AMENDED Exhibit 485

PLAINTIFFS' OMNIBUS OPPOSITION TO DEFENDANTS' MOTIONS FOR SUMMARY JUDGMENT

Screen Time Management One Pager

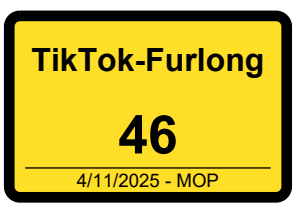
star2

Status: [Value Proved]

@Jordan Furlong 2022/07/06

Change Log

Date	Description
8/19	Addressed second round of feedback from [redacted] 1. Why: Lowered estimated audience size based on Digital Wellbeing page UV, so it's less than the 43% estimate from user research 2. Why: Modified "churn" point to more broadly reference "adoption/retention" a. Further analyzed recent STM holdout experiment and found a 28% increase in 1D and 7D retention for experiment group users who had enabled any STM tools. [redacted] is double checking these numbers now b. Added in several resources from our UG team, including another similar study about barriers to downloading TikTok: [HYPERLINK [redacted] 3. Success metrics: Aligned metrics more closely with problem areas for clarity. Reduced number of metrics to focus on top line goals. Updated targets a. Will need to work with [redacted] team this coming bimonth (as an OKR) on a "User Experience Metrics" project. LIVE just did something like this: [HYPERLINK [redacted]
8/15	Addressed first round of feedback related to problem identification: 1. Amount of time: How to define Extreme time use? Why 90th+



percentile is a threshold? why not 95th+? we need a quantitive approach to measure this. After we figure out, another question is even it reach 95th+, does it a problem need to be solved? Some Elder person run individual business, thay are pretty comfortable on spend hours on TT. We need to find user who spend time on TT and not happy with the time spent on TT(Imagine most Self-discipline people probably be).

    a. Change: Broke down Problem section to include 3 different use cases: objective harmful usage, subjective excessive usage, night time usage

2. When: Feels like Late night user is strong use case, since sleep time is pretty common in human life. But from some data, there isn't big difference between School/Work and Weekend.

    a. Change: Added data to validate each of the problem areas

3. Awareness and adoption: We need to evaluate the ceiling by different channels(maybe 5%, so does it mean the target users are all satisfited with us after we reach 5% DAU?), Feels like the Awareness is also important compared to Adoption? Measure by survey?

    a. Change: Referenced user research (43% need features) and Digital Wellbeing UV (7.9% DAU DW uv) as signals for demand that we are currently not meeting (1.7% STM DAU)

4. Minor/parent is a different user group need top be considered in above 123.

    a. Change: Revamped success metrics and set different targets for minors vs. adults based on a more authoritative approach we should be taking for minors

Review Decision:

Reviewed By [redacted]

Description: What is it?

Screen time management is a primary investment area within our Agency pillar in the Digital Wellbeing product strategy: [HYPERLINK [redacted]. This one pager refers to a suite of screen time management features to help users be more mindful and controlling of their time spent on TikTok. These primary use cases we are solving for here are empowering users to control the amount of time spent on the app and control time spent at night.

Problem: What problem is this solving?

Problem Statement: Some users spend more time on TikTok than they would like to, interfering with important areas of personal life like work, school, family time, and sleep. We can break down this problem into two areas:

1. Controlling the amount of time spent on the app

This can be broken down into two different target audiences:

1. Objective harmful usage (6 hours+ / day = 99th percentile): Currently this is 10m users / 1.3% DAU. Only 7% (700k) of these users are using existing STM tools, indicating we need to take a a stronger approach to helping them curb harmful screen time.
    a. This [HYPERLINK "https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5574844/" \h] found that those spending six hours or more per day watching screens had a higher risk for depression
    b. "... a [HYPERLINK "https://abcdstudy.org/" \h] study found that children who spent more than two hours a day on electronic devices scored lower on thinking and language tests. Those with more than seven hours of screen time experienced thinning of the brain's cortex, which is related to critical thinking and reasoning."

2. Subjective excessive usage (hours vary by user) = Users who are not using the app for an extreme amount of time but signal that they need support with screen time management
    a. 95% of users who visit Digital Wellbeing use the app for less than 5.5 hours per day and 50% of users use the app for less than one hour a day, indicating that users of all usage levels are interested in screen time management
    b. On average users who visit Digital Wellbeing have a 2x longer average session duration compared to overall users
    c. 94.8% of users who have adopted screen time management tools do not fall into the objective harmful usage category

[HYPERLINK [redacted]

2. Controlling when the app is used at night

Screen time can interferes with essential personal responsibilities like sufficient sleep, work/school responsibilities, and connecting with loved ones ([HYPERLINK "https://europepmc.org/article/PMC/5380441" \h]). We know that TikTok contributes to this problem anecdotally, but we have low confidence that we can solve for this problem throughout the day. We instead want to better equip users to manage their screen time at night since we have stronger data to indicate this is a health concern for people:

- Screen time and social media use at night are associated with delayed and inadequate sleep
  - Screen time before bed is linked with inadequate sleep ([HYPERLINK [redacted]
  - External research suggests a causal relationship between social media use at night and delayed sleep ([HYPERLINK "https://www.researchgate.net/publication/359851932_Causal_impact_of_evening_social_media_use_on_delayed_sleep_Suggestive_evidence_from_230_million_Reddit_timestamps" \h])
- Users are active on TikTok when they should be sleeping. Usage data indicates this is an issue for more than 20% of minors, and suggests adults are impacted as well
  - **19%** of global L1 (age 13-15) DAU and **25%** of global L2 (age 16-17) DAU are active (screen duration > 0) on TikTok 12AM-5AM
  - **25%** of global L345 (age 18+) DAU are active on TikTok 12AM-5AM, and 16% are active 1AM-5AM globally
  - *Source:* [HYPERLINK [redacted]
- The negative impact of nighttime TikTok use on sleep has been reported in user interviews ([HYPERLINK [redacted] [HYPERLINK [redacted]

Why:

1. Unmet user need: Survey data (below) tells us that [HYPERLINK [redacted] of users say they need screen time management tools and [HYPERLINK [redacted] DAU have visited the Digital Wellbeing page since our recent STM revamp. Assuming the true audience size is somewhere between these two numbers (we will continue to research to refine our understanding of audience size), there is still a large gap between our lowest estimate of 7.9% and the current STM DAU [HYPERLINK [redacted]

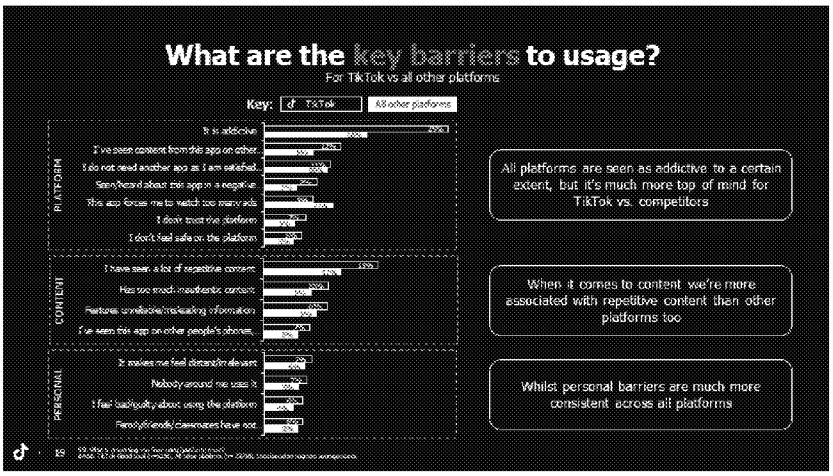
[redacted]. We believe this is due to:

a. A lack of awareness of our feature offering (group 2 below)

b. A lack of mature and useful tools that meet users' needs (group 3 below)

[redacted]

2. Adoption/Retention: We have learned from [HYPERLINK [redacted] that our users' biggest usage deterrent is that they think the platform is addictive



We observed a 28% increase in 1D and 7D in our latest Screen Time Management hold out experiment when comparing the control group with users in the experiment group who had enabled any Screen Time Management features.

- [redacted] is re-sampling to double check this increase

Commented [1]: Considering: "Have used this feature 14%" lead to DAU 0.29% , 20%~43% looks too big, how will we estimate the real gap there?

Commented [2]: [redacted] guess important inputs to the estimate would be 1. # of users confusing our offering for an operating system offering 2. Users who have enabled then disabled the feature 3. People not remembering correctly

Commented [3]: Also, updated .29% to 1.5% based on latest data post STM launch

Commented [4]: Assert an average/range based on # of users who have taken action in the app (~10% of DAU have visited the page)

Commented [5]: Feel like the features in backlog is solving for this population

Commented [6]: To address 2, we can focus on the awareness input success metric. For 3, we can focus on the adoption and effectiveness input success metrics

Commented [7]: Could 3 be inactive?

Commented [8]: Does the perception of "TikTok is addictive" impact retention or usage? Make sense if it is retention issue, but If churn here is referring to less than expected usage - then is screentime management the solution?

Commented [9]: [redacted] churn = users becoming inactive either by deleting the app, not using it any more, or deleting their account, so yes it's related to retention

Commented [10]: Delete the app = retention issue; if users do not use the app, how will screentime management tool help? User's issue is not excessive use, but NOT using our app, right? Are these users the 20% who are Not aware of these tools?

Commented [11]: [redacted] Sorry, to be more clear, this research is saying that users churn because they are worried about using TikTok too much. Screen Time Management will help users set healthier/more sustainable boundaries. This is a separate issue than the 20% of users

Commented [12]: Validate this with churn data reasons

Commented [13]: We qualitatively are hearing from users that they are not willing to use the platform due to STM issues [redacted] is further validating this by comparing retention of STM users to non-users

Commented [14]: Added in data here to show +28% 1D/7D retention for STM users

Sample Size - Random 500,000 users

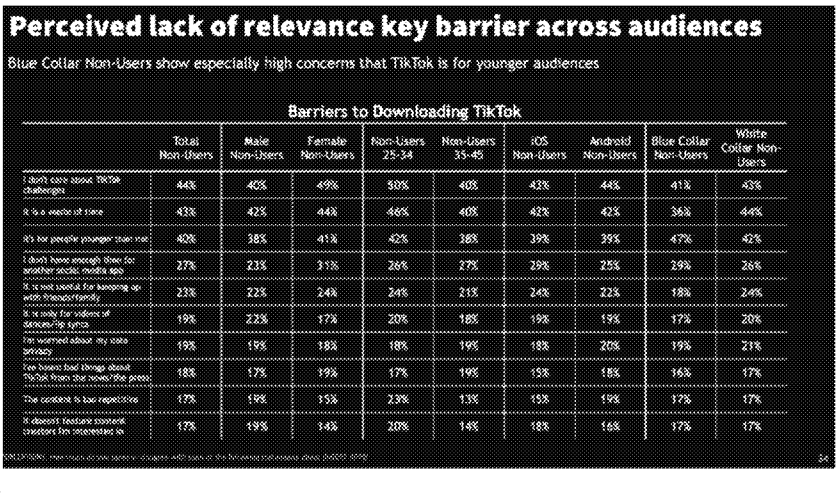
Treatment group - STM features

Control group - No features

Group	Total Users	Active Users Today (yesterday)	1 day retention (yst, day before yest)	7 day retention (yesterday, 7 days ago)
Treatment	500,000	307,109	285,373	276,171
Control (holdout group)	500,000	260,785	222,202	215,900
			+28%	+28%
Statistical Significance			Yes	Yes

Source: [HYPERLINK [redacted]

Our user growth team further validated this problem ([HYPERLINK [redacted] where they found the second biggest barrier to downloading the app is because "it is a waste of time". We can assert that an effective screen time management offering can help people regulate their usage to avoid using the app for an unwanted amount of time.



References:

- [HYPERLINK [redacted]
- [HYPERLINK [redacted]
- [HYPERLINK [redacted]

- [HYPERLINK [redacted]
- [HYPERLINK [redacted]
- [HYPERLINK [redacted]

3. Regulatory Pressure / Brand Safety: The past 2 years have been fraught with PR and GR issues for ByteDance and TikTok. This has reduced advertiser trust, user loyalty, investor confidence, and our ability to consistently hire top talent. Investing in our users is a socially and financially responsible investment for us to ensure long term success and health of the ByteDance ecosystem.

- [HYPERLINK "https://www.forbes.com/sites/johnkoetsier/2020/01/18/digital-crack-cocaine-the-science-behind-tiktoks-success/?sh=55386bb278be" \h] - Forbes
- [HYPERLINK "https://www.theguardian.com/technology/2020/feb/14/first-quitting-tiktok-statement-shows-popular-app-has-come-of-age" \h] - The Guardian
- [HYPERLINK "https://www.wsj.com/articles/tiktok-is-the-latest-reason-teens-are-addicted-to-their-phones-11556337610" \h] - The Wall Street Journal
- [HYPERLINK "https://www.independent.co.uk/voices/tiktok-addict-60s-prank-b1856047.html" \h] - Independent

Success Metric: How do we know if we have solved this problem?

Example Hypothesis: Daily screen time cool down will decrease stay duration at night by at least 5% for opted in users because increased friction will encourage people to close the app and go to bed

Core Target Metrics

[redacted]

Department alignment: [HYPERLINK [redacted] HYPERLINK]

Drag Metrics [Metrics you don't want to hurt, which will be monitored post launch]

- Retention
- Stay Duration (don't want to hurt *too* much) - previous discussions with Wenjia about this resulted in guidance to accept up to 5% decrease for extreme users and minors

Commented [15]: Hey, just would like to know regarding "Control amount of time spent on app", in addition to the "time metrics" itself, will there be further metrics to help us directly verify its value for TikToK? For example, the research of user research; some feedback from public opinion; comparison with the industry, etc. And I actually want to know the priority of "screen time management" in the scope of user wellbeing; or, do all users really need to be controlled by screen time? Or we can focus on those users who have needs or high influencer to do different screen time management metrics and planning.
Jordan Furlong：[THANKS] 2022-07-30 02:08:50

Commented [16]: Also add retention? .(it will be great if current hold out test group already show that trend)
Jordan Furlong：[OK] 2022-08-24 10:08:06

Commented [17]: [redacted] you can see in the updated Why section, we found a 28% increase in retention in our hold out test

Commented [18]: Not sure what else to put here

Commented [19]: [redacted] In app survey to measure user satisfaction

Commented [20]: Talk to [redacted] team about an in feed survey. Others teams could help with this too

Commented [21]: Ask former employees about data targets - strategy can do expert reviews if needed too

Commented [22]: Hey@Jordan Furlong- do we have any updates on output metrics yet? Context: proving value for TTL

Commented [23]: [redacted] Just added in some more ways we are evealuating trust/brand image. Still need to figure out UX. Retention is another option I just added [redacted] [THUMBSUP] 2023-05-31 08:55:14

How: Overall Solution & Work Breakdown Structure

[redacted]

For *2. Control time spent at night*, we are only confident about this one feature, but can continue further research and collect more user feedback to further solve this problem.

Appendix

Predicted Age	Avg Daily Usage (hours)	50%	66%	75%	90%
L1 (<15)	1.74	1.28	2.03	2.58	4.04
L2 (15-17)	1.23	0.81	1.35	1.77	2.96
L3 (18-24)	1.24	0.78	1.33	1.77	3.06
L4 (25-34)	1.18	0.73	1.27	1.69	2.94
L5 (>34)	1.12	0.72	1.23	1.63	2.76

Source: [HYPERLINK [redacted]

全文点赞列表

[redacted]

全文评论

Commented [24]: Feedback to STM one pager: From user research, we think there are probably some issue in screen time, so there are opportunity to serve user for a better user experiences. Then what is the problem and how do we know if we have solved this problem? I think we lack of the clear problem identification by data, also monitor approach by data. Our goal is not to reduce the time spent, but should improve user experience and satisfaction, finally contribute to DAU and retention. the Problem Identification: 1. Amount of time: How to define Extreme time use? Why 90th+ percentile is a threshold? why not 95th+? we need a quantitive approach to measure this. After we figure out, another question is even it reach 95th+, does it a problem need to be solved? Some Elder person run individual business, thay are pretty comfortable on spend hours on TT. We need to find user who spend time on TT and not happy with the time spent on TT(Imagine most Self-discipline people probably be). 2. When: Feels like Late night user is strong use case, since sleep time is pretty common in human life. But from some data, there isn't big difference between School/Work and Weekend. 3. Awareness and adoption: We need to evaluate the ceiling by different channels(maybe 5%, so does it mean the target users are all satisfited with us after we reach 5% DAU?), Feels like the Awareness is also important compared to Adoption? Measure by survey? 4. Minor/parent is a different user group need top be considered in above 123. I think you could dig into with DS team to understand above situation, it will make our PRD target on problems. When we define these use case and problems, we could design different or even stronger approaches on them like strong upsell, cooldown, at that time, we also have a success measurement framework to know user is happy with these design.

Jordan Furlong：[OK] 2022-08-08 22:15:31

Jordan Furlong：[THUMBSUP] 2022-08-08 22:15:35

Commented [25]: [redacted]hank you for the in depth feedback. Will work more on this and reschedule the 1 pager review

Commented [26]: @Jordan Furlongok Jordan, Cc[redacted] team. It is also a deep collaboration with DS

Jordan Furlong：[THUMBSUP] 2022-08-08 23:00:56

Commented [27]: [redacted] actually don't understand this: "But from some data, there isn't big difference between School/Work and Weekend."

Commented [28]: @Jordan Furlongthis is what I learn from douyin' data. They are defining tiredness and see no big difference there

Jordan Furlong：[THUMBSUP] 2022-08-09 08:40:24

DOCUMENT METADATA

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