

EXHIBIT 19

**IN THE COMMONWEALTH OF MASSACHUSETTS
SUFFOLK, SS**

COMMONWEALTH OF MASSACHUSETTS

Plaintiff,

v.

**META PLATFORMS, INC. and
INSTAGRAM, LLC,**

Defendants

**Superior Court Civil No. 2384CV 02397-
BLS1**

**EXPERT REBUTTAL REPORT OF
SRIRAMAN VENKATARAMAN, PH.D.**

September 29, 2025

Table 8: Evolution of Average Daily Click-Through Rate, 2021-2024

Age Bracket	2021	2022	2023	2024
Panel A: Total				
13-17	0.87%	0.71%		
18-24	1.03%	1.09%		
25-34	1.12%	1.14%		
35-44	1.42%	1.44%		
45-54	1.88%	1.91%		
55-64	2.45%	2.51%		
65+	2.90%	3.08%		
Panel B: Facebook				
13-17	1.36%	1.09%		
18-24	1.57%	1.62%		
25-34	1.60%	1.55%		
35-44	1.89%	1.81%		
45-54	2.44%	2.39%		
55-64	3.18%	3.18%		
65+	4.06%	4.25%		
Panel C: Instagram				
13-17	0.38%	0.33%		
18-24	0.50%	0.57%		
25-34	0.64%	0.73%		
35-44	0.96%	1.06%		
45-54	1.31%	1.44%		
55-64	1.73%	1.84%		
65+	1.74%	1.90%		

Sources and Notes: Workpaper A; METAMAAG-067-00001117. The click-through rate is defined as the ratio of clicks to the number of ad impressions shown to users in a given age bracket.

B. TEEN USERS ARE EXPOSED TO FEWER ADS THAN OLDER USERS

60. Mr. Leistra-Jones's model also implies a simple monotonic relationship between user engagement and ad impressions.⁷¹ However, Mr. Leistra-Jones fails to corroborate this relationship, especially when it comes to Teen Users analyzing documents in the record. As noted in Meta's documents, there are other intervening factors in this relationship as well, and it cannot be assumed without evidence that the relationship between user engagement and ad

⁷¹ See, e.g., Leistra-Jones Report, ¶ 113 ("The number of ad impressions per user, in turn, is heavily influenced by user engagement levels with Meta's products."), ¶ 117 ("Time spent using the apps, or 'time spent,' represents a key measure of user engagement. Broadly speaking, time spent affects Meta's capacity to show ads based on the frequency and duration of user visits."), and ¶ 118 ("The direct relationship between user engagement and platform revenues is a recurring theme in Meta's public financial disclosures and investor guidance.").

impressions is monotonic.⁷² Furthermore, when it comes to Teen Users, the evidence indicates that their ad impressions are disproportionately low relative to their user engagement and directly contradicts the monotonic relationship assumption Mr. Leistra-Jones makes. Thus, Mr. Leistra-Jones's assertion that Teen Users are a key user demographic under this advertising revenue generating model is incorrect.

61. To examine users' engagement with ads in greater detail, I now consider advertising impressions—the only advertising engagement metric directly included in Mr. Leistra-Jones's advertising model.
62. Table 9 presents the average daily advertising impressions by age bracket from 2018 through 2024 and shows that Teen Users have the lowest average daily advertising impressions of any age bracket on Meta's platform. The table further shows that Teen Users have the lowest average daily advertising impressions on Facebook and the lowest among users below age 55 on Instagram.⁷³

Table 9: Average Number of Daily Impressions per Active User, 2021-2024

Age Bracket	Total	By App	
		Facebook	Instagram
13-17	17.18	9.90	26.90
18-24	33.47	28.21	40.51
25-34	53.08	57.91	46.63
35-44	59.18	75.44	37.44
45-54	52.41	70.21	28.61
55-64	45.66	62.84	22.69
65+	38.74	53.27	19.31

Sources and Notes: Workpaper A; METAMAAG-067-00001117; METAMAAG-067-00001130.

63. Next, to evaluate whether the level that advertising impressions were aggregated on across time obscures any intertemporal trends, I analyzed the average daily advertising impressions *by age bracket and year*. Panel A of Table 10 shows that the average number of daily ad

⁷² See Section V.

⁷³ Moreover, these findings dispel any notion that the contribution of the teen user segment might systematically differ between Facebook and Instagram. The empirical evidence simply does not support such a possibility.

impressions for Teen Users on Meta's platform from 2018 through 2024, has remained consistently minimal each year, between 12.87 (in 2021) and [REDACTED] (in 2023). These figures are well below those of any other age bracket. Furthermore, Panel B shows that the average daily number of advertising impressions of Teen Users on Facebook from 2018 through 2024, was also consistently minimal each year. Finally, Panel C shows that the average number of daily advertising impressions of Teen Users on Instagram from 2018 through 2024, was the lowest of Instagram users below age 55.

Table 10: Evolution of Average Number of Daily Impressions per Active User, 2021-2024

Age Bracket	2021	2022	2023	2024
Panel A: Total				
13-17	12.87	18.05	[REDACTED]	[REDACTED]
18-24	35.69	31.93	[REDACTED]	[REDACTED]
25-34	57.26	49.80	[REDACTED]	[REDACTED]
35-44	61.79	53.54	[REDACTED]	[REDACTED]
45-54	54.22	46.75	[REDACTED]	[REDACTED]
55-64	46.65	40.23	[REDACTED]	[REDACTED]
65+	39.95	34.11	[REDACTED]	[REDACTED]
Panel B: Facebook				
13-17	10.10	9.19	[REDACTED]	[REDACTED]
18-24	32.58	25.55	[REDACTED]	[REDACTED]
25-34	56.52	54.36	[REDACTED]	[REDACTED]
35-44	65.03	71.44	[REDACTED]	[REDACTED]
45-54	58.31	66.47	[REDACTED]	[REDACTED]
55-64	50.91	59.41	[REDACTED]	[REDACTED]
65+	43.89	50.66	[REDACTED]	[REDACTED]
Panel C: Instagram				
13-17	28.16	26.91	[REDACTED]	[REDACTED]
18-24	52.89	38.32	[REDACTED]	[REDACTED]
25-34	61.36	45.23	[REDACTED]	[REDACTED]
35-44	43.89	35.64	[REDACTED]	[REDACTED]
45-54	31.59	27.02	[REDACTED]	[REDACTED]
55-64	23.08	21.06	[REDACTED]	[REDACTED]
65+	18.12	17.56	[REDACTED]	[REDACTED]

Sources and Notes: Workpaper A; METAMAAG-067-00001117; METAMAAG-067-00001130.

64. At bottom, based on my analyses of the documents and data in the record, claims made by Mr. Leistra-Jones regarding Meta's incentives to maximize teen user engagement on its platform

in order to increase advertising revenue are either unsubstantiated by the evidence or directly contradicted by it. Specifically, Mr. Leistra-Jones provides no data-driven support for the relationship he claims between increased teen user engagement on the platform or app and greater advertising engagement by Teen Users. Therefore, Link A in Figure 2 is not supported by the data. My analyses further demonstrate that Teen Users exhibit the lowest levels of advertising engagement and contribute the smallest share of advertising revenues to Meta (which, as demonstrated in Section V, is driven in part by Teen Users' low click-through rate). As such, the data do not support the claim for Link B that Teen Users are "particularly important" to Meta's advertising revenue generation.

65. In summary, without empirical evidence that both Link A and Link B are jointly supported by the data, Mr. Leistra-Jones's claim that Meta's advertising incentives warrant an increased focus on teen user engagement (Link C) remains unsubstantiated and reflects only his subjective opinion. This further undermines Mr. Leistra-Jones's assertion that Meta's advertising model incentivizes Meta to increase teen user engagement on its platform. Moreover, Mr. Leistra-Jones (1) conflates user engagement on the platform or app with user engagement with advertising and (2) fails to account for the complex interactions between user engagement, advertising engagement, and advertising revenues. As a result, his claims regarding Meta's advertising incentives are unreliable and should not be accepted at face value.

VII. CONCLUSION

66. The Leistra-Jones Report suggests that Teen Users constitute an especially valuable segment to Meta for advertising revenue generation. However, this claim is neither methodologically grounded nor supported by any credible analysis. My analysis demonstrates that Mr. Leistra-Jones's assertion is incorrect and substantially overstates both the importance and the actual contribution of Teen Users to Meta's overall advertising revenues. Contrary to his unsubstantiated claim, the data show that Teen Users have contributed (1) the least to Meta's overall advertising revenues (0.33%), (2) the least to Facebook's total advertising revenue (0.11%), and (3) the least to Instagram's advertising revenue (0.96%). Therefore, Mr. Leistra-Jones's assertion that Teen Users are "particularly important" to Meta's advertising revenue generation is purely subjective and is not corroborated by the data. This empirical fact, which

directly contradicts the core assertion of the Leistra-Jones Report, significantly undermines the validity of any related claims Mr. Leistra-Jones makes.

67. The advertising incentive claims put forth in the Leistra-Jones Report are based on the advertising model Mr. Leistra-Jones presents as representative of Meta’s advertising practices. However, the statistical results I present in Section IV clearly demonstrate both the economic and statistical significance of ad click-throughs in driving Meta’s advertising revenues—a critical factor that Mr. Leistra-Jones’s model conspicuously overlooks. The empirical evidence shows that Mr. Leistra-Jones’s advertising model is overly simplistic and incomplete, thereby undermining any claims he derives from this model, including his assertions regarding (1) Meta’s advertising incentives, (2) Meta’s incentives to increase user engagement, and (3) the purported importance of Teen Users to Meta’s advertising revenue.
68. Finally, the simple monotonic relationship between user engagement, user advertising engagement and advertising revenues on Meta’s platform, as implied in the Leistra-Jones Report, is not validated or supported by any data analysis. Furthermore, my empirical analysis of the subsequent link between user advertising engagement (specifically for Teen Users) and advertising revenues does not corroborate the claim that “teen users, more than anyone else, are a key demographic group to Meta” for advertising revenue generation. Taken together, my statistical analyses demonstrate that the claims made in the Leistra-Jones Report—used to establish that Meta has an incentive to maximize teen engagement on its platform—are either unsubstantiated evidence or directly contradicted by the data. While Teen Users may be valuable to Meta for other reasons, my own analysis shows that Teen Users are not “particularly important” to Meta from the standpoint of generating advertising revenues. Therefore, any claims that rest on this assumption in the Leistra-Jones Report are unreliable.



Sriraman Venkataraman, Ph.D.

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