

# **The Impact of Privacy Policy Visualizer: User Understanding in Relation on Social Media Privacy Policies**

[Redacted]

University of Central Missouri

[Redacted]

Prof. [Redacted]

December 4, 2024

Online, there is a division between social media site privacy settings and the individual user's understanding of them. Terms such as privacy and security are used so often that they lose importance in the eyes of the user, despite the importance they hold for users to know how to control their personal information. Unfortunately, users fail to properly understand these terms due to a severe lack of understanding in the general population base. This can lead to many problems. These problems include users using the settings incorrectly, users are afraid to, or are too lazy to, mess with settings, or a loss of trust in organizations when settings don't work as expected. Adding to the confusion, many websites have negligent or malicious practices towards user privacy.

We collected data in three waves. The first wave was aimed to gather how people interacted with and felt about privacy policies for Reddit, Snapchat, and Facebook. The second wave added a privacy policy visualizer to assess whether or not users feel more or less confident in their privacy when presented with a privacy visualizer to assist user understanding. The third wave directly assessed how users felt about the privacy visualizer and contrasted its data to the previous two.

Based on the collected data from the first form, the average user expresses a limited understanding of privacy policies, with the average response being on the side of "It is very confusing/not worth the time to read" being a 2.62 out of 5. On top of this, users feel like the apps they use don't really feel like these apps value their privacy, or they feel like the apps care a middling amount with a rating of 2.15 out of 5. This points to the conclusion that users struggle to understand privacy policies, and they feel like these companies care less about them than they understand the policy. There is evidence that users of the big social media that we focused on are more confident in their understanding than people who chose other, non focused on social media.

The other category scored 2.19 average in user understanding, putting it .5 under the average of the big three focus. This could mean that the privacy policies of the main three social medias are easier to understand.

While demographic data was not collected from users, most respondents were college students with few responses outside of that range. This is potentially significant because college students could be considered to be the most technologically literate. In the research paper “Are Tech Savvy Students Tech Literate? Digital and Data Literacy Skills of First-Year College Students”, the authors say that college students are “[D]igital natives because they grew up in an era where devices and technology were ubiquitous, assessed their overall digital proficiency in terms of awareness, comprehension, and user experience. Many attributed their technology proficiency to high school experiences that require the use of productivity tools...” This would theoretically lead to higher scores because more people would be in their digital prime. However, that is not the case based on the gathered data. A potential cause for this could be that privacy policies are very confusing and objectively difficult to read. “Website privacy policies are around four times longer than they were two decades ago, according to new research by a cyber security expert at De Montfort University Leicester (DMU). An analysis of 50,000 privacy policy texts published between 1996 and 2021, conducted by Dr Isabel Wagner, Associate Professor in Computer Science (Cyber Security) at DMU, showed that the average length has increased to more than 4,000 words, compared to just over 1,000 words in the year 2000” (Study 2022)

The Privacy Policy Visualizer is a recently created tool found at <https://rejectconvenience.com/privacy-visualizer/>, made by the youtuber Reject Convenience to show off a potential way to make reading privacy policies less of a mind numbing chore. He describes the tool by saying, “I’m not here to tell you that I made a tool that summarizes privacy

policies for you. I'm not going to summarize them for you either. what I am offering you... is an alternative way of looking at existing privacy policies” The design elements were inspired by Apple’s implementation of a privacy visualizer. While Apple does not regulate this visualization much and it is up to the company to make it, it is a really good idea. Reject Convenience took what Apple had laid out and expanded it into his own website. The website lets you view what each piece of data collection means, its actual purpose for being collected and the pros and cons associated with that data being collected. After seeing this, we decided to base a good portion of the study on this privacy policy visualizer.

To start, we reviewed the privacy policies of Reddit, Facebook, and Snapchat and ranked them based on the following metrics. Blue: your data is being collected and used responsibly. Yellow: your data is being collected and used, but the collectors really don’t need all the data. Red: your data is being harvested unnecessarily. After several group members created their own visualization for each policy, we compared them and made a collated visualization for each privacy policy and put it into the survey.

What we noticed was that Reddit was the least popular of the big social media platforms. Having garnered less than 10 percent of the total responses, this appeared to be the case. Due to its small pool of responses, many of its statistics are extreme and makes it look like an outlier within the data as a whole.

Next we looked at Snapchat, which was the most popular social media platform that we specifically focused on, receiving just shy of 30 percent of the total responses. As Snapchat made up such a large percentage, the results hold more water compared to Reddit allowing for a more concise conclusion about user interaction to be drawn. Snapchat’s results show that users

understand the privacy policy a middling amount, with a score of 2.55. This score is the closest individual social media score to the average for all the data collected. Users also responded very closely to the average for how the privacy policy visualiser helped, giving it a score of 4 when the average was 4.05. This ties Snapchat with Reddit and Other for being closest to the average overall.

Meanwhile, Facebook ended up tying Reddit for best user understanding, but Facebook has more backing due to it having 16 surveyors respond as opposed to Reddit's 6 responses. Its survey rating for how users feel like Facebook cares for their privacy was the lowest of the main three. This makes sense because Facebook is notorious for having bad privacy practices. Facebook scored the highest on how users think the privacy policy visualizer helps understanding. Facebook is normally associated with an older user base, older users usually have more trouble with privacy policies. According to Stacy Jo Dixon from Statistica, 38.2 percent of all Facebook's users are 45 or older, and 57.2 percent of all users are 35 or older. This would lead to the thought that Facebook would score worse overall due to the less tech savvy user base. However, this study would seem to indicate otherwise. Facebook had the most users respond saying that they read it, with three out of the fifteen Facebook users reporting that they read the privacy policy. This accounts for half of all respondents who responded "Yes" to having read the privacy policy. Facebook scored the highest average level of understanding on the first two waves of the study, but fell solidly into last place for understanding in the third wave of surveys. [Put this in its own section about the third wave???) Facebook was the only social media to score below the average understanding of the privacy policy in the third wave. Unfortunately, this has little weight due to the relatively small sample size.

The study focused on Reddit, Facebook, and Snapchat because we thought those social media embodied the widest range of age groups. Facebook focusing on older users, Snapchat focusing on younger users, and Reddit filling out the gap. However, the study had an option to select a social media other than these three. Unsurprisingly, this option had the most responses overall due to how many unique platforms there are. The stand outs are Tik Tok with 6 responses, Instagram where we received 6 responses, and Discord which garnered 7 responses. These social media platforms tied or got more responses individually than Reddit did. Overall, the “Other” category scored the lowest in user understanding and how users feel like their privacy is being respected. This could be interpreted as the main three social media platforms having better than average privacy policies. This is slightly expected, being that they are some of the biggest platforms.

Overall, users feel like social media platforms don’t respect their privacy. With an average score of 2.15 across all the studies for the question “How much do you think this app values your privacy?” with 1 being “Not at all” and 5 being “Top priority”. This score was lower than the privacy policy understanding score by 0.47 on average. This can be interpreted as though users feel like they are not respected by social media companies, because even when they don’t read the policy they understand that nothing good is in there.

The survey revealed that people who saw the privacy policy visualizer thought it was very helpful, receiving just over a 4 out of five average score. Not only did it score well, it scored consistently, with the lowest average score for an individual social media being a three. When comparing how well the visualizer did with the other statistics, there is a significant gap in responses. Participants rated the privacy policy visualizer a full point higher in every single

category on average. Across the board, there is a 1.5 point difference between the rating for how well participants understand the privacy policy and the visualizer value rating.

The reason that many users struggle with privacy policies is because privacy policies are too long and unintuitive. One of the main reasons cited by Reject Convenience for making the privacy visualizer was that privacy policies are mind numbing walls of text. Users feel like they don't understand privacy policies very well, and they feel like companies care even less about their user's privacy.

Our post study recommendations: Force companies to adopt a universal simple to understand visualization method of displaying their privacy policy so that users can understand how their data is being collected and used at a glance. Based on the results of the three waves of surveys, users are not confident in their understanding of privacy policies and feel like a privacy policy visualizer would help them significantly.

### Sources

Dixon, S. J. (2024, August 2). *U.S. Facebook demographics age 2024*. Statista.

<https://www.statista.com/statistics/187549/facebook-distribution-of-users-age-group-usa/>

Mentzer, K., Frydenberg, M., Patterson, A., (2024). Are Tech Savvy Students Tech Literate?

Digital and Data Literacy Skills of First-Year College Students. *Information Systems*

*Education Journal*, 22(3), pp.4-24. <https://doi.org/10.62273/MFSD3135>.

Reject Convenience. (2024, October 14). <https://rejectconvenience.com/privacy-visualizer/>

Reject Convenience. (2024, October 14). *I made a tool to help you read privacy policies*.

YouTube. <https://www.youtube.com/watch?v=hQqR4tKRiKs>

*Study shows privacy policies are longer and harder to understand in 2021*. De Montfort

University. (2022, February 23).

<https://www.dmu.ac.uk/about-dmu/news/2022/february/study-shows-privacy-policies-are>

[-longer-and-harder-to-understand-in-2021.aspx](https://www.dmu.ac.uk/about-dmu/news/2022/february/study-shows-privacy-policies-are)