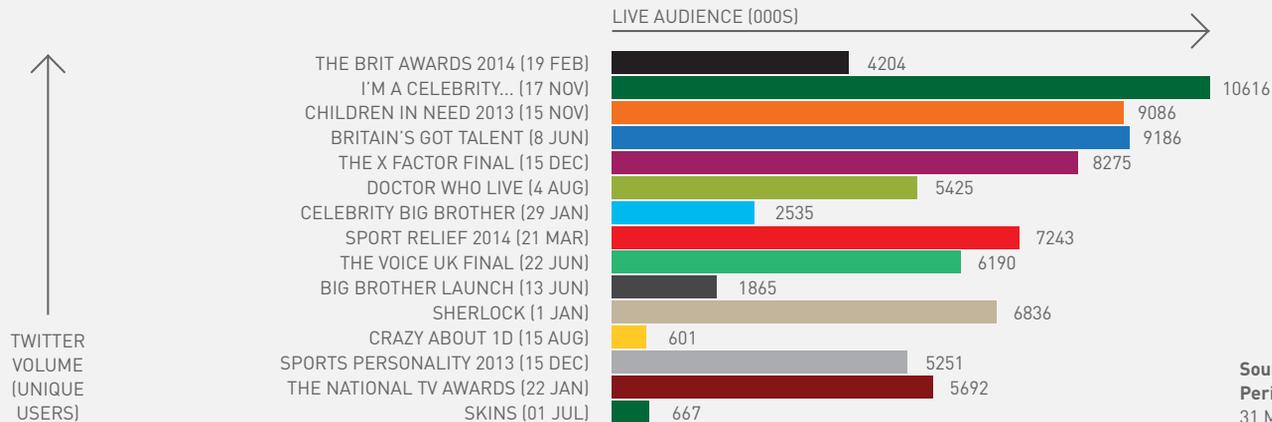


# How does Twitter correlate with TV ratings for broadcasts?

Overall, looking at the top shows in terms of Tweets and unique users, there is a good correlation between Twitter volume and audience size but it is not linear and could never be used to predict - or as a proxy for - audience measurement. Many shows, even high rated dramas have limited Twitter presence and so no real correlation.

The chart below ranks the top episodes or events across the period in terms of unique Twitter users (i.e. who Tweeted about the broadcast at least once) and looks at their live viewing levels on BARB:

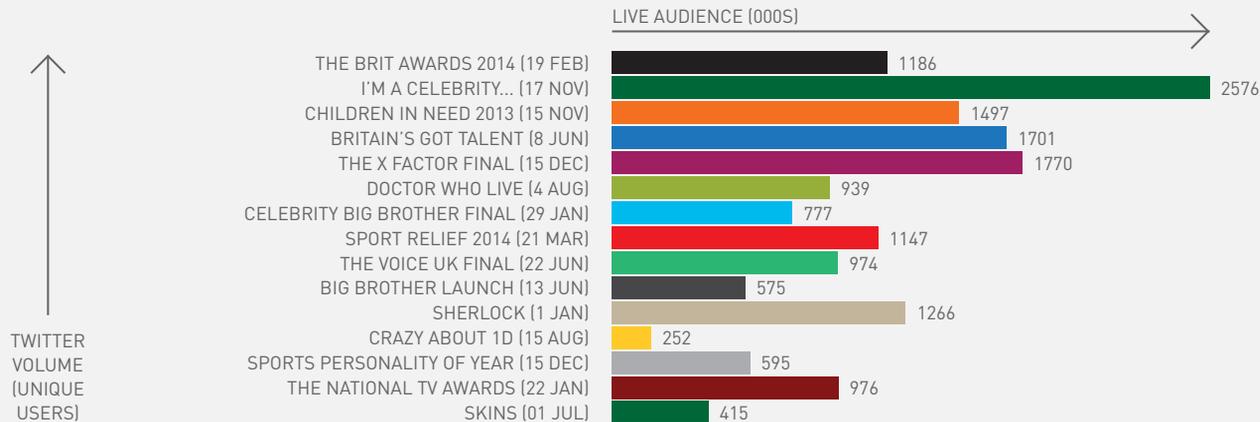
LIVE AUDIENCE TO SINGLE EPISODE SHOWS RANKED BY HIGHEST 'UNIQUE USERS' ON TWITTER



Source: Twitter / BARB  
 Period: 1 June 2013 - 31 May 2014

As expected, there is a very broad correlation between Tweets and audience size, but some very 'social' shows can greatly distort the correlation (Big Brother, Skins). Furthermore many major shows in terms of ratings have little Twitter activity and therefore little correlation at all. This analysis focuses on the shows with most Twitter activity. From a statistical point of view the massive over-performance of The Brits relative to audience size distorts the correlation co-efficient for these 15 broadcasts to being just 0.19. However if this outlier is removed, the other 14 broadcasts have a high correlation score of 0.75. Indeed if we compare the Twitter levels to just 16-34 viewing we see even more of a correlation, with the score for the broadcasts (excluding The Brits) at 0.91:

### LIVE 16-34 AUDIENCE TO SINGLE EPISODE SHOWS RANKED BY HIGHEST 'UNIQUE USERS' ON TWITTER



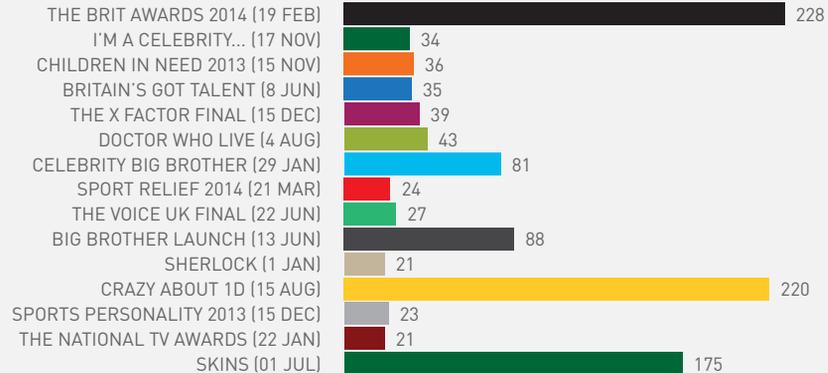
**UNIQUE TWITTER USERS  
PER THOUSAND LIVE  
VIEWERS**

TWITTER  
VOLUME  
(UNIQUE  
USERS)



**The Brits 2014**  
generated 'Tweeters'  
equivalent to **23%** of  
the live audience  
to the show.

We can overlay the live audience to each of these broadcasts with the number of unique Twitter users to calculate an estimate of Tweeters for every thousand live viewers:



Source: Twitter / BARB  
Period: 1 June 2013 –  
31 May 2014

We can see that The Brits 2014 generated 'Tweeters' equivalent to 23% of the live audience to the show. Crazy About One Direction saw 22% of viewers Tweeting about the band. Conversely another awards ceremony, the NTAs on ITV, had around 2% of viewers actively Tweeting. Indeed most of these top shows in terms of unique users had between 2 and 4% of the live audience Tweeting.

So whilst there is a broad correlation with audience size, it is possible – and indeed common – for shows to 'punch above their weight' when it comes to Twitter activity. Factors that can facilitate this include:

- Encouragement of Tweets within the show itself
- Using Twitter as a voting mechanism (e.g. The Brits, MOTD)
- Younger targeted shows
- Cult shows with evangelistic audiences
- Specific moments within the show that provoke comment (a cliff hanger, controversy)
- Season premieres and finales
- Shows featuring guests active on Twitter (Joey Barton on Question Time, One Direction on anything)

# How does Twitter correlate with TV ratings for genres?

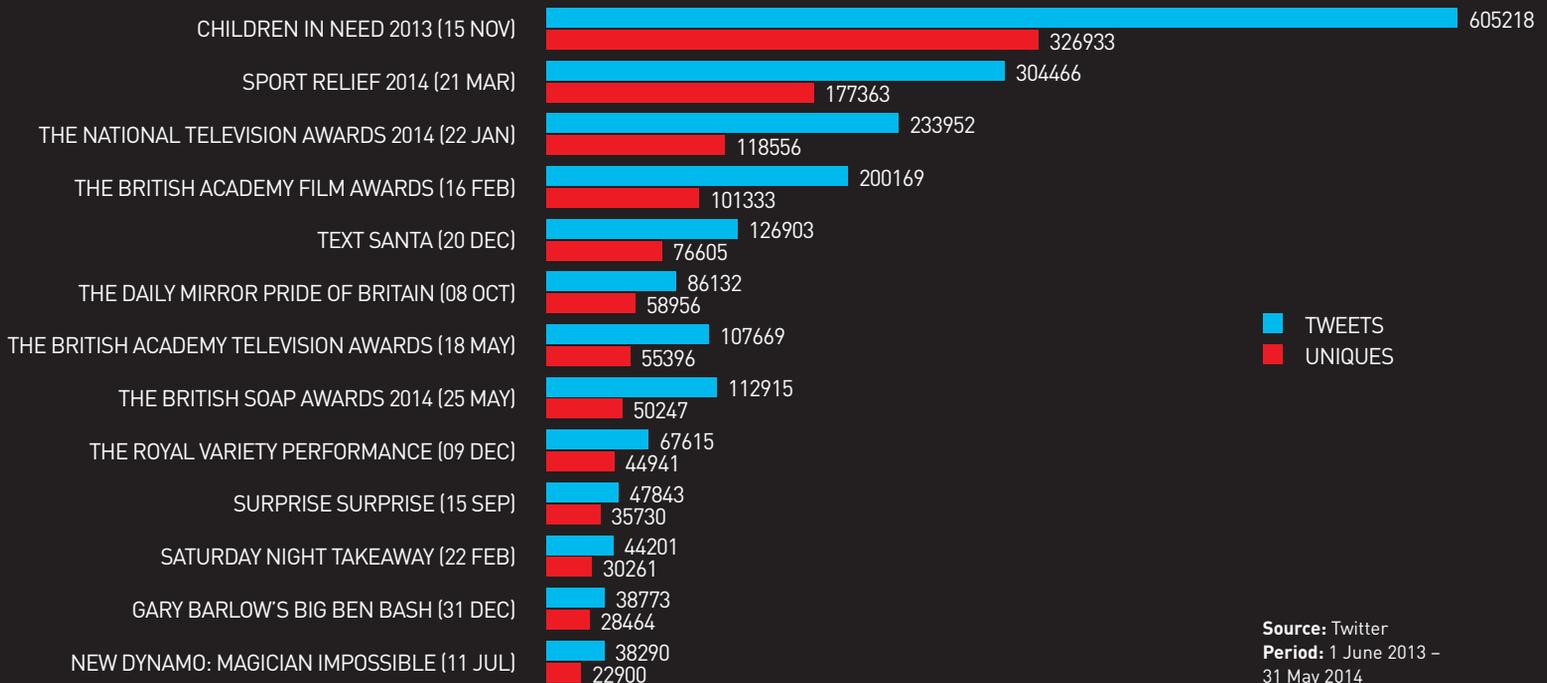
Let's look at the correlation levels for four genres that tend to generate higher levels of Twitter activity: entertainment, drama, documentaries and movies.

## Entertainment Shows

The Entertainment genre is one of the big drivers of the overall correlation (see pages 27-29). We can look at the broadcasts in this category that had the highest Twitter volume across the period. Again, for series with multiple broadcasts, only the most Tweeted about episode is shown:

### TOP ENTERTAINMENT SHOWS ON TWITTER

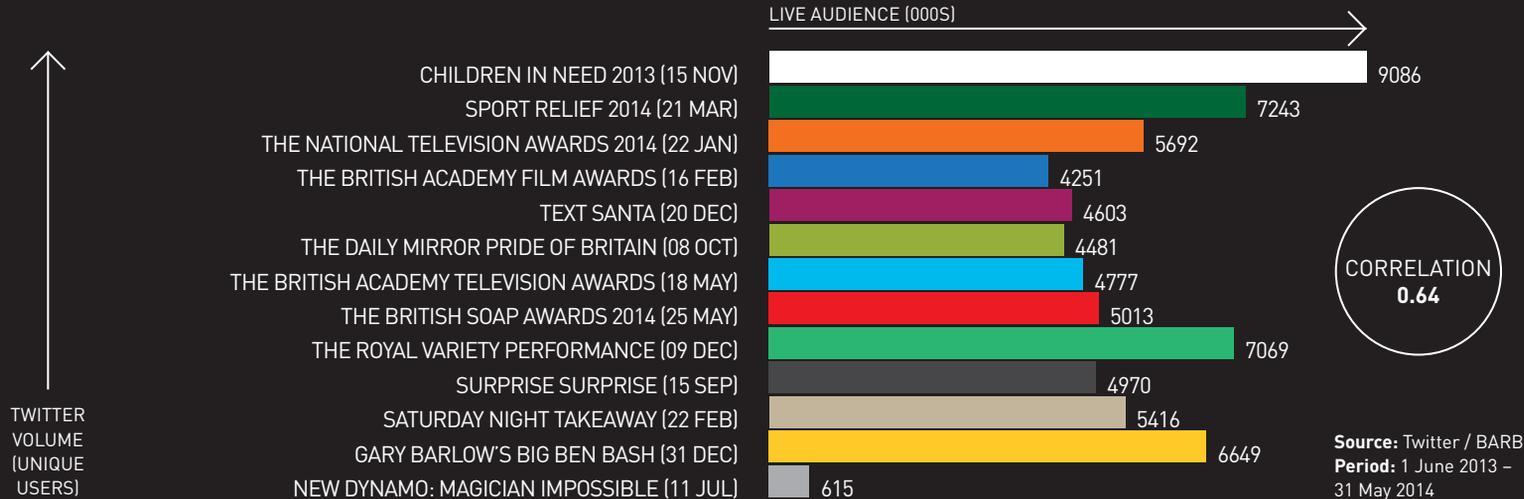
1 JUNE 2013 – 31 MAY 2014



Source: Twitter  
 Period: 1 June 2013 –  
 31 May 2014

If we then look at the live audiences to those shows, we see a good correlation of 0.64. With the preponderance of live events there is a clear circular relationship in that the more people who watch, the more people want to be part of the 'conversation'.

### LIVE AUDIENCE TO ENTERTAINMENT SHOWS RANKED BY HIGHEST 'UNIQUE USERS' ON TWITTER

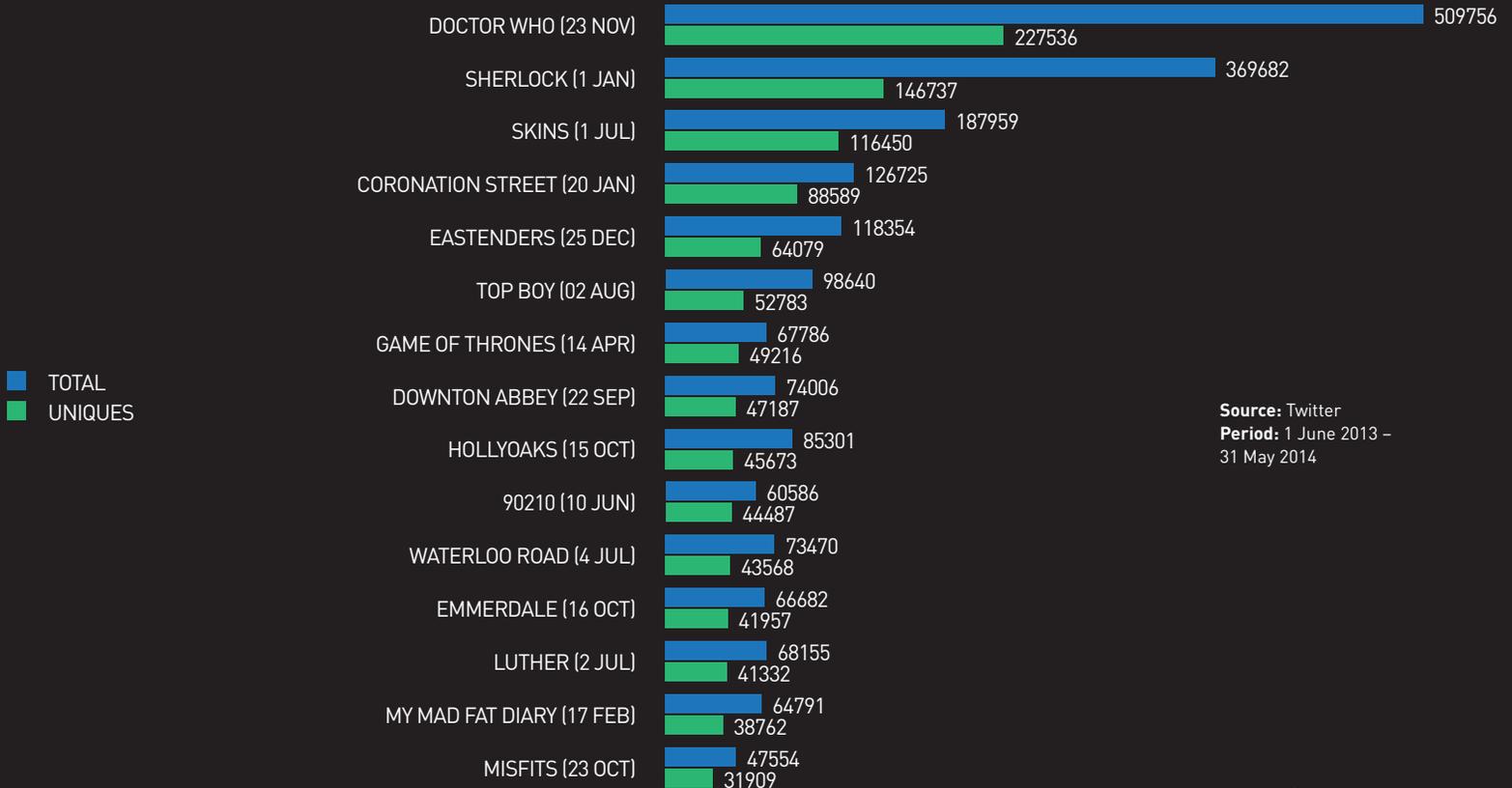


## Drama Series

Drama can be an important genre for Twitter, particularly for soaps and dramas with continuing storylines and plotlines (as opposed to 'story of the week' dramas). We can look at the most tweeted about drama series across the year. Below we show the number of Tweets and unique Twitter users for the single episode in the series that had the most Twitter activity:

### TOP 15 DRAMA SERIES BY VOLUME ON TWITTER - HIGHEST SINGLE EPISODE

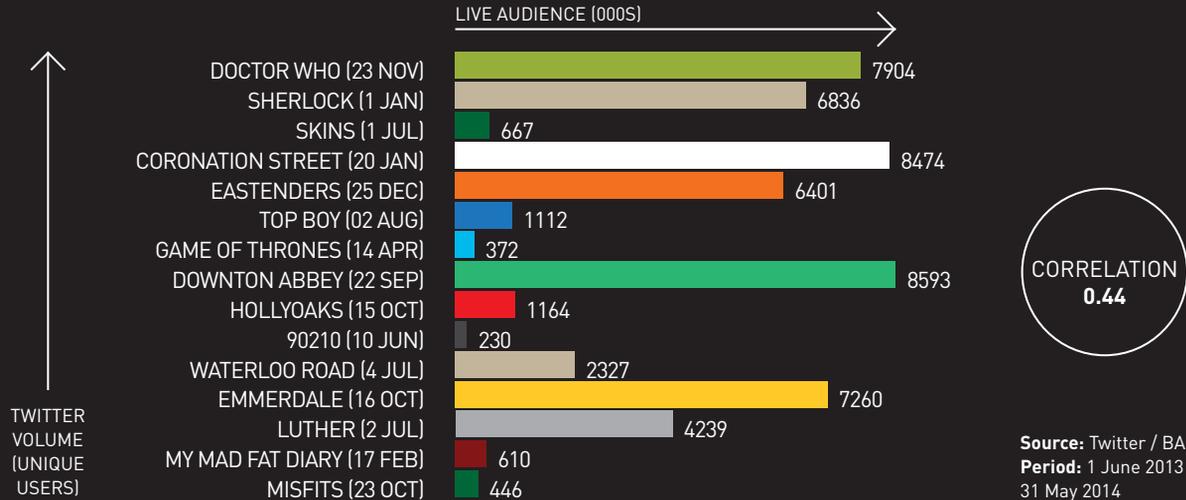
1 JUNE 2013 – 31 MAY 2014



Source: Twitter  
Period: 1 June 2013 –  
31 May 2014

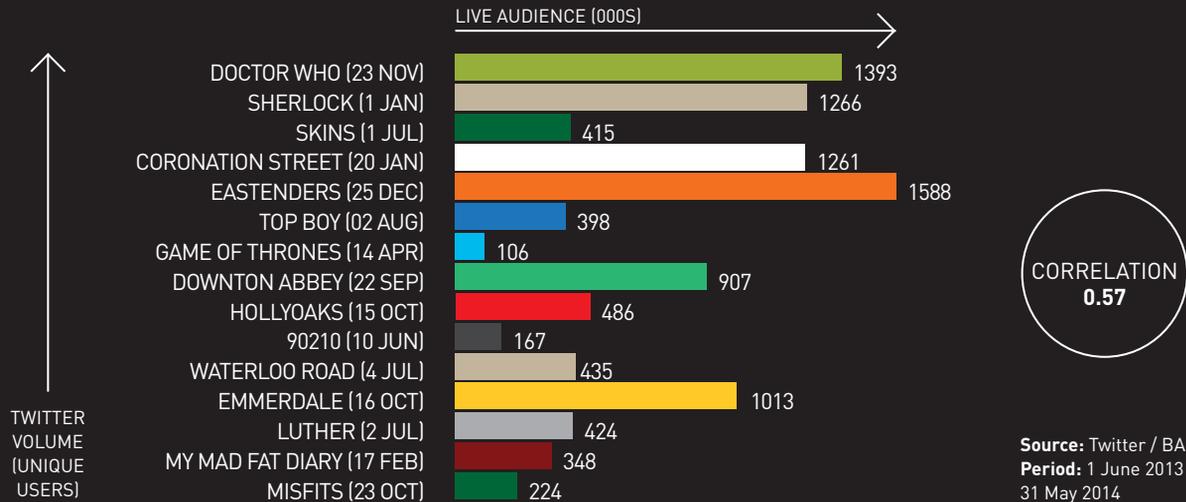
Major plotlines in the big soaps can produce large spikes in Twitter activity, but niche shows can also produce significant peaks relative to their audience size. Consequently, when it comes to the drama genre specifically, there appears to be only a modest correlation between audience size and Twitter activity as the following chart shows:

**VIEWING AUDIENCE TO 15 MOST TWEETED ABOUT DRAMAS**  
HIGHEST SINGLE EPISODE



This lower correlation – compared to entertainment and reality genres - is driven by the over-performance on Twitter of niche and cult dramas Game Of Thrones, Top Boy, Skins and Misfits, which generate Twitter activity disproportional to their more modest (or targeted) viewing levels. However this does lead to a higher correlation (0.57) if we compare Twitter to 16-34 viewing of these dramas:

**LIVE 16-34 AUDIENCE TO SINGLE EPISODES**  
RANKED BY HIGHEST 'UNIQUE USERS' ON TWITTER



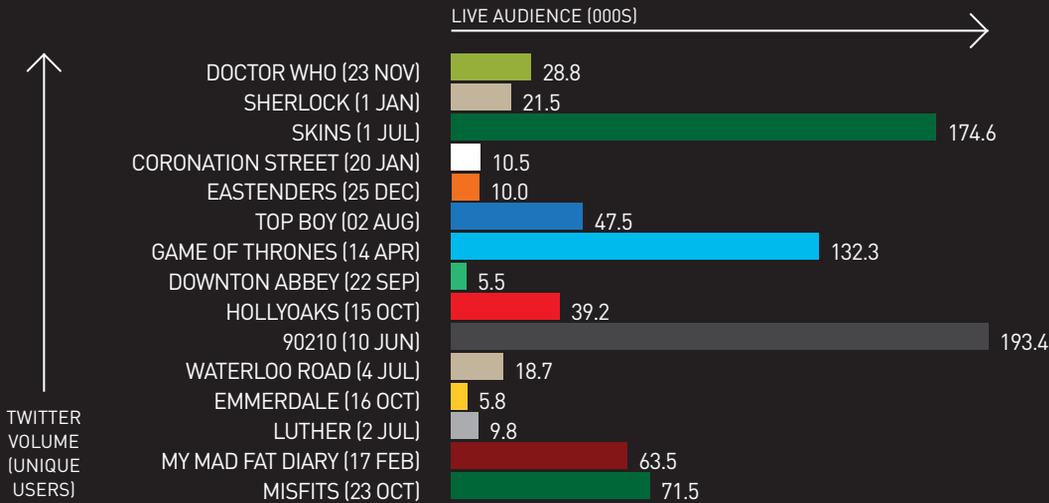
Source: Twitter / BARB  
Period: 1 June 2013 - 31 May 2014



**TOP 15 DRAMA SERIES ON TWITTER:**

UNIQUE TWITTER USERS PER THOUSAND VIEWERS (TPTS)

However there is little relationship for dramas between Tweeters per thousand and audience size. The following chart ranks the top rated single episode for the 15 soaps/dramas for Twitter activity in terms of the size of their live audience to the most Tweeted about episode and the resulting Tweeters Per Thousand viewers:



Source: Twitter / BARB  
 Period: 1 June 2013 – 31 May 2014

Some dramas are more 'social' than others – over 19% of viewers to 90210 Tweet about it, but only 1% of Eastenders viewers.

Consequently we see that some dramas are more 'social' than others - over 19% of viewers to 90210 Tweet about it, but only 1% of Eastenders viewers. This may be because the more 'targeted' a show becomes the more of a community it engenders

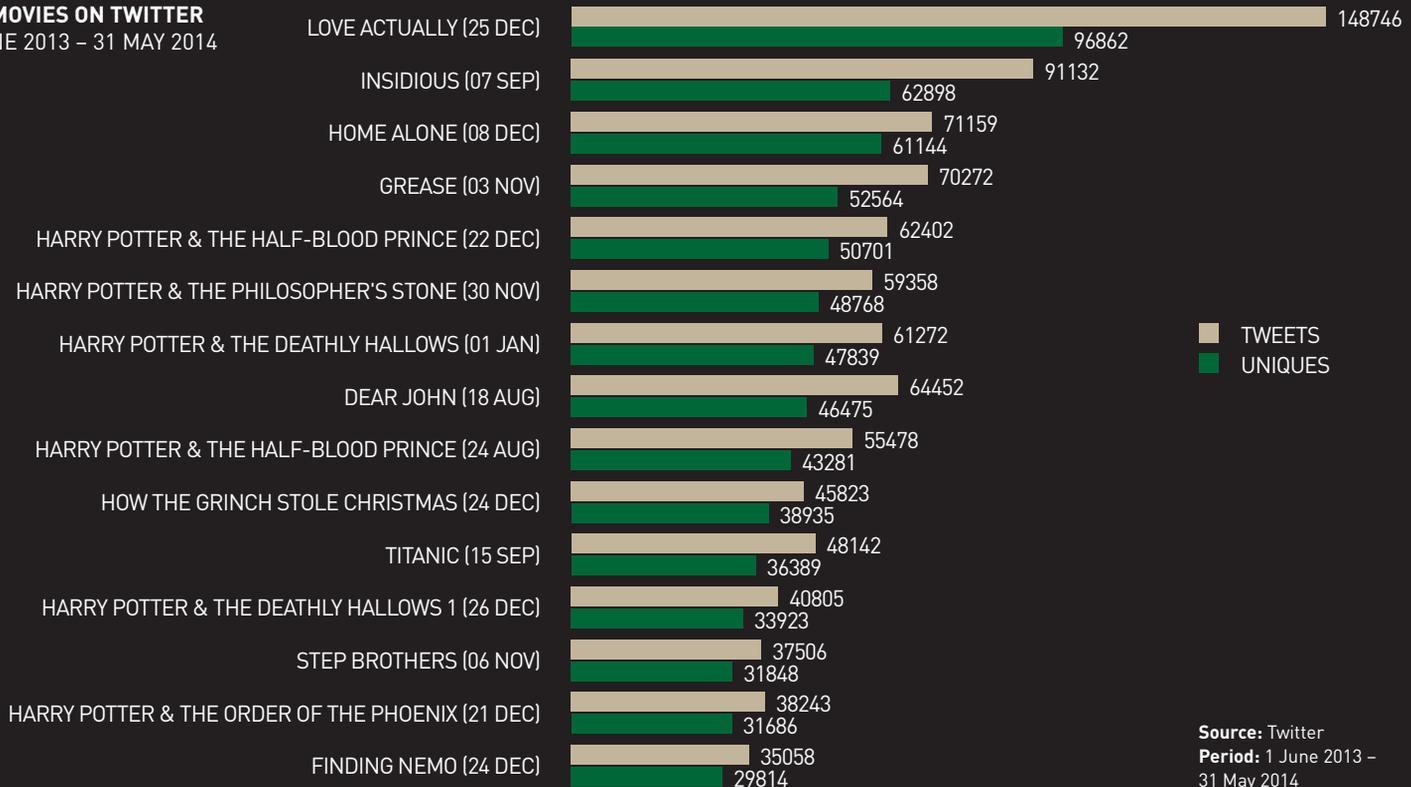
Meanwhile, if we exclude soaps from the analysis, some dramas, particularly those not appealing to 15-34s, barely register on Twitter. Much Twitter activity for engrossing dramas is 'bookended' as opposed to during the show itself, unlike soaps and entertainment. Also there may be more general Tweeting and recommendation outside the broadcast window itself, which will affect these analyses which only look at the broadcast and immediately before and after. It is important to understand that different genres have different relationships with Twitter as a medium.

## Movies

TV broadcasts of movies feature amongst the most Tweeted broadcasts – as opposed to series – across the year. However here the relationship is more complex, with actually no correlation with the absolute audience size. It can be films like Grease and Love Actually, shown many times before, that generate the most love and Tweets compared to first run blockbusters. Below we show the top films of the year on Twitter and then the audience levels.

### TOP MOVIES ON TWITTER

1 JUNE 2013 – 31 MAY 2014

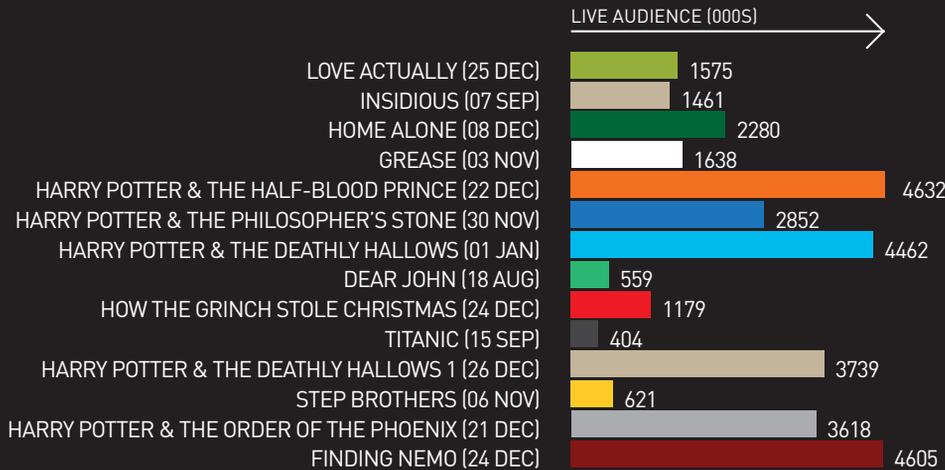


Source: Twitter  
 Period: 1 June 2013 –  
 31 May 2014

**LIVE AUDIENCE TO FILMS RANKED BY  
HIGHEST 'UNIQUE USERS' ON TWITTER**



TWITTER  
VOLUME  
(UNIQUE  
USERS)



LIVE AUDIENCE (000S) →

CORRELATION  
**-0.18**

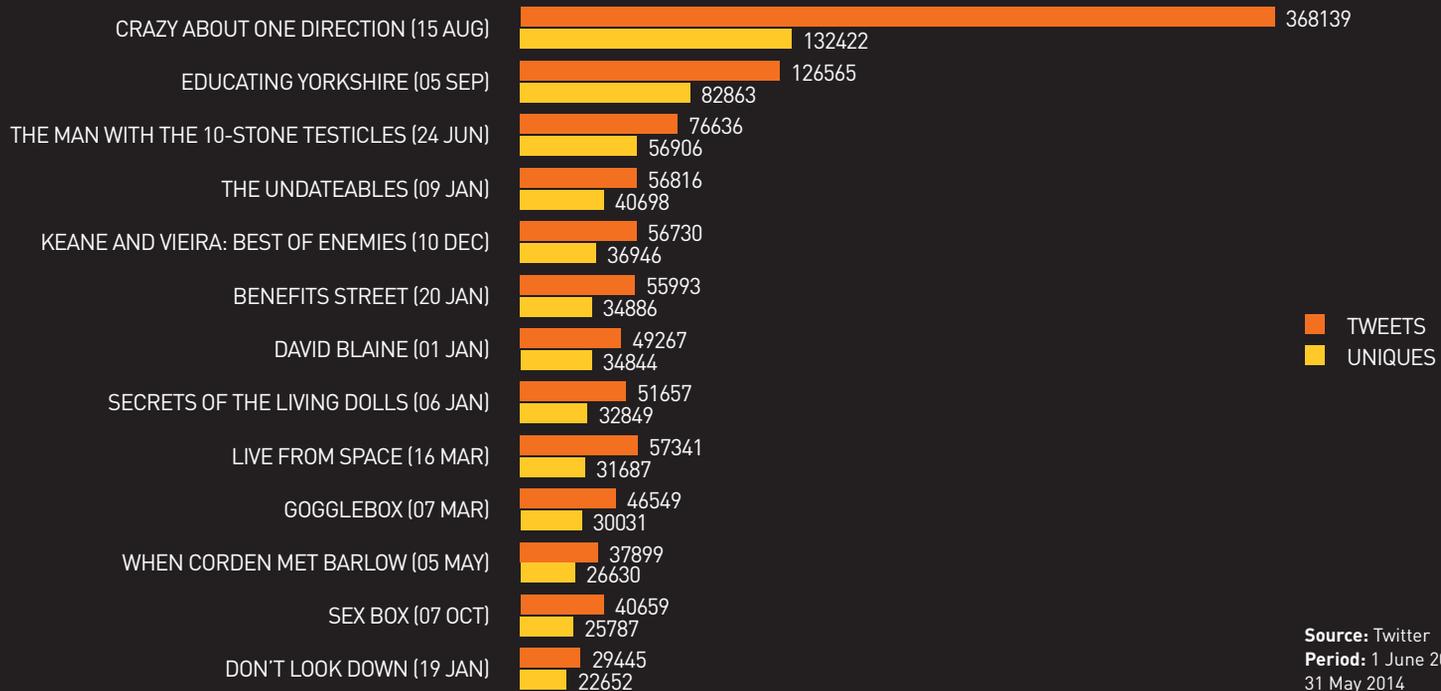
Source: Twitter / BARB  
Period: 1 June 2013 –  
31 May 2014

## Documentaries

Like movies, documentaries also have no real correlation between their audience size and their ability to generate Tweets. The key is their ability to generate discussion - or feature One Direction – as opposed to overall audience levels. The following chart ranks the top documentaries of the year in terms of Twitter activity, whilst the second compares live viewing levels:

### TOP DOCUMENTARIES ON TWITTER

1 JUNE 2013 – 31 MAY 2014

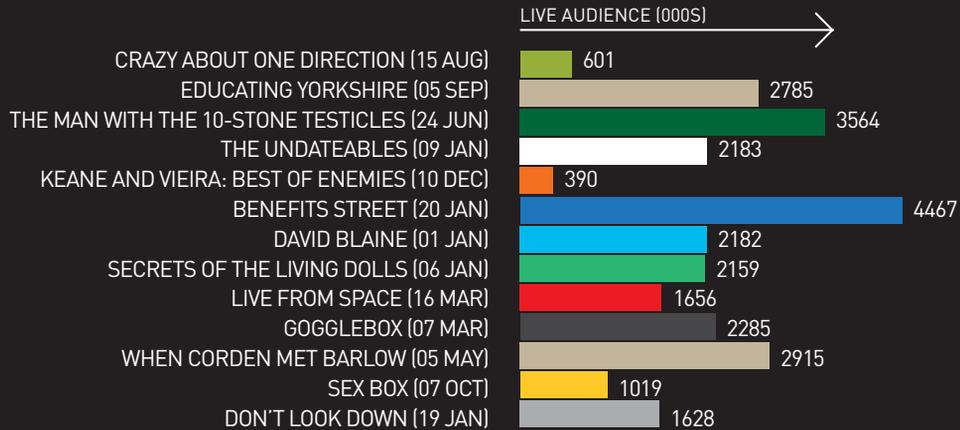


Source: Twitter  
 Period: 1 June 2013 –  
 31 May 2014

**LIVE AUDIENCE TO DOCUMENTARIES RANKED  
BY HIGHEST 'UNIQUE USERS' ON TWITTER**



TWITTER  
VOLUME  
(UNIQUE  
USERS)



CORRELATION  
**-0.19**

Source: Twitter / BARB  
Period: 1 June 2013 –  
31 May 2014

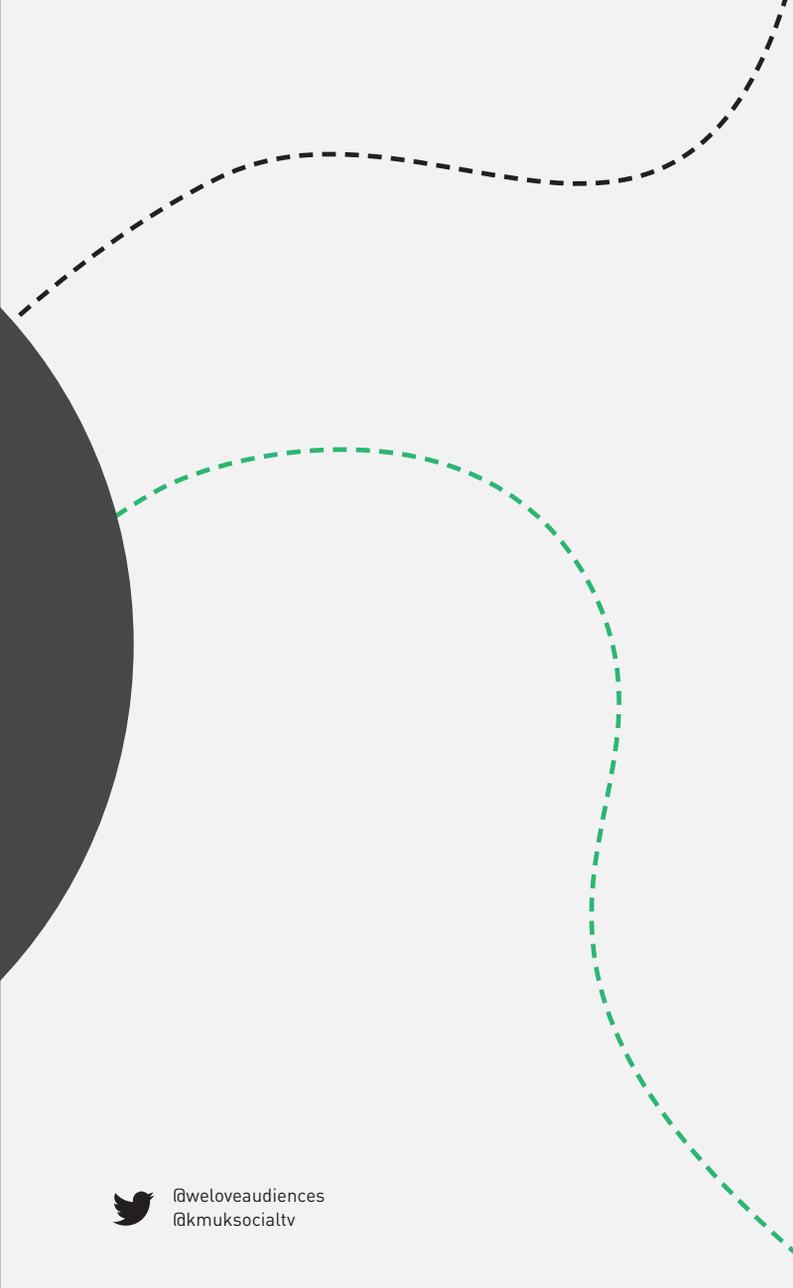
## CAN TWEETS CORRELATE WITH AUDIENCE LEVELS?

So overall it can be argued that, at a very broad level, Tweets can correlate with audience levels, for the simple logical reason that the more viewers there are the more people there are to Tweet. However the correlation is distorted by:

- The nature of the programme – does it 'fit' with twitter?
- The social composition of the programme

Consequently we end up with a group of programmes for whom Twitter will undoubtedly be an important metric to study and programmes for whom Twitter may not be relevant or may only be sporadically of interest – e.g. a chat show with a Twitter-friendly guest, a season opener or a finale. It will be important for broadcasters to understand for which types of shows TV activity on Twitter could be a relevant metric and which it is not.



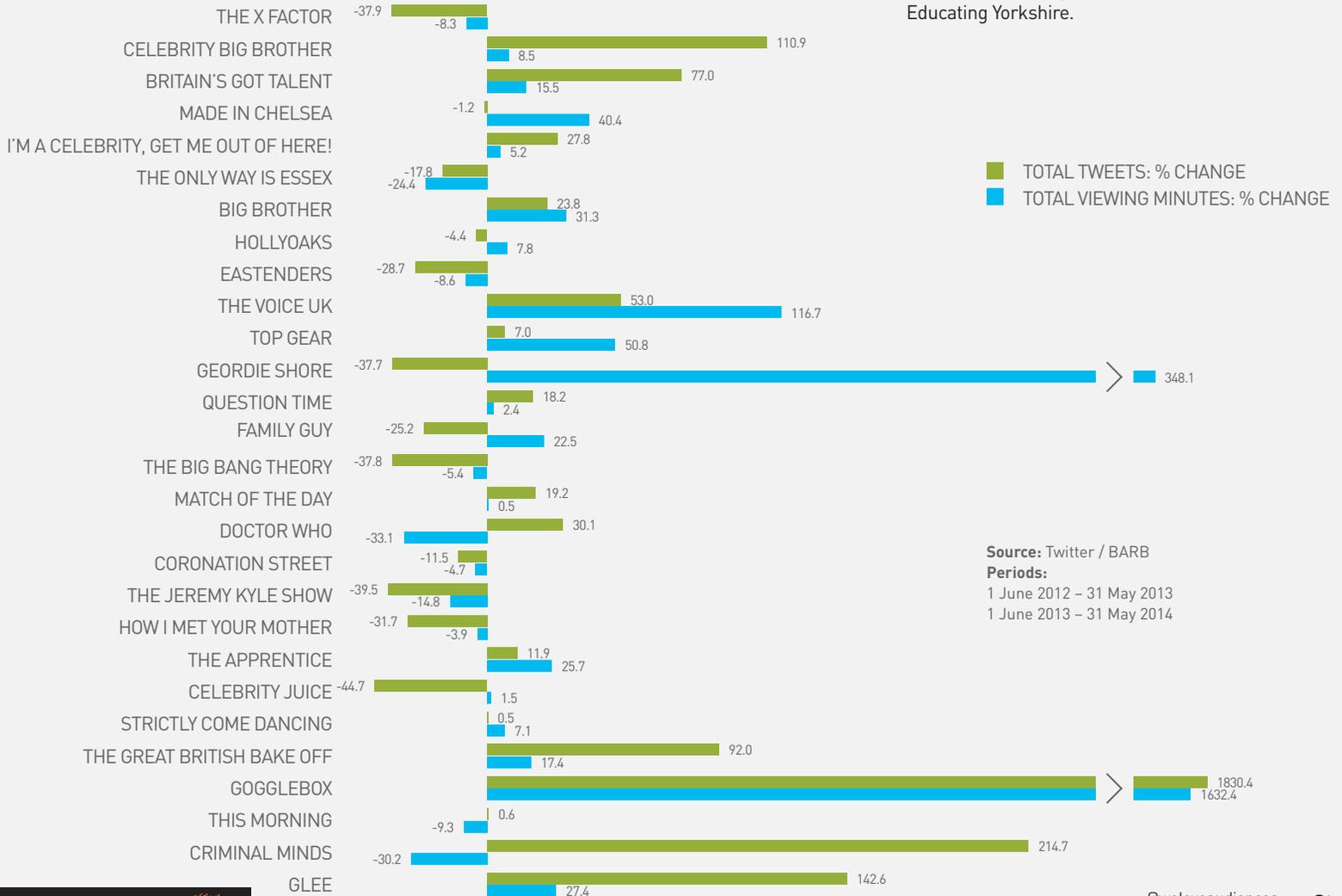


# Do trends in viewing correlate with Twitter activity over time?

With over two years of UK Twitter TV data available we can look at long-term trends in both viewing levels and related Twitter TV activity. The chart that follows shows trends year-on-year for both gross viewing levels and total Twitter activity. The calculation of the total audiences grosses together all broadcasts, including related shows (for example Xtra Factor) and +1 channels. However it should be noted that this gross viewing figure will be driven by the number of broadcasts made. For example, Doctor Who in the second year of analysis only had two new episodes broadcast, but one of these was the 50th anniversary special which set a record for Tweets about a TV drama. So it could be argued that the following analysis is influenced by scheduling and production, as much as viewing levels. However a programme has to be broadcast in order for it to be viewed and Tweeted about, and the more times it is broadcast the more are the opportunities to view and Tweet.

## TOTAL TWEETS VS GROSS VIEWING AUDIENCE

TOP UK SOCIAL TV SERIES: YEAR ON YEAR CHANGE (+/--%)



Of the top 30 TV series on Twitter between 1 June 2013 and 31 May 2014, 28 were on air the year before, so this analysis excludes Sherlock and Educating Yorkshire.

■ TOTAL TWEETS: % CHANGE  
 ■ TOTAL VIEWING MINUTES: % CHANGE

Source: Twitter / BARB  
 Periods:  
 1 June 2012 – 31 May 2013  
 1 June 2013 – 31 May 2014

Of these 28 shows, 16 had increased their amount of Twitter activity and 12 had decreased. Meanwhile 18 had increased their viewing volume and 10 had decreased.

Broadly the volume of Tweets correlated with the direction in which their gross audience across the year had moved. Indeed for 20 of the 28 series Tweet volume moved in the same direction as audience.

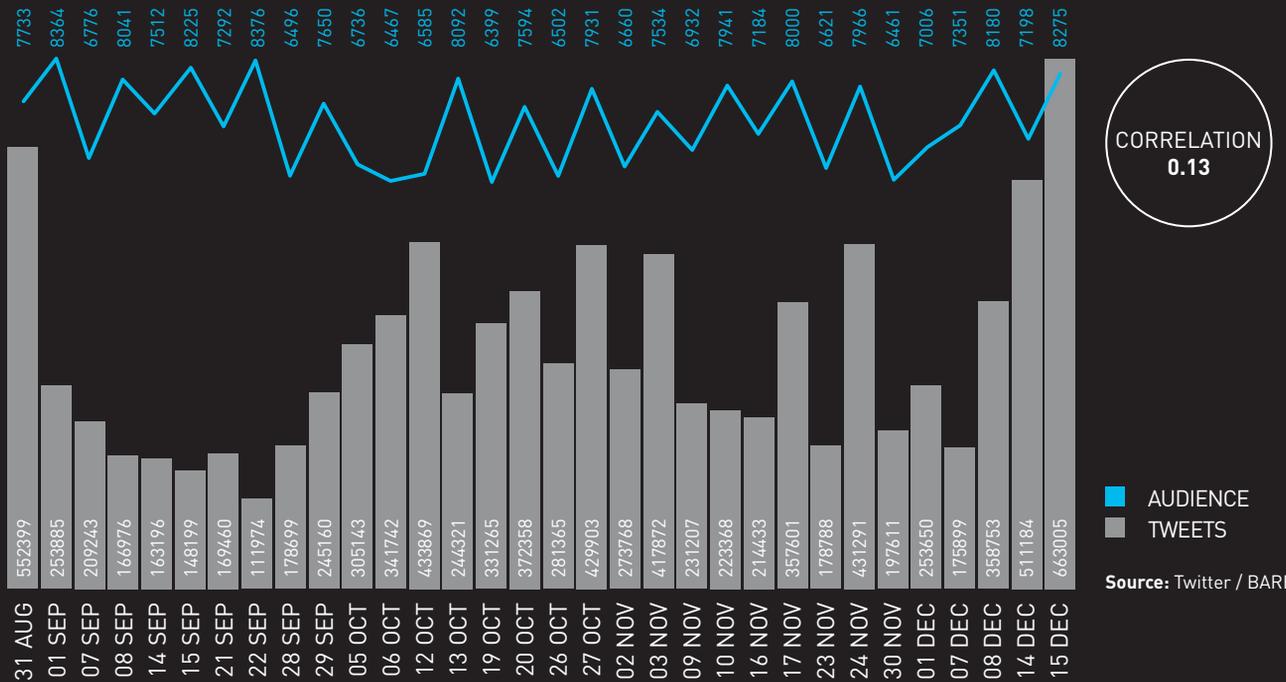
Significantly, the fall in viewing to the last series of the X-Factor was echoed in a noticeable fall in related Twitter activity: audience across the series was down 8.3% year-on-year, but Twitter volume down 37.9%. So, for shows that have heavy Twitter activity, long-term trends in Tweets may be a useful indicator of the growing or declining popularity of a show. However, as we will see, this tends to be less evident with individual episodes.

# How do Twitter and TV ratings correlate from episode to episode?

Whilst we have seen a good long-term correlation between audience trends and Twitter volume for the Twitter TV Top 30 series with the most Twitter activity across the year – the relationship is less evident if we look within series at trends from episode to episode.

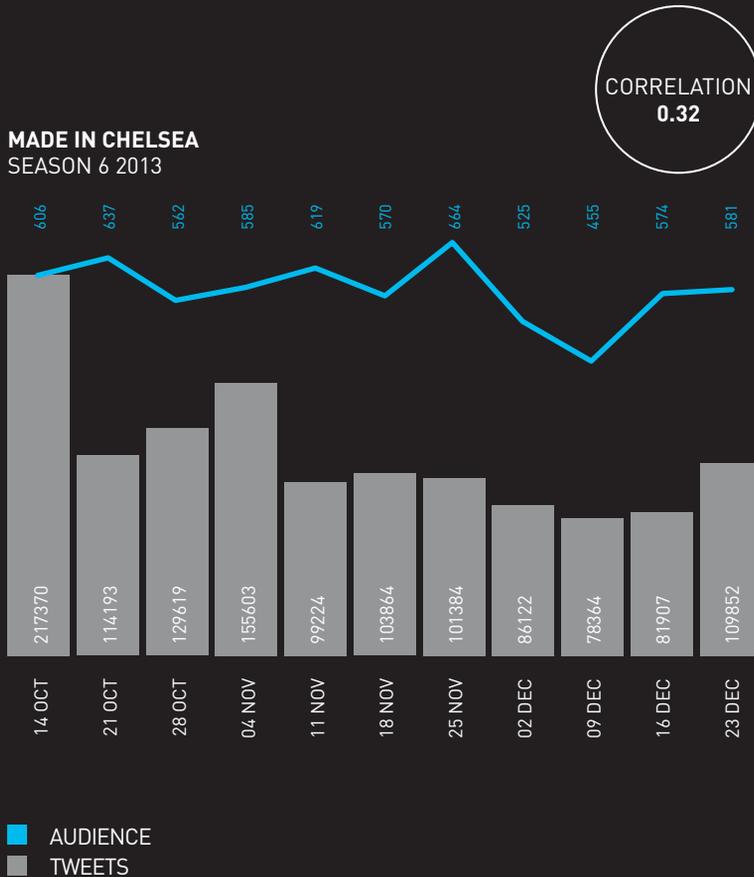
Looking at the 2013 series of the X-Factor there is little correlation between Tweets and viewing levels from episode to episode, with variations in Twitter levels driven more by dramatic events within the broadcast than short-term variations in viewing level. This explains why Tweets are typically higher in volume on a Sunday – the results show with the drama of voting - than on the Saturday performance show.

THE X FACTOR 2013 SERIES



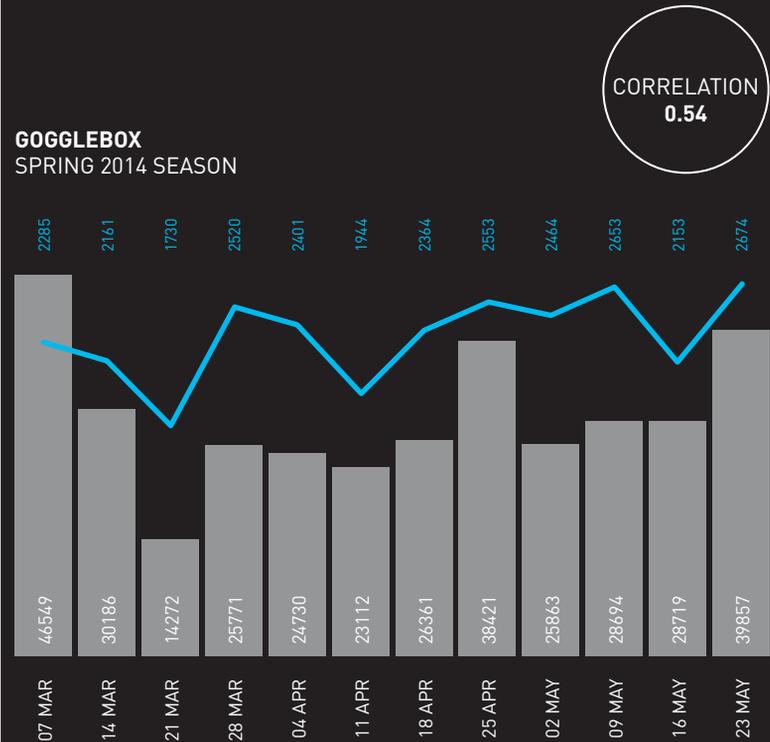
Source: Twitter / BARB

Similarly if we look at Made In Chelsea, another social 'big hitter', again there is little correlation across episodes other than slight peaks for season openers and finales – a common phenomenon.

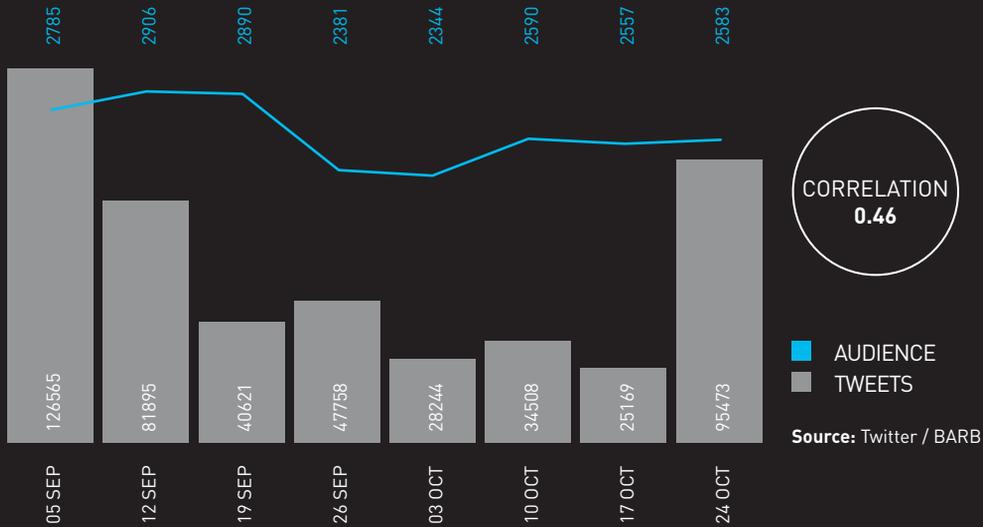


Source: Twitter / BARB

Sometimes a slight dip in both ratings and Tweets mid-season can cause more of a correlation. In these two Channel 4 examples – Educating Yorkshire and Gogglebox there is a slight correlation from episode to episode:



## EDUCATING YORKSHIRE



However, most successful TV series attract fairly loyal viewers and therefore there is little variation in viewing from episode to episode anyway. This minimises the opportunities for correlation with Tweets, which are driven more by episode content – a controversial guest on Question Time, a slaughter at a wedding in Game of Thrones. If we look at BBC’s Question Time we can see a remarkable spike for the final episode in the time period that featured Twitter ‘star’ Joey Barton who proved a controversial guest. The appearance of Twitter-friendly guests can have a big impact – like the appearance of One Direction on This Morning.

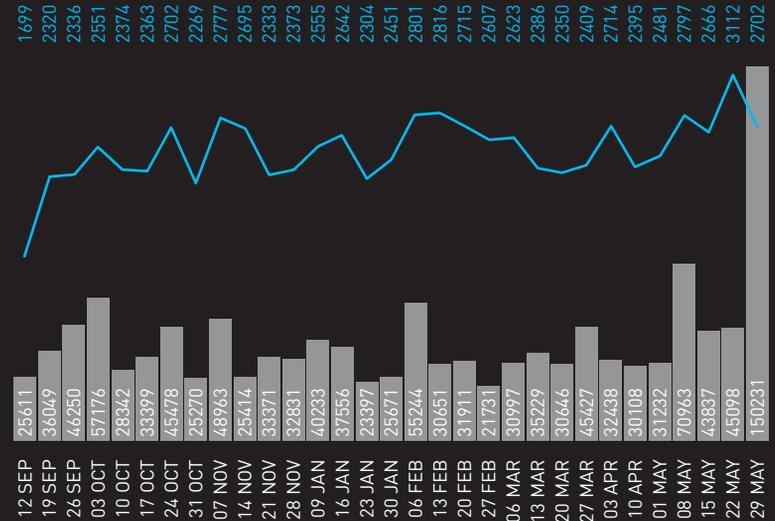


## QUESTION TIME

CORRELATION  
0.32

AUDIENCE  
TWEETS

Source: Twitter / BARB



Overall though, the relationship between audience figures and Tweet volumes for individual series tends to be much more evident in terms of longer trends (for example X-Factor 2012 vs 2013 as described earlier) than episode to episode. A show losing or building its social TV 'mojo' tends to be more of a cumulative, mid to long term trend, as opposed to short term spikes which are caused primarily by content rather than correlated with episode ratings. Ratings are on the whole fairly constant outside of season openers and closers.

# Does Twitter affect audience levels during a broadcast?

## The Causation Analysis

In this section we move beyond looking at the correlation between ratings and Tweets - how they fit together - to examining causation: can Tweet volumes actually influence TV ratings?

We set realistic objectives for the scope of the causation analysis. It could be argued that there are three specific ways in which Twitter activity could influence the audience to a broadcast:

1. Twitter activity before the broadcast alerting people to its impending transmission – a call to action
2. Twitter activity during the broadcast that may encourage people to switch on or over to the broadcast
3. Twitter activity around the broadcast of an episode in a series that makes people more (or less) likely watch the programme on timeshift, or to tune in to the next episode

One of the principle challenges of any causation analysis is how much the two datasets being analysed can be influenced by further factors not in the analysis. Twitter may well have an impact ahead of a broadcast, or upon viewing of subsequent episodes but it is part of a wider canvas that includes:

- the size of marketing budgets and on air promotion
- reviews, previews and recommendations in the media
- word of mouth
- competitive scheduling
- time of year and weather

Consequently to examine the 'purest' relationship between Twitter and ratings, our analysis is focused on relationship 2, namely Twitter activity during the broadcast itself and its impact on the viewing levels to that particular broadcast. To provide further context we will look 'call to action' pre-show activity (page 40-41) but that analysis will not attempt to derive a causation score, as this would be misleading.

We analysed 613 programmes or series, a total of 3800 transmissions from 27 channels across a full year of broadcasts, using a statistical process called the Granger Causation Methodology. More information about how this process worked can be found in 'Definitions' at the end of this report. The analysis was conducted by Mindshare UK.

The analysis compared audience levels to a reference of 'normal behaviour' to remove the effect of distorting factors like ad breaks or the end of the show itself.





For TV episodes that have  
a significant volume of  
**Twitter activity,**  
Twitter has a **positive**  
**causal relationship**  
with viewing during **11%**  
of broadcasts

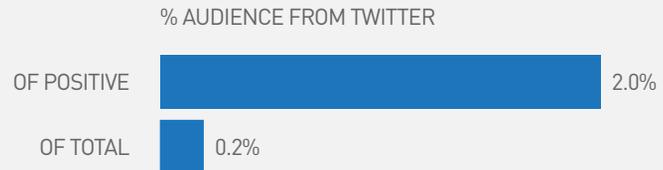
### Positive impact on TV broadcasts

As a result of our analysis we detected that during of 11% of TV broadcasts covered by our analysis, Twitter had a positive causal relationship on viewing at some point in the episode.

**So, for TV episodes that have a significant volume of Twitter activity, Twitter has a positive causal relationship with viewing during 11% of broadcasts.**

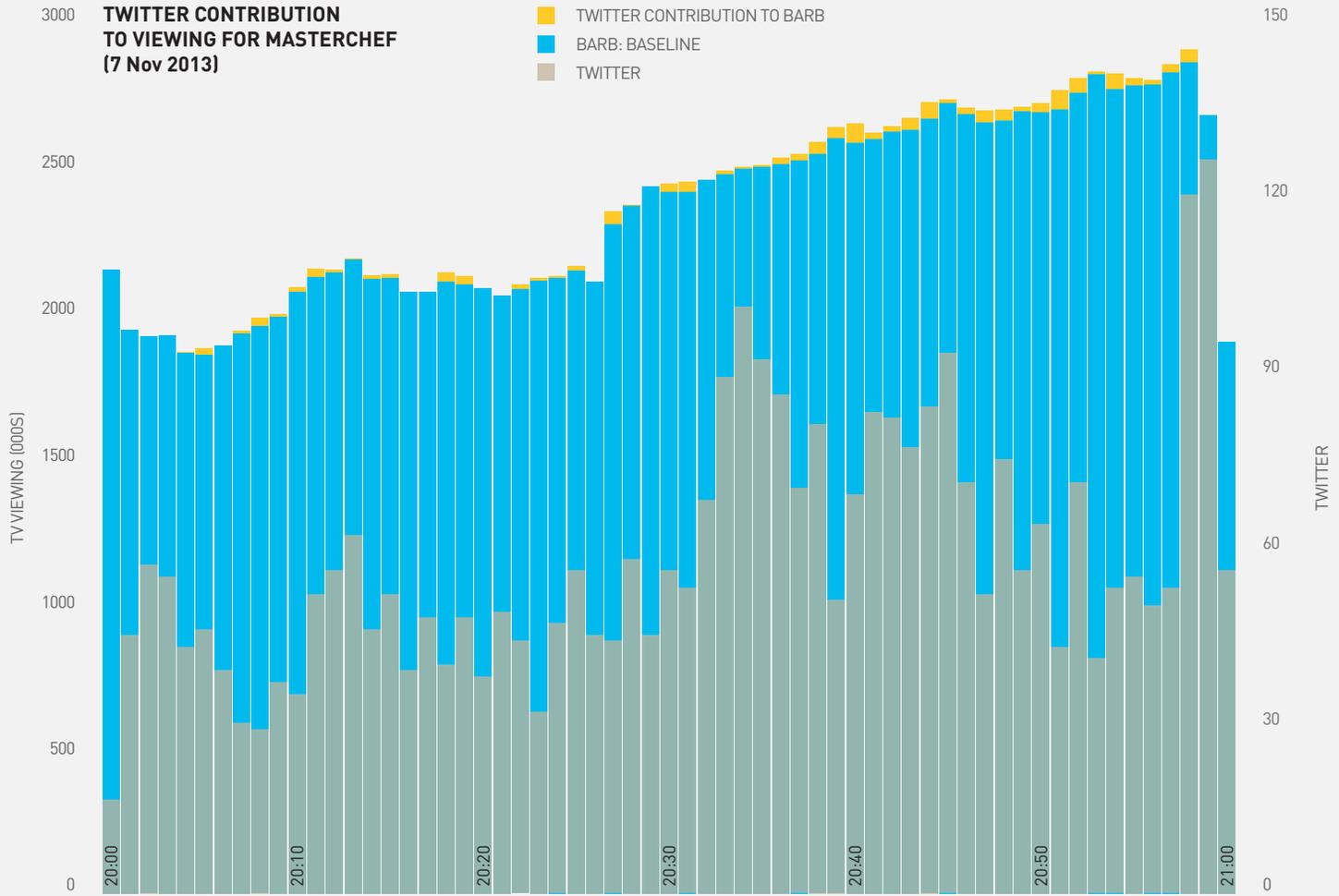
We can drill down further to quantify that impact on viewing.

### FOR EPISODES WHERE TWITTER HAS A POSITIVE EFFECT, IT CONTRIBUTES C2% OF TOTAL AUDIENCE

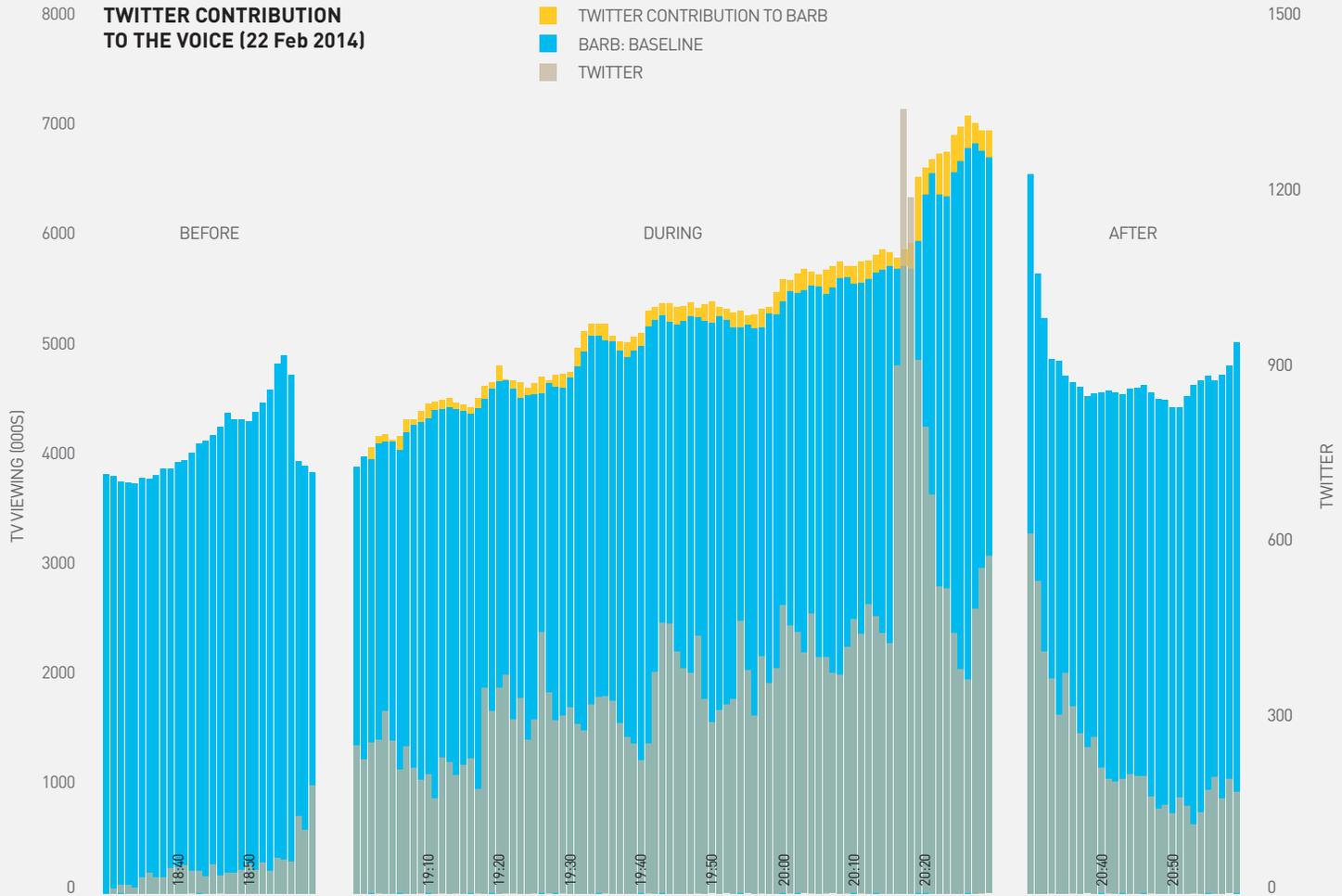


Looking just at those broadcasts - where a positive effect was detected - a 2% uplift in minute-by-minute ratings (TVRs) was attributed by Granger to Twitter activity during the show. If we re-base on all surveyed broadcasts across the year this equates to a 0.2% uplift overall.

An example is shown for an episode of Masterchef, which overlays the minute-by-minute TV ratings (in blue) with Twitter volume (grey bars) and then shows the uplift in ratings (yellow) attributed to that Twitter activity by Granger. Interestingly, in this example the impact appears to grow as the programme continues.

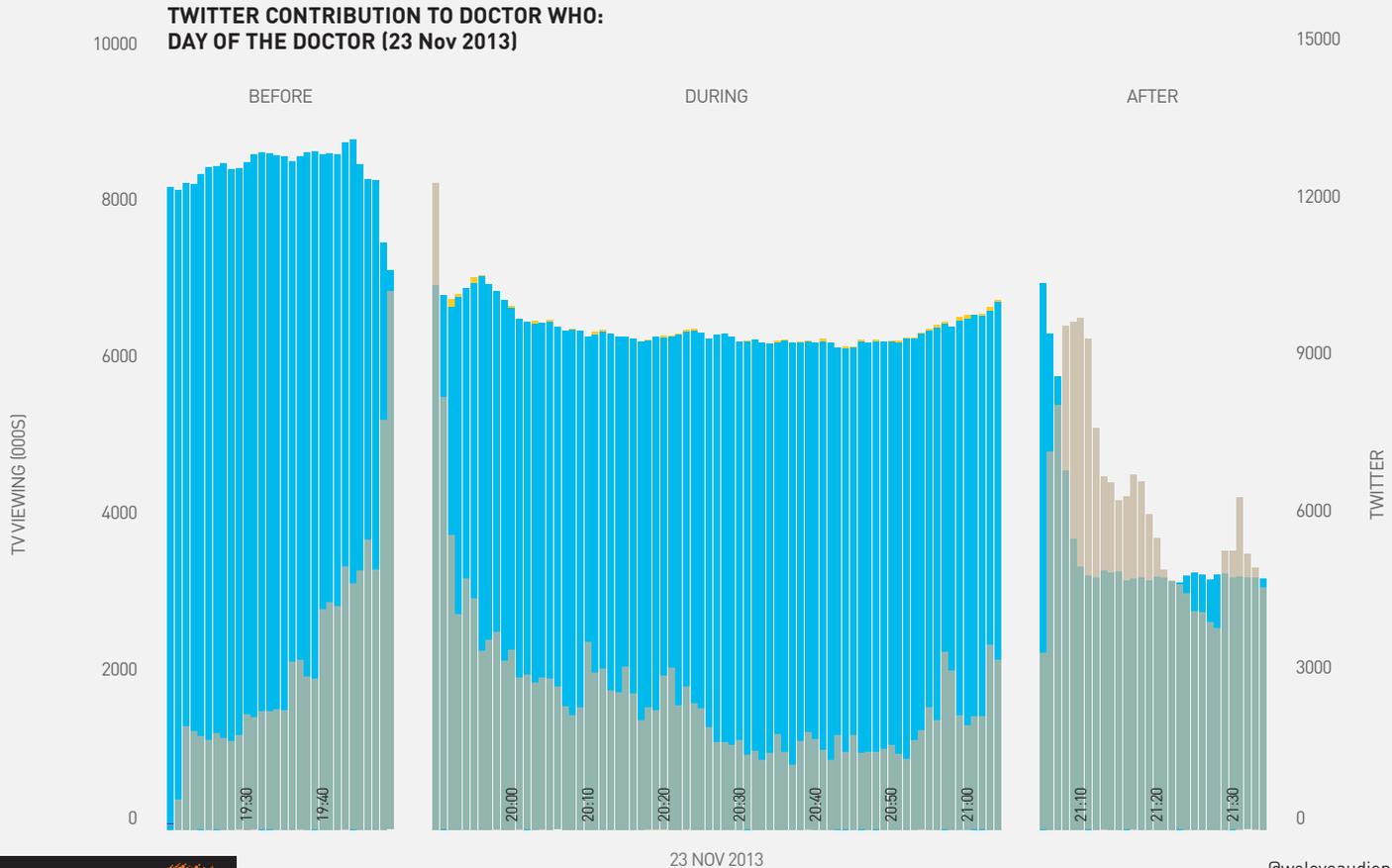


In this second example, we can see a significant spike in Tweets about The Voice towards the end of the show and a growth in 'additional' viewing.



However this can vary by genre and type of show. Doctor Who: The Day Of The Doctor was one of the most Tweeted about dramas of the year, but actually the peaks for Twitter came before the show and immediately afterwards, with Tweets during the show being relatively consistent, leading to a low 'causal' effect. However the large number of Tweets before the show may have had an impact on initial viewing levels – see later for our discussion of pre-show Twitter activity.

- TWITTER CONTRIBUTION TO BARB
- BARB: BASELINE
- TWITTER



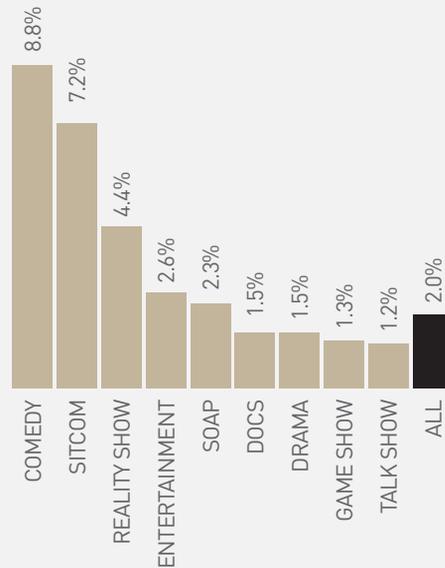
### Twitter impact by Genres

We can break this effect down further in order to compare across genres. The chart below shows the percentage of viewing driven by Twitter within each genre and the percentage of episodes in which there is a positive effect.

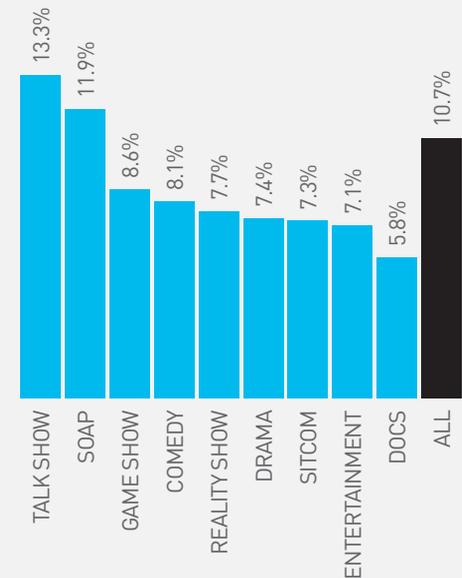
Reality, sitcoms and comedy are the genres that have the highest impact from Twitter in terms of volume of viewing. However if we look at this on an episode basis, then talk shows emerge as the genre most influenced by Twitter. This may reflect the variable content of chat shows, which tend to be very driven by who the guests are. Twitter can play a role in alerting who those guests will be, or when they are about to be interviewed.

It is interesting that although the entertainment genre was a key genre in terms of overall correlation with ratings, the ability of Twitter to actually move ratings from minute to minute within this genre is less than some other types of show.

**% OF TOTAL VIEWING DURING 'POSITIVE EPISODES' DRIVEN BY TWITTER**



**% OF EPISODES WITH POSITIVE EFFECT (TWITTER TO TV)**



# Impact of pre-show Twitter activity

As discussed on pages 34-39, pre-show activity was not included in the Granger model as other activity could also have contributed to the starting audience for a show, including marketing, on-air promotion, time of broadcast and the relative strengths of the show scheduled before and on other channels. However we can look at Twitter activity in the half hour before and the TV ratings uplift when a show starts, without implying causation.

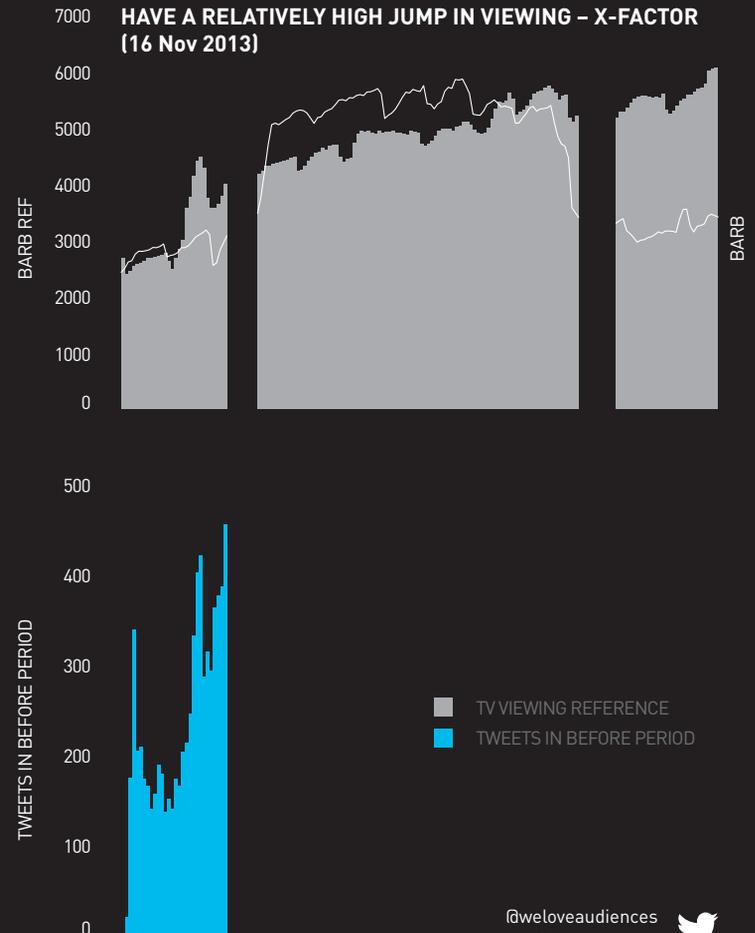
The example below shows an episode of ITV's the X-Factor.

The grey shape is the 'normalised' viewing shape for the show at that time, day and duration - the reference - with the actual viewing overlaid: the white line.

This episode had a higher than usual uplift as the show starts. The X-Factor typically attracts a high number of 'anticipatory' Tweets that may work as a call to action, which results in a positive correlation between Tweets and uplift.

We can map an index of the uplift to individual episodes of X-Factor (compared to the norm) against the volume of Tweets in the half hour before the show and there is indeed a gentle correlation between the two.

**SHOWS WITH A LOT OF PRE-SHOW TWITTER ACTIVITY HAVE A RELATIVELY HIGH JUMP IN VIEWING – X-FACTOR (16 Nov 2013)**



**X-FACTOR EXAMPLE: PLOTS PRE-SHOW TWEETS AGAINST RELATIVE DURING-SHOW VIEWING UPLIFT**



So we can conclude that the volume of pre-show Twitter activity can work to increase the starting audience to some shows, acting as a call to action or reminder. However it is not statistically possible to isolate this from other activity to derive a Causation score.

# Definitions

## HOW EXACTLY ARE TV TWEETS DEFINED?

A Tweet is a comment generated by a Twitter user – often a person, but not always. As well as viewers, Twitter data can include:

- Official Tweets – from the TV channel or from the programme itself.
- Related sites – e.g. fan sites promoting themselves, actors official and unofficial sites, news sites, Digital Spy, Popbitch etc, or people generally promoting goods and services around the programme

The vast majority of Tweets are from regular viewers, but it is important perhaps to refer to 'users', rather than 'people' when looking at the data:

- **Unique users** refers to the number of separate users who Tweeted during a programme. It is the closest to a measure of people rather than gross Tweets.
- **TPM** – Tweets Per Minute – refers to the average number of separate relevant Tweets (not users) for each minute of the programme broadcast
- **Peak TPM** is the highest minute for Twitter activity during a programme

All Tweets are not equal. The number of followers can vary wildly between a couple of dozen followers and TV stars with millions of followers. It could be argued that Ant & Dec Tweeting their love of a show to their 3.7m followers just before a broadcast starts will have more of an effect than hundreds of other Tweets put together.

In terms of Twitter TV specifically, it is important to define how the Tweet volumes and unique users referred to in this report have been calculated. What we have examined here is more refined than a simple count of hashtags. Two points should be noted:

- Twitter TV activity included here is deliberately limited to activity related directly to linear TV broadcasts. So this covers Tweets about a show that were made during the broadcast and 30 minutes before or after. As a result what this study (deliberately) does not include is Tweets related to viewing of catch up or VOD viewing or more general Tweets about the show not coinciding with a broadcast. This means we can focus very specifically on the relationship between Twitter and linear broadcasts.
- The identification of relevant Tweets has been conducted using highly advanced algorithms that look not just for mentions of the show but also for related text (characters, plotlines) and semantics.

The data analysed for the study includes reTweets.

## HOW WAS 'CORRELATION' DEFINED?

This report focuses on those shows and events across the period that generated the most Twitter activity. We can look at the total live viewing to the shows and compare the two using a 'Correlation Co-efficient'. This expresses how well the size of a range of broadcasts' Twitter activity 'fits' with the size of their live TV audiences. The score runs from +1 to -1, where +1 implies a perfect correlation, 0 means no correlation at all (the figures are entirely unrelated) and -1 a negative correlation, where the two sets of figures are inversely related. As a benchmark, a good correlation is a score above 0.5.



## WHAT WAS THE 'CAUSATION' METHODOLOGY?

On the causation analysis Kantar Media worked with Mindshare to statistically analyse a substantial database of minute-by-minute level Tweets and ratings. Twitter data was supplied by Twitter itself to a specification from Kantar, whilst TV ratings data came from BARB.

### Defining the database

The first stage was to decide what to include in the analysis in order to give it a defined scope. The time period for the analysis matches that used for the correlation analysis: a full year from 01 June 2013 – 31 May 2014.

As the goal of the analysis was to examine the relationship between Twitter and TV it made sense to focus on average Tweets Per Minute for broadcast and set minimum criteria for inclusion. Consequently the analysis encompasses:

- The top 20 episodes (in terms of TPM) for the top 10 programmes within each genre, channel, day part and day of week combination.
- The list was further complemented with the top 20 transmissions in terms of TPM for each of the top 20 channels and the top 100 series.
- As a result this meant that the analysis for the study covers
  - 613 programmes or series
  - 3800 transmissions
  - 27 channels
  - 35 genres
  - 442,372 observations

It should be noted that the analysis does not include live sport or news.

### Framing the terms of reference

Another important reason for focusing the analysis on viewing patterns during the broadcast is the nature of the Twitter data itself. As discussed earlier, what we are examining is more refined than a simple count of hashtags. Twitter TV activity included here is deliberately limited to activity related directly to linear TV broadcasts, covering Tweets about a show that were made during the broadcast.

It should also be noted that these analyses do not factor in positive and negative sentiment in the Tweets. When we talk about positive and negative effects we are talking simply about the effect on ratings not the 'nature' of a Tweet. Tweeting how much you dislike a character or contestant in a show can be as much of an indicator of positive engagement as negative, whilst 'positive' Tweets can contain irony, particularly in the UK. Examining Tweet sentiment can yield much in the way of qualitative evaluation of a programme, but does not form part of these analyses.

### The Approach

With this dataset established, we then set out to do two things:

1. To test for a causal relationship between TV viewing and Twitter activity
2. To quantify the impact of Twitter activity on TV viewing for instances in which a positive causal relation was detected.

### Testing for causation

This study has used the Granger Methodology to detect causation. This approach was developed by the Nobel Prize-winning economist Clive Granger to test for causal relationships between two datasets.

In this deployment of the methodology we have used past values of TV viewing and Twitter activity to predict future values. So in this case Twitter is said to 'Granger-cause' ratings changes if ratings can be better predicted using the histories of both Twitter and the ratings than it can by using the history of ratings alone.



The analysis is set at a five-minute level, looking at Twitter volumes in the five prior minutes to a rating point.

The approach was further adapted to help account for the effect of ad breaks and end of show, as well as to isolate positive and negative effects.

For reasons discussed earlier, the analysis was focused on minute-by-minute viewing and Tweeting during the broadcast. The period immediately before and after each broadcast has not been included.

#### *Isolating negative effects that are not causal*

In order to boil the analysis down to core figures of causation, two factors have been taken into account which can actually have the appearance of an effect on TV ratings when the change is clearly as a result of the nature of TV broadcasting itself.

The first of these is the impact of the end of a broadcast. For popular broadcasts, which viewers have tuned in specifically to see, there can be something of an exodus of viewers at the end of the show, either switching off or over to other channels. However the end of many shows will see a climax or a cliff-hanger that prompts a reaction on Twitter, typically just before the end – a dramatic event or the announcement of a vote winner. As a result we can see a Twitter spike followed by a drop in ratings that clearly isn't causal. However the Granger analysis - if used in a blanket approach - would include this as causation.

The second – and related – instance of this is the effect of advertising breaks on commercial channels. Here, conversely, it can appear that a change in TV ratings can have a negative effect on Twitter. Viewing typically drops slightly during ad breaks relative to the main show, but Twitter activity can spike as people take the opportunity to Tweet.

Consequently these effects are removed from the analysis to avoid distortion of the data. This was accounted for by creating a reference variable for the show in question and also taking account of duration and time and day of broadcast. We can then compare to the reference variable to isolate 'usual' ad breaks and end of show behaviour from that which may be relevant to the analysis.

However even making this adjustment to the analysis, we can still see instances when a show finishes earlier than its scheduled broadcast window, particularly on commercial channels. Here a Twitter spike in the final minutes can sometimes be a better indicator of the shows actual end than the broadcast schedules! This does result in negative causations within the data, so for this reason our headline figure has all negative causations removed to prevent an artificially inflated causation score.

#### Quantifying the size of the effect

Having identified the episodes where a Twitter had a positive, causal effect on the levels of TV viewing, we wanted to estimate how much viewing Twitter had contributed.

To do this we carried out three key steps: Firstly, using the episodes with positive causality, we built a minute-by-minute level model which predicted TV viewing based on the histories of both TV viewing and related Twitter activity.

Secondly, we adapted this model by predicting TV viewing with the histories of TV viewing alone, ie by taking the Twitter data out of the model

Finally, we added the Twitter data back in and calculated the incremental viewing predicted by this addition. This incremental viewing estimated by the inclusion of the Twitter variable was considered to be the viewing that Twitter had generated.



Kantar TV Twitter Ratings is a ground-breaking new industry metric for planning and tracking effective Social TV strategies.

It will take our understanding of the two-way relationship between social media and TV to a whole new level. And it will help broadcasters, advertisers and media agencies to:

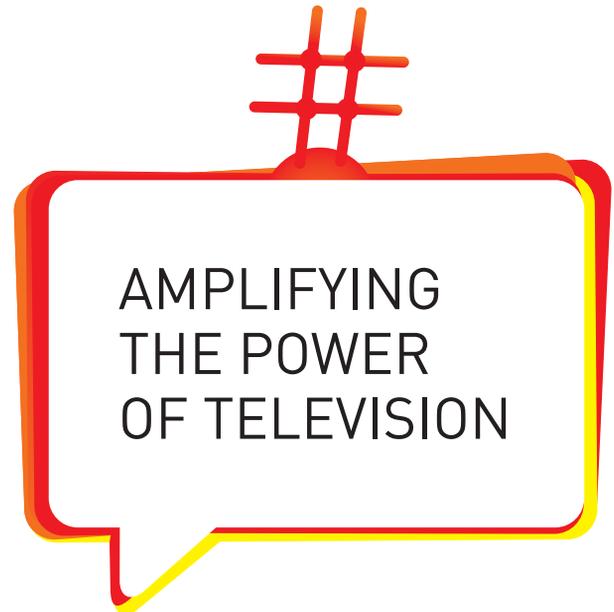
- Track how Twitter amplifies the power of television
- Refine Social TV strategies
- Track brand and programme performance over time

This means broadcasters will be able to keep their ear to the ground when it comes to 140-character TV chatter, helping them maximise their audiences.

Advertisers and media agencies will be able to better connect their brands with socially-engaged TV viewers and improve their planning and buying decisions.

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