When is the best time to post on social media? Analysis of 100+ million posts suggests there is no single answer.

blogs.lse.ac.uk/impactofsocialsciences/2015/07/31/when-is-the-best-time-to-post-on-social-media/

7/31/2015

Nemanja Spasojevic, Adithya Rao, Zhisheng Li, and Prantik Bhattacharyya share findings from their large-scale analysis of user behaviour on social networks. Every network has a unique audience with unique reaction patterns, and as such, each network has a "snowflake"-like schedule for ideal response and engagement. City-based or network-based schedules may be better than posting at random times, but these rigid schedules do not account for the unique composition of a specific user's audience, and therefore are not as effective as personalized schedules.



When is the best time to post on social media to reach the most people? When are people most likely to respond to you on social networks? Recently many studies and infographics have tried to answer these questions with limited success. The answer is not straightforward, because there are several factors that determine whether someone responds to your post. Behavior patterns differ significantly from `person to person, and no two members of your audience may react in exactly the same manner.

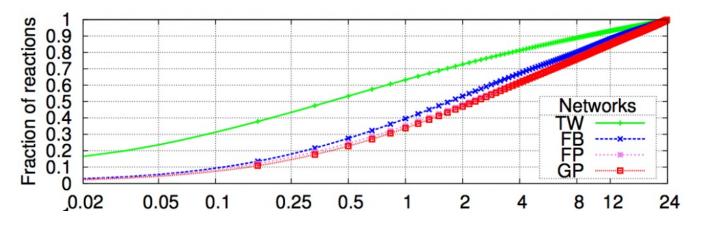
How is it then possible to come up with the best time to post your message? In the largest study of its kind, we analyzed 144 million posts and 1.1 billion reactions to understand this problem and come up with a solution. Our primary finding is this — there is no single "best" time that works for everyone. Since you have a unique audience with unique reaction patterns, you also have a unique "snowflake"-like schedule that tells you when your audience is most likely to respond to your messages. As part of this study, we analyzed several aspects of the problem:

Post to reaction times:

Since most messages on social media have a short lifespan, the speed at which your audience reacts plays an important role in the total reactions that your post receives. This post-to-reaction time depends heavily on the network where the message was posted.

We examined the speed of reactions that a post receives in the first 24 hours since posting. Overall, we find that a majority of reactions occur within the first two hours of the original posting time on most networks. Twitter user behavior differs significantly on different networks though, with 50% of reactions occurring within the first 30 minutes on Twitter, as compared to Facebook which reaches 50% of reactions after two hours.

Figure a: Post To Reaction Time



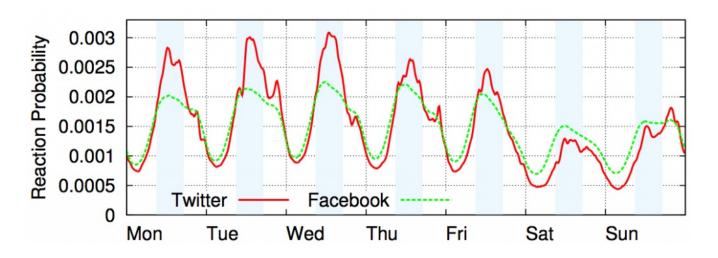
Source: Spasojevic et. al., (2015). When-To-Post on Social Networks. arXiv:1506.02089v1 [cs.SI]

Cross-network analysis:

It is interesting to observe the global network behavior in terms of the reaction probabilities. We find that within a given day, Twitter shows greater fluctuations in engagement than Facebook – which remains relatively steady throughout the day. Both networks see secondary, post-work day peaks from 7-8 pm, corresponding to after-work hours.

With respect to weekly trends, Twitter activity falls to almost half of its weekday amplitude on Saturday and Sunday, whereas Facebook activity seems to be less affected by weekends. Note that Facebook is most consistently used throughout the day on Sundays.

Figure b: Per-Network Globally Aggregated User Audience Reaction Behaviors.



Source: Spasojevic et. al., (2015). When-To-Post on Social Networks. arXiv:1506.02089v1 [cs.SI]

Cross-city analysis:

It is also very interesting to observe cross-city reaction patterns. Comparing London to other cities, we find that most reactions in London happen at the end of the working day, whereas for the US cities of San Francisco and New York the reactions peak at the beginning of working hours. For Paris the reactions start peaking in the second half of the work day, sooner than London. Finally, the pattern for Tokyo is quite different from the rest of the cities with two

peaks, both occurring outside of working hours.

Figure c: Facebook - City-Level Reaction Behavior

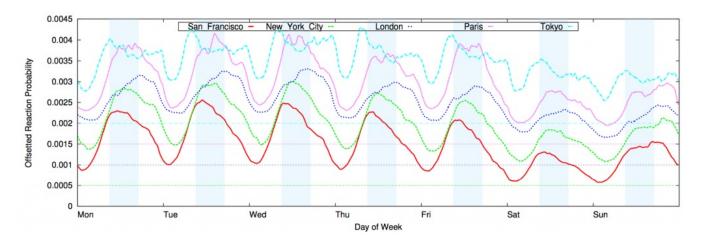
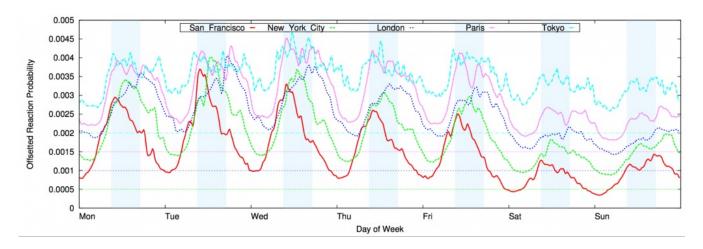


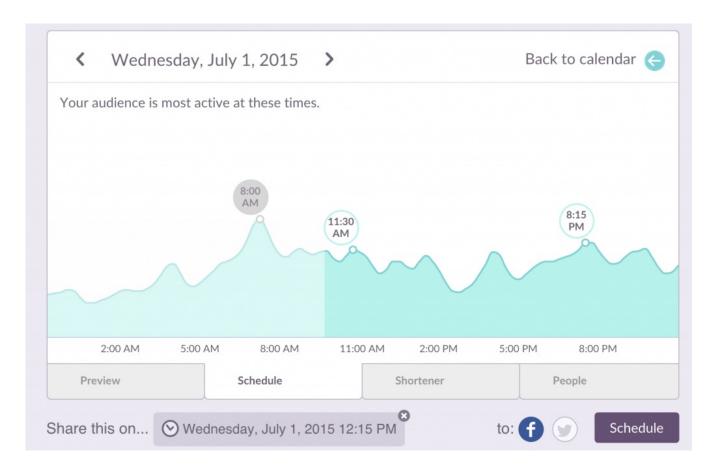
Figure d: Twitter - City-Level Reaction Behavior



Personalized Schedules:

While posting using the city based or network based schedules may be better than posting at random times, these schedules do not account for the unique composition of a specific user's audience, and therefore are not as effective as personalized schedules. In our study, by observing the past behavior of a user's audience, we were able to recommend personalized posting times for users. We found that people who used these recommended times saw a 17% gain in reactions on Facebook and a 4% gain on Twitter.

To conclude, there is no single global answer to the question of when to post on social networks. The best times to post differ for each user, but it is certainly possible to determine such a schedule with enough data. If you would like to see your own schedule, you can head over to Klout.com to share content at your recommended times.



Study details

This study analyzed 144 million posts, over 1.1 billion reactions to recommend personalized posting schedules for users, and includes in-depth analysis of post-to-reaction times, cross-city dynamics and cross-network dynamics. It has been accepted for publication at the 21st ACM SIGKDD Conference on Knowledge Discovery and Data Mining, taking place in Sydney, Australia, this August. The authors of this study are Nemanja Spasojevic, Zhisheng Li, Adithya Rao and Prantik Bhattacharyya. To download the full research paper, click here. For those interested in performing further studies in this area, the data is publicly available on GitHub.

Disclaimer: The authors are employees of Lithium Technologies, which acquired Klout in 2014.

Note: This article gives the views of the author, and not the position of the Impact of Social Science blog, nor of the London School of Economics. Please review our Comments Policy if you have any concerns on posting a comment below.

About the Authors

Nemanja Spasojevic is the Director of Data Science at Lithium Technologies. He graduated from Massachusetts Institute of Technology and previously worked on the Google Books project, making all of the world's knowledge accessible online.

Adithya Rao is the Lead Research Engineer in the Data Science Team at Lithium Technologies. He graduated with a Master's degree from Stanford University, and his interests include machine learning, data mining and information retrieval.

Zhisheng Li is a Senior Research Engineer in the Data Science Team at Lithium Technologies. He holds a PhD degree in computer science and his main professional interests include social media, information retrieval and data mining.

Prantik Bhattacharyya is a Senior Research Engineer at Lithium Technologies. He graduated with a Ph. D. from the Computer Science Department at University of California, Davis. His research interests include social network analysis, theories, models and applications.

• Copyright © The Author (or The Authors) - Unless otherwise stated, this work is licensed under a Creative Commons Attribution Unported 3.0 License.