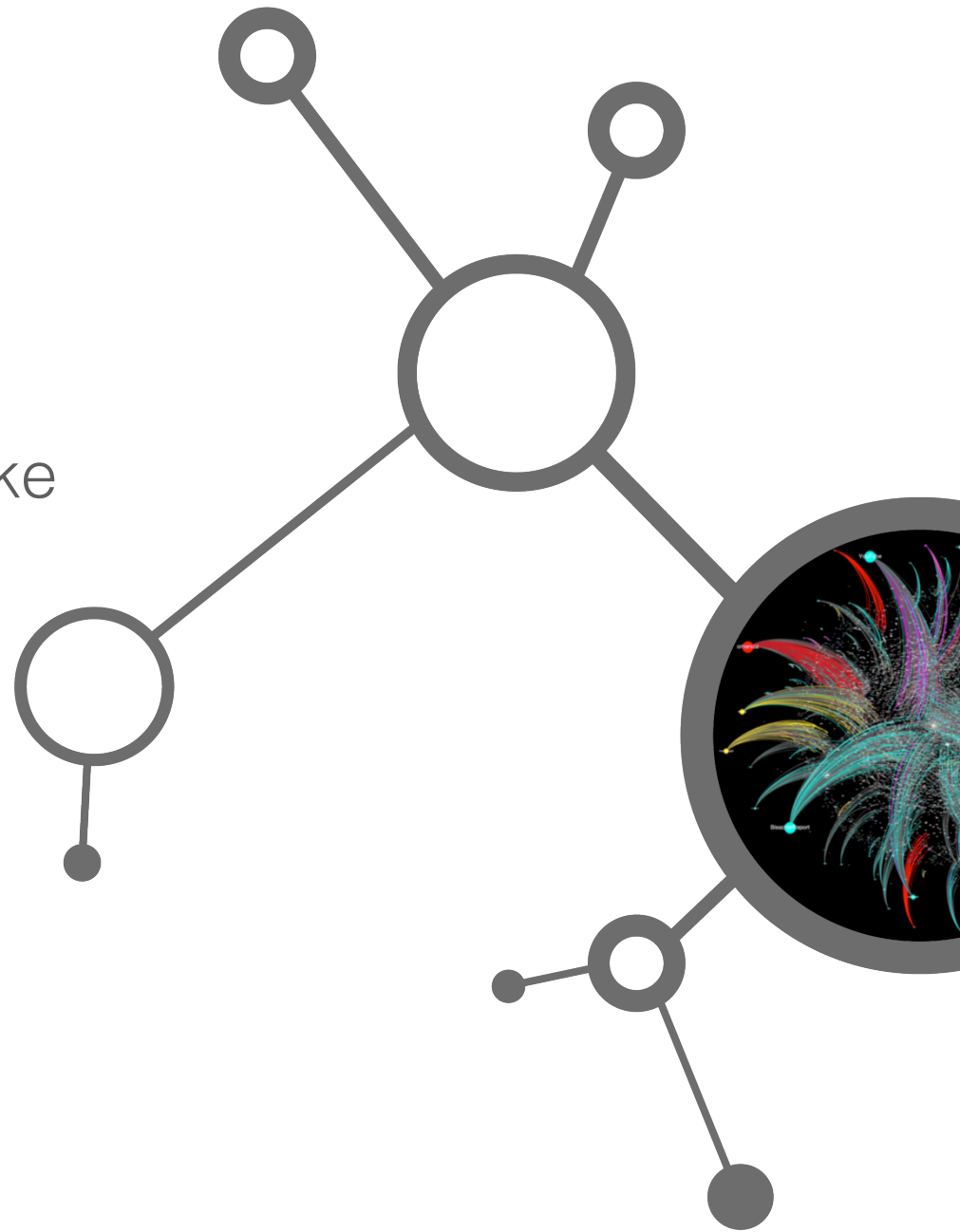
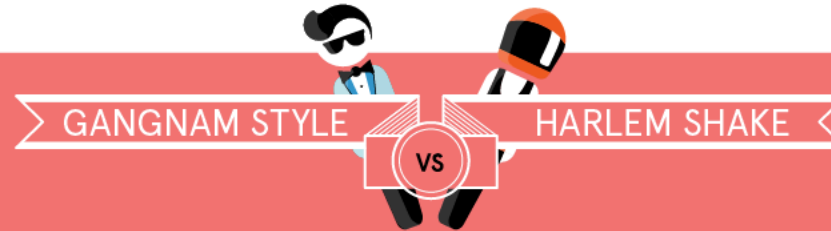
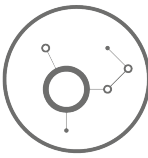


PULSAR
Social Data Intelligence

WHITE PAPER

How Stuff Spreads #1: Gangnam Style vs Harlem Shake Anatomy of Two Memes



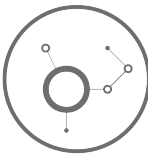


Gangnam Style and Harlem Shake are two of the most recent viral phenomena on the Internet, generating thousands of spin-off versions and billions of views. Using Pulsar TRAC's Content Tracking technology we compared how the top 5 versions of each video were shared on Twitter to understand how they went on to become two global memes.

Gangnam style ● *Harlem Shake*

Our How Stuff Spreads series looks at how digital content (videos, articles, websites, and images) travels the social web. This, the first instalment, looks at how two memes spread on Twitter: Gangnam Style vs Harlem Shake.

Gangnam Style and Harlem Shake were viral phenomena, generating thousands of spin-off versions and billions of views. By using Pulsar TRAC's Content Tracking technology, we are able to track any social media conversation containing a specific URL and analyse who is talking about it, gateways and hubs, topics of discussion, geography of the discussion and key channels.



Pulsar's VP Product Francesco D'Orazio (@abc3d) and Research Manager Jess Owens (@hautepop) wanted to understand how Gangnam and Harlem became global memes. So they set out to compare how the top 5 versions of each video were shared on Twitter, looking at 8 dimensions of each meme:

Shape

Number of shares per video, over lifetime of the meme

Lifespan

Number of consecutive days where people shared the meme 500+ times

Popularity

Number of unique users sharing the meme over its lifetime

Shareability

Total Twitter shares per each million of YouTube views

Globality

How international was the meme?

Amplification

How influential were the people who shared the meme

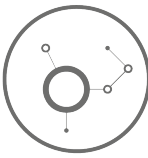
Variation

How much did attention to the meme vary day-by-day?

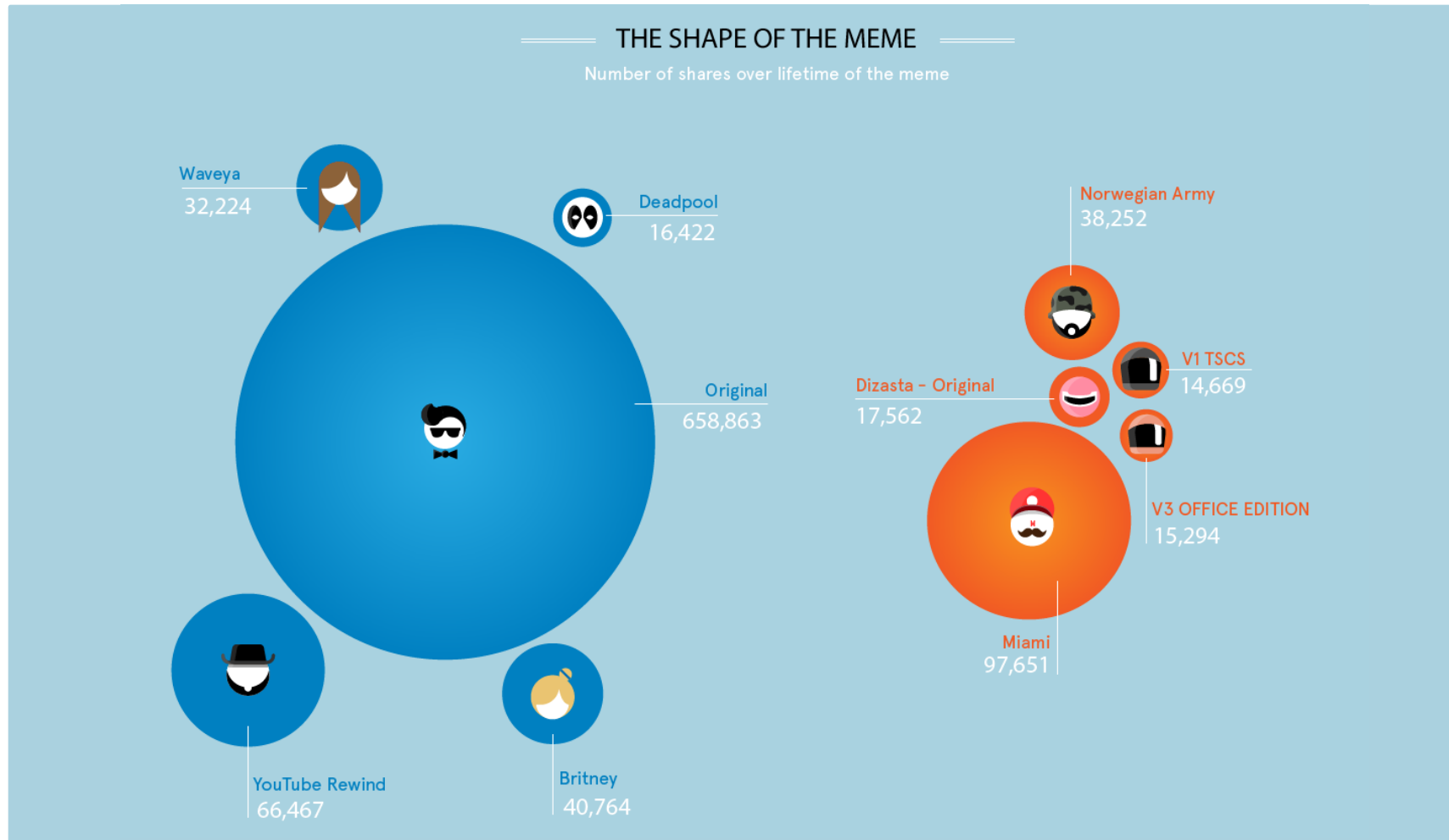
Diffusion Network

Hubs and nationalities who drove the spread of the meme

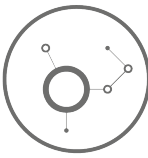
Here's what they found out.



Memes have different shapes



The shape of the two memes



1) Memes have different shapes

Gangnam Style showed a top down or 'vertical' pattern, with the original video generating 10x as many YouTube views and shares as any of its variations. Conversely Harlem Shake was more bottom up or 'horizontal' in its dynamic, with the original seed sparking thousands of variations, some of which did better than the original in terms of views and shares.

2) The shape of a meme affects its lifetime

We defined a meme as 'live' (popular and actively shared) as the time when it was getting at least 500+ URL shares on Twitter per day. Whereas Gangnam Style lived for 172 consecutive days, Harlem Shake only survived for 29.

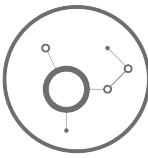
Why did Gangnam, the "top down" meme, live over 5x longer than the "bottom up" Harlem Shake? A possible clue may come from the three-part-process of social movement

formation which Charles Duhigg describes in his book "The Power of Habits":

"A movement starts because of the social habits of friendship and the strong ties between close acquaintances. It grows because of the habits of a community, and the weak ties that hold neighborhoods and clans together. And it endures because a movement's leader gives participants new habits that create a fresh sense of identity and a feeling of ownership."

Whereas Gangnam Style offered a strong top-down narrative with an easily identifiable leader in Psy, Harlem Shake had a more distributed narrative with no real leadership and guidance outside of the format.

Consequently it didn't succeed in creating a 'habit' that would outlive the interest from the local and community networks who were the real engine behind this meme.



3) Regardless of their shape, memes spread in waves

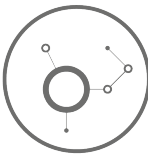
Both memes showed a very spikey distribution, with attention to the video fluctuating dramatically day-by-day. We quantified this variation by first calculating the standard deviation of the daily sharing rate (i.e. how much sharing levels varied day by day), then dividing by the mean to give us the coefficient of variation.

Typically all the videos saw a lot of variation in the rate they were shared, with Gangnam Style being more consistent (196% variation) then Harlem Shake (338% variation). But three videos stood out for showing much more variability: YouTube Gangnam Rewind (807%), Britney Spears learning Gangnam on the Ellen Show (574%) and basketball team Miami Heat's Harlem Shake (517%). These videos each saw a massive launch spike – e.g. Britney with 15,792 tweets carrying the link on September 11 2012, and Miami Heat's Harlem

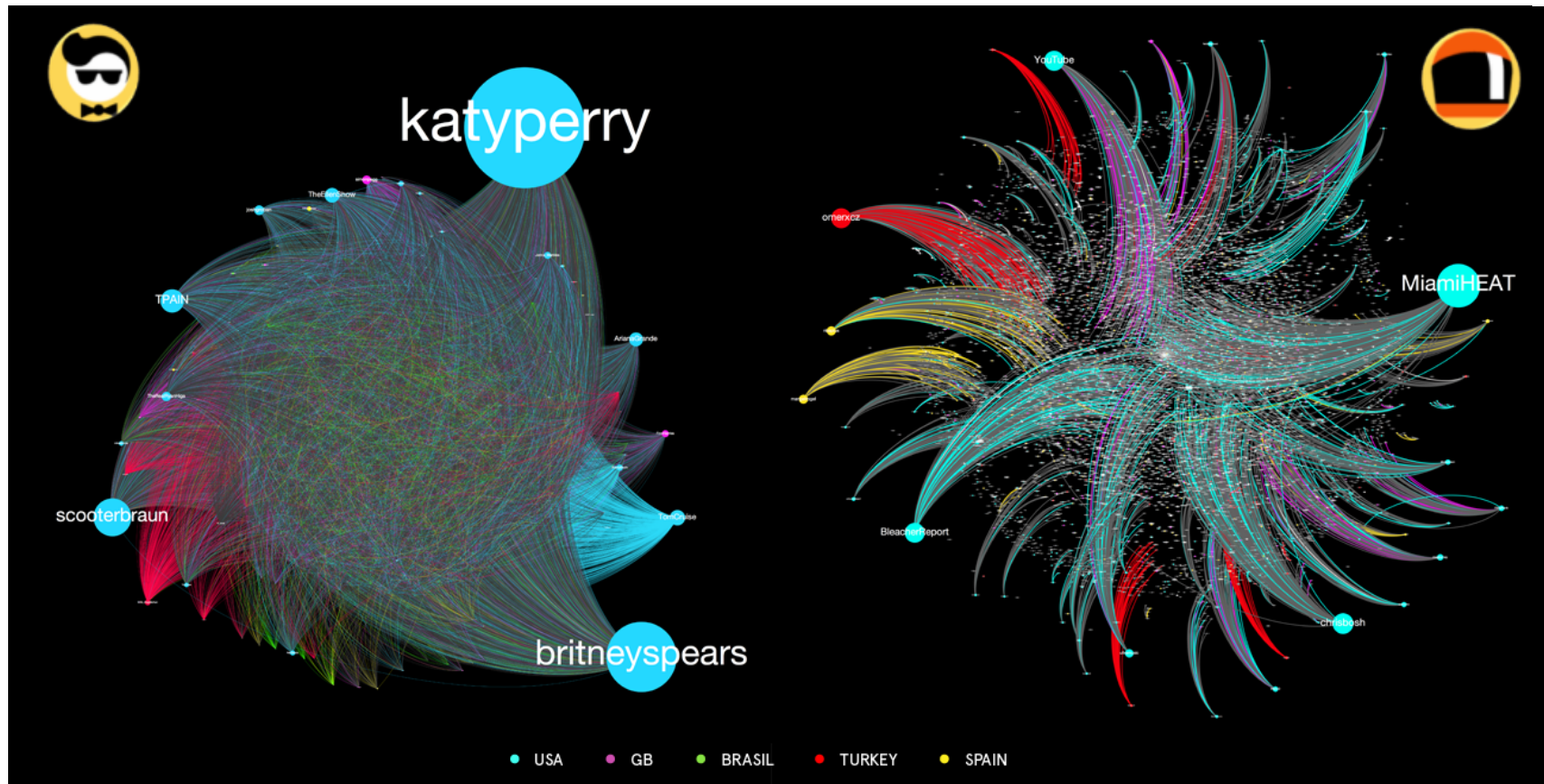
Shake with 63,927 on March 02 2013.

How did they achieve this? Each video was led by an individual or organization with massive reach – YouTube and Britney Spears both have 26m Twitter followers, and Miami Heat has a strong community of 1.2 million. This means they were able to activate a big existing audience to get the video out very quickly on Day 1 – hence the big spike in sharing. But within a couple of days, that audience was saturated – everyone who'd be interested had already seen the video.

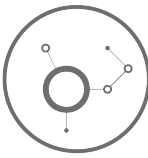
The Britney Spears variation of Gangnam Style, linked to The Ellen Show, was only newsworthy within a brief timeframe. Miami Heat's take on the Harlem shake was particularly relevant to the basketball community and expired once the "local" reach was somewhat exhausted. So sharing dropped off precipitously – hence the big variation score.



It's almost a risk to be a social media influencer – you can activate a large audience very quickly, but that attention can be burnt through equally fast. By comparison, the Gangnam Original video had one of the lowest variation scores (114%). Psy was new to Western and LatAm audiences, so the video travelled more slowly through social networks – but this helped attention sustain for fully six months.



The Diffusion Network – Hubs and nationalities who drove the spread of the memes



4) **Small communities drive virality**

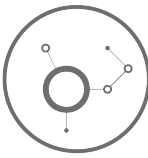
The relationship between communities and viral spread is reinforced by the fairly high density and modularity of both the Gangnam Style and Harlem Shake networks. This highlights the key role of small communities in spreading the meme. Within the Gangnam Style network, 14% of the people sharing the link passed it on or grabbed it from someone, while within the Harlem Shake network the connected sharers increase to 17% of the overall pool of users. These figures are remarkable considering the globally dispersed diffusion of the memes.

By contrast, influencers only accounted for a small percentage of the total buzz. Out of 767,000 unique mentioners of the Gangnam Style videos only 64 generated more than 100 retweets and only 8 more than 1000. Out of 173,000 unique mentioners of the Harlem Shake videos, only 9 generated more than 100 retweets. That means that for Gangnam

Style less than 5% of the total shares were directly connected to the influencers, and for Harlem Shake only 1%.

5) Both memes transcended physical geography, even though both were born out of specific geographic areas and subcultures.

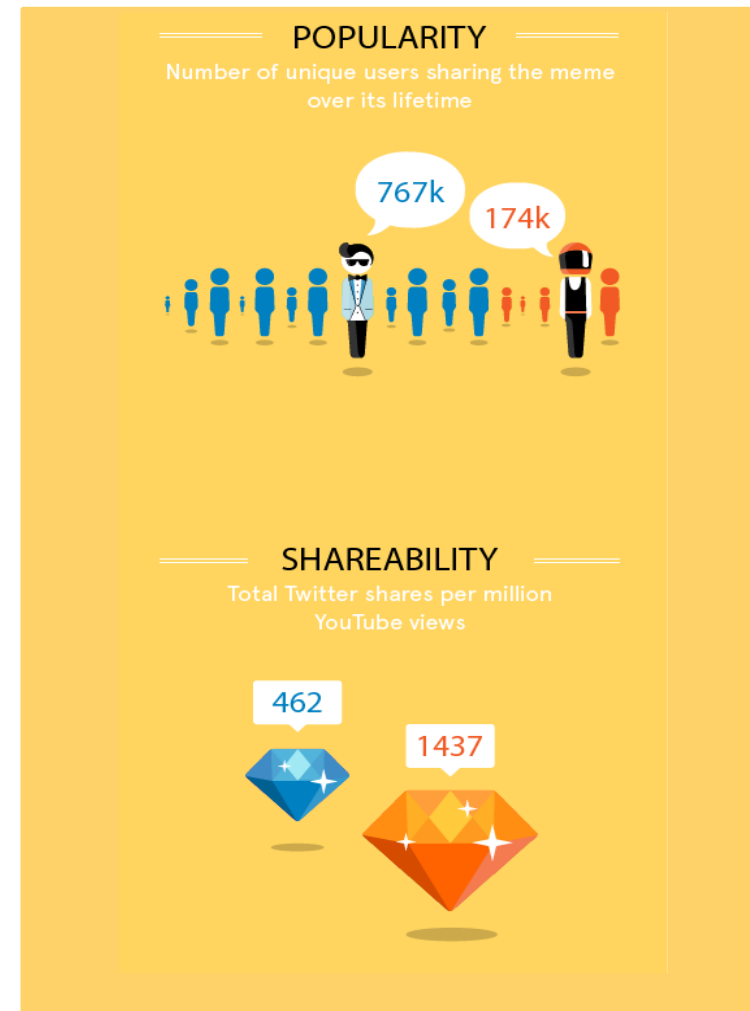
We measured the memes' Globality (% of shares coming from countries other than the top one, usually the USA). Both memes were very international, but Gangnam Style turned out to be more global than Harlem Shake (78% vs. 63%). This makes intuitive sense – Gangnam Style started in Korea and spread to win massive popularity across North America, Latin America and Europe. Most viewers didn't understand the lyrics, but the strong visual character meant this didn't matter. By contrast, some of the Harlem Shake videos were much more geographically and culturally specific – particularly the Miami Heat basketball Harlem Shake, which got fully



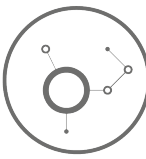
half (49%) of its sharing from within the United States. This is also clearly shown in the network analysis, where the number of retweets spanning from the central nodes of the Harlem Shake meme network confirms this US-centric pattern of engagement. Conversely the central nodes in the Gangnam Style meme network are connected to a very diverse range of countries.

6) Popularity doesn't mean Shareability, and Shareability doesn't imply Popularity

While Harlem Shake turned out to be 3x more shareable than Gangnam Style, it still ended up being 4.5x less popular in terms of the number of unique users sharing it. How did this happen? This is certainly connected to the higher mainstream coverage of Gangnam Style which lowered its currency in social media – there's little value in sharing something people are seeing all over the TV. It's also connected to the greater iteration and 'localization' of the Harlem Shake meme.



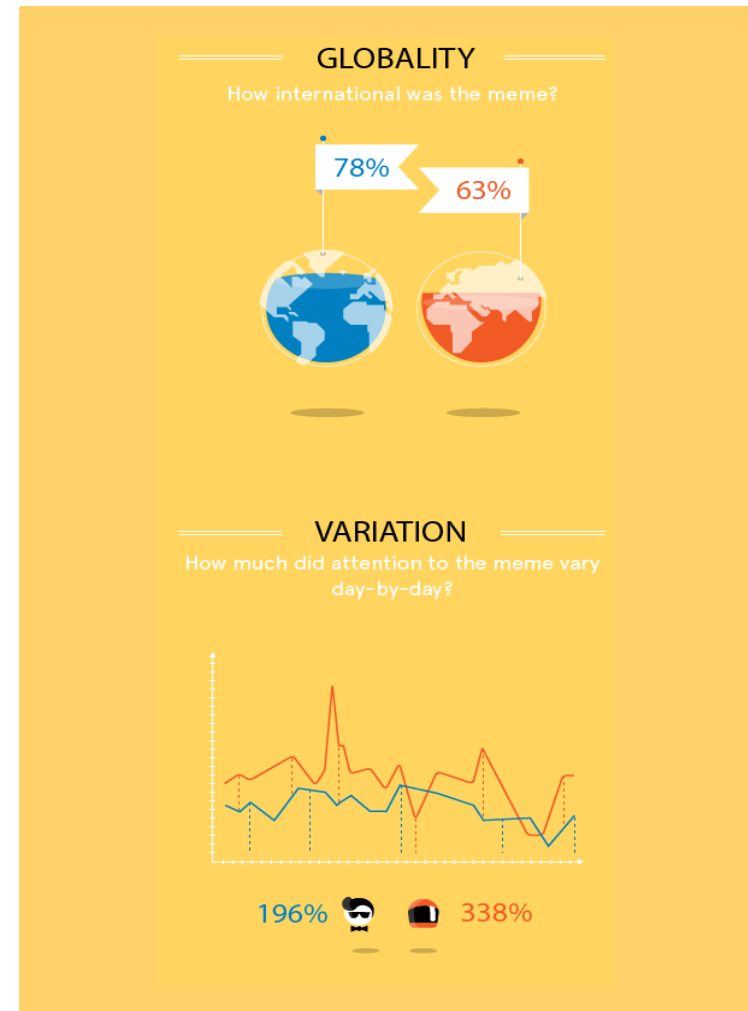
Popularity and Shareability comparison of the two memes

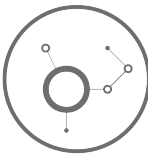


This made its videos more relevant to hundreds of small local communities across the globe – so the Norwegian Army video was heavily shared in Norway, the Miami Heat video in the United States and so on. Essentially Harlem Shake had currency but didn't have scale. Gangnam Style had less currency but had massive scale.

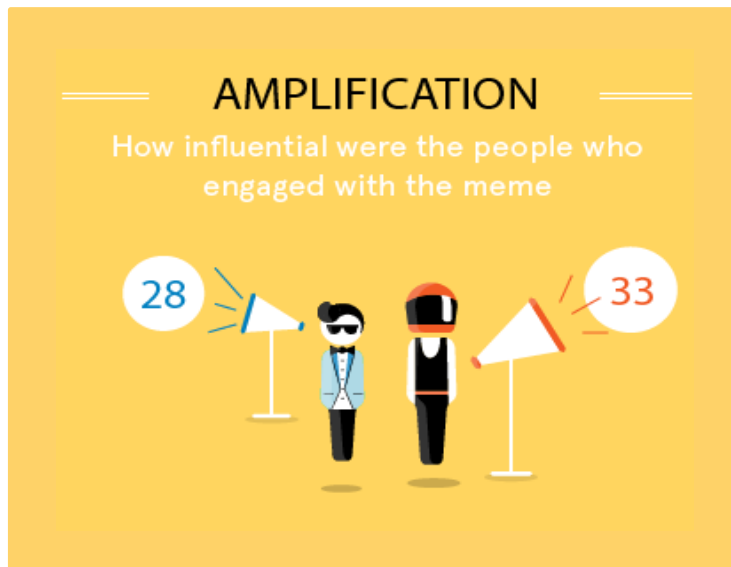
It's a difficult balance for a meme to strike. Community drives Shareability but doesn't give you Scale (Popularity). Top-down influence drives Scale (Popularity) but kills Shareability. While Shareability is a key requisite of virality, scale is what enables and sustains exponential growth.

7) Memes are like currencies: you need to balance accessibility (or 'money supply') and inflation. Gangnam Style became globally accessible through top-down mainstream sources (High Popularity), but this gave it high social inflation so it wasn't

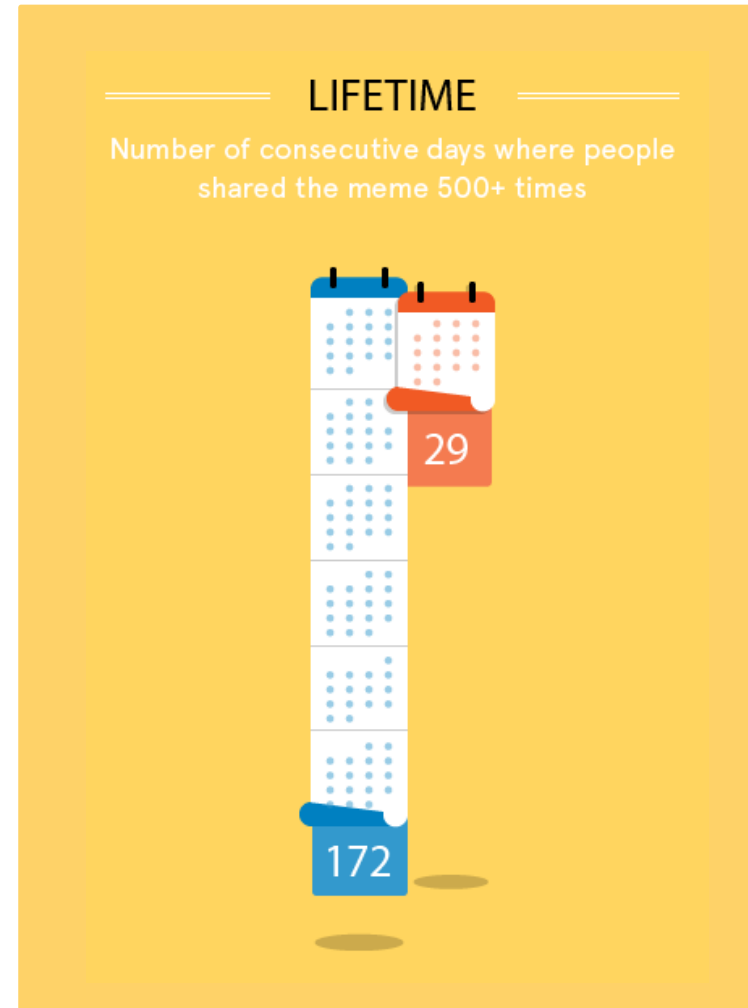


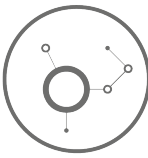


valuable to share (Low Shareability). However, scale sustained its long term growth. Harlem Shake was not as easily accessible because it was driven more by small communities (Low Popularity), but for the same reason, being less easily accessible, it remained highly valuable (High Shareability). Lack of scale was what made Harlem Shake growth short-term and eventually killed it prematurely.



Amplification comparison of the two memes





Conclusions: 8 things we learnt about how stuff spreads in social media

Bursts and Rises: 2 models of virality.

Bursts are bottom-up: the variations are more powerful than the original seed and there's no clear leadership or narrative. The meme relies on community relevance to spread. Rises are top-down: the original seed is always stronger than its variations and has a clear leader dictating the narrative. Bursts spread more quickly but don't endure. Rises spread more slowly and less widely but they tend to endure because the meme has a focal point. Choose your model of virality and plan accordingly.

Triggers. Virality is triggered by surprise, cultural relevance to a community, and endorsement by a leader or the media.

Waves. Virality spreads in waves and spikes.

Communities drive viral spread way more than influencers.

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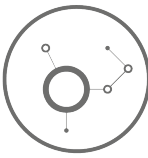
Glocality. Memes transcend geography but a successful meme needs a balance of both local relevance and global appeal.

Leadership. A meme needs a focal point to live longer. Virality is only sustained through a strong narrative and leadership.

Slow and spikey wins the race. Weak ties and communities sustain for weeks but don't give you scale in the short term. Top-down media and celebrity endorsement gives instant scale but burns out within days by decreasing the shareability of the meme.

Memes are like currency: you need to balance supply (or accessibility) and inflation. To achieve high shareability and popularity the meme supply has to be expansionary but strategically controlled so that it doesn't negatively affect its shareability. This at the same time gives the meme the scale that can trigger and sustain exponential growth.

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About the authors



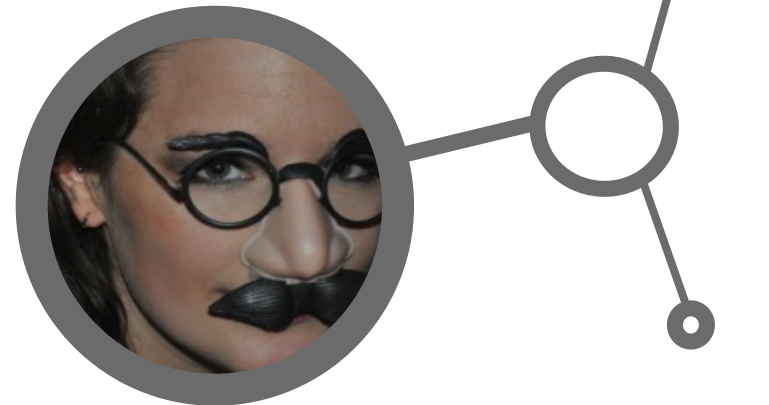
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Francesco is a researcher and technologist with a social sciences and digital media background. He explores new opportunities emerging at the intersection of technology and research. Francesco designs systems and methodologies that help analyze the social web and extract insights in real time using computational social science and data visualisation. He is a regular speaker at research, innovation and technology conferences. His work has been featured in the likes of Ad Age, BBC, Guardian, CNN, The Independent, Mashable, Gigaom, Business Insider etc.

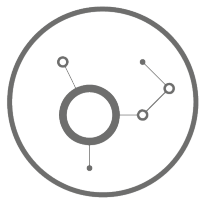
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Jessica completed a BA in Anthropology at LSE and a research Masters at UCL before deciding to swap the study of remote Papua New Guinea tribes for commercial research into the equally exotic UK consumer. She joined Pulsar in 2010 to follow her interests in social media, technology and online research methods. Jessica now works at the intersection of qual and quant research doing real-time web and social media research for our clients.



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