

# How early adopters spread Twitter across the United States

By Karsten Müller and Carlo Schwarz

Twitter is used by around 330 million people worldwide. But how did it achieve such widespread adoption? New research finds that much of Twitter's uptake across the US can be pinpointed to one event: The South by Southwest festival in Austin, Texas, in 2007.



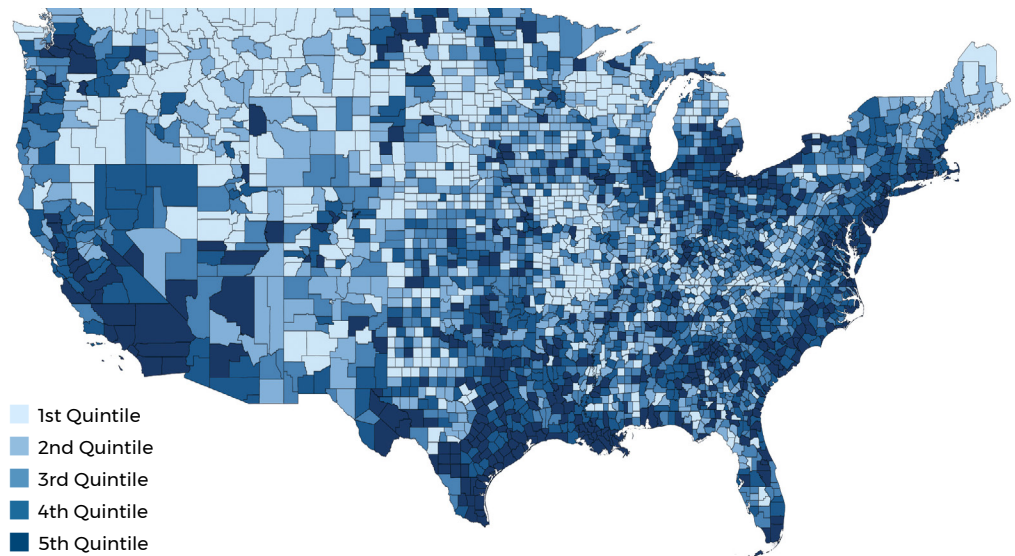
The adoption of new technologies is an important factor in explaining the large productivity differences across and within countries. When analysing the adoption of new technologies, it's widely agreed that small and even arbitrary variables can have a big effect on eventual uptake. We find evidence of this for one of the most popular social media apps, now used by around 330 million people worldwide: Twitter.

Twitter provides an interesting case to study technology adoption for two reasons. First, it is a technology with low adoption costs – everybody can open an account for free. Second, there are significant network effects, because the value of being on Twitter increases with the number of other people that use the social network.

We investigate the impact of the 2007 South by Southwest conference and festival (SXSW), which marked an early tipping point for the adoption of Twitter in the United States. We find that SXSW 2007 – which only had around 7,000 registered attendees at the 'interactive' part of the event – left its imprint on the frequency of Twitter usage across US counties today (Figure 1).

At the 2007 SXSW festival, Twitter held a launch event with a special option that allowed users to join Twitter by simply sending a text message, and screens in the main hallways showed tweets about the event. These measures proved to be extremely effective in spurring Twitter adoption. The daily volume of tweets increased from around 20,000 to 60,000. Figure 2 shows how SXSW influenced Twitter's success: we see a clear spike of tweets about the event during the SXSW conference in mid-March 2007, followed by an upward shift in the growth of the total number of tweets. While total tweets grew by 55% from February to March, this growth accelerated to over 190% from March to April. Twitter has been

Figure 1: Twitter usage per capita in the United States



on a successful growth path for the years since then.

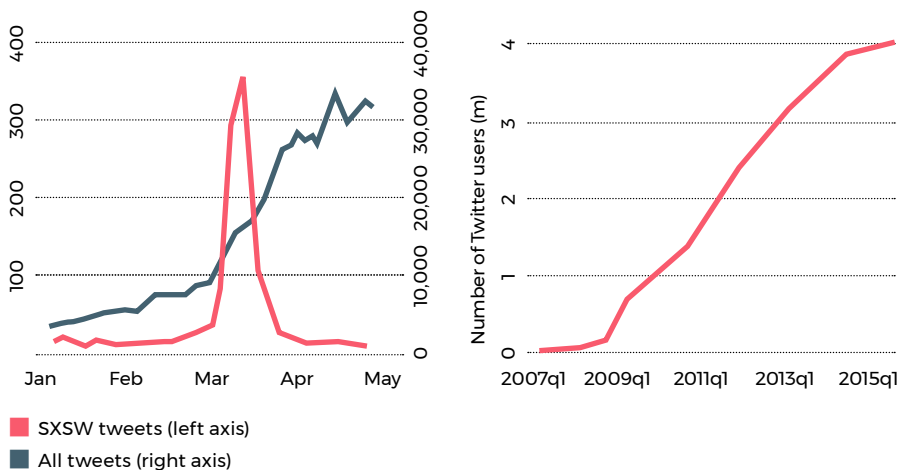
Our analysis exploits that the home counties of SXSW attendees received a boost in the number of early-stage Twitter users around the time of the 2007 event. These inflows of additional early adopters put these counties on a differential growth path to a higher level of Twitter usage which is still evident today.

There are three pieces of evidence to support the idea that these early adopters were key to Twitter's rise. First, we compare counties with and without new SXSW followers in March 2007 and observe an uptick in Twitter adoption with the beginning of SXSW that persists until the end

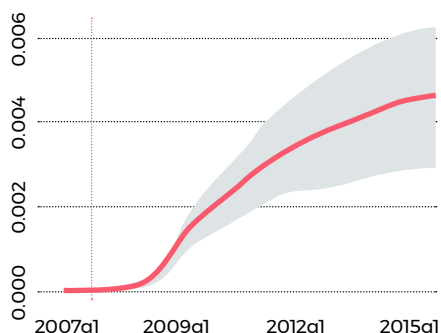
of 2015. Figure 3 traces the impact of early adopters on Twitter usage per capita in their home counties, where the orange line marks the beginning of the SXSW festival. The data exhibit an S-shaped adoption curve typical for the diffusion of innovations (Arrow, 2000; Rogers, 2010), starting from the day of the festival, as more and more users signed up over time. The estimates imply that a one standard deviation increase in SXSW followers who signed up in March 2007 increased Twitter adoption by around 22% by the end of 2015.

Secondly, we find that early Twitter adopters were indeed largely connected to the SXSW festival. Figure 4 plots the share of Twitter

Figure 2: Twitter activity around SXSW 2007 and over time



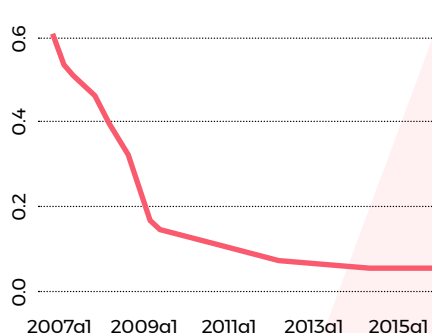
**Figure 3: Twitter Adoption per Capita in SXSW Home Counties**



users that followed either the SXSW festival or an SXSW follower who joined during the time of the event. In March 2007, as many as 60% of Twitter users had either a first or second degree connection to the SXSW festival. With the diffusion of Twitter over time, this decreased to around 5% today, as the platform’s usage spread to wider and wider subsections of the population.

Finally, the idea of the diffusion of Twitter starting from the SXSW festival can also be seen in the predictive power of the locations of SXSW attendees. As shown in Figure 5, the predictive power is highest for the year of the festival and decreases from there onwards. This suggests that, over

**Figure 4: Share of Twitter users with SXSW connection**



time, Twitter was used by more and more people who did not have a direct connection to the SXSW festival.

Taken together, this evidence shows the 2007 SXSW festival led to increased adoption of Twitter in the home counties of attendees, and this pattern of technology adoption persists until today. This evidence could be crucial for both companies and policymakers. The success of new technologies such as the COVID-19 tracing app in the UK, depends on a relatively widespread adoption across the country. Policymakers should thus consider how encouraging a targeted group of early adopters could improve the overall use and success of such

technologies. If 7,000 people at SXSW can influence the geography of Twitter usage 10 years after the 2007 event, pushing early adopters to spread a technology might be more successful than trying to reach the general public. ◀

**About the authors**

**Karsten Müller** is a Postdoctoral Research Associate at the Julis-Rabinowitz Center for Public Policy and Finance at Princeton University and a CAGE Associate.

**Carlo Schwarz** is Assistant Professor of Economics at Bocconi University and a CAGE Associate.

**Publication details**

This article is based on the working paper Müller, K. and Schwarz, C. (2020). From Hashtag to Hate Crime: Twitter and Anti-minority Sentiment. Available at SSRN 3149103.

**Further reading**

Arrow, K. J. (2000). Increasing Returns: Historiographic Issues and Path Dependence. *The European Journal of the History of Economic Thought*, 7 (2), pp. 171-180.  
 Rogers, E. M. (2010), *Diffusion of Innovations*, New York: Simon and Schuster.

**“Policymakers should consider how encouraging a targeted group of early adopters could improve the overall use and success of technologies. If 7,000 people at SXSW can influence the geography of Twitter usage 10 years after the original 2007 event, pushing early adopters to spread a technology might be more successful than trying to reach the general public.”**

**Figure 5: The effect of SXSW on Twitter adoption decreases over time**

