

**IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF COLUMBIA**

**FEDERAL TRADE COMMISSION,**

Plaintiff,

v.

**META PLATFORMS, INC.**

Defendant.

Civil Action No. 1:20-cv-03590 (JEB)

**PUBLIC VERSION**

**FEDERAL TRADE COMMISSION'S POST-TRIAL FINDINGS OF FACT**

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**I. The Parties and Jurisdiction**

1. Plaintiff Federal Trade Commission (“FTC”) is an administrative agency of the United States government organized pursuant to the FTC Act, 15 U.S.C. §§ 41-58. Ans. ¶ 17.

2. Defendant Meta Platforms, Inc. (“Meta”) is a corporation, and its principal executive offices are located at 1 Meta Way, in Menlo Park, California. Stip. 51; Ans. ¶ 15.

3. The present lawsuit is a civil action arising under Acts of Congress including Sections 5(a) and 13(b) of the FTC Act, 15 U.S.C. §§ 45(a) and 53(b). Ans. ¶ 12.

4. For the entire relevant time period, Meta has been engaged in interstate commerce. Since at least 2012, Meta has (a) earned revenue from advertisers and (b) had users located in multiple U.S. states. Stip. 55, 56. As of 2024, substantially all of Meta’s revenue is generated from marketers advertising on Facebook and Instagram. Stip. 54.

5. The Court has jurisdiction over Meta and venue is proper in this District. Ans. ¶¶ 13, 16.

**II. Meta Has Monopoly Power Over Personal Social Networking Services in the U.S.**

6. Meta possesses monopoly power over personal social networking (PSN) services in the U.S., which it has maintained since at least 2011, as indicated by direct evidence and by its dominant share of the relevant market protected by significant entry barriers. 5/12 (Hemphill) 206:23-207:1 & PDX0090-004-06.

**A. PSN services is a relevant product market.**

7. There is a relevant product market for PSN services, which are a distinct type of online service that enables and is used by consumers for a particular purpose—to maintain personal relationships and share experiences with friends, family, and other personal connections in a shared social space, i.e., “friends and family sharing” (hereinafter “F&F sharing”). 5/12 (Hemphill) 208:12-209:2 & PDX0090-008-09, 226:5-19 & -028.

**8.** The participants in the PSN services market are PSN apps<sup>1</sup> like Facebook and Instagram, which have a core use and functionality for F&F sharing. 5/12 (Hemphill) 226:5-19 & PDX0090-028-32; *infra* §§ II.A.1-2.

**9.** Having both core functionality and use for F&F sharing is critical to serving the distinct consumer demand for PSN services, particularly given the presence of network effects and behavioral norms. 5/12 (Hemphill) 226:20-227:12, 231:23-232:9 & PDX0090-029; *infra* §§ II.A.1-3, II.D. Due to network effects, an app is not useful for F&F sharing unless a user's friends and family are also on the app and use it for that purpose. 4/16 (Zuckerberg (hereinafter "MZ")) 48:20-25; 5/12 (Hemphill) 229:10-232:9 & PDX0090-033-35; PX2437-001-02 ("top insights from [] all of the qualitative research" on Google+ included "experience is highly dependent on the activity of [a user's] network, and the network isn't that active"); *id.* -003 ("the promise[] is unfulfilled since there are so few people on Google+"); *infra* §§ II.A.1-3, II.D.

**10.** If an app lacks a norm of engaging in personal sharing with friends and family, then the app will not be useful for that purpose. 4/23 (Lampe) 104:14-23 (explaining that norms "shape what is an appropriate thing to share" and that PSN apps have norms for "sharing personal content" while norms for sharing on LinkedIn are "related to my career, to my profession, my job"), 107:3-13 ("Norms are an incredibly strong and effective way for shaping what people do, both in these platforms, but of course in life more broadly."), 110:3-11 (users "have an expectation for what the norms and what their motivations are to use a platform"); 5/12 (Hemphill) 216:5-20 (explaining that a norm of something other than "sharing – maintaining relationships with friends and family" will "create friction," making it "more challenging, more unlikely, more costly to try to serve a

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<sup>1</sup> Applications or "apps" as used herein encompasses both desktop and mobile versions of an online service. Apps may also be referred to as sites or platforms.

personal social networking demand”) & PDX0090-016 (PX13495-001), 229:10-230:9 (apps that lack norms for personal sharing not reasonable substitutes for PSN apps) & -033, 230:10-232:9 & -034-35; 4/28 (Ortega) 101:23-102:16 (“Strava . . . it’s all about fitness. And while you can post other stuff, it just doesn’t seem as relevant[.]”); [REDACTED]

[REDACTED]; 4/30 (E. Tucker) 11:10-23 (user anonymity is a norm on Tumblr and “that is the primary way that people use Tumblr”); *infra* §§ II.A.1-3.

**11.** Research and academic literature on online services examines them through a motivation, norms, and design framework to understand how and why people use different apps. 4/23 (Lampe) 67:2-69:13 & PDX0026-008-09. This body of work looks at the overall experience an app provides and recognizes that viewing individual technical design features in isolation without considering human motivations and norms is a flawed approach. 4/23 (Lampe) 70:9-71:24, 76:1-20, 277:4-279:3; *see also id.* 110:20-113:7, 160:6-161:2, 214:6-11, 219:7-15, 271:2-10 (detailing “incredibly powerful” effect of default experiences and how they “shape” use of apps).

**12.** People have a fundamental desire to share and maintain relationships with their friends, family, and other real-life personal connections. *See, e.g.,* 4/23 (Lampe) 76:21-78:5 & PDX0026-013; *cf.* DX1098 at 2 (Zuckerberg: “Giving people the power and tools to [share and connect] is important for the world and central to our mission. Understanding what’s happening with your friends and family is by far the most important content in our service.”).

**13.** Academic research and ordinary course evidence confirm that PSN apps like Facebook and Instagram are a distinct type of product serving a distinct purpose of F&F sharing (or in academic terminology, “masspersonal, low-cost maintenance of relationships with broad networks of real-life personal connections”). 4/23 (Lampe) 65:13-23 & PDX0026-004, 72:18-75:25 & -012;

PX0292-008, -078; *infra* §§ II.A.1-2.

**14.** Non-PSN apps like TikTok, YouTube, X, and Apple Messages lack the requisite functionality and use and are not reasonable alternatives for the purpose of a friends and family social networking experience. 5/12 (Hemphill) 229:10-24 & PDX0090-033, 249:9-18 & -051-52; -045-46; *infra* § II.A.3.

**1. Millions of U.S. consumers rely on Meta’s services for a particular purpose—a friends and family sharing experience.**

**a) There is distinct user demand for a friends and family sharing experience.**

**15.** Meta and third parties recognize that different types of apps have different “core uses” or “jobs to be done.” 4/14 (MZ) 163:22-25; 4/15 (MZ) 180:4-10 (agreeing “Meta focuses on” “core jobs, jobs to be done”), 180:24-181:9; 4/28 (Coleman) 30:16-31:8 (describing X’s use of “jobs to be done” framework), 33:19-34:3 & PX15043-003 (“core job” of Facebook, Instagram, and Snapchat is keeping users “informed about the activity of their friends and family”), 35:1-22 & -004; 4/29 (Shah) 232:8-13 (explaining core use of Messages); Vid. (Pattabiraman) 40:10-22 (describing LinkedIn’s use of “jobs to be done” framework) & DX797 at 1; PX10680-012 (categorizing apps based on “primary purpose”); *see also infra* §§ II.A.1.b-d, II.A.3.

**16.** Meta and third parties recognize a distinct form of consumer demand for F&F sharing. *See, e.g.*, 4/28 (Coleman) 34:4-11 & PX15043-003, 5/12 (Hemphill) 209:3-21 & PDX0090-010 (PX8082), 226:5-19, 227:13-228:16 & -030-32; PX12374-002; *see also infra* §§ II.A.1.b-c, II.A.3.

**b) Consumers turn to Facebook for a friends and family sharing experience.**

**17.** Facebook offers a F&F sharing experience and has since its inception. 4/14 (MZ) 155:6-156:10, 157:21-158:15, 159:6-23, 169:16-20; 4/15 (MZ) 208:8-209:11; PX3008-039 (“Our primary use case is interaction with friends and family.”); 5/14 (Alison) 175:13-19 (agreeing that “it’s always been true at Facebook that part of it’s been connecting with people users care

about . . . including their friends and family”), 163:19-24; 4/23 (Lampe) 65:13-23 & PDX0026-004, 72:18-73:2 & -012, 75:14-25; PX0307-001 (“Facebook is about real connections to actual friends . . . .”); PX0794-001 (Zuckerberg: Facebook has “always put friends and family at the core of the experience”); PX0292-009 (2012 IPO statement: “top priority is to build useful and engaging products that enable you to: [c]onnect with [y]our [f]riends”) & 4/14 (MZ) 159:24-161:13; PX0292-008, -078 (“Every day hundreds of millions of people come to Facebook to find out what their friends have to share . . . .”); PX8013A-005-10 (Facebook’s 2010-2023 App Store descriptions prominently list connecting with friends and family); PX0310-005; PX3429-002-03.

**18.** F&F sharing is a core use or job to be done on Facebook. 4/14 (MZ) 159:6-23, 160:21-161:13, 163:22-164:10, 164:22-165:5, 181:20-25; 4/15 (MZ) 195:24-196:4; 5/8 (Mosseri) 15:12-20:14 & PX12333-002, 32:9-14, 215:13-18 & DX517 at 1; 5/14 (Alison) 163:19-24 & PX3008-039 (Facebook’s “primary use case is interaction with friends and family”), 164:21-165:3, 173:6-10, 173:24-174:3, 174:10-14, 203:18-204:9 & PX0310-004-05; 4/23 (Lampe) 79:3-80:10 & PDX0026-015, 81:11-82:8 & -018, 83:7-17, 86:19-88:5 & -024; 5/12 (Hemphill) 208:6-21 & PDX0090-008, 226:5-227:18 & -028-30; PX14986-001 (“we are pointing multiple apps at the same main use case (‘friends and family sharing’)”); PX10236-002 (“Facebook [i]s one of the top apps for connecting with others - it’s a fundamental job we perform.”); PX12333-002 (“Facebook was built on the idea of connecting people with their friends and family, and that is still the driving principle of News Feed today”).

**19.** Third parties routinely recognize Facebook’s core use of F&F sharing. 4/30 (Presser) 40:24-41:3, 43:23-44:7, 47:10-21, 51:18-22 & PX0689-016; 5/15 (Horowitz) 95:18-96:4; 4/17 (Filner) 184:9-18; 4/28 (Coleman) 32:9-33:2, 35:1-22; 4/30 (E. Tucker) 17:22-24; 4/28 (Roberts) 164:3-8; 4/24 (Tang) 133:13-20; Vid. (Chandlee) 16:10-18:9.

**20.** The default experience on Facebook emphasizes sharing with friends and family. 4/23 (Lampe) 90:6-91:23. Facebook’s log-in prompt as of April 2025 encourages users to “log in or sign up for Facebook to connect with friends, family, and people you know.” 4/14 (MZ) 190:9-19 & PX0798 (dated Apr. 8, 2025); 5/14 (Alison) 213:13-214:15 & PX0795-001 (dated Apr. 7, 2025); 4/23 (Lampe) 79:12-80:10 & PDX0026-015. When a user opens Facebook, the app opens to Feed and Stories, the features most closely tied to F&F sharing. 4/14 (MZ) 187:4-188:6 & PX0797-002-03, -006; 5/12 (Hemphill) 260:22-262:4; 5/8 (Mosseri) 9:6-11:6 & PX0048-002 (“To help make sure you don’t miss the friends and family posts you are likely to care about, we put those posts toward the top of your News Feed.”); 5/14 (Alison) 165:8-11, 169:25-170:5, 197:12-19, 198:20-23; 4/23 (Lampe) 81:25-82:8 & PDX0026-018; *see also* PX3008-039 (“Stories is a key friends and family product”); PX0716-001 (“Posts that you see in Feed are meant to keep you connected to the people . . . that you care about, starting with your friends and family.”); PX0048-002 (“Facebook was built on the idea of connecting people with their friends and family. That is still the driving principle of News Feed today. Our top priority is keeping you connected to the people, places and things you want to be connected to—starting with the people you are friends with on Facebook.”); PX3652-010 (associating Feed and Stories with “Family & Friends”).

**21.** F&F sharing remains a central reason consumers turn to Facebook. 5/14 (Alison) 177:20-25, 204:20-205:1 & PX0310-005 (“Facebook is still at its core about friends and family”); 5/15 (Alison) 10:8-13; 5/12 (Schultz) 159:15-160:1; 5/8 (Mosseri) 215:13-18; 5/12 (Hemphill) 219:2-21 & PDX0090-021 (PX8085), 259:2-12, 262:24-264:22 & -065-67 (PX8100); 5/27 (Hemphill) 66:10-67:6 & PDX0149-041; 5/7 (Malkiewicz) 160:23-161:10 & PDX0081-007 (PX8060), 192:22-194:10 & -033; PX0727-002 (Facebook “About” page as of Mar. 10, 2025: “Facebook helps you connect with friends, family and communities of people who share your interests.”).

**22.** Data analysis confirms that sharing with friends and family remains a large and important use of Facebook in the U.S. today. 5/12 (Hemphill) 209:3-21 & PDX0090-010 (PX8082) (139 million users posted on Facebook; 73 billion Stories and Feed posts made on Facebook in the U.S. in 2021), 234:12-235:19, 242:10-243:2 & -039-40, -047 (PX8087-8088) (share of reciprocal connections, average friends per user significantly greater on Facebook than non-PSN apps), 236:11-238:1, 243:25-244:9 & -044, -049 (PX8091-8092, PX8095-8096) (time spent, DAU on Facebook significantly increased on family-focused holidays compared to non-PSN apps), 243:16-24 & -048 (PX8094) (share of MAU that post significantly higher on Facebook than on non-PSN apps), 254:19-255:10 & -061 (PX8097-8098) (total original broadcast post sessions on Facebook higher in June 2022 than in 2018; relatively stable from Apr. 2013 through June 2022); *see also* 4/23 (Lampe) 166:11-167:21 (“significant amount of activity overall”).

**23.** Facebook users in the U.S. have more than 450 friend connections on average. 5/12 (Hemphill) 234:12-235:6 & PDX0090-047 (PX8088).

**24.** According to the classifications of “friend” content used by Meta’s expert Prof. Carlton, in January 2025, Facebook daily active users see an average of at least 57 pieces of friend content per day, totaling more than 300 billion views of friend content each month. 5/13 (Hemphill) 52:18-53:22 & PDX0090-134-35 (PX8146-8147); 5/21 (Carlton) 210:4-9, 211:14-22, 212:5-25; *see also* 5/15 (Alison) 72:16-24 & PDX0090-134, 80:14-81:11 & PX3390-062.

**25.** Survey and user research findings confirm that users continue to open the Facebook app for a F&F sharing experience today. 5/7 (Malkiewicz) 127:12-20 & PDX0081-004 (users selected “to keep up with [their] friends’ and family’s lives in one place” more than any other reason for Facebook), 160:10-161:14 & -007 (PX8060), 180:19-184:10 & -022-24 (Meta internal surveys, *see, e.g.*, PX3431-001), 187:13-191:16 & -026-29 (X and TikTok ordinary course surveys and user

research, *see, e.g.*, PX13608-007-08), 191:17-192:9 & -031 (academic study on Facebook use), 192:22-194:10 & -033 (2024 Pew Research Center survey: 90+% of users use Facebook to keep up with friends and family, with 75% indicating it was “major” reason to use app), 195:3-18; 4/30 (Cobb) 216:6-217:23 & PX12992-044 (highest percentage of survey respondents chose use cases relating to keeping up with friends and family as “primary use cases” of Facebook, Snapchat, and Instagram Feed, compared to X and YouTube), 225:10-226:15 & PX12993-001, -003 (survey: “Facebook’s core value proposition is robustly anchored on keeping up with friends and family”);

[REDACTED]; Vid. (Morrison) 12:3-16, 192:7-193:9 (TikTok surveys and other user research “constantly” showed that “Instagram and Facebook . . . would be apps that people would primarily use to connect with people that they already know . . . versus TikTok . . . not necessarily serving that need”).

**c) Consumers turn to Instagram for a friends and family sharing experience.**

**26.** Instagram offers a F&F sharing experience and has since its inception. 4/22 (Systrom) 10:19-11:7, 11:12-21, 14:6-13, 19:7-17 & PX3426-001 (“building a vibrant community” for “discussion” with friends and family is “strength” of Instagram), 21:6-11, 22:2-23:21, 24:10-25:5, 26:4-27:17; 4/28 (Coleman) 64:20-24; 4/30 (Presser) 37:5-10, 40:24-41:5 & PX13581-005-06, -011 (categorizing Instagram as “[p]ersonal social networking services”), 41:14-19; PX3221-013 (“Instagram’s success has relied upon making it easy to create gorgeous photos and share them with your friends.”); PX8013A-023-28 (Instagram App Store descriptions from 2010-2023 prominently list connecting with friends and family).

**27.** F&F sharing is a core use or job to be done on Instagram. 4/14 (MZ) 180:13-181:6 & PX10034-001-02 (Zuckerberg: “[f]riend sharing has always been important to both FB and IG”; Alison: “friend use case” is “vital” to Instagram), 181:20-182:8; 5/8 (Mosseri) 83:5-84:10 &

PX12374-003, 86:11-87:11, 232:10-233:3 & PX0708-010; 4/23 (Lampe) 75:14-25, 82:9-23 & PDX0026-004, -012, -019; 5/12 (Hemphill) 208:6-209:2 & PDX0090-009, 226:5-227:23 & -028-30; PX12338-002 (Instagram’s mission is to “bring you closer to the people and interests you love” through “products that let you connect and share directly with friends and family”); PX3003-003 (“People come to Instagram first and foremost to connect with friends and family. These connections are core to the experience.”).

**28.** Third parties recognize Instagram’s core use of F&F sharing. 4/17 (Filner) 184:19-25; 4/28 (Coleman) 35:1-22 & PX15043-004, 64:20-22; 4/30 (Presser) 190:1-11 (“[W]hen I think of why somebody would predominantly open Instagram, it would be for the social network components of it.”); Vid. (Chandlee) 16:10-18:9.

**29.** The default experience on Instagram emphasizes sharing with friends and family. 4/23 (Lampe) 80:11-23 & PDX0026-016, 91:4-15. Instagram’s sign-up process emphasizes following friends to see what they post on Instagram. 5/8 (Mosseri) 88:24-89:24 & PDX0079-001; 4/23 (Lampe) 80:11-23 & PDX0026-016. Instagram opens to Feed and Stories, two of the surfaces most closely tied to F&F sharing. 5/12 (Hemphill) 260:22-262:4; 5/8 (Mosseri) 92:4-17, 94:7-95:14, 198:4-24; *see also id.* 83:5-10 & PX12374-003 (describing Stories as “the destination for consuming content from friends”); 5/12 (Hemphill) 228:8-16 & PDX0090-032; PX3631-009 (“Friend and family content is the lifeforce of Feed”), -017 (“we think of Stories as the definitive place for FnF content”).

**30.** F&F sharing remains a central reason consumers turn to Instagram. 5/8 (Mosseri) 86:23-87:11, 229:9-230:18; PX0698 (Mosseri, 2024 video: the first of “two jobs” at “the heart” of Instagram is “connecting you with friends” as “it’s part of [Instagram’s] core identity to connect people with friends”); 5/12 (Hemphill) 218:24-219:21 & PDX0090-021 (PX8085) (only 5% of

daily active Reels users on Instagram do not use Feed or Stories), 259:2-12, 262:24-264:22 & -065-67 (PX8100) (just 1.5% of active users on Instagram have no friends or accounts followed and only 5.2% have ten or fewer friends or accounts followed); 5/27 (Hemphill) 66:10-67:6 & PDX0149-041-42; PX10034-002 (“friend use case” on Instagram is “vital”); PX12374-002 (“The two main jobs that people hire Instagram for are catching up with friends and being entertained. Our friend use case remains resilient, driven by healthy growth in Direct & Stories.”); PX3637-002 (“Friend content is still the hook for why people come to the app. It’s the thing people consume first when they open Instagram.”).

**31.** Data analysis confirms that sharing with friends and family remains a large and important use of Instagram in the U.S. today. 5/12 (Hemphill) 243:16-24 & PDX0090-048 (PX8094) (higher share of Instagram users participate in posting than on non-PSN apps), 209:3-21 & -010 (PX8082) (monthly average of 106 million users posted on Feed and Stories; 35 billion Feed and Stories posts in 2021), 242:7-243:9 & -047 (PX8087-8088) (42% of total Instagram connections are reciprocal; users average 183 such connections, both higher than non-PSN apps), 236:11-238:11 & -043-44 (PX8091-8092) (higher usage on friends and family holidays), 254:19-255:10 & PDX0090-061 (PX8097-8098) (broadcast post sessions on Instagram remain high despite growth of messaging); 5/13 (Hemphill) 52:18-53:22 & PDX0090-133-35 (PX8146-8147) (using Prof. Carlton’s “friend” classifications, DAU view 19+ pieces of friend content per day, 88 billion+ views of friend content per month); 5/27 (Hemphill) 53:16-56:10 & PDX0149-029-32; 5/21 (Carlton) 212:5-25 (Jan. 2025: billions of minutes spent interacting with content from friends).

**32.** Survey and user research findings confirm that users continue to open the Instagram app for a F&F sharing experience today. 5/8 (Mosseri) 214:23-215:2; 5/7 (Malkiewicz) 127:12-128:14 & PDX0081-004 (summary of opinions), 168:18-169:11 & -012 (PX8061) (survey results for

Instagram), 181:7-22, 182:12-184:10 & -023-24 (Meta ordinary course survey results), 185:5-186:13 & -025 (Meta ordinary course survey results), 187:13-191:16 & -026-29 (ordinary course surveys by X and TikTok are consistent), 192:10-21 & -031-32 (academic studies related to Instagram), 192:22-194:10 & -033 (2024 Pew Research Center survey: 80+% of Instagram users use app to keep up with friends and family, with 54% indicating it was a “major” reason to do so), 195:3-18; 4/30 (Cobb) 216:6-219:25 & PX12992-044 (Meta survey showing higher percentage of respondents pick use cases relating to keeping up with friends and family activities as the “primary use cases” of Instagram Feed compared to X and YouTube); Vid. (Morrison) 192:7-193:9; [REDACTED]; [REDACTED]; PX12388-049 (“The majority of users [63%] think it’s very or extremely important to connect with their close friends on IG.”), -051 (“Connecting with Close Friends is selected by most users as their most important activity on IG”).

**d) Consumers have few alternatives for PSN services.**

**33. *Snapchat.*** Snapchat, a smaller PSN app that uses ephemeral sharing, launched in 2012 as a mobile-only messaging app built around a social graph mapping friend connections between users. Vid. (Andreou) 29:3-7, 182:8-11, 183:3-184:15, 186:20-187:6; 4/23 (Lampe) 75:14-18 & PDX0026-012.

**34.** In 2013, Snapchat launched the “Stories” format for broadcast sharing, which enables a poster’s network of bilateral friend connections to view the post for 24 hours. Vid. (Andreou) 196:11-197:2, 198:6-9, [REDACTED]; PX1009-002. Today, Stories is one of Snapchat’s most popular features: [REDACTED]; [REDACTED]; PX1009-002 (“They also said that now more stories are viewed daily than snaps, which means this is quickly becoming their primary product”); Vid. (Andreou) 40:9-19.

**35.** Survey and user research findings confirm that users open Snapchat for F&F sharing. 5/7 (Malkiewicz) 127:12-128:14, 169:25-170:13 & PDX0081-013 (PX8062), 187:13-188:5 & -026 (X research showed same), 189:12-191:13 & -028-29 (PX13608-007-08) (TikTok research showed same); 4/30 (Cobb) 216:6-219:25 & PX12992-044 (Meta survey showed Snapchat Feed primary use case related to friends and family).

**36.** Since the launch of Stories, Snapchat has had a core use of F&F sharing. [REDACTED]; 4/15 (MZ) 134:1-8; 5/8 (Mosseri) 24:14-17, 25:8-27:3, 181:20-182:17; 4/23 (Lampe) 80:24-81:10 & PDX0026-017 (Snapchat self-describes as “a fast and fun way to share the moment with your friends and family”), 109:23-110:11 & PDX0026-004; [REDACTED]; [REDACTED]; PX8013A-110-17 (Snapchat historical app store descriptions from 2011-2023).

**37.** In 2014, Mr. Zuckerberg noted that while Snapchat was “in [a] somewhat [different] market from text messaging,” “Snapchat Stories serves the exact same use cases of sharing and consuming feeds of content that News Feed and Instagram deliver.” PX1009-002.

**38.** Today, in addition to Stories, Snapchat has many features aimed at F&F sharing. Vid. (Andreou) 182:8-11, 183:3-184:15, 186:20-187:6; 4/23 (Lampe) 157:10-24; *see also id.* 83:18-86:18 & PDX0026-021-23. Snapchat encourages users to share and interact with real-life friends and family, identify themselves by their real names, and expand their network through a “find friends” feature. [REDACTED]

[REDACTED]; Vid. (Andreou) 189:19-190:15, 283:5-15; 4/23 (Lampe) 82:24-83:6; PX0768-002 (describing “find friends” feature).

**39.** [REDACTED]  
[REDACTED] Snapchat has faced difficulties

competing with Meta due to Meta's size. Vid. (Andreou) 290:18-292:20.

**40. Other PSN apps.** MeWe and various apps that exist outside the U.S., like WeChat (China), KakaoStory (Korea), LINE (Japan), and VK (Russia), provide a F&F sharing experience but have a small U.S. presence, and they do not form “an important constraint on the exercise of Meta’s monopoly power.” 5/12 (Hemphill) 228:17-24 & PDX0090-031; 4/23 (Lampe) 75:19-22 & PDX0026-012; 4/15 (MZ) 232:24-233:1; 5/8 (Schultz) 242:7-8; *see infra* ¶ 238.

**41.** Other PSN apps that existed in the U.S., like Google+ and Path, provided a F&F sharing experience before failing. 4/23 (Lampe) 75:22-25 & PDX0026-012; 5/12 (Hemphill) 208:25-209:2 & PDX0090-009, 228:5-7 & -031; 4/14 (MZ) 195:17-196:2; 5/7 (Cathcart) 25:9-18; PX8013A-002-04, -093-96 (“Path is the personal social network that is the best way to share life and stay connected with family and friends.”). Both apps maintained a social graph based on users’ friends and family connections, encouraged users to use their real identities, and competed with Facebook for the core use case of connecting users with friends and family, 5/15 (Horowitz) 91:18-92:11, 94:16-19, 95:15-96:4; 4/14 (MZ) 197:8-198:21; PX2527-001 (Sandberg on Google+: “for the first time, we have real competition and consumers have real choice”). Google+ and Path were shut down in 2019 and 2018, respectively. 5/15 (Horowitz) 136:24-25; 4/21 (Rim) 54:19-55:1.

## **2. The *Brown Shoe* factors delineate a market for PSN services.**

### **a) PSN apps have a “peculiar use” of friends and family sharing.**

**42.** PSN apps have a “core use” or “job to be done” of F&F sharing, which other types of apps do not. 4/14 (MZ) at 164:1-10, 181:13-19; 5/14 (Alison) 163:19-24 & PX3008-039 (Facebook’s “primary use case is interaction with friends and family”); 5/8 (Mosseri) 81:5-82:19 & PX12374-002 (“The two main jobs that people hire Instagram for are catching up with friends and being entertained.”), 83:5-84:10; PX0708-012 (“heart of Instagram has been about helping you connect with the people that you love and care about, and the interests that you have”); [REDACTED]

██████████ 4/30 (Presser) 35:4-36:4 & PX13581-005 (“‘social networking services’ are online platforms which people use to build and maintain social networks or . . . relationships with friends and professional acquaintances,” opposed to “content creation and sharing services”), 39:17-42:6 & PX13581-014-15 (Facebook and Instagram—not TikTok or YouTube—offer “personal social networking services,” distinguished from “professional social networking services,” namely LinkedIn), 43:23-44:7 & PX13583-007 (“Users use Facebook to connect and network with friends and acquaintances. TikTok is used as an entertainment platform[.]”); 4/28 (Coleman) 32:9-33:2, 35:1-22; 5/15 (Horowitz) 94:2-19, 95:18-96:4; Vid. (Chandlee) 16:10-18:9; 5/12 (Hemphill) 227:13-23 & PDX0090-030; 4/23 (Lampe) 79:3-11, 86:19-88:5 & PDX0026-024; PX3005-001 (“IG is first and foremost about connecting with friends and family”); PX3006-008 (“Family and Friends is our core use case and the one that has contributed most to our core social assets.”); PX0242-009 (Meta’s first annual report post-IPO stating “top priority is to build . . . products that enable you to . . . Connect and Share with Your Friends”); PX3431-001 (Facebook “seen as the best app to keep up with family/friends who are far away” and Instagram “seen as the best app for seeing interesting photos/videos shared by friends”); *see also supra* § II.A.1, *infra* § II.A.3.

**b) PSN apps have “peculiar characteristics” that facilitate and foster friends and family sharing.**

**43.** PSN apps like Facebook, Instagram, and Snapchat have distinct characteristics that together provide users with a F&F sharing experience. 4/23 (Lampe) 65:13-23 & PDX0026-004, 72:18-73:2, 75:14-25 & -012, 78:6-20 & -014. These peculiar characteristics distinguish PSN apps from other types of apps. *Infra* § II.A.3.

**44.** PSN apps are built on a friends and family social graph that maps the connections between users and their broad networks of real-life friends, family, and other personal connections; have a

norm of employing real-life identities; and provide features that enable users to discover other users they know in real life. 4/14 (MZ) 161:14-162:17 (“authentic identity is core to the Facebook experience” and a social graph representing “connections between people and their friends and their interests” is still a “core concept[]” of Facebook) & PX0292-009, 175:22-24 (“social norm to employ authentic identities throughout Facebook”); 5/14 (Alison) 208:2-209:5 (discussing Facebook connection tools); 5/8 (Mosseri) 66:25-67:9 (agreeing Instagram and Facebook have social graphs), 70:4-71:1 (agreeing that “being able to follow your friends on Instagram is important” and that “a social graph is a foundation for building social experiences”) & PX12341-003, 89:9-92:1 (discussing Instagram connection tools) & PDX0079-001-04, 106:13-15; 4/22 (Systrom) 25:1-5; [REDACTED] Vid. (Andreou) 182:8-11, 183:3-184:15, 186:20-187:6, 189:19-191:2, 281:22-282:13; 4/30 (Presser) 47:6-21; Vid. (Chandlee) 17:7-21 & PX11521-001-02; 5/12 (Hemphill) 226:20-227:8 & PDX0090-029, 227:24-228:16 & -031; 4/23 (Lampe) 73:25-75:25 & PDX0026-012, 81:11-24 & -018, 82:24-83:6 & -020, 83:18-84:8 & -021, 85:4-86:18 & -023; PX10034-004; PX3007-006 (“[w]hat sets Facebook apart is friends and family;” the “family and friend social graph” is “FB’s superpower”); PX10655-007 (Facebook and Instagram offer “one-to-many sharing bounded by a friend graph”); *see also, e.g.*, PX2646-019; PX3027-003; PX0726-001, -005; PX0729-001-03; PX0738-001; PX0770-001; PX10043-001.

**45.** PSN apps enable users to share and maintain relationships with their network of real-life personal connections through broadcast sharing and interaction in a shared social space. 4/14 (MZ) 157:8-158:15 (one of Facebook’s “core ideas” is letting users “define a private community or . . . space consisting of the friends that they wanted to share with”), 181:1-12; PX12687-002 (“News Feed was created to help people see what was going on in the lives of their friends and family.”); 5/14 (Alison) 178:20-179:9, 197:12-19; 5/8 (Mosseri) 92:2-96:11 & PDX0079-005-08; [REDACTED]

[REDACTED]; Vid. (Andreou) 283:5-15; 5/15 (Horowitz) 95:18-96:4, 102:5-10; 5/12 (Hemphill) 227:4-12 & PDX0090-029, 228:1-16 & -031; 4/23 (Lampe) 73:3-24 & PDX0026-012, 75:3-13, 84:9-85:3 & -021-22; PX0307-001; PX0048-002; PX12333-002; PX0716-001; PX0730-001; PX0781-001; PX0739-001-03; PX3175-026-27.

**46.** PSN apps have a norm of sharing personal content like vacation photos, pictures of one's children, announcements about life events, and everyday personal moments and of acknowledging and interacting with such posts from friends and family. *Compare, e.g.,* 5/8 (Mosseri) 92:7-17, 94:16-95:14 & PDX0079-007; PX0739-001-03; 5/14 (Alison) 178:20-23, 180:20-23 & PDX0103; Vid. (Chandlee) 21:3-16; Vid. (Andreou) 243:7-22; 4/23 (Lampe) 84:9-85:3 & PDX0026-021-22, 143:13-144:7 & -054, 168:6-21; 5/12 (Hemphill) 216:2-20 & PDX0090-016; PX0730-001 *with, e.g.,* [REDACTED]

**47.** PSN apps include some features and content that can appear similar to non-PSN apps but provide a distinctive overall experience reflecting a different set of motivations and norms for F&F sharing. 4/23 (Lampe) 174:15-180:11 & PDX0026-067-70; PX0545-016-17 (Zuckerberg recognizing that “within the context of a different network or community, the same format will take on different characteristics”); *see also infra* § II.A.4.

**c) “Industry [and] public” recognition of a PSN services market exists.**

**48.** Meta and others recognize Facebook, Instagram, and Snapchat as social networks serving a distinct demand for a F&F sharing experience. 4/15 (MZ) 134:1-8; 5/8 (Mosseri) 181:18-182:20; [REDACTED] 4/30 (Presser) 34:23-37:10 & PX13581-006, 42:7-43:8 & PX13582-004 (“The primary aim of ‘social networking services’ is to enable users to connect and network with friends and professional acquaintances.”), 49:16-23; PX13581-010-11;

4/28 (Coleman) 34:15-36:6 & PX15043-002-04 (the only apps that are “really good at” “seeing what my friends and family are doing” are Facebook, Instagram and Snapchat, which is how those apps are used), 37:9-38:14 & PX7070-008; 5/15 (Horowitz) 95:15-96:4; 4/17 (Filner) 184:9-25; 4/28 (Roberts) 164:3-165:5; Vid. (Chandlee) 16:10-18:9 & PX11521-001-02; Vid. (Morrison) 192:7-193:9; PX15485-008 (“FB’s leading use case is connecting with family (especially) and close friends in the US and CA, but IG and Snapchat are also used for that purpose”); PX1383-001-02; PX14952-010; *supra* II.A.1.

**49.** Survey results recognize Facebook, Instagram, and Snapchat as social networks serving a distinct demand for a F&F sharing experience. 5/7 (Malkiewicz) 180:19-195:2 & -022-25, -033; (Lampe) 164:20-166:10 & PDX0026-062; 4/30 (Cobb) 216:6-219:25 & PX12992-044, 225:10-226:15 & PX12993-001, -003; Vid. (Morrison) [REDACTED] 190:14-193:9; 5/8 (Mosseri) 214:23-215:2; PX13608-007-08; PX12991-027, -029, -039, -049; PX15485-008; PX3656-004-05, -008, -027; *supra* § II.A.1. For example, the FTC’s survey expert conducted a survey in 2023 that found respondents’ most commonly selected most important reason for using Facebook, Instagram, and Snapchat was “to keep up with their friends’ and families’ lives in one place.” 5/7 (Malkiewicz) 127:12-128:3, 160:10-171:19 & PDX0081-007-13 (PX8060-8062).

**50.** Meta and others distinguish between the F&F sharing experience on PSN apps and the experiences offered on other types of apps, like video entertainment apps (e.g., TikTok and YouTube), interest-based apps (e.g., X), specialized social networks (e.g., Strava and LinkedIn), and mobile messaging apps (e.g., Apple Messages). 4/15 (MZ) 159:1-22 (“Facebook is overall more about friends, whereas that’s not the primary organizing principle for [LinkedIn and Nextdoor] . . .”) & PX2389-006 (discussing “orthogonal graphs”); [REDACTED]

Vid.

(Andreou) 24:7-25:19; 4/30 (Presser) 34:15-36:4, 37:11-38:17, 39:17-40:16, 41:14-42:6 & PX13581-005-06, -008, -010; [REDACTED]

[REDACTED] Vid. (Morrison) 190:14-193:9; 4/28 (Roberts) 163:6-164:2; 4/24 (Tang) 131:24-132:12, 135:5-19 & PX13874-003; 5/15 (Horowitz) 135:15-24; PX13494-011-12 (“YouTube and social media platforms are arguably not substitutable with respect to users”); [REDACTED]

[REDACTED] PX7007-001 (“TikTok and Snap serve fundamentally different purposes”); [REDACTED]

[REDACTED] *see also supra* § II.A.1, *infra* § II.A.3.

**51.** Meta and others further recognize that the peculiar characteristics of PSN apps differentiate PSN apps from other types of apps. 4/15 (MZ) 193:14-194:4 & PX0545-016-17; 4/28 (Coleman) 38:15-39:10 (Facebook’s social graph-based experience different than X’s interest graph-based one) & PX7070-004; 4/29 (Shah) 237:1-10 (“meaningful differences” between “form of communication” in “Messages app versus an app that’s about broadcasting with a feed”), 239:23-240:7 (“distinctive experience” in messengers versus apps with social graph); 5/15 (Horowitz) 100:14-101:4 (real identity distinguishes PSN apps) & PX11307-002; Vid. (Raymond) 240:3-241:12, 241:22-243:5, 245:21-247:21, 248:9-249:22, 250:13-255:8 & PX13218-002-07, -009 (distinguishing functionalities of PSN apps and Reddit); DX1127 at 5 (Snapchat: “fundamental[]” difference between “endlessly scrolling” content from “strangers” and “using an app to stay connected” to loved ones); [REDACTED]

see also *supra* § II.A.2.b, *infra* § II.A.3.

**52.** Meta and others recognize that peculiar characteristics of PSN and non-PSN apps affect user demand for their respective offerings. 4/29 (Olivan) 27:22-28:17 (Messengers and Feed apps “offer[] different values to users”); PX10046-002 (“Seeing content from friends is one of the main reasons many people visit [Facebook]”); PX3637-002 (“Friend content is still the hook for why people come to [Instagram].”);

4/28 (Roberts) 142:4-22; 165:6-15 (Pinterest has emphasized it is not a social network because “it’s really confusing to users if they expect us to be a social network and then come to the app and see that we operate very differently.”); PX7069-023 (Social networks with “dense social graph[s] like [Facebook], [Instagram] or Snapchat ha[ve] a much higher retention rate than interest based platforms ([X], Tik[T]ok, Pinterest, [R]eddit”); see also *supra* § II.A.2.b, *infra* § II.A.3.

**53.** Competition authorities around the world also recognize that F&F sharing is a distinct product offering. PX13494-005;

**d) PSN apps have “unique production facilities.”**

**54.** Meta and others recognize that PSN apps must have a critical mass of users’ friends and family to gain traction with people. *Infra* § II.D.

**e) The provision of PSN services is marked by a lack of sensitivity to price changes, distinct customers, and distinct prices.**

**55.** Users of Facebook and Instagram display inelastic demand—i.e., a lack of sensitivity to increases in quality-adjusted price. *Infra* § II.E.3.

**56.** Meta also price discriminates in its provision of PSN services by charging a higher quality-adjusted price to users with more inelastic demand. *Infra* § II.E.4.

**3. Other types of online services are not reasonable alternatives for a friends and family sharing experience.**

**57.** Other types of apps are not reasonable alternatives for PSN services because they lack the core use and functionality necessary for a F&F sharing experience. 5/12 (Hemphill) 229:10-24 & PDX0090-033, 230:4-9, 246:19-248:7; *infra* § II.A.3 et seq.

**a) Video entertainment apps**

**58.** Video entertainment apps like TikTok and YouTube are not a reasonable alternative for F&F sharing. 5/12 (Hemphill) 232:15-238:1, 241:2-15 & PDX0090-036-46, -206-07.

**59. *TikTok.*** TikTok is an entertainment platform, rather than one used to keep up with friends and family. 4/30 (Presser) 32:10-16 43:23-45:4 & PX13583-007, 51:18-22 & PX0689-016 (agreeing “Facebook and Instagram are focused on users’ interactions with existing friends and family, whereas TikTok differs from them in that respect”), [REDACTED]; Vid. (Pappas) 14:10-15:2 (“[W]e are an entertainment platform”); Vid. (Chandlee) 19:19-21; [REDACTED]

[REDACTED] 5/12 (Hemphill) 246:19-248:7; PX3027-003 (Meta: TikTok is “[p]ositioned more as an entertainment platform than a social one”). TikTok launched in the U.S. in August 2018. PX0689-013; *see also* 4/30 (Presser) 32:17-18.

**60.** TikTok is not a reasonable substitute for PSN services because it lacks the core use and functionality necessary for users to engage in F&F sharing. PX13581-008 & 4/30 (Presser) 37:11-38:17 (statement that TikTok “do[es] not qualify as [a] ‘social networking service[.]’” accurately describes TikTok in U.S.); *see id.* 35:4-13 (defining “social networking services”), 41:20-23, 78:18-22; [REDACTED]; 4/23 (Lampe) 65:15-66:3 & PDX0026-004, 91:24-93:14 & -027,

94:2-98:20 & -029-034, 99:10-100:7, 105:21-109:22 & -044-45; 5/12 (Hemphill) 233:14-24.

**61.** The primary use case and underlying value propositions of TikTok and PSN apps differ—the predominant purpose for which users open TikTok is “to be entertained,” whereas the predominant reason why users open PSN apps is “for the social network components of it.” *See* 4/30 (Presser) 189:18-190:11 (discussing Instagram); *id.* 43:21-44:7 & PX13583-007 (“We do not believe that users use TikTok for exactly the same purpose that they use Facebook. Users use Facebook to connect and network with friends and acquaintances. TikTok is used as an entertainment platform[.]”), 47:6-9, 51:1-22 & PX0689-016 (“the TikTok experience is centered on discovering video content”), 141:24-142:4; *Vid.* (Pappas) 22:8-23:2 (users “watch” TikTok whereas they “check” Facebook or Instagram), 23:20-24:14; 37:7-14, 44:13-18, 46:3-8; *Vid.* (Chandlee) 18:15-19:8, 20:21-21:16; [REDACTED]; [REDACTED]; [REDACTED]; [REDACTED]; 5/12 (Hemphill) 268:25-269:5; 4/23 (Lampe) 94:2-99:9 & PDX0026-029-35; PX11525-023 (TikTok is a “[s]hort [v]ideo [p]latform” and “[c]ontent driven” while Instagram is a “[s]ocial [p]latform” and “[r]elationship driven”); [REDACTED]

**62.** TikTok is built on a “content graph,” not on a friends and family social graph. 4/30 (Presser) 46:15-25, 47:10-21 (reliance on a content graph is a “core differentiated feature[] that distinguish[es] TikTok from Facebook and Instagram”); *Vid.* (Pappas) 21:11-22; *Vid.* (Chandlee) 17:7-21; PX13616-003 (TikTok “is not predicated on the social graph > meaning that you don’t have to link your contacts or friends to have it be a rewarding experience”).

**63.** While TikTok has tried to build a social graph, it “[hasn’t] been particularly successful at it.”

4/30 (Presser) 46:11-14, [REDACTED]

**64.** TikTok does not have a real-life identity norm. 4/30 (Presser) 61:21-25, 62:11-22; 4/23 (Lampe) 94:2-18, 96:8-97:2 & PDX0026-032, 100:8-102:10 & -037-38, 106:14-109:22 & -045.

**65.** TikTok lacks a norm of mutual connection and sharing with friends. 4/23 (Lampe) 97:25-98:20 & PDX0026-035, 102:11-103:3, 106:14-109:22 & -045, 272:8-25 & DDX8.12; 5/12 (Hemphill) 234:12-21 & PDX0090-039 (PX8087) [REDACTED] of average TikTok user's connections are reciprocal, compared to 64% of Facebook and 42% of Instagram connections), 234:22-235:11 & -040 (PX8088), 235:12-19 & -041 (PX8089) (posting participation rate on TikTok substantially lower than Facebook and Instagram); 4/30 (Presser) 57:10-19 (Facebook users have 15x as many friends as TikTok users; Instagram users have 4x as many); [REDACTED]

**66.** TikTok's default experience is centered on the "For You" Feed, where users discover unconnected video content based on their interests. PX0689-016; 4/30 (Presser) 51:23-52:18; 4/23 (Lampe) 271:11-16. The "overwhelming majority" of videos viewed (and percent of overall time spent) on TikTok are public and on the For You Feed. 4/30 (Presser) 53:21-54:7, 54:18-23 & PDX0063 (TikTok's "Following" Feed accounts for an "extremely small, very tiny" percentage of all videos viewed on TikTok (and percentage of overall time spent) and consists mostly of public content), 79:9-13; PX8090 [REDACTED]

**67.** In contrast with the F&F sharing experience on PSN apps, TikTok provides an experience centered on passive consumption of recommended videos from public creators the user does not know in real life. 4/23 (Lampe) 97:3-97:24 & PDX0026-033, 105:6-20 & -043, 106:14-109:22 & -045; 4/30 (Presser) 60:17-23 ("[O]verwhelming majority of content consumed [on TikTok] is done by people that would be strangers[.]"); *id.* 45:18-46:14 & PX0546-002, [REDACTED]

██████████; Vid. (Pappas) 20:9-15 (not TikTok’s “intention to allow creators to garner viral views from individuals they know in real life”); Vid. (Chandlee) 19:22-20:20 (time spent on TikTok “is coming from television,” not PSN apps); ██████████.

**68.** TikTok launched a Friends tab—a tab collecting content from mutual followers—in 2022, but it is rarely used and is not the default experience. 4/30 (Presser) 55:9-56:21 (Friends tab has not been successful, only a “very miniscule” percentage (about 1%) of video views or time spent on TikTok today occurs within the Friends tab, and tab does not necessarily represent content from real-life connections given prevalence of anonymity on TikTok) & PDX0063, ██████████ 2 & ██████████ Vid. (Pappas) 23:3-24:14 (“Friends tab . . . hasn’t performed significantly well” and “may go away”); 4/23 (Lampe) 91:4-10, 271:24-272:2; 5/12 (Hemphill) 235:20-236:10 & PDX0090-042 (PX8090).

**69.** When TikTok has added new features, its goal has been to “reinforce” and “enhance [the] entertainment experience” on TikTok, and have not “changed in any way [its] [sic] recognition that TikTok is used as an entertainment platform.” 4/30 (Presser) 44:8-45:4 & PX13583-007, 56:22-57:9, 62:23-63:9, ██████████

**70.** While TikTok enables contact importing, it does so to enhance the entertainment experience for users, and only a “very small” percentage (less than ten percent) of TikTok users import their contacts. 4/30 (Presser) 57:21-58:22, 80:15-81:7.

**71.** ██████████ underscores that TikTok is not a reasonable substitute for a F&F sharing experience. ██████████

██

██

██

[REDACTED]

[REDACTED]

**72.** Survey and user research evidence indicates TikTok is primarily used for entertainment, not F&F sharing. 5/7 (Malkiewicz) 161:15-163:7 & PDX0081-008 & -039 (PX8064), 164:25-165:16 & -010; 188:14-191:16 & -027-29 (PX13608-007-08), 194:11-195:2 & -034; [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

**73. *YouTube.*** YouTube is a video entertainment platform, rather than one used to keep up with friends and family. 4/17 (Filner) 151:23-152:2, 167:10-168:7 & PDX0017, 183:5-184:8 & PX13494-010, -012; 5/14 (Alison) 220:14-15 (YouTube lacks “the concept of a friend connection”); 4/30 (Presser) 42:3-6 & PX13581-011; Vid. (Pappas) 88:5-89:7; 4/23 (Lampe) 65:24-66:3 & PDX0026-004, 91:24-93:14 & PDX0026-027; [REDACTED]

[REDACTED] PX11969-003

(“watching videos” is “all people do when they go to YouTube”).

**74.** YouTube is not a reasonable substitute for PSN services, as it lacks the core use and functionality necessary for users to engage in F&F sharing. 4/17 (Filner) 183:19-185:18, [REDACTED]; [REDACTED]; 5/15 (Horowitz) 135:25-136:2; Vid. (Weinstein) 313:22-314:7; 5/12 (Hemphill) 246:19-248:7, 268:25-269:5; 4/23 (Lampe) 106:14-109:22 & PDX0026-045.

**75.** The default YouTube user experience is passive consumption of public video content, as opposed to active engagement with content from friends and family. 4/23 (Lampe) 105:6-20 & PDX0026-043, 106:14-109:22 & -045; 5/15 (Horowitz) 135:15-24 (YouTube designed for “very few” content creators to “drive many, many billions of views” from larger set of consumers); Vid.

(Weinstein) 312:3-9; 4/17 (Filner) 171:3-7 (“[v]ast majority” of videos posted on YouTube are public), 152:3-13 (fastest growing means of access to YouTube is through TVs), 168:8-11 (users spend majority of time on YouTube watching videos without subscribing to creator’s account).

**76.** YouTube is not built on a social graph of friends and family connections. 4/17 (Filner) 174:1-14, 178:3-179:21 & PX13495-001; 5/13 (Hemphill) 267:17-21; *see also* PX2543-014 (Meta: “YouTube lacks a social graph”). YouTube does not make recommendations based on users’ friends and family connections, nor does it recommend content based on what other users watch. 4/17 (Filner) 171:11-14, 246:6-18. YouTube users cannot see the videos another user has engaged with or the channels they have subscribed to. *Id.* 154:5-14. Users can watch video on YouTube without creating an account. *Id.* 159:17-160:2.

**77.** YouTube does not have features that facilitate connection with friends and family; its features are designed to facilitate its core use of watching video. 4/17 (Filner) 159:3-16, 164:14-21. Due to a lack of connection tools within YouTube, nearly all shared YouTube videos are shared off-platform. *Id.* 160:21-161:5, 164:3-6, 169:8-10 (YouTube lacks messaging). To post videos exclusively to subscribers, users need a paid, members-only channel. 4/17 (Filner) 172:1-8.

**78.** YouTube lacks a norm of sharing with friends and family; it attracts users for a different purpose than PSN apps. 4/17 (Filner) 184:2-8 & PX13494-005; 4/23 (Lampe) 103:4-18 & PDX0026-040; 5/12 (Hemphill) 232:15-233:9 & PDX0090-036-37 (PX8086) (██████████ of MAU post to YouTube, 49.8% or more post to Facebook and Instagram); PX13495-001, ██████████

**79.** To the extent YouTube previously attempted to create social features that would allow users to connect with their friends, those features were deprecated. 4/17 (Filner) 178:3-17 & PX13495-001. YouTube moved away from social interactions in part because users “really didn’t see

YouTube as a relevant app to share contacts with.” 4/17 (Filner) 178:15-179:2 & PX13495-001.

**80.** YouTube’s focus on long-form video provides a different user experience and requires a different business model than PSN apps. PX10034-002 (Zuckerberg: “[A] service that’s largely longer form (YouTube-style or even longer) feels a lot different and has a different business model with larger revenue shares, etc.”); 4/16 (Sandberg) 200:10-24 & PX2527-001.

**81.** Survey and user research evidence indicates YouTube is primarily used for entertainment, not F&F sharing. 5/7 (Malkiewicz) 161:15-163:1 & PDX0081-008, 164:25-165:16 & -010, 181:23-185:4 & -022-24 (PX3431-001, PX12992-044), 190:13-20 & -028 (PX13608-007);

**b) Interest-based apps**

**82.** Interest-based apps like X are not reasonable alternatives for a F&F sharing experience. 5/12 (Hemphill) 241:2-15 & PDX0090-045-46, -206-07.

**83.** *X (formerly Twitter)*. X is an interest-based social network, rather than one focused on F&F sharing. 4/28 (Coleman) 33:19-34:14 & PX15043-003-004 (confirming that “X primarily focused on developing an interest-based network rather than a network based on keeping up with friends and family.”); 4/23 (Lampe) 92:23-93:14 & PDX0026-027, 106:14-23 & -045, 108:22-109:8. Users use X for public conversations and staying up to date on the news and their interests. 4/28 (Coleman) 29:5-25 & PX0823-002; Vid. (Chen) 67:10-19, 160:17-161:17; PX10461-051.

**84.** X is not a reasonable alternative for a F&F sharing experience because X lacks the core use and functionality necessary for users to engage in F&F sharing. 4/28 (Coleman) 8:16-24, 38:22-39:10 & PX7070-004; 4/30 (Cobb) 219:2-25 & PX12992-044; Vid. (Chen) 22:16-23:3, 162:15-

163:2; 4/15 (MZ) 180:1-10; 4/23 (Lampe) 65:13-66:3 & PDX0026-004, 91:24-93:14 & -27, 106:14-23 & -045, 108:11-109:8.

**85.** X is “not that good for seeing what your friends and family are doing.” 4/28 (Coleman) 35:23-36:6 & PX15043-003-04; Vid. (Chen) 210:8-14.

**86.** X is built on an interest graph rather than a friends and family social graph. 4/28 (Coleman) 39:2-10 & PX7070-004 (“It’s an event/topic/interest graph.”); 5/12 (Hemphill) 241:2-15 & PDX0090-045-46 & -206. Because X is used by users to follow their interests, the main way users use X is to interact with users that they do not know in real life. 4/28 (Coleman) 13:7-21, 14:4-8. And because the most common use of X is public conversation, “[t]he vast majority of accounts [on X] are public.” *Id.* 20:8-25; Vid. (Chen) 168:8-11. Furthermore, “it’s very common” for users to use pseudonymous names on X. 4/28 (Coleman) 11:3-15.

**87.** X relies on a public follower/following and consumption model, as opposed to a mutual friend model where both users in a relationship must friend each other, and features a significantly lower share and number of mutual connections than PSN apps. 4/28 (Coleman) 23:7-24:15 (X users commonly follow accounts that do not follow them back); 5/12 (Hemphill) 242:7-243:2 & PDX0090-047 (PX8087-8088), 243:15-24 & PDX0090-048 (PX8094).

**88.** Survey and user research evidence indicates X is primarily used for interest-based content and public discussion, not F&F sharing. 5/7 (Malkiewicz) 163:8-17 & PDX0081-008, 164:25-165:16 & -010, 183:2-184:10 & -023-24, 187:13-188:5 & -026, 194:11-195:2 & -034, -040 (PX8067); PX12992-044; PX3431-001.

**89.** Meta recognizes that X has a core use case that is distinct from Facebook and Instagram. PX3023-004-06; PX3024-002; PX3663-002 (“[X] prioritizes Topics, News and Trends over Friends and Family”); PX3664-017 (“[X]’s primary use cases are around updates (Topics, news),

expression of opinions, & joining discussions”). Meta launched Threads, a standalone app built to fulfill the separate use cases X focuses on, in early summer of 2023. 4/15 (MZ) 180:24-181:14; 5/8 (Mosseri) 34:7-23 & PX3024-001, 38:19-39:8; PX3023-008.

**90. *Reddit.*** Reddit is a community conversation platform where users find and join interest-based groups or communities, rather than one focused on F&F sharing. Vid. (Raymond) 18:5-11, 178:13-179:11, 233:1-234:18 & PX13216-004, 235:2-236:22 & -005, 262:15-18. Reddit does not consider itself a social network, and recognizes users use Reddit for different purposes than PSN apps. PX0317-010-14; PX3808-011-12.

**91.** Reddit is not a reasonable substitute for PSN services because it lacks the core use and functionality necessary for users to engage in F&F sharing. Vid. (Raymond) 24:3-12, 62:20-63:9, 181:10-22, 194:11-14, 230:3-6, 264:11-14, 266:5-12; 4/23 (Lampe) 91:24-93:14 & PDX0026-027, 106:14-109:22 & PDX0026-045; 4/15 (MZ) 188:14-189:19.

**92.** Reddit does not provide the requisite functionality to facilitate connecting and sharing with real-life friends and family. Vid. (Raymond) 225:17-226:14, 240:3-241:12, 248:14-249:22 & PX13218-002-07. Reddit does not have a social graph and does not rely on connections between users’ friends and family. Vid. (Raymond) 77:12-17, 149:14-150:17, 197:6-8, 219:4-220:15, 221:3-21, 223:14-225:6, 255:9-258:16.

**93.** Reddit does not have a norm of using one’s real-life identity, as anonymity is central to Reddit, and does not provide users with the ability to find real-life connections. Vid. (Raymond) 20:13-21, 31:10-16, 141:7-16, 192:15-193:6, 210:8-21, 213:20-214:13, 215:1-12, 232:3-18 & PX13216-002, 241:22-243:5 & PX13218-005, 259:5-262:3 & PX13216-005; *see also id.* 33:3-15, 246:21-248:13 & PX13218-005 (no means of finding real-life connections by name).

**94.** Reddit lacks a shared social space for sharing and interacting with friends and family and is

instead organized around interest-based public discussion groups where users interact anonymously with strangers. Vid. (Raymond) 42:13-22, 218:10-15; 5/12 (Hemphill) 241:2-15 & PDX0090-045-46 & -206-07, 243:15-19 & -048 (PX8094).

**95.** Survey and user research evidence indicates Reddit is primarily used for interest-based content, not F&F sharing. 5/7 (Malkiewicz) 163:18-164:5, 164:25-165:16 & PDX0081-008-09, -041 (PX8069); PX13608-007-08.

**96. *Pinterest.*** Pinterest is a visual search and discovery engine designed to offer project-oriented and interest-based inspiration for its users. 4/28 (Roberts) 133:7-15, 135:5-15 & PDX0049-006, 136:12-24, 138:7-13 & -010, 142:23-143:9 & PX0817-001-02, 163:20-164:2; [REDACTED]; [REDACTED]; PDX0048; PX8013A-097-101.

**97.** Pinterest is not a reasonable substitute for PSN services because it lacks the core use and functionality necessary for users to engage in F&F sharing. 4/28 (Roberts) 133:7-15, 135:5-15 & PDX0049-006, 138:7-13 & -010, 161:15-162:4, 163:20-164:8, 164:22-165:23 (explaining why Pinterest is not a social network, and Facebook and Instagram are); [REDACTED]; [REDACTED]; 4/23 (Lampe) 65:24-66:3 & PDX0026-004, 91:24-93:14 & -027, 106:14-109:22 & -045; PX12606-003. Pinterest does not rely on a social graph, does not facilitate finding and making connections with people users know in real life, does not prioritize broadcast sharing, and lacks a norm of personal sharing. 4/28 (Roberts) 136:25-137:15, 139:1-15, 140:10-16, 140:23-141:5, 159:2-161:12, 162:5-163:3, 165:6-166:12, 168:10-12, 169:14-25, 187:1-3; 5/12 (Hemphill) 243:15-19 & PDX0090-048 (PX8094).

**98.** Survey and user research evidence indicates Pinterest is primarily used for inspiration and design related content, not for F&F sharing. 5/7 (Malkiewicz) 164:14-165:16 & PDX0081-009 & -042 (PX8068); PX13608-007-08.

**99. *Discord.*** Discord is a communication app that focuses on real-time, synchronous communication, is centered around gaming, has an emphasis on pseudonymity, and is mainly accessed on a desktop. 4/24 (Tang) 109:21-112:10, 114:20-115:11, 117:1-18, 133:13-24, 134:15-24, 135:5-19 & PX13874-003, [REDACTED]; PDX0031-001-02, -011-13; PDX0032; PDX0034; PDX0035; PDX0037; PDX0039. Discord is not a reasonable substitute for PSN services because it lacks the core use and functionality necessary for users to engage in F&F sharing. 4/24 (Tang) 131:1-21, 132:10-22. It does not rely on a social graph, facilitate finding and making connections with people users know in real life, or prioritize broadcast sharing of personal content with friends and family. *Id.* 130:3-131:21, 132:10-22, 135:5-19 & PX13874-003.

**100. *Tumblr.*** Tumblr is an interest-based social network, with a focus on fandom and art and a norm of anonymity. 4/30 (E. Tucker) 4:1-2, 7:18-8:2, 8:17-19, 10:18-11:6, 11:10-23, 12:24-13:9; PX0822. Tumblr is not a reasonable substitute for PSN services because Tumblr lacks the core use and functionality necessary for users to engage in F&F sharing: it does not rely on a social graph, facilitate finding and making connections with people users know in real life, or prioritize broadcast sharing personal content with friends and family. 4/30 (E. Tucker) 9:2-6; 10:7-17; 11:24-12:14 (Tumblr primarily focused on shared interests), 16:19-22.

### **c) Specialized social networking apps**

**101.** Specialized social networks like LinkedIn and Strava are not reasonable alternatives for F&F sharing. 5/12 (Hemphill) 241:2-15 & PDX0090-045-46, -206-07.

**102. *Strava.*** Strava is a specialized social networking app focused on connecting athletes around fitness-related topics. 4/28 (Ortega) 89:22-24, 95:15-24, 96:8-97:17 & PX0820, 104:13-105:3. Strava lacks the core use and functionality necessary for users to engage in F&F sharing: it is not built on a social graph of friends and family connections, its use is not centered around personal connections or sharing with friends and family in a shared social space, and it lacks a norm of

engaging in personal social networking on the app. 4/28 (Ortega) 92:22-94:18 & PDX0046, 99:2-13, 108:22-109:20; PX0820; 5/12 (Hemphill) 229:25-231:22, 241:2-15 & PDX0090-045-46, -206-07. Despite some limited social features, Strava’s core use is focused on fitness. 4/28 (Ortega) 95:2-9, 100:19-102:16, 105:9-21, 107:20-108:17 & PX8013A-130-43; 4/23 (Lampe) 110:12-19.

**103. LinkedIn.** LinkedIn is a professional social networking service with a mission to connect professionals. PX8013A-049-60; Vid. (Pattabiraman) 40:10-41:17, 132:5-133:5, 135:22-137:16, 138:11-139:4, 141:22-142:19, 143:9-19, 145:13-146:9, 147:9-149:1, 159:19-160:9; PX14865; PX14903; PX14894-001, -003.

**104.** LinkedIn lacks the distinct characteristics and uses of a PSN app. 4/23 (Lampe) 65:24-66:3 & PDX0026-004, 91:24-93:14 & PDX0026-027, 106:14-109:22 & PDX0026-045; PX10680-012; *see also* 5/12 (Hemphill) 243:15-24 & PDX0090-048 (PX8094) [REDACTED]; [REDACTED]; 4/30 (Presser) 39:17-40:23 & PX13581-010-11 (LinkedIn is a professional social networking service). Its social graph is centered on professional connections, not friends and family, 5/13 (Hemphill) 249:13-15, PX2389-006 (“orthogonal graph” to Facebook), [REDACTED], and its Feed is used for sharing professional updates with professional contacts. Vid. (Pattabiraman) 132:5-133:5, 161:12-162:17; 5/12 (Hemphill) 229:25-231:22 & PDX0090-033-35; 5/7 (Malkiewicz) 164:6-9 & PDX0081-009, -043 (PX8066) (survey shows primary use of professional networking).

**105. Nextdoor.** Nextdoor is a hyperlocal “neighborhood” network that does not provide the F&F sharing experience available on PSN apps. PX8013A-082-92; 4/23 (Lampe) 65:24-66:3 & PDX0026-004, 91:24-93:14 & PDX0026-027, 106:14-109:22 & PDX0026-045; PX3364-027, -085-088; PX7060; [REDACTED]. Its graph is almost entirely made up of connections based on geographic proximity, and it lacks a norm of maintaining personal relationships via broadcast

sharing. 4/23 (Lampe) 104:11-105:5; PX2389-006 (“orthogonal graph” to Facebook); 5/7 (Malkiewicz) 164:10-165:16; PDX0081-009, -044 (PX8070) (survey shows primary use for local-based content).

**d) Mobile messaging apps**

**106.** Mobile messaging apps like Apple Messages (iMessage) lack the distinct use and characteristics of PSN apps and are not reasonable alternatives for a F&F sharing experience. 5/12 (Hemphill) 249:6-250:15 & PDX0090-051-53; 4/23 (Lampe) 142:7-143:12 & PDX0026-053, 158:19-24 & -058; 4/29 (Shah) 215:13-22; PX3002-002-03 (“From a user’s perspective, a social networking service is not a substitute for a consumer communications service (or vice versa).”).

**107.** Mobile messaging apps are used to share with different, smaller audiences than PSN apps. 4/15 (MZ) 213:14-214:13; 5/7 (Cathcart) 45:24-46:22; 4/29 (Shah) 223:13-19, 225:17-25, 232:8-13; 4/23 (Lampe) 114:25-115:7, 116:15-117:2, 143:13-144:22 & PDX0026-054; PX10271-002.

**108.** Sharing content on mobile messaging apps also has a different purpose than PSN apps, focusing on more urgent, directed, and/or private communications. 4/15 (MZ) 213:18-214:8; 5/20 (Acton) 162:13-22, 164:16-19; 4/29 (Olivan) 27:22-28:17; 4/23 (Lampe) 115:15-19, 117:3-13, 144:23-145:20 & PDX0026-055, 151:20-152:22; 5/7 (Malkiewicz) 167:5-24 & PDX0081-011, 170:14-175:12 & -014-18, -045-47 (PX8071-8073); PX13581-006.

**109.** The norms of mobile messaging apps are different than PSN apps, favoring acknowledgement of and responses to content, in addition to greater privacy expectations, as compared to PSN apps where norms include browsing when convenient and lesser expectations to engage with the content. 4/15 (MZ) 170:23-171:10 (“[T]he privacy model on messaging services is quite different from what it is on services like Facebook and Instagram that are more focused on broadcasting.”); 5/20 (Acton) 161:14-21; [REDACTED]; Vid. (Andreou) 209:11-19 (response rates to Snap messages are “high double digits on a percent basis” while Stories are

“mid-single digits”); 4/23 (Lampe) 142:21-145:20, 146:11-23, 147:21-149:9, 153:18-154:6, 171:17-174:14 & PDX0026-053-57, 065-66.

**110.** Mobile messaging apps and their features are designed for individual and small group conversations, as opposed to interacting in a shared social space. 5/20 (Acton) 159:25-160:3, 162:5-12, 165:1-11; 4/29 (Shah) 219:19-220:5, 237:1-10; PX2389-006 (“Facebook and Messenger coexist despite having identical graphs, because they have very strong differentiation in features (direct messaging vs broadcast sharing)[.]”).

**111.** On mobile messaging apps, users’ graphs are limited to their address books; the apps do not suggest additional users to connect with. 4/14 (MZ) 178:11-179:19; 4/29 (Olivan) 83:5-7; 5/20 (Acton) 163:9-12; 4/29 (Shah) 218:3-13, 218:20-24, 220:16-25, 239:23-240:7; 5/7 (Cathcart) 47:6-18; 4/23 (Lampe) 115:20-116:14 & PDX0026-050, 150:20-151:19 & -056; PX3181-002 (“iMessage relies on phone number exchange . . . it’s not social media sharing”).

**112.** Industry participants, including Meta and Snap, recognize that the competitive set for mobile messaging apps is different from that of PSN apps. 4/15 (MZ) 173:25-174:13, 219:20-22; PX15115-001 (“There are many countries where WhatsApp is the leading messaging service and Facebook is the leading social network[.]”); 5/7 (Schultz) 273:7-16; [REDACTED]; Vid. (Andreou) 25:3-9; PX11079-001 (KakaoStory offers “social networking use case” while KakaoTalk offers “messaging use case”); *see also* PX11080-001 (“DESPITE KakaoTalk launching a full social networking competitor called KakaoStory . . . we have once again overhauled to be the top pure social network in Korea.”); PX2518-002 (“Facebook is a social network; WhatsApp is a real-time messaging service.”); [REDACTED]

**113.** Users cannot replicate the PSN experience by using share sheets to share content from a

social media app to a mobile messaging app. 4/23 (Lampe) 170:23-174:14 & PDX0026-064-66; 5/27 (Hemphill) 138:11-139:9. Phone contact lists imperfectly overlap with the broad network in a PSN user's social graph, 5/20 (Acton) 163:17-164:15; 5/12 (Hemphill) 251:13-252:6 & PDX0090-056, the distinct norms and functionalities of messaging would undermine an attempt to broadcast as if on a PSN app, Vid. (Andreou) 207:17-209:10; *see also supra* ¶¶ 107-111, and friend content in Meta's PSN apps cannot be shared off of the applications. 5/14 (Alison) 179:22-182:17 ("paradigmatic" type of friend content, "a post from a friend" cannot be shared off platform).

**114.** Messaging and friend broadcast sharing serve complementary communication functions. 4/14 (MZ) 172:1-173:19; 4/16 (Sandberg) 253:10-254:2 & PX2518-002 ("WhatsApp complements Facebook's services"); 4/29 (Olivan) 27:14-21; 5/7 (Cathcart) 110:11-111:4 (public broadcast sharing and private messaging contribute to each other's use); 4/23 (Lampe) 152:23-156:2; 5/12 (Schultz) 167:2-168:9; 5/12 (Hemphill) 252:7-254:8 & PDX0090-057-59; PX3364-019 (Market Strategy presentation: "Messaging and friend broadcast sharing are often closely integrated, signaling both play complementary roles in friend focused conversations"); DX1054 at 3 (WhatsApp's "focus on 1-to-1 and small group communications naturally complements Facebook's traditional friend-based sharing model").

**115.** Users are not shifting from PSN apps to mobile messaging apps to satisfy their demand for PSN services. 4/23 (Lampe) 149:22-150:19; 5/12 (Hemphill) 250:16-251:7 & PDX0090-054; 4/29 (Olivan) 28:3-17. Mobile messaging and broadcast sharing have both grown in absolute terms over time, signaling that increases in mobile messaging have not come at the expense of PSN apps. 5/12 (Schultz) 166:3-5, 166:19-167:1; 5/7 (Cathcart) 109:20-110:8 & DX652 at 6; 5/12 (Hemphill) 252:7-253:5 & PDX0090-057, 254:19-255:10 & -061 (PX8097-8098); [REDACTED]

**4. The inclusion of unconnected content in PSN apps does not expand the relevant market or constrain Meta's exercise of monopoly power.**

**116.** That Meta has reached out to the turf of other apps by adding unconnected content and other activities to its F&F sharing experience does not expand the relevant market or discipline its exercise of monopoly power. 5/12 (Hemphill) 216:21-218:20 & PDX0090-018-20, 255:11-269:12 & -063-73; 5/13 (Hemphill) 32:22-34:7; 5/27 (Hemphill) 63:9-66:9, 180:14-23.

**117.** Meta has incorporated unconnected content and other activities into the F&F sharing experience on Facebook and Instagram. 5/8 (Mosseri) 101:4-104:7 (features to engage with friends over Instagram Reels), 217:23-218:2 (Instagram “leverages its social graph” to allow “people to connect with their friends and family over Reels”); 5/14 (Alison) 199:1-201:19 (Reels is “conversation starter” among friends on Facebook and Instagram) & PX10249-001-04 (Facebook: “our discovery engine will enhance people’s ability to connect with friends”); 4/28 (Roberts) 164:9-21 (Marketplace “ingrained” within Facebook social network); 5/12 (Hemphill) 216:21-217:15 & PDX0090-017, 265:17-267:4 & -068-70; 4/23 (Lampe) 88:6-89:23 & PDX0026-025; PX3575-001 (“socially-powered service[s]” of Facebook app); PX0778-001.

**118.** Meta’s incorporation of unconnected content into its F&F sharing experience creates a differentiated experience compared to non-PSN apps. 4/15 (MZ) 183:15-184:21, 185:14-20, 193:24-194:10 & PX-0545-016-17 (“same format” in different apps “will take on different characteristics”); 5/14 (Alison) 163:19-164:4 & PX3008-039; 5/8 (Mosseri) 70:4-71:1, 101:1-101:20 (agreeing interactions “make Instagram a participatory experience versus a leaned-back experience”), 216:22-217:3; 4/30 (Presser) 47:24-49:2, 91:25-92:9 (“experience of the content” different on TikTok and Reels; overall apps “very different”); 4/23 (Lampe) 177:20-179:9 & PDX0026-069-70; PX3640-001; PX3574-007; PX10688-012; PX0698 (Mosseri: “sharing with

friends” and short-form video “are symbiotic”); PX3007-006 (“leverage family and friend social graph as FB’s superpower to build differentiated Reels experience”).

**119.** In interspersing unconnected content with friend content on Facebook and Instagram, Meta increases user time spent. 5/14 (Alison) 216:14-217:4 (unconnected content on Facebook “interspersed” with “ten or 20 friend posts” means it can take a “long time” to scroll through Feed “to catch up with all your friends”); 5/8 (Mosseri) 162:3-18 (feeding unconnected content to users with connected content to increase time spent); DX522 at 3, 17 (“hitting a ceiling for Feed/Stories time” so “incremental growth will come from entertainment/video”); *cf.* 5/12 (Schultz) 174:3-175:21 (slower Facebook and Instagram growth rates in U.S. due to fewer potential new users); 5/15 (Alison) 43:21-44:1 (by 2021, Facebook “pretty saturated” in U.S.); PX8128-003 (by 2021, Facebook and Instagram had over 233 and 208 million MAU, respectively); 4/29 (Olivan) 190:12-21 (250 million total internet users in U.S.). Meta uses that increased time spent to show more ads. 5/8 (Schultz) 265:21-266:3; *see also* 5/8 (Mosseri) 30:11-31:8 (larger business from blending public content with friend sharing).

**120.** Even with Meta’s increases in unconnected content, friend content remains highly valued by users and stands out as the most valuable content when accounting for network effects. 5/14 (Alison) 177:20-178:9 (“people valued seeing [friend posts]” and returned to Facebook when other users commented on them); 5/15 (Alison) 77:16-84:2 (“friend original content had the highest viewer value” and “network value as well”) & PX3390-062, -069, -074 (friend content encourages both high-value interactions and downstream content production); PX3175-025-31 (“Friends and Family content in Feed is essential to driving both the number of sessions and session depth” and “anchor[s]” Feed sessions); *see also* 5/12 (Schultz) 178:14-18 & DX522 at 3 (as Meta advanced unconnected content strategy, “people report connecting with close friends as the most important

activity on [Instagram]”); PX0794-001 (despite “explo[sion]” of “public content,” “most important thing Facebook can do” is “help us connect with each other”); PX10046-002 (“The combination of both the content and social interactions around the content make friend posts in Feed one of the most valuable types of content in our product ecosystem”); 5/1 (Hegeman) 184:12-20 & PX12669-006 (“non-Messenger friend content . . . is still big and will remain big in the future (even if they will be a smaller percent of the overall pie)”); *cf.* 4/23 (Lampe) 162:9-20 (longer time spent on unconnected video does not mean it is more valued than friend posts); 5/8 (Mosseri) 206:5-14 [REDACTED]

**121.** Even with Meta’s increases in unconnected content, the vast majority of users still rely on Facebook and Instagram to share with friends and family. 5/12 (Hemphill) 218:24-219:21, 259:2-260:21, 262:24-264:22 & PDX0090-021 (PX8085), -065-67 (PX8100) (in 2022, less than 1% of Facebook users were “Reels only,” less than 1% had no friends, and less than 2.1% had under 10 friends); *id.* (in 2022, only 5% of Instagram users were “Reels only,” less than 2% had no friends, and only 5.2% had under 10 friends); 5/27 (Hemphill) 66:10-67:6 & PDX0149-041-42 (similar “Reels only” figures in Carlton and List data); 5/7 (Malkiewicz) 193:7-194:10 & PDX0081-033; 5/15 (Alison) 10:8-13 (“[p]eople still come to see content from their friends and family”); 5/14 (Alison) 164:13-165:11 (even among young adults, “keeping up with friends was an important job for Facebook”) & PX3008-038 (“confirming” friend use case “is an important use case” on Facebook for young adults in U.S.); PX10236-002 (“connecting [people] with others” is “fundamental job [Facebook] perform[s]”); 5/8 (Mosseri) 82:20-84:10 & PX12374-002-03, 233:23-234:3 (Instagram “friend use case remains resilient”); *supra* § II.A.1.

**122.** Meta has encountered user backlash in increasing unconnected content. 5/8 (Mosseri) 227:4-228:4 & PX0708-007-08 (Instagram users “upset about recommendations – seeing things from

people you do not follow in your feed”); 4/23 (Lampe) 112:18-113:7; *see also infra* § VII.D.

**123.** While Meta has added unconnected content to increase time spent, it recognizes it must not displace friend content, and instead “blends” them. 5/14 (Alison) 164:5-12 & PX3008-039 (“While we are shifting our app towards Public Content[,] we do want to protect our core use case.[.] Users value friend content on Facebook. Reducing friend originals...leads to [] regression in sessions”), 175:3-12 (“discovery engine” “expand[s] the pie”) & PX10236-002; 5/8 (Mosseri) 30:11-31:8 (Meta aims to “blend[]” “friend broadcast sharing” and “public content”); 84:17-86:6 & PX0698 (Instagram’s two jobs of “connecting you with friends” and “helping you explore your interests” are “symbiotic”); PX12372-008, -032 (from user backlash, Meta learned: “Recs should not displace friends and family content”); *see also* 5/8 (Mosseri) 109:22-25 (confirming Instagram at “intersection of friends and entertainment”); PX3640-001 (same).

**124.** Data confirms growth of Reels on Facebook and Instagram is generally incremental—not materially at the expense of Feed and Stories. 5/27 (Hemphill) 55:24-57:14 & PDX0149-032-33.

**125.** Non-PSN apps are not reasonable substitutes for PSN services, notwithstanding unconnected content on PSN apps, because non-PSN apps do not provide a F&F sharing experience. 5/12 (Hemphill) 217:16-218:20 & PDX0090-018-20 267:5-269:4 & -071-73; 5/14 (Alison) 163:14-164:4 & PX3008-039 (“interacting with friends and family” is “an important differentiator” for Facebook versus TikTok and other apps); *supra* § II.A.3.

**126.** Meta’s competition with non-PSN apps for unconnected content is asymmetric—non-PSN apps do not provide the “complete replacement” of a PSN app F&F sharing experience, even as Meta reaches out to their turf. 5/12 (Hemphill) 216:21-217:15 & PDX0090-017-20, 245:2-246:18, 256:13-258:13 & -063, 267:5-269:4 & -071-73; 4/28 (Roberts) 192:18-193:9 (Instagram introducing features to expand to Pinterest’s core use; Pinterest did not do same); *cf.* 4/14 (MZ)

192:23-193:18 (Google+ “trying to be a complete replacement for everything” on Facebook).

**127.** Prof. Carlton hypothesized that unconnected content could undermine the relevant market or Meta’s ability to exercise monopoly power if many people use Facebook and Instagram for reasons unrelated to friends and family or if Meta cannot price discriminate. 5/27 (Hemphill) 64:17-66:9 & PDX0149-039-40; 5/21 (Carlton) 139:2-17. Neither condition is true. 5/27 (Hemphill) 66:10-67:21 & PDX0149-041-43. Few people use Facebook and Instagram for reasons unrelated to friends and family, *supra* ¶ 121, and Meta can and does price discriminate. *Infra* § II.E.4.

**128.** Despite claimed “headwinds,” Facebook and Instagram have grown throughout TikTok’s rise. 5/12 (Schultz) 169:14-171:17; 4/16 (MZ) 146:6-16; 5/1 (Hegeman) 185:11-185:24. The headwinds that Meta projects on its growth rate (not overall growth) are only a very small fraction of Meta’s overall profitability and do not dent Meta’s monopoly power. *See* 5/13 (Hemphill) 32:22-34:1 & PDX0090-103-104 (\$3B-\$6B projected headwind vs. \$147B projected annual revenue).

**129.** Direct evidence confirms that competition for unconnected content does not discipline Meta’s exercise of monopoly power. *Infra* §§ II.E, VII.B-F; 5/12 (Hemphill) 258:23-259:1; 5/13 (Hemphill) 25:5-26:11, 32:6-33:7 & PDX0090-102.

**130.** Meta’s underinvestment in friend content is a quality reduction that frustrates users and suppresses output, including through reduced production and consumption of friend content and lowered engagement—a part of Meta’s exercise of monopoly power. 5/13 (Hemphill) 53:23-55:22 & PDX0090-136-37, 99:25-101:1 & -186-87; 5/27 (Hemphill) 60:21-61:13 & PDX0149-054; *infra* §§ II.E, VII.D.

**5. A hypothetical monopolist of PSN services in the U.S. would be able to profitably raise quality-adjusted price above a competitive level.**

**131.** The hypothetical monopolist test (HMT) is a standard economic test for defining relevant

antitrust markets. In this case, the relevant question under the HMT is whether a single firm controlling Facebook, Instagram, and other PSN apps in the U.S. could profitably set a lower quality level compared to competition. 5/12 (Hemphill) 223:1-16, 225:15-24 & PDX0090-027; 5/27 (Hemphill) 12:14-25 & PDX0149-004; *see also* 5/19 (List) 181:8-182:1.

**132.** Based on qualitative and quantitative evidence, Prof. Hemphill concluded that a single firm controlling Facebook, Instagram, and other PSN apps in the U.S. could profitably reduce quality compared to competition. 5/12 (Hemphill) 223:1-16, 225:15-226:4 & PDX0090-027-28; 5/27 (Hemphill) 12:14-13:7. In conducting the HMT, Prof. Hemphill evaluated the use and functionality of different apps to assess their substitutability for satisfying PSN demand for PSN services. 5/12 (Hemphill) 224:25-225:8. Direct evidence, including profitable quality reductions Meta made while sustaining high economic profits, confirms PSN services as a relevant market. *Infra* § II.E; 5/12 (Hemphill) 269:6-12; 5/13 (Hemphill) 6:1-20 & PDX0090-075, 32:6-33:7.

**133.** In a monopoly maintenance case, qualitative evidence is particularly important because quantitative evidence of responses to price changes is misleading and ineffective given that the alleged unlawful conduct has already elevated the price or decreased quality. 5/12 (Hemphill) 224:11-225:14; 5/27 (Hemphill) 12:14-14:21 & PDX0149-005.

**B. The United States is a relevant geographic market for PSN services.**

**134.** The relevant geographic market is the U.S., which Meta's expert does not dispute. 5/13 (Hemphill) 35:17-37:3 & PDX0090-107-08 (PX8127); 5/21 (Carlton) 180:14-17.

**135.** Users in the U.S. face the same set of competitive alternatives in large part because PSN apps exhibit country-level network effects. 5/13 (Hemphill) 35:17-37:3 & PDX0090-107-08 (PX8127) (as of 2022, 82% of Facebook and 88% of Instagram users' friends were also in U.S.).

**136.** Country-level network effects make disrupting PSN apps in other countries difficult, even for Meta. 5/8 (Schultz) 242:1-245:7 & PX15200-002; PX3364-017, -051-53; *infra* § II.D.

**137.** PSN apps track various usage metrics at the country level. 4/30 (Cobb) 201:19-202:11 & PX3013-006; 5/15 (Horowitz) 105:17-21; PX3011-001-02; \*IH (Cunningham) 34:9-12.

**C. Meta has a dominant share of the PSN services market in the U.S.**

**138.** Prof. Hemphill employed the standard approach to estimating market shares: he estimated market shares using engagement metrics for all firms in the relevant market, basing his market share estimates on metrics that Meta and other PSN apps use to track their performance in the ordinary course (DAU, MAU, time spent, and broadcast posts), without including firms outside the relevant market. 5/13 (Hemphill) 37:12-38:16 & PDX0090-110; Ans. ¶¶ 193-94.

**139.** Meta has maintained a dominant share of the market for PSN services since 2011, with shares greater than 60% based on DAU, MAU, and time spent. 5/13 (Hemphill) 37:4-11, 38:17-40:20 & PDX0090-111-18 (PX8128-8135), 45:6-20 & -217-21, -224 (PX8168-8172, PX8175).

**140.** Meta's shares in the market for PSN services remain dominant in 2025. 5/13 (Hemphill) 39:8-14 & PDX0090-112 (PX8129). Based on 2025 data, Meta's market shares are [REDACTED] for MAUs, [REDACTED] for DAUs, and [REDACTED] for time spent. *Id.* In contrast, Snap's market share based on 2025 data is [REDACTED] for MAUs, [REDACTED] for DAUs, and [REDACTED] for time spent. *Id.*

**141.** Even if not all time spent on Facebook and Instagram is considered time spent satisfying demand for PSN services, Prof. Hemphill's analysis still confirms Meta has a dominant share of PSN services. 5/13 (Hemphill) 40:21-42:3 & PDX0090-119-20 (PX8136-8137). Meta's market share as measured by production of Stories and Feed posts was [REDACTED] in 2022. 5/13 (Hemphill) 40:21-41:9 & PDX0090-119 (PX8136), -222 (PX8173); *see supra* ¶¶ 20, 29 (Feed and Stories are surfaces most closely associated with F&F sharing on Facebook and Instagram). Meta's market share by time spent on Stories and Feed was [REDACTED] based on data from 2022 and 2023. 5/13 (Hemphill) 41:10-42:3 & PDX0090-120 (PX8137), -223 (PX8174).

**142.** Prof. Hemphill conducted a sensitivity analysis of his market share estimates to account for

incidental friend-related activity on non-PSN apps. 5/13 (Hemphill) 42:13-45:5 & PDX0090-121 (PX8138). That analysis shows that Meta’s market shares based on weighted MAUs, DAUs, and time spent were all nearly 70% or greater. *Id.*

**143.** Prof. Hemphill provided a set of market share estimates including TikTok despite disagreeing that TikTok is a market participant. 5/27 (Hemphill) 70:11-72:4 & PDX0149-047. Based on that analysis, in 2025 (1) Meta has a [REDACTED] share of MAU, [REDACTED] of DAU, and [REDACTED] of time spent; (2) weighting TikTok by the Malkiewicz survey, Meta has a [REDACTED] share of MAU, [REDACTED] of DAU, and [REDACTED] of time spent; and (3) focusing on Feed and Stories on PSN apps and the Friends tab on TikTok, Meta has a [REDACTED] share of MAU, [REDACTED] of DAU, and [REDACTED] of time spent. *Id.*

**D. Significant entry barriers protect the market for PSN services in the U.S.**

**144.** The PSN services market in the U.S. is protected by significant entry barriers. 5/13 (Hemphill) 45:21-49:4 & PDX0090-123-26. PSN services exhibit strong network effects, meaning the value of the service increases with the number and engagement of users. 5/12 (Hemphill) 214:18-216:1 & PDX0090-015 (PX8083-8084); 5/13 (Hemphill) 46:6-20 & PDX0090-123-24 (PX8139-8140); 4/23 (Lampe) 180:24-181:11, 182:19-184:6 & PDX0026-073. Getting a critical mass of users to adopt a PSN app is a predicate to retention, engagement, and further growth. 4/16 (MZ) 48:15-49:1; 5/15 (Alison) 79:17-83:25 & PX3390-062, -067, -074; 5/15 (Horowitz) 96:5-97:15 & PX11304-003-04; PX2389-011 (“social networks have two stable equilibria: either everyone uses them, or no-one uses them”); PX3189-003 (if “all your friends are on the network,” that “greatly facilitates growth as users work to recruit their friends”).

**145.** Meta and others recognize that Facebook and Instagram benefit from network effects, which present significant barriers to entry and expansion. 4/14 (MZ) 194:6-195:16 & PX2437-002-03; 5/8 (Schultz) 244:19-245:7 & PX15200-002; 4/22 (Systrom) 60:8-14, 152:15-22; 4/28 (Coleman) 43:8-44:2; 5/15 (Horowitz) 97:16-98:2, 99:11-14; PX1136-003 (“[T]here are network effects

around social products . . . [o]nce someone wins at a specific mechanic, it’s difficult for others to supplant them[.]”); [REDACTED]

[REDACTED] PX1204-002-03 (“Our brand and network effects provide [a] real competitive moat.”); PX3624-007.

**146.** PSN services also exhibit high switching costs that prevent entry and expansion. 5/13 (Hemphill) 46:21-47:24 & PDX0090-125 (PX8141); PX10080-002 (“[Instagram] seeks to create barriers to entry by assembling a large network of engaged users with switching costs related to a broad content library and personalization via tags and comments.”). Once established, network effects impose switching costs and reinforce other switching costs including the “sunk” investments users make in establishing their friend networks, learning how to use the apps, and accumulating an archive of photos and other personal content. 4/15 (MZ) 18:21-19:8 & PX1136-003; 5/15 (Horowitz) 98:3-99:10; 5/13 (Hemphill) 47:17-24; PX1204-003 (“We are hard to compete with, our network effects are substantial, your friends are all here, you have made a big investment in your Facebook profile and network and that’s hard to leave behind[.]”); PX2738-001 (describing one-time sunk cost of learning to use an app and setting it up).

**147.** Due to powerful network effects and high switching costs, multiple well-resourced firms (including Google) have attempted entry, failed, and thereafter exited the PSN services market. 4/16 (Sandberg) 217:1-20 & PX14319-006 (“Other signs of the power of the network effects – the early results from Google+”); 5/15 (Horowitz) 98:3-99:14; PX2437-001-03; *see also supra* § I.A.1(d). Non-PSN apps have also failed in adding social features. 4/30 (Presser) 56:13-21 (only 1% of TikTok’s video views occur in Friends tab); 4/17 (Filner) 169:11-20 (YouTube deprecated its Stories feature), 178:3-17 & PX13495-001, -003-04 (YouTube removed features letting users

connect with friends); 4/28 (Roberts) 162:22-163:3 (Pinterest got rid of its Following Feed); [REDACTED]

**148.** Capital costs associated with developing, hosting, and improving a PSN app present an additional barrier to entry and expansion, especially given that the supply of capital is limited due to the other entry barriers associated with PSN services. 5/13 (Hemphill) 48:14-23 & PDX0090-126; [REDACTED]

[REDACTED] *see also* 4/17 (Goetz) 70:5-13, 93:5-13; [REDACTED]

**149.** Entry barriers to the market for PSN services in the U.S. are still high, despite Meta’s claims that AI, share sheets, and contact importing have eroded them. AI may enhance the sharing experience on PSN apps, but AI-generated content and recommendations cannot replace high value content from real-life friends and family. 4/23 (Lampe) 181:18-182:18 & PDX0026-072; 4/16 (MZ) 180:17-23; 5/14 (Alison) 182:20-183:11; *see also* 5/12 (Hemphill) 245:2-246:18. The ability to share content between applications using a share sheet does not lower entry barriers because friend content cannot be shared from a PSN app to another app. 5/14 (Alison) 180:20-181:9; *see also* 4/23 (Lampe) 171:17-172:22 & PDX0026-065. Nor can contact importers replicate network effects due to the distinct norms and characteristics of PSN apps, the switching costs facing a user’s network of friends and family, and their lack of adoption. 4/23 (Lampe) 184:7-185:9; 4/30 (Presser) 57:21-59:2 (“the percentage of users that utilize” contact importers on TikTok is “very small . . . very few people are importing contacts from their phone”); 5/12 (Hemphill) 232:2-9 (networks effects and norms “grind[] against” platforms expanding to new use cases); 4/21 (Arora) 181:6-12, 182:13-22, 184:6-13, 188:11-15 (describing failed app that used mobile contacts to connect users with friends and family).

**E. Multiple forms of direct evidence indicate that Meta has monopoly power over PSN services in the U.S.**

**150.** Direct evidence indicates that Meta has monopoly power over PSN services in the U.S. 5/12 (Hemphill) 221:13-21, 222:4-22; 5/13 (Hemphill) 5:18-6:20 & PDX0090-075.

**1. Meta has earned sustained high profits that are derived from its significant market power over users.**

**151.** Meta has earned sustained and persistently high economic profits. 4/24 (Hearle) 10:10-13, 17:13-16; 5/13 (Hemphill) 7:5-8:14; 5/21 (Carlton) 214:13-17. Mr. Hearle's analysis established that Meta collects economic profits that are nearly four times its cost of capital. 4/24 (Hearle) 12:19-13:1, 15:23-16:13 (internal rate of return of 36.4-41.4%) & PDX0029-007 (PX8057), 17:9-12 (weighted average cost of capital of roughly 10%) & PDX0029-008 (PX8058).

**152.** Meta earned \$130.5 billion in gross profit in 2024. 5/13 (Hemphill) 7:5-11 & PDX0090-076 (PX8102); PX0715-061, -075, -087, -101; *see also* PDX0090-209 (PX8158).

**153.** Meta's ability to earn sustained high profits is direct evidence of monopoly power, because competition drives down a firm's profits over time. 5/13 (Hemphill) 6:22-8:14 & PDX0090-076 (PX8102); 5/12 (Hemphill) 221:13-21, 247:20-248:18; 5/21 (Carlton) 214:8-12 (ability to earn positive economic profits over the long run meets Prof. Carlton's textbook definition of monopoly power); *see also* 4/24 (Hearle) 13:2-12; 5/27 (Hemphill) 80:21-23.

**154.** Meta's high economic profits are substantially derived from monopoly power over users of Facebook and Instagram in the U.S. 5/13 (Hemphill) 8:15-12:11 & PDX0090-078-81 (PX8103-8105), -210-11 (PX8159-8160), 13:1-14:17 & -083 (PX8108), -213 (PX8162), 15:17-23 (Meta able to raise ad load on users, which increases revenue; ads predominantly on F&F sharing surfaces); *see also* 5/14 (Hemphill) 73:1-15, 88:15-17, 106:11-108:12; 5/1 (Hegeman) 91:1-4. Meta's revenue and profits are generated predominantly from ads imposed on users of Facebook and Instagram. 5/1 (Hegeman) 90:23-91:4; 5/21 (Carlton) 217:5-218:7; Stip. 54; 5/13 (Hemphill)

14:18-15:23 & PDX0090-084 (PX8109) (in 2024, ad revenue made up 97.7% of Meta's total revenue in North America); 5/14 (Hemphill) 104:8-106:9 (PX8016) (over 40% of Meta's profits in recent years came from ads shown to U.S. Facebook and Instagram users).

**155.** The vast majority of Meta's ad revenue is also generated from three friends and family centric surfaces: Facebook and Instagram Feed and Instagram Stories. 5/13 (Hemphill) 14:18-15:23 & PDX0090-084-85 (PX8109-8110) (those three surfaces collectively made up █████ of Meta's North American ad revenue in the first half of 2022); 5/12 (Hemphill) 246:15-19; 5/14 (Hemphill) 105:21-25, 152:11-18; *supra* ¶¶ 20, 29; *infra* ¶ 169. Meta earns much higher ad revenue per organic impression and time spent on those surfaces (i.e., more intensely monetizes them) in comparison to other surfaces within the apps. 5/13 (Hemphill) 15:11-16 & PDX0090-085 (PX8110); 5/27 (Hemphill) 44:19-45:23, 49:2-24 & PDX0149-025.

**156.** Meta's profitable increases in ad load on users of Facebook and Instagram are a major driver of Meta's revenue and profits. 5/13 (Hemphill) 9:11-15, 10:20-12:1 & PDX0090-079-81 (PX8103-8105), 13:1-19, 14:6-15:16 & PDX0090-083 (PX8108) & -210-11 (PX8159-8160); 5/14 (Alison) 186:15-19, 188:6-11, 189:5-11, 191:11-22. Meta's experts do not contend—and openly disavow—that Meta has market power over advertisers. 5/20 (C. Tucker) 59:7-10; 5/21 (Carlton) 218:8-10; 5/19 (List) 228:12-14.

## **2. Meta has profitably reduced quality along multiple dimensions.**

**157.** Meta's profitable reductions in multiple forms of quality on Facebook and Instagram are also direct evidence of monopoly power over PSN users. 5/13 (Hemphill) 12:2-11, 26:12-30:22 & PDX0090-093-100 (PX8113-8114, PX8116-8119, PX8122-8123), -214-15 (PX8164-8167).

**158.** Though Meta provides Facebook and Instagram to users for a monetary price of zero, it exercises monopoly power by profitably reducing quality. 5/12 (Hemphill) 209:22-214:12 & PDX0090-011-13. Meta faces tradeoffs in the level of quality it provides to users: higher quality

can increase user engagement but also reduce Meta's profits. *See* 5/12 (Hemphill) 211:20-214:12 & PDX0090-013; 5/27 (Hemphill) 79:7-13; 5/7 (Cathcart) 52:14-54:21 & PX10068-001, 57:20-61:11 & PX15006-010; 5/1 (Hegeman) 147:13-148:4 & PX12664-054; 5/13 (Hemphill) 9:11-10:19 & PDX0090-078; Ex. A, PX10295-011 ("Meta thus seeks to optimize ad load to maximize revenue gains and minimize impact on user engagement."); *see also* PX2859-003 (direction "to hold any quality improvements that cost money until we're trending meaningfully above forecast for total revenue"). Meta's incentive is to maximize profits, and it can set a lower quality, and reap higher profits, with less competition for PSN services. 5/12 (Hemphill) 211:20-214:12 & PDX0090-013; 5/13 (Hemphill) 10:14-19; 5/27 (Hemphill) 79:7-13.

**159.** Meta has profitably imposed significant ad load increases on users of Facebook and Instagram over the last decade. 5/13 (Hemphill) 10:20-12:1 & PDX0090-079-81 (PX8103-8105).

**160.** Meta's increases in ad load are a reduction in quality for users. 5/13 (Hemphill) 12:2-25 & PDX0090-082 (PX8106-8107); *see also* 5/21 (Carlton) 220:7-223:6. Senior Meta executives recognize that ad load is a meaningful tax on the user experience. 4/15 (MZ) 95:7-96:16, 98:3-24 & PX15129-001; PX12501-001 (Chris Cox, Chief Product Officer: "I feel strongly that we shouldn't [add advertising to 'position 1' of the Facebook Feed . . . I worry that this crosses a rubicon of user experience when we are squeezing already too much from the apple."); 5/1 (Hegeman) 98:19-21, 159:12-14 & DX336 at 23, 186:12-14; PX12676-002, -004. "[U]sers don't like ads," and they prefer to see fewer ads. 4/22 (Systrom) 148:17-20; 4/15 (MZ) 98:18-21; 5/1 (Hegeman) 186:6-11; *see also* 5/20 (C. Tucker) 78:5-25 & PDX0127; PX15118-003 ("Consumers don't come to Facebook to look at ads; they come to stay connected with their friends and family").

**161.** Executives at other apps confirmed that users prefer not to see ads and that the imposition of ad load, and increases in ad load, reduce user engagement: [REDACTED]

[REDACTED]; *see also* Vid. (Chandlee) 38:8-19; 4/30 (E. Tucker) 15:22-16:1; Vid. (Weinstein) 255:3-17, [REDACTED]. Testimony and ordinary course documents and data also indicate that higher ad load reduces user engagement. 5/13 (Hemphill) 9:11-10:13 & PDX0090-078, 50:9-51:17 & PDX0090-129-30 (PX8142); 5/14 (Hemphill) 150:4-16; 4/15 (MZ) 97:19-98:24; 5/20 (C. Tucker) 84:5-10.

**162.** Underscoring that Meta’s increases in ad load are a reduction in quality for users, Meta’s internal surveys indicate that user frustration with ads has grown as ad load has increased, notwithstanding Meta’s unsubstantiated claims of ad quality improvements. 5/8 (Mosseri) 64:24-65:14 & PX3778-006 (2019 Instagram survey: top two user experience problems “by prevalence and severity” were too many ads on Feed and Stories); 5/13 (Hemphill) 12:12-25 & PDX0090-082 (PX8106-8107), 51:18-52:12 & PDX0090-131 (PX8143-8144); 5/27 (Hemphill) 68:10-70:1 & PDX0149-045; PX3824-001 (2020 Facebook survey: “Ad-related issues make up the majority of the top 5 issues.”), -007 (“US pain points 1-4 are all about ads.”), -032; PX3173-010 (“‘too many ads’ is the main topic [Facebook] users are complaining about,” with “~80% of surveyed users” “not 100% satisfied with Facebook and the main reason is that overwhelming ads reduces user experience”); PX3776-012 (“Top specific issues . . . too many ads”).

**163.** Meta uses ad load increases to capture the benefits of improved ad quality, as opposed to passing those benefits through to users (as a firm facing more competition would be expected to do). 5/14 (Hemphill) 42:24-43:12, 45:13-19, 108:13-109:25; 5/27 (Hemphill) 68:20-70:1; DX342 at 7 (ad quality increases are criterion for increasing ad load); *see also* PX2859-003 (direction to “hold any quality improvements that cost money until we’re trending meaningfully above forecast for total revenue”); PX11973-001 (relaying that, per meeting with Mr. Zuckerberg, “we will *not* reinvest our current excess revenue into sentiment improvements for now”).

**164.** Meta has also profitably reduced other dimensions of quality and overall quality on Facebook and Instagram. *See infra* §§ VII.B-F.

**3. Meta has many users with inelastic demand for its products.**

**165.** User responses to the Cambridge Analytica scandal show that users lack alternatives to Facebook and have inelastic demand for it, which is direct evidence of monopoly power. 5/13 (Hemphill) 30:23-32:5 & PDX0090-101 (PX8124-8125); *see also infra* ¶ 182 (Meta studies showed significant numbers of Facebook and Instagram users went “off-device,” to no other app).

**166.** In 2015, Facebook users’ profile data was improperly harvested *en masse* by the consulting firm Cambridge Analytica. 4/16 (Sandberg) 257:23-258:12; 4/29 (Olivan) 157:13-158:3; DX248 at 25. The 2018 disclosure of Cambridge Analytica’s misconduct triggered a record-breaking drop in user sentiment but no notable effect on user engagement on Facebook, indicating users’ inelastic demand. 4/16 (Sandberg) 258:9-25, 259:15-262:18 & PX2526-005-07; 4/29 (Olivan) 162:18-164:4 & PX12110-002-04; 5/13 (Hemphill) 20:14-21:3, 28:10-24, 30:23-32:5 & PDX0090-101 (PX8124-8125); 4/30 (Cobb) 228:4-14 & PX12968-004; PX12968 at -006, -015, -017, -021.

**4. Meta price discriminates to exploit its users’ inelastic demand.**

**167.** Meta’s price discrimination exploiting inelastic demand is direct evidence of monopoly power over users. 5/13 (Hemphill) 6:1-20 & PDX0090-075; *see also* 5/13 (Hemphill) 25:2-26:11; 5/27 (Hemphill) 33:3-34:1, 52:14-23, 67:7-21 & PDX0149-043 (price discrimination supports Meta’s exercise of monopoly power and confirms non-PSN apps do not discipline despite unconnected content).

**168.** Meta’s price discrimination includes imposing higher ad load on users with relatively more inelastic demand. 5/13 (Hemphill) 15:24-16:21, 18:3-21 & PDX0090-086, 20:14-21:3; 5/1 (Hegeman) 99:12-101:11, 188:1-8; 5/14 (Alison) 184:15-187:17, 189:5-21; 4/17 (Sandberg) 57:18-20; DX342 at 26, 34; PX3830-001. Meta “[p]ersonalize[s] ad load based on users’

sensitivity towards ads”—“how much [Meta] expect[s] a user’s top-line organic metric[s] . . . to regress . . . if we increase their ad load.” 5/12 (Hemphill) 219:22-221:9 & PDX0090-022-23; 5/21 (Carlton) 152:2-12 & DDX36.31 (agreeing); \*Dep. (Malhotra) 116:11-13, 117:6-10, 118:24-119:8, 224:10-16, 224:20-226:2, 226:4-8, 226:13-22, 228:2-5, 228:7-20, 228:23-229:12, 298:3-7, 298:14-25. Meta’s “needy user rule” on Facebook and Instagram lowers ad load based on Meta’s assessment of a user’s activity levels on, and demand for, the app in question. 5/13 (Hemphill) 19:2-15 & PDX0090-087, 21:4-10; 5/21 (Carlton) 229:13-18; PX3873-001.

**169.** Meta can and does increase quality-adjusted price for users who particularly value its apps for F&F sharing. 5/13 (Hemphill) 15:24-18:21 & PDX0090-086, 16:14-17:15, 21:25-22:15, 24:14-25:1; 5/14 (Hemphill) 143:15-144:1; 5/27 (Hemphill) 32:25-33:21, 51:21-52:4. On the surface level within the apps, Meta imposes higher ad load on three surfaces central to the F&F sharing experience—Facebook Feed, Instagram Feed, and Instagram Stories—than on other surfaces within the apps, such as Reels. 5/13 (Hemphill) 16:22-18:2; 5/14 (Hemphill) 152:11-18, 152:24-153:6; 5/27 (Hemphill) 52:5-13; 5/14 (Alison) 184:23-185:6, 261:5-10. Meta also reaps the vast majority of its revenue from the three surfaces central to friends and family and more intensely monetizes them. *Supra* ¶ 155.

**170.** Meta has underinvested in the friends and family experience on Facebook and Instagram, which is a form of price discrimination that reduces quality for users who value the apps for that experience. 5/13 (Hemphill) 22:16-23:12 & PDX0090-092, 24:14-25:1; 5/8 (Mosseri) 95:10-14, 201:2-5; 5/14 (Alison) 197:12-19; DX573 at 4 (“[S]tories consumption and production has plateaued, Feed’s decline has continued[.] We can explain some of these declines based on our own decisions . . . .”); PX3173-009 (“do not see posts from enough of my friends’ [is a] primary factor[] hurting users’ experience especially for tenured users”); *infra* ¶¶ 340-345.

**171.** Meta imposes higher ad load on Facebook users in older age cohorts, who display more inelastic demand for F&F sharing. 5/13 (Hemphill) 19:16-21:10 & PDX0090-088-89 (PX8111-8112), 21:25-22:15 & -091; 5/1 (Hegeman) 137:9-10, 137:16-139:21, 165:2-6 & PX12501-003-04 (reducing ad load for teens and young adults on Facebook after observing those age groups are “disproportionately sensitive to ads”—higher ad load causes greater drop in sessions—while other age groups are “disproportionately insensitive to ads”); PX3389-017 (“[O]lder adults are even more likely [than young adults] to say connecting with family and close friends is the main reason they use FB.”); PX3388-019-20 (top three apps for “catch[ing] up on the lives of people you care about” were Facebook (64%), Instagram (53%), and Snapchat (41%) for users aged 18-29, while 82% of users aged 30+ named Facebook as the top app); PX3656-053 (“Older people come to Facebook to browse for friends and family content much more than younger people.”); 5/21 (Carlton) 229:19-22 (conceding age-based ad load variation).

**172.** Meta imposes higher ad load on longer-tenured users of Facebook and Instagram, who display more inelastic demand for F&F sharing. 5/13 (Hemphill) 21:11-22:15 & PDX0090-090-91 (PX8113-8114); PX14997-001 (“[W]e reduced ad volumes and increased spacing [between ads] for particular sets of users (newer users, US youth).”); PX3400-010 (“Tenured cohorts users reports connecting with family/close friend, connecting with more distant friends, and sharing photos as main reasons to use FB more often than newer cohorts”); PX3401-014-15 (“Users newer to Instagram are less likely to report a ‘Friends & Family’ intent”); PX3656-055 (“People who have been on Facebook for a shorter period of time browse for news more and friends and family content less.”); 5/21 (Carlton) 230:8-11 (conceding tenure-based ad load variation).

**173.** Under Meta’s ad load practices, only a small minority of users receive a discounted ad load, while a significant majority of users receive elevated ad loads, further confirming Meta’s exercise

of monopoly power. 5/13 (Hemphill) 25:2-26:11; 5/14 (Hemphill) 152:11-23; 5/27 (Hemphill) 48:20-49:1, 67:7-68:9 & PDX0149-043-44.

**5. Meta possesses the power to exclude competition.**

**174.** Meta has suggested that it could have “significantly limit[ed]” Instagram’s growth had Instagram not been acquired. *See* DX204 at 1 (Mr. Systrom sharing “destroy mode” concern pre-acquisition); ECF No. 324-1 at 40 (citing DX204 in claiming Meta’s ability to “significantly limit” Instagram’s growth). Meta’s experts have also suggested that had Meta not acquired Instagram, Meta could have caused Instagram to struggle. *See* 5/21 (Carlton) 241:23-242:8.

**F. Meta’s experts fail to unsettle the relevant market or the conclusion that Meta exercises monopoly power.**

**1. Meta’s experts fail to dispute that non-PSN apps do not serve demand for friends and family sharing.**

**175.** Meta’s experts did not assess the purposes for which consumers use different apps. 5/21 (Carlton) 186:4-9, 191:5-12; 5/19 (List) 179:2-19, 189:18-190:13; *see also id.* 167:18-24, 170:19-172:3. As such, Prof. Carlton did not opine that non-PSN apps are used for F&F sharing or are a reasonable alternative for doing so. 5/21 (Carlton) 188:19-189:25.

**2. Meta’s empirical studies are flawed and uninformative, and do not rebut the relevant market.**

**176.** Profs. Carlton and List presented five analyses purporting to show evidence of substitution to non-PSN apps; none informs whether a monopolist of PSN services can suppress quality or whether there is a market for PSN services. 5/27 (Hemphill) 12:14-13:17 & PDX0149-004, 15:16-17:23 & -007, 28:20-32:24 & -016; 5/21 (Carlton) 197:15-198:13 & DDX36.3.

**177.** None of Meta’s empirical studies implement an HMT and they fail nearly every element of a SSNIP test. 5/13 (Hemphill) 56:3-57:15 & PDX0090-139; 5/27 (Hemphill) 15:16-17:23 & PDX0149-007; *see also* 5/21 (Carlton) 194:10-197:14 (neither Prof. Carlton nor Prof. List applied

the HMT); 5/19 (List) 188:15-18 (Prof. List's analyses did not implement the HMT). For example, outages impose infinite and transitory price increases that overstate diversion to distant substitutes and fail to account for the importance of PSN network effects and switching costs. 5/12 (Hemphill) 238:2-240:11; 5/27 (Hemphill) 24:1-26:14 & PDX0149-011-12, 27:8-28:19 & -015.

**178.** Profs. Carlton and List measure a large price increase on top of quality-adjusted prices that are already supracompetitive. 5/13 (Hemphill) 55:23-57:15 & PDX0090-138-39. Imposing a SSNIP on top of prices that are already supracompetitive ignores the existing exercise of monopoly power, a failing referred to as the *Cellophane* fallacy. 5/21 (Carlton) 185:7-12; *see also* 5/12 (Hemphill) 224:11-24; 5/19 (List) 229:6-20.

**179.** Relevant antitrust markets routinely exclude products that consumers would switch to in response to a price increase. 5/21 (Carlton) 181:11-18. Prof. Carlton observed "substitution" to non-PSN apps in the empirical studies but did not opine that the level observed was so large such that a single firm controlling all PSN apps in the U.S. could not profitably raise price or reduce quality. 5/21 (Carlton) 198:2-13, 201:12-203:19; *see also* 5/27 (Hemphill) 31:19-32:24.

**180.** Prof. Carlton opined that the relevant market should include YouTube and TikTok because the studies show greater upticks in time spent on those apps than on Snapchat. 5/21 (Carlton) 193:14-20 & DDX36.7. Defining a relevant market based on order of diversion ("ranked diversion") has been abandoned by other economists and the Merger Guidelines. 5/27 (Hemphill) 17:24-19:23 & PDX0149-008. By not following SSNIP conditions, the studies also overstate switching to non-PSN apps and thus do not correctly measure ranked diversion. 5/27 (Hemphill) 25:8-26:14, 29:16-31:16; *see also id.* 27:1-7 & PDX0149-014 (upticks in usage were about the outage, not substitution). Transitory changes are especially inappropriate for measuring diversion for PSN services because network effects and switching costs make it difficult for consumers to

find alternatives in the short run. 5/27 (Hemphill) 24:1-26:14 & PDX0149-011-12; *see also* 5/19 (List) 196:23-199:15 (List pricing experiment did not account for network effects). Prof. Carlton's ranked diversion approach would also validate a market of only Facebook and Instagram, which the evidence supports. 5/27 (Hemphill) 20:25-21:9, 32:14-24; *see also supra* § II.E.2.

**181.** Profs. Carlton and List selectively ignore applications that showed higher diversion in their studies than TikTok or YouTube, including Google Chrome and Candy Crush. 5/27 (Hemphill) 19:24-20:17, 23:2-11 & PDX0149-009; *see also* 5/21 (Carlton) 85:14-86:12 & DDX36.7 (DX1167); 5/19 (List) 206:9-208:21, 210:15-213:1, 214:11-216:11 (List ignores browsers, games, and other apps with higher diversion than TikTok, YouTube, and Snapchat).

**182.** In the Meta outage study and List pricing experiment, a plurality of Facebook and Instagram time did not go to any other online service, indicating that there was a substantial share of time on Facebook and Instagram that users did not replace on another app. 5/27 (Hemphill) 23:12-25 & PDX0149-010 (PX10659-025 (Meta executives concluding that off-device time during 2017 Facebook outage was "non-substitutable")); 5/21 (Carlton) 194:2-8 & DDX36.7 (DX1167); DX1220; DX1221; 5/19 (List) 173:3-174:23, 176:17-177:7 & PDX0120-001-02.

**183.** Prof. Carlton's 2021 Meta outage study fails each SSNIP element and does not inform market definition or ranked diversion, because it: (1) was transitory (six hours); (2) included products outside the PSN services market (i.e., Messenger, WhatsApp); (3) was a complete outage, not a small increase; and (4) was done on Meta's current elevated prices. 5/12 (Hemphill) 239:18-240:11 & PDX0090-139, 5/27 (Hemphill) 15:16-17:5 & PDX0149-007; 5/21 (Carlton) 194:10-195:11.

**184.** Prof. Carlton's 2025 TikTok outage study fails each SSNIP element and does not inform market definition or ranked diversion, because it: (1) was transitory (15 hours); (2) was a product (TikTok) outside the PSN market; and (3) was a complete outage, not a small increase. 5/27

(Hemphill) 27:8-28:19 & PDX0149-007 (study is “fatal[ly]” flawed given cross-elasticities of demand between two products are not symmetric); 5/21 (Carlton) 195:12-20, 197:12-14.

**185.** Prof. List’s 2020 India ban study fails nearly every SSNIP element and does not inform market definition or ranked diversion, because it (1) includes apps outside the geographic and product markets; and (2) was a complete outage, not a small increase. 5/27 (Hemphill) 15:16-17:5 & PDX0149-007, 27:8-28:19; 5/19 (List) 236:7-237:3 & DDX31.15; 5/21 (Carlton) 196:2-197:14.

**186.** Prof. List’s pricing experiment fails nearly every SSNIP element and does not inform market definition or ranked diversion, because it (1) was transitory (a few weeks long; participants knew the end date); (2) was not a small price increase; and (3) was on Meta’s current elevated prices. 5/27 (Hemphill) 15:16-17:23 & PDX0149-007; 5/19 (List) 193:22-195:12, 200:12-205:16.

**187.** Prof. List’s switching study fails every SSNIP test element and does not inform market definition or ranked diversion because it did not actually measure substitution in response to a change in price or quality. 5/27 (Hemphill) 15:16-17:5 & PDX0149-007; 5/19 (List) 146:24-149:6 & DDX31.17 (conceding study is uninformative as to substitution), 148:7-10 (same), 213:2-214:10, 217:10-218:16.

### **3. Prof. List’s de-merger model is flawed and uninformative.**

**188.** Prof. List’s de-merger model is flawed, uninformative, and contradicted by Meta’s own assertions. 5/27 (Hemphill) 72:7-75:6 & PDX0149-049-51. Adjusted to account for Meta’s own assertion of strong competition for advertising, the model projects a significant ad load increase from the combination of Facebook and Instagram. 5/27 (Hemphill) 74:6-9 & PDX0149-051.

### **4. Prof. Carlton’s ad load analysis is uninformative and beside the point.**

**189.** Prof. Carlton’s responses to Prof. Hemphill’s ad load analysis are uninformative and beside the point. 5/27 (Hemphill) 34:2-22, 37:21-38:11. Prof. Carlton posits that Meta’s ad load does not uniformly increase with friend counts, 5/21 (Carlton) 142:11-143:4, 229:4-12, but Prof. Carlton

offers no evidence or opinion that demand elasticity varies by friend count. *Id.* 226:15-228:3 & DDX36.27; 5/27 (Hemphill) 39:5-41:4. And he critiques that ad load does not go up on holidays but lacks evidence that demand is more inelastic on those days. 5/27 (Hemphill) 50:21-51:20.

**190.** Prof. Carlton’s analyses of ad load by age and surface are also uninformative. 5/27 (Hemphill) 36:20-38:11 & PDX0149-020, 44:19-45:23, 49:2-51:20 & PDX0149-025. Both rely on Prof. Carlton’s underinclusive classification of what counts as “friend” content. 5/27 (Hemphill) 54:12-16; 5/21 (Carlton) 209:20-210:9 & DDX36.20, 226:3-10 & DDX36.28-30. And neither is inconsistent with or refutes Meta’s ad load practices for age and surface described by Prof. Hemphill, which are drawn from Meta’s own data and documents. 5/27 (Hemphill) 36:20-38:11 & PDX0149-020 (age), 42:3-44:18 & PDX0149-021 (age); 5/27 (Hemphill) 44:19-45:23 (surface), 49:2-51:20 & PDX0149-025 (surface); *supra* ¶¶ 167-173.

**191.** Real-world price discrimination takes place in varied and imperfect ways. 5/21 (Carlton) 223:13-224:18; 5/27 (Hemphill) 34:23-35:8. That Meta is not exploiting every possible dimension of user inelasticity does not negate the observed and documented ways in which it is—which are largely undisputed by Prof. Carlton. 5/27 (Hemphill) 36:1-19 & PDX0149-018-19, 40:16-42:2; 5/21 (Carlton) 152:2-12 & DDX36.31 (conceding Meta’s ad load system is designed to vary ad load based on user sensitivity to ads), 229:13-230:11 (conceding “needy user program” and age and tenure ad load variations).

### **III. The Shift to Mobile Was a Significant Technology Shift that Presented a Rare Window of Vulnerability for Meta**

**192.** Between 2010 and 2014, the widespread adoption of smartphones changed the way people consumed digital services as people increasingly used mobile devices in what has been called the “shift to mobile.” PX12108-002; Ans. ¶¶ 53, 54, 62; *see also* 4/16 (Sandberg) 218:12-18; 5/13 (Hemphill) 61:19-62:11 & PDX0090-145. Smartphones offered many improvements over older

cellular phones, such as high-quality cameras. Ans. ¶¶ 53, 54; 4/22 (Systrom) 13:5-14:5.

**193.** During the shift to mobile, incumbent desktop platforms were more vulnerable than they were before or after. 4/22 (Systrom) 152:5-11; PX7003-003 (Instagram investor: shift was “unique window on smartphones to establish the new application/network leaders.”). It was a “critical time” for Meta, in part because the shift posed a “huge disruption” to “unique advantages Facebook had in desktop.” 4/29 (Olivan) 29:5-19; *see also* 5/13 (Hemphill) 62:12-64:19 & PDX0090-146-48 (shift to mobile allowed for proliferation of new innovations and applications on smartphones).

**194.** The growth of public cloud during the shift to mobile gave startups access to hyperscale infrastructure as needed without the large capital expenditures, overhead, and engineering teams previously required to build internet-enabled services. Vid. (Bennett) 88:9-89:1, 89:15-90:11, 97:6-18, 216:12-20; Vid. (Vallery) 169:5-21; PX15360-004-05; PX15359-003-10. These advantages are in part why “[m]ost of the companies founded after 2007[] launched with public cloud.” PX12617-008; Vid. (Vallery) 24:15-25:6; 4/22 (Systrom) 48:6-14.

**195.** Meta faced challenges adapting to mobile devices. As Mr. Zuckerberg explained: “our whole company had been built up to that point . . . on desktop web, which was a different technical stack” than mobile devices. 4/14 (MZ) 203:9-21; *see also* Ex. B, PX15544-009 (Meta RFA Resps.) (by 2012, Facebook mobile apps were “widely criticized as slow, unreliable, unduly complex, and ill-suited to a mobile environment.”); 4/23 (Stoop) 6:4-13; 5/15 (Horowitz) 108:2-10.

**196.** Meta released its Facebook iOS and Android applications in July 2008 and September 2009, respectively. Stip. 66-67. By December 2011, 425 million Facebook MAU—more than half of all MAU at the time—accessed Facebook on a mobile device. PX0292-008; Stip. 68.

**197.** It took Meta “several years to really get the quality of experience on mobile that [it] wanted.” 4/14 (MZ) 203:9-21. Starting in approximately September 2010, Meta began re-writing its mobile

applications to use HTML5 programming, a project it called “Faceweb.” 4/14 (MZ) 203:22-204:18; PDX0022. Meta completed development of Faceweb by May 2011; it took Meta another four months to decide Faceweb would not produce the user experience Meta wanted, and by September 2011 Meta chose to re-write the Facebook mobile apps again, but in native code. 4/14 (MZ) 208:24-209:17 & PDX0022. Mr. Zuckerberg called Meta’s bet on HTML for its mobile apps “the biggest mistake we made as a company,” noting it “cost us probably a year.” 4/14 (MZ) 214:1-14 & PX15183 at 10:50-11:07. Meta completed the native re-write of its iOS app (called project “Wilde”) in August 2012, while its native Android app was still under development as of September 2012. 4/14 (MZ) 212:12-15, 213:15-25 & PDX0022.

**198.** Rewriting from scratch in native code was “a major technical risk” for Meta. 4/14 (MZ) 211:16-18. Mr. Zuckerberg worried that Meta might be overtaken during the rewrite as Netscape had been overtaken by Internet Explorer. 4/14 (MZ) 211:19-212:2.

**199.** Meta recognized the technical limitations of the Facebook mobile apps. PX15180 at 0:42-1:10 (two days before signing the Instagram acquisition agreement, Stip. 58, Mr. Zuckerberg explained: “it’s not a secret that our current iPhone app is not that awesome” and compared to Instagram “right now, we’re like, really, we’re behind . . . It is probably a fair thing to say that people tolerate the Facebook mobile experience because they like using the Facebook network primarily on their desktop.”); 4/23 (Stoop) 6:4-25 (describing the Facebook iOS app in 2011 as “brittle” and “a house of cards,” noting “it was due for an overhaul.”), 8:24-9:20 & PX12404-001 (Meta engineers describing “photos on the core iOS app” as “the buggiest and worst user experience out of anything in the app,” noting Meta needed to fix “the wounded buffalo that is [Facebook for iOS] before the lions come”).

#### **IV. Meta’s Acquisition of Instagram Eliminated a Significant PSN Competitor and Protected Meta’s Monopoly Power**

**A. Instagram was a significant threat to Meta’s dominance in PSN services.**

**1. Instagram was a fast-growing PSN competitor.**

**200.** 2010 was a good time to be developing mobile apps. 4/22 (Systrom) 13:5-14. The iPhone and App Store offered developers “a robust development platform” alongside “an app store that distributed your app potentially to any consumer that had an iPhone.” *Id.* 13:5-14:2 (by mid-2010, the recent iPhone 4 had a camera good enough to take photographs worth sharing). Recognizing the opportunity, Instagram’s founders set out to create a mobile-first way for people to share their lives with friends and family on the go through photos taken and shared on their smartphones. *Id.* 37:18-38:5 & PX3221-012; PX2757-001-02.

**201.** Instagram’s founders intended to build a mobile social network, and they pitched themselves to investors as a company with the potential “to be one of the greatest networks of our time.” 4/22 (Systrom) 57:19-58:4; *see also* PX2757-002, -005. Investors agreed, noting in 2012 that its mobile social network could take advantage of Facebook’s relative weakness on mobile. PX10080-001 (Sequoia: “We believe Instagram is an emergent mobile social service, built around the spear tip of photos, and that it has the potential to build a separate social graph from those that exist today.”); PX7003-001-04 (Greylock: “Instagram is an important company today, poised to be a much more important one soon. Facebook & Google are both very vulnerable on mobile and apps, and Instagram seems to be in a position to take advantage of those vulnerabilities.”).

**202.** Instagram launched on October 6, 2010, as a mobile-first personal social network built around photos. PX3221-012; 4/22 (Systrom) 14:14-15, 37:18-22; 5/13 (Hemphill) 65:23-66:10 & PDX0090-151. At launch, Instagram allowed users to take a photo and share it with their friends via a Feed. 4/22 (Systrom) 22:2-20. Friends could “like” and comment on their friends’ photos. *Id.* 22:21-23:21. At launch, Instagram had a social graph and tools to allow users to find people they knew. *Id.* 24:10-25:5; *see also* Vid. (Botha) 82:17-82:20 (still true in 2012); PX10080-002 (same).

**203.** Instagram was designed to be a way for users to share their lives with family and friends through photos. 4/22 (Systrom) 14:6-13; 4/16 (Sandberg) 227:13-23. From the beginning, the primary use case of Instagram was to share updates about one’s life with friends and family. 4/22 (Systrom) 26:8-27:17; 4/28 (Coleman) 63:24-65:3; 4/14 (MZ) 238:23-239:6; PX3426-001.

**204.** Instagram was an instant and sustained success, achieving “[e]xponential, unstoppable” growth from its launch through its acquisition by Meta. 4/22 (Systrom) 30:12-31:2 (“That first day, we had 25,000 registrations, which at the time was unheard of.”); *see also* PX2965 (Zuckerberg: “Their growth rate is crazy.”). Instagram attracted more than 100,000 registered users in its first week, almost 19 million registered users in its first fifteen months, and more than 100 million registered users less than two years after launch, all before joining Meta. 4/22 (Systrom) 32:2-4, 42:10-12, 77:23-78:7; PX3221-003; PX3878-001; PX2980-001-02.

**205.** Between its 2010 launch and early 2012, Instagram’s registered user base doubled approximately every three months. PX10080-005. After launching on Android on April 3, 2012, Instagram’s registered user base more than tripled in four months. *Compare* PX10030-001 (reporting 30 million registered users on date of Android launch), *with* PX3878-001 (crossing 100 million registered users on August 29, 2012).

**206.** Pre-acquisition Instagram did not regularly track active users, but *February* 2012 data show it had more than 9 million MAU worldwide at that time. 4/22 (Systrom) 28:3-10; PX10080-005 (reporting 9.02 million “30-day” users with 6.1% growth week-over-week). March data used by Meta at trial repeat these February figures, but Instagram did not stop growing between February and March. *See* 4/22 (Systrom) 166:8-10 (referencing DX1287 at 4, which reports same data as PX10080-005); *see also* PX2965 (discussing February 2012 Instagram user figures: “we should expect [the 6% growth rate] to only increase as [Instagram] just launched their Android app”).

**207.** Applying Instagram’s 6.1% weekly growth rate for the six weeks from February 23, 2012, to April 5, 2012, implies Instagram had more than 12.8 million MAU worldwide by the acquisition date. PX10080-005 (February 23, 2012 memo reporting 9.02 million MAU and 6.1% “w/w growth”); Stip. 58 (agreement on April 8, 2012). In 2012, the majority of Instagram’s users were in the U.S., so these figures imply Instagram had over 6.4 million U.S. MAU by April 8, 2012. 4/22 (Systrom) 162:10-13, 163:14-164:4.

**208.** Instagram was “praised as exemplifying the speed, reliability, and simplicity necessary to succeed in the mobile environment.” DX266 at 5. Beloved by users, Instagram earned five-star reviews on the Apple App Store and was named the App Store’s App of the Year for 2011. 4/22 (Systrom) 36:8-37:6; *see also* PX10080-007 (listing user reviews like: “[t]he best social network ever way better than facebook”).

**209.** Instagram was extremely “sticky,” with users returning to the app regularly. 4/22 (Systrom) 58:5-12; 279:2-19; 4/21 (Rim) 17:23-19:22 (“exceptional” metrics). Internal metrics show that in February 2012, Instagram’s ratio of DAU to MAU was 61.7%, indicating that users tended to come back every day. PX10080-005; DX1287 at 4 (same data); 4/22 (Systrom) 279:2-19; *see also* PX2965 (Zuckerberg: “the ratio of dailies / monthlies is quite high (61%) around where ours is, which means that even though they only do one thing it’s extremely sticky . . .”).

## **2. Instagram was poised to become an even greater competitive force over time.**

**210.** By 2012, Mr. Systrom understood that Instagram’s trajectory was bringing it into more direct conflict with Facebook. In discussions with an investor over a plan for dealing with the inevitable “wrath of Mark [Zuckerberg],” Mr. Systrom proposed to raise money from investors, hire “an army” of additional employees, and downplay Instagram’s ambitions to Mr. Zuckerberg. DX204 at 3 (“I don’t think we’ll ever escape the wrath of [M]ark . . . it just depends how long we avoid it . . . that’s why we need to raise 70 build an army and keep our heads down”). Meanwhile

Instagram’s founders did their best to convince Meta that Instagram was not a threat to Facebook, even though they understood that the two apps overlapped in their offering of PSN services. 4/22 (Systrom) 186:20-188:8 (“Q. So was that true or was it not true when you wrote that? A. That was probably less true than I was leading on. And I think it was a negotiation tactic to get him to believe we had less overlap than we did.”).

**211.** Instagram was highly likely to be successful absent an acquisition by Meta. 4/21 (Rim) 16:7-14, 26:15-19. Sequoia Capital (“Sequoia”), a lead investor and informed industry participant, considered Instagram highly capable and likely to succeed. Vid. (Botha) 36:21-38:11 (“very high” probability of “turning into a good business” independent of Meta); 4/21 (Rim) 19:14-22, 21:20-22:24 (high engagement compared to other consumer tech apps); 5/13 (Hemphill) 67:12-68:1 & PDX0090-154. Prior to acquisition by Meta, Instagram received interest from many venture capital firms, and selected investors and board members who could help Instagram with funding, high-level strategy work, and operational issues like hiring, making business partnerships, raising money, and handling acquisition offers. 4/21 (Rim) 23:2-24:18; Vid. (Botha) 79:11-20 (Instagram had “too many pigs [i.e. investors] at the trough”); 4/22 (Systrom) 59:5-17 (chose “well connected” and “experienced” investors), 82:6-12 (board included Matt Cohler, Facebook former).

**212.** By early 2012, Instagram had funding to continue its growth as an independent company. Instagram closed a \$50 million Series B funding round in April 2012 that valued the company at \$500 million. 4/22 (Systrom) 56:4-24, 58:13-59:20; Vid. (Botha) 94:3-10.

**213.** Instagram planned to use its \$50 million in Series B funding to hire dozens of new employees, rent office space, and cover infrastructure costs. 4/22 (Systrom) 57:7-18. Instagram’s investors would have helped Instagram scale independently. Vid. (Botha) 41:17-43:10.

#### **B. Meta recognized with growing alarm the threat posed by Instagram.**

**214.** Meta recognized the threat Instagram posed to Facebook. As early as February 2011, just

four months after Instagram launched, a Meta executive observed: “Instagram seems like it’s growing quickly. In 4 months they’re up to 2m users and 300k daily photo uploads. That’s a lot. We need to track this closely.” PX2892; *see also* PX1157. By February 2012, Mr. Zuckerberg was describing Meta as “very behind” Instagram, and the prospect of having to catch up as “really scary.” PX1102; PX2888-001.

**215.** Meta’s concerns flowed from a recognition that Instagram was a personal social network that directly threatened Facebook. Meta executives feared that Instagram was building a “parallel network[]” to Facebook’s. PX1580-001. Mr. Zuckerberg wrote to Meta’s Chief Financial Officer that Instagram’s business was “nascent” but that it had an established network and a “meaningful” brand, and he worried that “if they grow to a large scale they could be very disruptive to us.” PX1136-001; *see also* 4/15 (MZ) 13:15-25 (agreeing that in 2012 he thought “the Instagram network was competitive with Facebook’s network”).

**216.** In early 2012, Mr. Zuckerberg highlighted the threat posed by Instagram’s growing network. In a February post to executives, Mr. Zuckerberg described how “apps like Instagram or [Facebook Camera] will be very increasingly compelling,” and “[Instagram’s] network effect will strengthen greatly if they get broad cross-platform adoption before we do.” PX3154-001. He observed that “even without further increase in market share [Instagram] should grow by at least 4X this year,” and “we should perhaps be more open to buying” it. *Id.* -002.

**217.** Meta’s concerns about Instagram—and its interest in acquiring it—heightened with Instagram’s successful launch on the Android platform. *See, e.g.*, PX2965; PX2514-001-02, -005-06. On April 3, 2012, Instagram released on Android and gained one million additional users in 24 hours. 5/12 (Schultz) 161:1-9; 4/22 (System) 64:13-66:5; PX10030-001. The same day, Meta reported that for an internal version of Facebook Camera “approximately 30% of DAU

experience[d] a crash per day.” PX1295-001.

**218.** Meta was worried about the prospect of Instagram catching up to Facebook on key engagement metrics. Meta’s internal reporting also noted that Instagram was “growing extremely fast,” its users had doubled in the first quarter of 2012 while still only on iPhone, and the “FB iPhone app [was] really not far ahead on Mobile.” PX1295-001. Meta’s own analysis showed that in April 2012, Instagram’s users were already generating almost as many photo likes per day as Facebook’s users were, even though Facebook had four times as many photos uploaded each day. In response to this data, Ms. Sandberg told Mr. Zuckerberg: “This makes me want Instagram more.” 4/16 (Sandberg) 233:12-234:12 & PX2514-001-02.

**219.** By April 6, 2012, Mr. Zuckerberg told Meta employees that they needed “to dig [Meta] out of a hole” and Instagram was “growing really quickly . . . they have a lot of momentum, and it’s kind of going to be tough to dislodge them. So we’ll have to see, we have a hard battle ahead of ourselves there.” PX15180 at 4:26-4:48.

**220.** Meta also feared that another industry player might acquire Instagram to enter into PSN services. Mr. Zuckerberg worried as early as 2011 “if Instagram continues to kick ass on mobile or if Google buys them . . . they could easily add pieces of their service that copy what we’re doing now,” which could pose “a real issue for [Meta].” 4/14 (MZ) 232:3-18 & PX1180-001-02; DX1096 at 20-21 (noting “that would be bad” if Twitter bought Instagram). As a Meta engineer told Mr. Zuckerberg, acquiring Instagram was “compelling . . . from a defense perspective because of the potential for someone like Apple to use them as a foothold.” DX1101 at 1. Meta’s fears were well-founded: Twitter, Google, and Apple were all showing interest in acquiring Instagram. 4/22 (Systrom) 61:25-64:12.

**221.** Other photo apps did not threaten Facebook the way Instagram did. Instagram’s sharing

network and mobile-first orientation threatened Facebook in ways that other apps—such as Hipstamatic, which did not have social features, and Flickr, which was desktop-based and not designed for F&F sharing—did not. 4/22 (Systrom) 73:15-76:24 & PX3004.

**222.** Instagram’s success differentiated it from the few other apps that were also trying to provide a mobile-first platform for F&F sharing: Path, Treehouse, and Picplz. 4/22 (Systrom) 71:25-73:14. For example, while Path described itself as “the personal social network,” PX8013A-093, and Mr. Zuckerberg described Path as a “pretty direct kind of social media competitor” and “going to the core of what we’re doing today,” 4/14 (MZ) 197:8-198:4, 250:11-17 & PX2888-001, Path achieved “nowhere near the growth” of Instagram and ultimately failed. 4/22 (Systrom) 73:4-14; PX3364-041; *see also* PX7003-003. By contrast, Instagram “just hit a nerve with consumers” and “was catching lightning in a bottle.” Vid. (Botha) 66:3-68:01, 69:10-70:14. In early 2012, Path had one million MAU to Instagram’s more than nine million. 4/16 (MZ) 170:11-171:4; *see also* PX8149 (comparing MAU on Instagram and Path).

**223.** Similarly, another Instagram contemporary, Picplz, “never really got significant traction,” and had just one employee by 2012. PX3367-001-02; Vid. (Botha) 59:22-61:2, 65:5-20. Picplz’s user growth didn’t register on Instagram’s radar, and was “small enough that [Instagram] never ended up being concerned about them as a potential competitor.” 4/22 (Systrom) 72:12-18. By early 2012, Meta documents suggest Picplz had only 1.2 million users and was not worth even \$1-2 million as a potential acquisition target. 4/23 (Stoop) 38:17-22, 39:20-23; PX3367-001-02.

**C. Meta initially attempted to meet the Instagram threat by competing on the merits, but struggled to do so.**

**224.** Faced with intense and growing competition from Instagram, Meta initially responded by attempting to compete. By the spring of 2011, Meta’s “entire photos team” was “focused almost exclusively on a new mobile photos app as we gawk at Instagram’s simple photo-sharing app

taking off.” PX2357-001 & 4/14 (MZ) 218:23-220:12.

**225.** Meta’s efforts to improve the photo-sharing experience on Facebook took the form of a new app—code-named “Snap,” then released as “Facebook Camera”—due to difficulties with integrating photo-sharing on the Facebook application. 4/23 (Stoop) 28:24-33:12 & PX12409-012, 40:14-20 (“Facebook Camera was a standalone iOS application with its primary purpose being a vehicle to massively improve the photo sharing experience on Facebook, and from that, improve the extent to which people share photos on Facebook.”), 42:9-43:3.

**226.** In June 2011, Mr. Zuckerberg told executives Instagram “appear[ed] to be reaching critical mass as a place you go to share nice photos,” and “[w]e really need to get our act together quickly on this since Instagram is growing so fast . . . Table stakes for beating them are a standalone mobile app where you can easily upload photos plus filters.” PX12202.

**227.** By early September 2011, Mr. Zuckerberg repeated it was “important to ship soon” because “[i]n the time that it has taken us to get our act together on this Instagram has become a large and viable competitor to us on mobile photos, which will increasingly be the future of photos.” PX1180-002. Later, he told executives that at Instagram’s “current rate” of growth, “literally every couple of months that we waste [shipping Facebook Camera] translates to a double in their growth and a harder position for us to work our way out of[.]” Mr. Zuckerberg concluded by instructing the Camera team to “fix [its issues] and ship the app....I don’t see why this should be so hard, and I don’t think we should accept any excuses for not getting this done [quickly].” *Id.* -001-02.

**228.** In January 2012, Mr. Zuckerberg fretted that “when you look at Instagram and Path and then go back to our Newsfeed, it looks like ours was built in the stone age.” DX266 at 8 n.16. In March 2012, Mr. Zuckerberg urged the Facebook Camera team “to crank and get [Facebook Camera] out,” or otherwise Instagram “may really be unreachable.” PX3352-010. On April 6, he told Meta

employees that Facebook was “behind” Instagram in developing a compelling mobile experience. PX15180 at 0:43-1:12.

**229.** Development of Facebook Camera was beset by delays. Meta’s photos team initially planned to launch Facebook Camera to the public by December 2011. 4/23 (Stoop) 11:19-12:19 & PX12403-001. But the photos team missed that deadline and by January 2012 Mr. Zuckerberg was again “beating the drum” to release quickly given Instagram’s growth. 4/23 (Stoop) 17:13-18:18 & PX2488-001. Meta finally released Facebook Camera in May 2012, after the Instagram acquisition was announced. Stip. 64. Meta invested little in the app post-launch and quietly shut it down less than two years later. *Infra* § VI.A.

**D. Having failed to fend off the Instagram threat via competition, Meta eschewed competition on the merits and instead acquired Instagram.**

**230.** As development of Facebook Camera dragged on and Instagram’s growth accelerated, Mr. Zuckerberg determined that it would take Meta “a huge amount of work” and “too long to catch up [to Instagram], if we even will,” and that Meta would “be very behind in both functionality and brand on how one of the core use cases of Facebook will evolve in the mobile world, which is really scary.” 4/14 (MZ) 236:20-243:15 & PX1102; PX2888-001; PX15180 at 0:43-1:12, 4:35-4:49; *see also* 4/16 (Sandberg) 234:9-12.

**231.** Faced with the reality that Facebook was behind Instagram, Meta’s thoughts turned to acquisition. Mr. Zuckerberg believed that Meta could “likely always just buy any competitive startups.” DX1097 at 1. On April 9, 2012, Mr. Zuckerberg told one Meta engineer: “I remember your internal post about how Instagram was our threat and not Google+. You were basically right. One thing about startups though is you can often acquire them.” PX2502-002.

**232.** Mr. Zuckerberg considered that Meta “might want to consider paying a lot of money for [Instagram].” 4/14 (MZ) 240:23-242:2 & PX1102; PX2888-001. Mr. Zuckerberg knew that an

acquisition would be “really expensive — probably ~\$1 billion” but could be worth it because Instagram was “pretty threatening” and could “hurt [Meta] meaningfully.” DX1101 at 1-2; 5/13 (Hemphill) 68:2-18 & PDX0090-155. Mr. Zuckerberg thought an acquisition was attractive to “neutralize a potential competitor” in Instagram. PX1136-001-03 & 4/15 (MZ) 15:14-17:11.

**233.** Ultimately, Meta decided to acquire Instagram for \$1 billion—double the \$500 million figure at which Instagram was valued in the contemporaneous Series B round. 4/22 (Systrom) 56:4-24, 58:13-59:20, 195:10-11. Ms. Sandberg acknowledged the price was “too much,” but nevertheless supported the acquisition. 4/16 (Sandberg) 235:13-236:6 & PX2522-001.

**234.** Meta’s executives justified the “really expensive” acquisition by emphasizing Instagram’s threat to Facebook. DX1101 at 1. Mr. Zuckerberg told Meta employees that the purchase “was a no brainer” because Instagram had grown into a “mega-network” that was “on the path to win” had Meta not acquired it. PX2501-001-02. Andrew Bosworth, Meta’s Director of Engineering reported that the acquisition was necessary because “we were getting our ass kicked by [Instagram] in mobile photo sharing.” PX1208-001. Several months later, in November 2012, Mr. Zuckerberg wrote “Instagram was growing so much faster than us we had to buy them for \$1 billion[.]” 4/15 (MZ) 37:18-41:18 & PX15138-001.

## **V. Meta’s Acquisition of WhatsApp Eliminated a Significant Competitive Threat in PSN Services and Protected Meta’s Monopoly Power**

### **A. With the shift to mobile, Meta faced threats to its PSN dominance from leading mobile messaging apps**

**235.** The shift to mobile led to the rise of over-the-top mobile messaging apps that provided a better, more featureful experience than SMS messaging with no character limits, higher quality photos and videos, group messaging, location services, and eventually encryption. 5/20 (Acton) 156:16-158:11; PX10216-001; *see also* 5/20 (Acton) 158:12-14, 159:4-9; 5/13 (Hemphill) 72:23-73:19 & PDX0090-191; \*Dep. (Rose) 142:5-19.

**236.** In 2011, Meta acquired Beluga, a messaging startup, to compete in the mobile messaging space; the acquired engineers developed the Beluga product into Facebook Messenger, launched in August 2011. PX1998-002; 5/5 (Deng) 9:17-25; Vid. (Davenport) 18:8-14, 25:5-7, 25:19-26:1; Stip. 63. This effort did not prevent the rise of competing mobile messengers: as early as April 2012, Meta recognized there were four top mobile messaging apps: WhatsApp, LINE, KakaoTalk, and WeChat. 4/29 (Olivan) 52:16-23 & PX12105-007; PX1116-001; PX10452-004.

**237.** WhatsApp was the global in leader mobile messaging as early as 2012, through its acquisition. 5/20 (Acton) 155:11-13; PX10232-016 (Jan. 2012); PX1998-002 (Sept. 2013).

**238.** The other top mobile messaging apps were the leading mobile messengers in different Asian countries: LINE in Japan, Thailand, and other Southeast Asian countries; WeChat in China; and KakaoTalk in South Korea. 4/29 (Olivan) 37:6-11, 37:12-13, 37:2-5.

**239.** Meta understood that the leading mobile messaging apps in Asia were “leveraging their messaging platform[s] to expand into social networking.” PX10452-004; *see also* PX1297; PX10449-002 & 5/5 (Deng) 26:7-20; PX1586-002; PX1103-006; PX10594-007; PX12108-002 & 4/29 (Olivan) 68:18-24; PX1116-001; PX11286-008.

**240.** LINE and WeChat each added a separate PSN tab to their messenger app that contained social, Feed-based features. 4/21 (Rim) 39:8-18; 4/29 (Olivan) 36:9-18; 4/16 (Sandberg) 241:23-25; PX10452-004; PX10449-002; PX10626-001.

**241.** Kakao leveraged the graph of its mobile messenger KakaoTalk to create a separate PSN app: KakaoStory, a full-featured mobile social network with a feed. 4/21 (Rim) 39:8-19; 4/16 (Sandberg) 242:17-21; 4/29 (Olivan) 36:1-8; PX10452-004; PX1093-002; PX11080-001.

**242.** Facebook lost to LINE and Kakao’s PSN services, for at least a period of time, where Facebook competed in those apps’ primary markets. PX10600-006-07; PX11078; PX11079-004-

05 & 5/7 (Schultz) 264:14-266:1; PX11080-001 & 5/7 (Schultz) 272:18-273:6; PX10598-003.

**1. Meta was deeply concerned about mobile messengers competing by bootstrapping their mobile graphs into personal social networks and was particularly concerned about WhatsApp doing so.**

**243.** Meta feared mobile messengers building PSN services as the biggest threat to its core PSN business. PX10598-008 (“MMs are increasingly moving into core social-networking products areas. This marks a transition from SMS replacement and a generic ‘time spent’ threat to a direct threat to our primary products.”); PX10454-002 (“[T]his is the biggest threat to our product that I’ve seen in my five years here at Facebook; it’s bigger than G+, and we are all terrified.”) & 5/5 (Deng) 35:16-23; PX10452-004 (“Pose a tremendous threat beyond messaging”); PX1103-006 (“This is a threat to our core businesses: both WRT graph and content sharing.”) & 5/5 (Deng) 45:17-19; PX12108-002 (“The sum-product of shift to mobile + messenger services morphing into fully fleshed SSN sites is IMO the biggest competitive threat we face as a business.”); PX12108-001 (WeChat, Kakao, and LINE “are trying to build social networks and replace us”) & 4/15 (MZ) 44:7-19; 4/29 (Olivan) 73:10-74:5; Vid. (Davenport) 189:10-16, 190:4-18, 191:3-14; PX2521-002; PX10271-002.

**244.** Meta knew that WhatsApp, as a leading mobile messenger, could also add social functionality to become more like Facebook, which Mr. Zuckerberg stated would make WhatsApp “a very formidable competitor.” 4/16 (MZ) 95:1-19; *see also id.* 99:4-20 (WhatsApp had “so much adoption and intense use for so many people” that not expanding into other things was failing to “maximiz[e] the impact they could potentially have”), 100:4-9 (WhatsApp “had the opportunity to build a massive and extremely important platform”); PX1297-001 & Vid. (Davenport) 209:21-210:2; PX1413-001 & Vid. (Zoufonoun) 288:22-289:10, 290:19-291:12.

**245.** From late 2012 through 2013, Mr. Zuckerberg worried about WhatsApp “expanding into more services” and other Meta executives continued to perceive WhatsApp as a threat to bootstrap

a PSN service. PX1708-004 (Mar. 2013); *see, e.g.*, PX11287-001 (Oct. 2012: “I think we should talk about the competitive threat from WhatsApp, KakaoTalk, Line, etc. This might be the biggest threat we’ve ever faced as a company.”); PX12108-002 (Jan. 2013: describing “[M]essenger services morphing into fully fleshed SSN sites” as “the biggest competitive threat we face as a business” and including a tweet about WhatsApp’s “new record day” as a “data point[.]”); PX1103-006 (Feb. 2013: Board of Directors presentation noting that “competitors” including WhatsApp “have all the ingredients for building a mobile-first social network”); PX12127-001 & PX1413-001 (Aug. 2013 discussion of WhatsApp’s scale and growth: the “scary part...is that this kind of mobile messaging is a wedge into broader social activity/sharing on mobile”); PX10454-002, -004 (Oct. 2012: “We are facing a huge threat in messaging competitors”); PX10452-004 (Aug. 2012).

**246.** Meta also feared that WhatsApp could “use [its] brand” to successfully “launch a second separate app” that competed directly with Facebook. PX1413-001 & Vid. (Zoufonoun) 288:6-289:10, 290:19-291:12, 292:18-23.

**247.** While Meta believed WhatsApp benefited from having a “simpler and clearer brand,” Meta understood that WhatsApp was not actually a simpler product—it had many features. PX10333-004 & 5/5 (Deng) 75:4-25; 4/16 (MZ) 93:25-94:3.

**248.** From its genesis, WhatsApp had a history of updating or altering features when needed. *See* 5/20 (Acton) 154:1-7; 154:23-155:3. WhatsApp was continually adding features prior to Meta’s acquisition and would have continued to add features that its users wanted. 5/20 (Acton) 166:13-169:7 (WhatsApp had already added push notifications, photo sharing, group messaging, location sharing, audio sharing, video sending, read receipts, cloud backup, profile photos, and had begun to develop voice calling and end-to-end encryption), 169:11-13; 4/17 (Goetz) 79:4-14; *see, e.g.*, 5/20 (Acton) 168:3-8 (users wanted read receipts), 168:18-24 (same for profile photos).

**249.** Meta saw the mobile messenger threat as an existential threat to the *entire* company, not just in the Asian countries where Facebook was struggling to unseat local PSN services. PX2521-002 & PX10271-002 (mobile messengers “transforming . . . into a broader social network” is “the biggest competitive vector”; “[t]hey haven’t expanded outside of Asia yet, but this is a big risk for us”); PX12108-001 (“I would block products that, if successful, could replace our core functionality & engagement/ jeopardize our complete existence.”); PX12106-002 (“[I] believe (otherwise [I] would not have made such a big deal of this) that the sumproduct of shift to mobile + messengers growing organically with huge retention and virality = potential recipe for [us] not [to] be around in a couple [of] years.”); PX11287-001 (“This might be the biggest threat we’ve ever faced as a company.”); *see* 4/29 (Olivan) 55:20-56:13; 5/7 (Schultz) 260:4-7. The biggest threat to Meta as a company would be one impacting the U.S.—Meta’s most important market, economically and culturally, and where it makes the bulk of its revenue. 4/15 (MZ) 236:17-23; PX8016 [REDACTED]; PX0715-064 (2023-24: 44-45%).

**250.** Prior to Meta’s acquisition of WhatsApp, Meta was concerned that WhatsApp could “tip” and “win[]” the U.S., surpassing SMS. PX1486-001 & 4/15 (MZ) 62:25-64:9; *see also* PX11108-002 & 5/7 (Schultz) 252:16-253:5 (Facebook Messenger was not winning in the U.S.).

**251.** Meta understood that WhatsApp would pose a threat to add PSN services as a cross-platform messenger with a potential “far larger network” than iMessage. PX1297-001. iMessage is not cross-platform, and [REDACTED] 4/29 (Shah) 229:1-10, [REDACTED] *see also* 4/17 (Goetz) 70:14-25 (“[I]t was unlikely that [iMessage] would become a multi-platform competitor to WhatsApp.”).

**252.** Meta understood that WhatsApp as a standalone company would need a way to monetize, and that one way would be to add ads on a PSN offering, similar to how Meta and the other leading

mobile messengers were monetizing at the time. PX10333-002 & 5/5 (Deng) 18:22-19:3; *infra* ¶ 284. Unlike WhatsApp, Apple does not need to monetize iMessage because its business model is to sell Apple devices. *See* 4/15 (MZ) 237:25-238:3; 4/29 (Shah) 227:9-16.

**2. Meta also feared WhatsApp adding a PSN at the hands of a competing acquirer.**

**253.** Meta was concerned about another company acquiring WhatsApp and adding a PSN offering. 5/13 (Hemphill) 77:6-21 & PDX0090-167; 4/29 (Olivan) 105:14-16; *see, e.g.*, 4/21 (Arora) 158:3-8, 158:21-25.

**254.** WhatsApp and its investors believed that Meta feared Tencent could acquire WhatsApp to compete with Meta outside of China. PX1365-001 & 4/17 (Goetz) 97:13-22.

**255.** In April 2013, Mr. Zuckerberg contacted WhatsApp founder Jan Koum about a potential acquisition after rumors of a Google acquisition offer. PX1002-001; *see also* PX10232-012.

**256.** Meta feared that Google could acquire WhatsApp and use it to “bolster Google’s social network offerings.” *Vid.* (Davenport) 191:10-14; *id.* 163:20-24, 193:18-195:4 (explaining that WhatsApp “[c]ould help strengthen Google+ or form the basis for a reboot, . . . a new social network of some form” for Google), 195-8:15; PX1297-001 (“[T]he case for Google acquiring WhatsApp has only gotten stronger in the past 6 months . . . . [I]f W[hatsApp] is acquirable at all, the risks to us not being the acquirer have grown.”); PX3643-001 & 4/29 (Olivan) 113:17-23; PX10453-002 (“[I]f [W]hats[A]pp falls into [G]oogle’s hands, that would be very, very bad[.]”).

**257.** On February 5, 2014, Morgan Stanley presented to Meta “about various M&A opportunities,” which included a slide titled “Fit With Facebook” that stated “Google’s resources combined with WhatsApp’s user base and traction could create the predominant social network on Mobile (surpassing Facebook)[.]” PX11878-027; *Vid.* (Esfahani) 94:3-9, 99:14-22; 4/21 (Rim) 42:14-24 (“They are pointing out that if Google acquires WhatsApp, that will be a threat.”) &

PDX0021-033 & PX10227-019 (same language as PX11878-027).

**3. Meta attempted, but failed, to mitigate the mobile messaging-to-PSN threat by improving Facebook Messenger.**

**258.** Meta saw winning mobile messaging as a means of mitigating the threat of mobile messengers adding PSN offerings and made significant investments in Facebook Messenger. PX1708-004; 4/29 (Olivan) 45:17-21 & PX10598-002, 62:4-18 & PX10600-005-06; PX11078-001; 5/7 (Schultz) 267:3-6. Meta was concerned with Facebook Messenger’s performance and made it a priority for the company, moving the Messenger team into its growth team and allocating more resources for Messenger. PX11078-001; 5/7 (Schultz) 248:13-249:4; 4/15 (MZ) 31:3-11; PX10449-001-02.

**259.** Meta sacrificed profits by rejecting advertisements from WeChat, LINE, and Kakao after Mr. Zuckerberg concluded that “[t]he revenue is immaterial . . . compared to any risk” because Meta “perceived that WeChat, LINE, and Kakao were trying to build social networks” and potentially “replace the Facebook application as a social network.” 4/15 (MZ) 42:20-43:3, 43:20-44:19 & PX12108-001.

**260.** Prior to the WhatsApp acquisition, Meta understood that it was not winning mobile messaging, 5/7 (Schultz) 252:16-253:5; PX1998-002, and that WhatsApp was “legitimately a better product for mobile messaging” than Facebook Messenger. PX10333-003; *see also* Vid. (Davenport) 169:20-170:3, 170:8-25, 171:17-24; PX10449-001; PX10457-002-03. Facebook Messenger’s active users and message sends were behind WhatsApp, LINE, KakaoTalk, and WeChat. 5/5 (Deng) 37:5-14 & PX10454-004; PX1103-006; PX10626-004; PX10608-003; PX2320-002; PX10333-004; *see also* Vid. (Davenport) 130:20-131:6 & PX10330-002.

**B. WhatsApp was objectively a nascent threat to enter PSN services at the time of Meta’s acquisition.**

**1. WhatsApp had the capabilities necessary to add PSN services.**

**261.** Prior to its acquisition by Meta, WhatsApp had exceptional scale, growth, and engagement. 4/21 (Rim) 19:23-21:4; *see also id.* 21:20-22:24 & PDX0021-012 (PX8081) (high engagement compared to other well-known consumer tech apps); 4/17 (Goetz) 68:7-69:12, 74:4-15 & PX10232-002, -011, -016 (WhatsApp’s metrics considered “rare air” and “[e]xceptional”).

**262.** Sequoia led the investment in WhatsApp in 2011 and continued to make additional investments in WhatsApp, including an investment round in February 2014 with Digital Sky Technologies (“DST”) at an \$8 billion valuation. 4/17 (Goetz) 61:16-17, 94:11-17; *Vid.* (Mehta) 35:8-17 & PX10215-002; 4/21 (Arora) 147:22-25; PX10232-001, -010.

**263.** Sequoia, a “top-tier investor in technology,” 4/16 (MZ) 176:15-16, provided significant assistance to WhatsApp by aiding with strategic decisions, recruiting for high-impact roles, making introductions, and fielding acquisition offers, among other things. 4/17 (Goetz) 62:5-9, 62:17-22, 71:25-72:13, 101:14-23, 102:7-13 & PX3814, 103:2-5 & PX3116; PX14801-001. Other venture capital firms, including but not limited to DST, were also interested and capable of similarly helping WhatsApp with funding and other assistance. 4/21 (Arora) 146:23-147:12; 4/21 (Rim) 22:25-23:10, 23:20-24:18; *Vid.* (Mehta) 35:08-17 & PX10215-002.

**2. WhatsApp was doing well and growing in the United States and was well-positioned to continue to do so.**

**264.** In 2014, the U.S. was behind in adopting messaging apps, and there was still an opportunity for a mobile messenger to “win” the U.S. *Vid.* (Mehta) 112:3-13; PX11108-002; *see also* PX1103-013.

**265.** In the U.S., people have a desire for a primary messaging app that is cross-platform, which can reach and provide the same experience for all consumers in the country, not just those users that have a particular type of phone. 4/16 (MZ) 105:4-21; *Vid.* (Davenport) 84:14-21; *see also* 5/13 (Hemphill) 80:25-81:10 (green bubbles for non-Apple users).

**266.** Prior to Meta’s acquisition, WhatsApp was the second largest over-the-top cross-platform mobile messenger in the U.S., barely behind Facebook Messenger, and no other cross-platform mobile messenger had meaningful size in the U.S. 5/13 (Hemphill) 77:22-78:14 & PDX0090-168 (PX8151, right chart), 79:1-13; PX10232-009; PX10227-016.

**267.** WhatsApp was rapidly growing in the U.S. in the years leading up to Meta’s acquisition. *See* PX3661-006 (2014: WhatsApp describing the U.S. as one of the “[c]ountries driving growth”); 5/13 (Hemphill) 77:22-78:14 & PDX0090-168 (PX8150, left chart). In 2012, Apple named WhatsApp as the #2 most downloaded app in the U.S. out of all apps in its App Store. PX14798-002. In April 2013, WhatsApp was adding the 11th most users in the U.S. out of all the countries it was operating in. 4/17 (Goetz) 75:4-8 & PX10232-011.

**268.** By early 2014, the U.S. had the 12th most daily active and ninth most monthly active WhatsApp users, and was adding the 7th most overall users out of all countries it operated in. PX14806-001, -003; 4/21 (Arora) 152:5-13, 152:23-153:1. Additionally, WhatsApp was adding over 48,000 users a day in the U.S., a growth rate DST called “very strong.” 4/21 (Arora) 153:8-12; PX14806-004; *cf.* Vid. (Mehta) 76:2-12.

**269.** In February 2014, Meta informed its Board of Directors that WhatsApp had 20 million users in the U.S. PX10858-004.

**270.** Meta witnesses provided no numbers to support their trial testimony that WhatsApp was small in the U.S., and their statements were contrary to actual data. *See, e.g., compare* 4/29 (Olivan) 100:3-16, 202:8-22 (not believing that the U.S. was within WhatsApp’s top 12 countries for MAU or DAU or WhatsApp was in the top three in the U.S. app store), *with* ¶¶ 267-268; *compare* 4/29 (Olivan) 56:14-17 (WhatsApp growing rapidly “in many countries with certain exceptions like U.S., UK”), *with* PX3661-006 (U.S. one of the “countries driving growth”), *and*

PX10232-002 (U.K. was one of WhatsApp's top 5 markets).

**271.** Before its acquisition by Meta, WhatsApp was not marketing itself in the U.S., yet WhatsApp was still growing rapidly there and marketing could have further enhanced its growth in the U.S. 5/20 (Acton) 111:25-112:2, 172:2-20; *cf.* 4/29 (Olivan) 120:24-121:2, 121:22-122:1.

**272.** After Meta acquired WhatsApp, Meta chose to prioritize marketing Facebook Messenger in the U.S. over WhatsApp. 5/20 (Acton) 191:21-192:11 & PX15197-001; [REDACTED]

[REDACTED] Despite the lack of marketing by Meta, WhatsApp still grew in the U.S. 4/29 (Olivan) 201:11-16.

**273.** WhatsApp had the incentive to keep growing in the U.S. because it was one of seven countries where WhatsApp enforced its subscription fee, due to high penetration of credit cards, good penetration of users, and high GDP. 5/20 (Acton) 107:10-17, 145:14-146:13, 177:20-178:9.

**274.** WhatsApp would need to focus on the U.S. to monetize through a PSN because it is the most valuable ad market and biggest economy. 5/7 (Schultz) 263:17-19; 4/15 (MZ) 236:17-23.

### **3. WhatsApp had an incentive to add PSN services because that provided a viable monetization approach**

**275.** WhatsApp was likely to offer PSN services absent Meta's acquisition. 4/21 (Rim) 16:19-23.

**276.** Prior to Meta's acquisition, WhatsApp was not profitable. 4/16 (MZ) 110:1-15; 4/21 (Rim) 30:11-25; PX3828-008 (listing net losses of \$54 million in 2012 and \$138.1 million in 2013).

**277.** Prior to Meta's acquisition, WhatsApp's costs were increasing, and the investment capital WhatsApp had was only sufficient for the next year or two. 4/17 (Goetz) 80:15-24, 135:16-23, 138:14-20.

**278.** The WhatsApp founders would have faced pressure to increase the monetization of WhatsApp over time, given the expectations of, and their responsibilities to, their investors and their employees. 4/21 (Rim) 27:10-28:19; *Vid.* (Mehta) 56:10-13; *cf.* 5/20 (Acton) 187:12-20.

**279.** A subscription model for WhatsApp was unlikely to be successful in the long run. 5/20 (C. Tucker) 93:12-94:2; 4/21 (Rim) 33:6-34:17; 4/17 (Goetz) 80:19-24, 135:16-23.

**280.** Mr. Acton did not believe WhatsApp would have wanted or needed to offer ads through a pivot of its messenger because he understood WhatsApp's pre-acquisition financial status to be cash-flow positive and believed that a subscription model could have succeeded. 5/20 (Acton) 139:19-141:3, 145:14-146:13, 180:3-5. His beliefs were not based in reality. *Supra* ¶¶ 276, 279; *see also* 4/21 (Rim) 27:22-28:19.

**281.** As experienced venture capital firms frequently do with startups, 4/21 (Rim) 32:20-33:5, Sequoia had discussions with WhatsApp about monetization strategies that would be more profitable than the existing subscription model. 4/17 (Goetz) 89:2-8; 4/21 (Rim) 31:1-32:16. Sequoia reported to its investment committee it was making progress in these conversations about monetization with the founders. *Compare* PX10232-003 (June 2013: "WhatsApp management is iterating on this topic in real time"), *with* PX10232-012 (April 2013: noting WhatsApp's hesitation to pivot its messaging user base); *see also* 4/17 (Goetz) 64:25-65:4 (providing accurate information in investment memos).

**282.** One of the business models that Sequoia discussed with WhatsApp included launching a new app that would include social features. 4/17 (Goetz) 131:3-8. Sequoia believed that WhatsApp could "build out a social platform either as a standalone company or via acquisition by an existing social player" and monetize like LINE, Kakao, WeChat (Tencent), and Meta. *Id.* 82:18-83:14 & PX10232-003-04; 4/21 (Rim) 37:2-23, 38:16-39:7.

**283.** Prior to its acquisition by Meta, WhatsApp was checking references for a Chief Financial Officer whose primary experience was monetizing through ads. 5/20 (Acton) 181:20-182:3 & PX3641-003-04, -007.

**284.** Because ads on a pure messenger would be very intrusive, the leading Asian mobile messengers were monetizing by adding a PSN offering through a separate tab or app and including ads on that surface. 4/21 (Rim) 39:8-24; *see also* PX10216-002 (describing in-between message ads as “spammy”).

**285.** It was a common understanding in the tech industry that the leading mobile messengers were monetizing by adding a PSN offering to a messenger. 4/21 (Rim) 36:7-37:1; *see also* PX0610 at 0:36-1:41 (Meta); PX10232-003-04 (Sequoia); PX12753-009 (Google).

**286.** Morgan Stanley created a deck for WhatsApp, which suggested that various potential acquirers acquiring WhatsApp “could determine the social network winner on mobile.” PX10227-019 (cleaned up); Vid. (Esfahani) 42:18-44:5. Morgan Stanley would have presented the “common understanding” of what was possible, not “laughable ideas,” to get WhatsApp’s business. 4/21 (Rim) 41:15-43:8. WhatsApp ultimately hired Morgan Stanley to work on the Meta deal, even though WhatsApp “didn’t really require an advisor,” “because of all the preemptive work that [Morgan Stanley] had done in terms of the positioning materials [they] had shared.” Vid. (Esfahani) 89:10-90:17.

#### **4. WhatsApp was poised to provide PSN services through acquisition by another acquirer**

**287.** Prior to Meta’s acquisition of WhatsApp, WhatsApp received acquisition interest from many large, notable companies, including Meta, Google, Tencent, Microsoft, Yahoo, and Twitter. PX14801-001; PX10229-001; PX10232-004.

**288.** Tencent, the parent company of WeChat, *see* PX1093-002, was interested in acquiring WhatsApp prior to Meta’s acquisition and had reached out to WhatsApp expressing that interest. 4/17 (Goetz) 83:15-18, 134:7-11; 4/21 (Arora) 143:23-25.

**289.** Google made an offer to acquire WhatsApp in late 2010 or early 2011 for close to \$100

million. 4/21 (Arora) 135:8-18.

**290.** One of the strategic rationales and goals for Google acquiring WhatsApp was for Google to “potentially grow [WhatsApp] into a mobile social network” and “[s]upercharge [Google’s] mobile social initiatives.” PX14795-002, -003 & 4/21 (Arora) 139:17-24, 140:10-24.

**291.** Google made another “genuine” acquisition overture of \$300 million in the fall of 2011. PX10232-015; 4/17 (Goetz) 146:3-147:3.

**292.** Sequoia understood that Google, as a potential acquirer, could use WhatsApp to build out a social platform and believed that Google would have been an “acceptable home” for WhatsApp. PX10232-003; 4/17 (Goetz) 82:18-83:14, 134:12-21.

**293.** In February 2014, Google executives met with the WhatsApp founders to discuss a potential acquisition of WhatsApp. 5/20 (Acton) 144:8-13.

**C. Again eschewing competition on the merits, Meta responded to the competitive threat by acquiring WhatsApp.**

**294.** Meta was worried after learning that the WhatsApp founders were meeting with Google, and Meta worked quickly to make an offer and finalize a deal, which came together within days. Vid. (Zoufonoun) 247:19-248:1; PX14810-001 & 4/21 (Arora) 164:20-22 (confirming accuracy of PX14810); PX14809-001-02 (Mr. Koum not disagreeing that “all the info below is true”); 5/20 (Acton) 142:25-143:1, 185:8-23 (referring to the timeline as “a frenzy”); Vid. (Esfahani) 89:10-91:14. While the deal was being finalized, Meta “demand[ed]” WhatsApp sign a no-shop agreement amidst concerns that Sequoia “might be trying to spin up a Google offer.” PX13950-002; PX14807 (no-shop agreement) & 4/21 (Arora) 157:22-158:2.

**295.** Meta announced its agreement to acquire WhatsApp on February 19, 2014, for an expected purchase cost of \$19 billion. Stip. 60; PX10858-004; 4/16 (MZ) 109:6-11. The \$19 billion expected purchase cost of WhatsApp was 11% of Meta’s market capitalization as of the

announcement of the WhatsApp acquisition. 4/24 (Hearle) 32:13-23.

**296.** Meta did not receive detailed revenues and expenses from WhatsApp prior to agreeing to the deal, and there was no formal valuation of WhatsApp performed prior to the acquisition price being determined. PX10856; 5/20 (Acton) 187:21-24. Instead, Meta and WhatsApp brought on bankers to help explain the purchase cost *after* it was already decided on. [REDACTED]

[REDACTED] 4/21 (Arora) 159:10-15. The methods Meta used to suggest a value of WhatsApp at the time of the acquisition did not constitute standard valuation approaches nor did Meta include any analyses to quantify any synergies from the deal. 4/24 (Hearle) 10:14-19, 32:5-12.

**297.** Meta hired KPMG to perform a valuation study to assess WhatsApp’s pre-acquisition value, which concluded that WhatsApp’s standalone value was \$8.1 billion. 4/24 (Hearle) 31:4-19; PX12692. Meta thus paid a premium of \$10.9 billion, or 135%, to acquire WhatsApp. 4/24 (Hearle) 31:25-32:4.

**298.** The premium that Meta paid is “consistent with anticompetitive conduct,” meant to “secure an avoidance of competition,” and unexplained by deal synergies. 5/13 (Hemphill) 82:6-83:7.

**299.** To justify the \$19 billion expected purchase cost, Meta assumed that by 2024, WhatsApp would need to monetize at an average revenue per user of \$2.05, even though WhatsApp had thus far been monetizing at an average revenue per user Meta believed to be \$0.10 and was actually \$0.032-0.036. 4/24 (Hearle) 23:25-24:9 & PDX0029-012 (PX10858-012), 25:19-23 & PX10858-011, 26:16-20 & PDX0029-013 (PX8052).

**300.** Meta had no plan for how to monetize WhatsApp at the time of the acquisition, 4/24 (Hearle) 81:19-23; 4/29 (Olivan) 104:19-105:1; Vid. (Zoufonoun) 280:1-6; PX2518-003, and has lost billions operating WhatsApp. *Infra* ¶ 316; 5/13 (Hemphill) 83:8-21 & PDX0090-172 (PX8153).

**301.** The WhatsApp acquisition held “defensive value” for Meta because other market

participants would have attempted to monetize WhatsApp “like WeChat and LINE over a five year period.” PX2994-012 (explaining this conclusion was “[b]ased on discussions with [Meta’s] Management”); 5/13 (Hemphill) 97:22-24 & PDX0090-182. Meta presented this understanding to its Board of Directors by showing that WhatsApp could monetize similarly to LINE, WeChat, and Kakao. 4/21 (Rim) 44:2-46:4 & PX10858-011. After the WhatsApp acquisition was announced, Mr. Zuckerberg publicly justified the expected purchase cost by comparing WhatsApp’s monetization potential to those same apps. PX0610 at 0:37-1:41; 4/15 (MZ) 66:11-18.

**D. The WhatsApp founders were willing and did sell to an acquirer who monetizes through ads and made changes to WhatsApp that they disagreed with.**

**302.** The WhatsApp founders understood that the purchase price Meta offered assumed a value of \$40 to 50 per user, around 1110-1500 times what WhatsApp was actually earning, but could be explained based on the opportunity to show ads to users. 5/20 (Acton) 185:24-187:11; 4/24 (Hearle) 26:16-20 & PDX0029-013 (PX8052).

**303.** The WhatsApp founders accepted Meta’s offer, even though they believed the size of Meta’s offer was based on advertising, because it was the best thing they could do for their families, employees, and shareholders. 5/20 (Acton) 187:12-20; *supra* ¶ 278.

**304.** The WhatsApp founders knew that Meta made money through ads, tried to get explicit language in the acquisition agreement about not adding ads into WhatsApp, failed to get that language, and still sold WhatsApp to Meta. 5/20 (Acton) 142:17-24, 209:23-210:11.

**305.** Meta added features to WhatsApp over the objections of the WhatsApp founders. 4/16 (MZ) 106:17-107:14; 5/20 (Acton) 195:25-197:4.

**306.** Meta implemented changes to WhatsApp’s terms of service and privacy policies, allowing more data sharing from WhatsApp with Meta, over the objections of the WhatsApp founders. 5/20 (Acton) 207:2-208:18.

**307.** Mr. Acton left Meta, leaving \$800 million (now around \$4 billion) worth of restricted stock units behind, because Meta wanted to add ads to WhatsApp, and Mr. Acton decided to allow Meta to grow WhatsApp in the way Meta wanted to. 5/20 (Acton) 210:12-212:2.

**308.** In 2019, Meta once again explored adding ads to the WhatsApp Status feature but ultimately decided against it because of Mr. Zuckerberg's concern that the data privacy policy changes needed to implement Status ads would result in a [REDACTED] 5/7 (Cathcart) 52:14-54:21 & PX10068-001, 57:20-61:11 & PX15006-010. But ultimately, on June 16, 2025, Meta publicly announced the addition of "Ads in Status." *See* Ex. C, "Helping You Find More Channels and Businesses on WhatsApp," Meta Newsroom (June 16, 2025).

## **VI. Meta's Acquisitions of Instagram and WhatsApp Harmed the Competitive Process and Maintained Meta's Monopoly**

### **A. Meta's acquisitions of Instagram and WhatsApp harmed the competitive process by eliminating competition in PSN services.**

**309.** Meta's acquisitions harmed competition by eliminating competition between Instagram and Facebook and eliminating the prospect of competition between WhatsApp and Meta in the U.S. PSN services market. 5/12 (Hemphill) 207:2-4; 5/13 (Hemphill) 84:4-89:17.

**310.** Meta's acquisition of Instagram eliminated Instagram as a competitor to Facebook in PSN services. 4/15 (MZ) 26:9-13, 26:20-27:14. Before the acquisition, Instagram's founders never "refrain[ed] from taking any action that [they] thought would help Instagram grow because of concern that it would hurt Facebook." 4/22 (Systrom) 81:19-25. But after Instagram became a part of Meta, it could no longer pursue new users or additional engagement at Facebook's expense. *Id.* 81:13-18; PX15244-002.

**311.** With Instagram no longer exerting competitive pressure on Facebook as it had before the acquisition, Meta could relax the efforts to improve Facebook that it had undertaken in response to Instagram. Meta's focus turned away from Facebook's photo-sharing experience and toward

other areas, including mobile messaging and ads. 4/15 (MZ) 29:13-16 & PX1115; PX1116-002; PX3371-001; PX12193-001. For example, Meta released Facebook Camera shortly after the Instagram acquisition was announced but gave it “no marketing efforts and very few updates” and eventually shut down the app entirely. PX2947-001; 4/15 (MZ) 28:4-8; 4/16 (Sandberg) 239:12-13; PX13800-001 (“We haven’t put resources behind these apps in some time”).

**312.** For WhatsApp, Meta was willing to pay nearly \$11 billion above its standalone value. 4/24 (Hearle) 31:25-32:4. Given the durability and scale of Meta’s monopoly position, Meta’s elimination of WhatsApp represents a significant harm to competition, even if one assumes a lower probability of WhatsApp becoming a PSN competitor. 5/13 (Hemphill) 84:13-85:24 (“[I]t’s still of relevance as an economic matter, as a real-world matter that the expected value of this threat, the expected value of the harm, is still really large. . . . [A] 20 percent chance of a \$10 billion anticompetitive harm is . . . \$2 billion in expected value.”).

**B. The acquisitions of Instagram and WhatsApp have harmed the competitive process by increasing entry barriers.**

**313.** Meta’s acquisitions of Instagram and WhatsApp also harmed the competitive process by increasing barriers to entry into PSN services. 5/13 (Hemphill) 95:8-96:15 & PDX0090-181-82.

**314.** Meta expressed a general intent during the shift to mobile to build and expand a competitive moat through strategic acquisitions. PX10271-002. The Instagram acquisition was an example of this philosophy in action: Meta recognized that acquiring Instagram and keeping it operational would avoid opening opportunities for entry by other firms, instead establishing a moat that would protect Meta from other competitors. 4/14 (MZ) 249:10-250:2 & PX2888-001; 4/15 (MZ) 17:4-21:14 & PX1136-003; PX3352-006-07. To Meta, the value of buying Instagram was “buying [] time”—even if a new competitor sprang up, it would not get traction. PX1136-003 & 4/15 (MZ) 19:9-21:14.

**315.** Meta understood that winning mobile messaging served as a moat to prevent others from stepping in and that acquiring WhatsApp would be defensive. PX1586-002; PX11076-001; PX2994-012; PX11079-001 (“[W]e have not won the messaging use case and as long as that’s the case KakaoStory remains a threat to our core.”) & 5/7 (Schultz) 269:1-23. As Peter Deng, a Facebook Messenger lead, explained, without a strong mobile-focused messenger, “we are leaving ourselves vulnerable to many competitors who will take this and build the next Facebook,” whereas winning in messaging would have “costs to build and maintain, but huge benefits (the biggest one is not allowing someone else to step in).” PX1586-002.

**316.** Since acquiring WhatsApp, Meta has operated it with substantial losses. WhatsApp had [REDACTED] in total losses between 2014 to H1 2022, averaging [REDACTED] per year. 4/24 (Hearle) 37:7-38:1 & PDX0029-025 (PX8054-8056). Meta’s attempt at monetizing WhatsApp, now ten years later and mainly through Click-to-WhatsApp ads, has not made up for the billions of dollars it has lost in purchasing and operating WhatsApp. 4/24 (Hearle) 34:3-35:11, 55:21-56:11; 4/15 (MZ) 238:24-239:12. Click-to-WhatsApp ads appear on Facebook and Instagram, not WhatsApp itself, and cannibalize other potential ads that could be sold on Facebook and Instagram. 4/24 (Hearle) 35:2-22; 5/7 (Cathcart) 119:1-14.

**317.** In acquiring WhatsApp and operating it without a fee, which contributed to WhatsApp’s substantial losses, Meta has impeded attempts by other mobile messengers to achieve a scale that would make them pivot threats. 5/13 (Hemphill) 97:20-98:6 & PDX0090-182 (PX2994-009).

**318.** With a competitive moat protecting Meta, formidable entry barriers have been strengthened, with network effects and switching costs working in tandem. 5/13 (Hemphill) 47:17-24; PX1204-003. Meta understands the importance of the network created by its users, expressing that it “is a strong network effects business,” PX14319-004, and that its “brand and network effects provide

[a] real competitive moat.” PX1204-002; *see also* PX3602-004. Other firms have also recognized that Facebook and Instagram’s [REDACTED]

[REDACTED]; *see supra* ¶ 147.

## VII. Meta’s Anticompetitive Acquisitions Have Harmed Consumers

**319.** By eliminating competition for PSN services and maintaining Meta’s monopoly, Meta’s anticompetitive acquisitions have harmed consumers. 5/12 (Hemphill) 207:2-4; 5/14 (Hemphill) 153:16-25; *infra* ¶¶ 320-361.

### A. Competition, when present, benefits consumers of PSN services.

**320.** Competition spurs firms to lower price and improve quality. It forces firms “to be better to win.” 4/16 (Sandberg) 200:25-201:15 & PX2527-001; *see also* 5/12 (Hemphill) 209:22-213:16 & PDX0090-011-13; 5/13 (Hemphill) 10:14-19, 92:15-23, 108:7-13 & PDX0090-197; 5/14 (Hemphill) 52:6-13; 5/27 (Hemphill) 83:18-84:15 & PDX0149-059; 5/15 (Horowitz) 133:6-14. Per Mr. Zuckerberg, “different apps to try different approaches are major strengths for innovation” and “most companies actually perform better after they’ve been split up.” PX3602-003, -007. By contrast, monopoly power saddles consumers with higher prices and reduced quality and choice. 5/12 (Hemphill) 209:22-210:23 & PDX0090-011; 5/13 (Hemphill) 108:9-13.

**321.** Investing in product improvements is costly and hurts Meta’s profits but benefits consumers. *Supra* ¶ 158. Meta knows that making its products [REDACTED]

[REDACTED] 5/7 (Cathcart) 57:20-61:11 & PX15006-010; 5/1 (Hegeman) 147:13-148:4 & PX12664-054. Meta therefore does only as much as competition compels it to do. 5/27 (Hemphill) 79:7-13; *see also* 5/13 (Hemphill) 87:21-89:5 & PDX0090-176; *supra* ¶ 311; PX2859-003 (instruction “to hold any quality improvements that cost money until we’re trending

meaningfully above forecast for total revenue”). Facing limited PSN services competition, Meta has reaped massive profits rather than invest in quality improvements to respond to numerous areas of user frustration. *Supra* §§ II.E.1-2.

**322.** Brief episodes of competition for PSN services confirm that this competition benefits consumers. For instance, competition with MySpace led to Meta “build[ing] a better product”: the Feed, which reduced transaction costs for F&F sharing by collecting users’ profile updates in a single place. Stip. 9; 4/14 (MZ) 149:21-150:7, 151:8-153:6, 154:18-155:5 & PX0307; PX12687-002. Similarly, in 2011, Google+ emerged as Meta’s “first . . . real competition” in PSN services. 4/16 (Sandberg) 199:10-200:24 & PX2527-001; *see also* 4/14 (MZ) 192:23-193:22 & PX2437-001; 4/16 (MZ) 60:9-11; 5/7 (Cathcart) 24:22-25:8, 29:18-30:2 & PX2831-001-02. The threat of Google+ spurred Meta to go into “lockdown” and improve Facebook, adding features designed “to combat a product gap in privacy.” 4/14 (MZ) 191:16-192:1 & PX15151; 4/16 (Sandberg) 208:7-14 & PX2356; 5/7 (Cathcart) 30:3-14; 5/15 (Horowitz) 107:7-22 & PX11309-008; PX2437-002. A former head of Google+ confirmed that feature competition with Facebook benefited users by “creat[ing] innovation and differentiation and generally dr[iving] the product experience forward.” 5/15 (Horowitz) 88:3-18, 133:6-14.

**323.** Likewise, Instagram (prior to its acquisition) was exerting direct competitive pressure on Meta, triggering investments by Meta in improving Facebook and developing Facebook Camera as a competitive response. *Supra* ¶¶ 224-228; *see also* 4/14 (MZ) 199:2-200:5 & PX15123-001-02 (Mr. Zuckerberg “want[ing] to make sure” Meta was going to “incorporate any features [Path] had gotten right”).

**324.** After Snap’s launch of Stories—a “real innovation” in PSN—Meta tried to buy Snap for \$6 billion. 4/15 (MZ) 69:12-22 & PX2976-001, 86:3-13. Snap spurned Meta’s advances, and Meta

consequently “tr[ie]d to catch up” with Snap by adding Stories to Facebook and Instagram. *Id.* 89:19-90:19 & PX1009-001-02; 5/8 (Mosseri) 24:18-25:13, 26:11-27:3, 181:22-182:6; *Vid.* (Andreou) 249:15-250:2; *Stips.* 16, 30.

**B. Meta has reduced overall quality on Facebook and Instagram.**

**325.** Meta has allowed the overall quality of Facebook and Instagram to decline. 5/13 (Hemphill) 27:6-23 & PDX0090-094-97 (PX8116-8119), 30:2-5 & -098 (PX8122-8123); 106:22-107:5 & -193; 5/27 (Hemphill) 70:2-10 & PDX0149-046.

**326.** Meta tracks four different metrics that measure users’ overall experience with the apps: Cares About Users (“CAU”), Relative Cares About Users (“RCAU”), Good for the World (“GFW”), and “overall satisfaction.” 4/30 (Cobb) 197:1-199:17, 200:15-203:4 & PX3013-006-07. All these metrics show that the quality of the Facebook and Instagram experience has eroded for users since the acquisition. 5/13 (Hemphill) 27:6-23 & PDX0090-094-97 (PX8116-8119), 30:2-5 & -098 (PX8122-8123); 106:22-107:5 & -193; 5/27 (Hemphill) 70:2-10 & PDX0149-046.

**327.** Meta’s internal assessments have repeatedly concluded that declines in user sentiment are linked to the “product experience” and “actual product changes”—for example, increasing ad load and launching features for unconnected content are two triggers of sentiment declines. 5/1 (Cobb) 69:12-76:8 & DDX16.7; 5/13 (Hemphill) 27:24-30:22 & PDX0090-099-100, 54:22-55:7 & PDX0090-136 (PX3570-009 (“[H]igher perceived ad load on Feed is associated with lower sentiment towards FB app”)); *see also* 5/15 (Alison) 40:18-42:9 & DX600 at 5.

**328.** Meta recognizes that user sentiment is dragged down by users’ real experiences with Meta’s poor privacy and data protection practices. In August 2016, Meta reported that “[p]rivacy [was] the single biggest detractor in our [sentiment] surveys” and that “the complexity of the privacy controls on Facebook as well as data use issues are key drivers of distrust and decreased sentiment.” 4/30 (Cobb) 205:6-20, 206:19-207:4 & PX3774-029, -049; *see also* PX3774-051.

Indeed, public recognition of Meta’s data practices after Cambridge Analytica led to Meta’s largest-ever decline in sentiment. *See supra* ¶ 166; *see also* PX3152-006-07 (RCAU decline).

**329.** Similarly, Meta’s failures to provide a safe and reliable experience for Facebook and Instagram users have contributed to declines in user sentiment. After a cross-platform outage and revelations of integrity problems in October 2021, Facebook’s RCAU score dropped to zero—“about as low as a company can go,” which Meta described as suitable for one of “the worst companies in the U.S.” 5/1 (Cobb) 21:23-25:5 & PX15475-007, PX15474-002, -008. And in 2019, a Meta investigation confirmed a direct link between a major failure of its technical infrastructure and declines in Instagram user sentiment. PX3568-033.

**330.** More generally, Meta has identified that F&F sharing is a “top driver[.]” of user sentiment. 5/1 (Cobb) 67:21-68:8 & PX3397-040 (“top drivers” for sentiment include “connects F&F”); 5/13 (Hemphill) 27:24-30:22 & PDX0090-099-100, 54:22-55:22 & -136-37; PX3167-001-02 (“Feed inventory is by far the only feature AFAIK that showed such a high and persistent correlation with CAU[.]”); PX3391-001 (“GFW, Trust, and CAU have strong positive correlations with sharing participation.”). As detailed below, users have shown frustration with Meta’s underinvestment in the F&F sharing experience. *Infra* ¶ 341.

**331.** Declines in Meta’s RCAU metric, which specifically benchmarks Meta against other firms, demonstrate that the quality of Facebook and Instagram has declined not just in absolute terms, but also relative to the quality of products offered by other firms. 5/13 (Hemphill) 27:6-29:8 & PDX0090-096-97; 4/30 (Cobb) 202:8-203:17 & PX3013-006-07, -011, 204:11-17 & PX12971-008; 5/1 (Cobb) 19:3-20:3 & PX3152-029, 21:19-22:9 & PX15475-007.

**332.** Facebook’s and Instagram’s declining quality is reflected in other user feedback as well. Users have complained for years about Meta’s confusing, non-responsive, or virtually non-existent

customer service—for example, Meta employees observed that “so many people . . . have been really frustrated by IG and Facebook’s customer service in getting their accounts restored.” 5/7 (Cathcart) 36:23-39:4 & PX3855-003-04; PX3854-008-10, -012, -014, -020-26 (describing Instagram’s “confusing” and “frustrating” “reporting and appeals” systems and noting even “[i]f people figure out in-app reports, we don’t act on them”). Similarly, users have reported that Meta trails others on “innovation” and “breakthrough technology” and expect “that new Facebook services will be lower quality, and less innovative, visionary and useful than” services offered by other firms. PX3773-045, -049. Users have also consistently complained about the technical performance and reliability of Facebook and Instagram—reporting, for example, the apps crashing, freezing, or loading or refreshing unexpectedly. PX3778-006; PX3776-012; PX3824-020-21; *see also* PX8164-8167.

**C. Meta has significantly increased ad load on both Facebook and Instagram.**

**333.** Following the acquisitions, Meta has significantly increased ad load on Facebook Feed, Instagram Feed, and Instagram Stories—including more than tripling Facebook Feed’s ad load between Q3 2014 and January 2025. 5/13 (Hemphill) 10:20-12:1 & PDX0090-079-81 (PX8103-8105), 99:14-24 & -185. Meta’s increased ad load is a reduction in quality. *Supra* ¶ 160.

**334.** Meta’s ability to increase ad load is directly aided by the lack of competitive constraints it faces for PSN services and the removal of Instagram as a competitor. 5/14 (Hemphill) 51:11-13, 5/13 (Hemphill) 89:18-90:17 & PDX0090-176-77 (PX15244-002; PX1116-002).

**335.** Meta recognizes that competition impacts the level of ad load it can set and that increasing ad load on either Facebook or Instagram will drive users to the other app. 4/15 (MZ) 96:9-16, 100:3-11 & PX15129-001; PX12676-002-03; PX12347-001-02 (“You’re saying peop[le] are goi[ng] to IG because the ad load is lower?”; “That’s what [M]ark has said a few times. Yes. . . . [H]e thinks it’s an unfair advantage.”); 5/13 (Hemphill) 9:11-10:19 & PDX0090-078.

**336.** Meta has the ability to raise ad load on both Facebook and Instagram, knowing that the higher ad load will not hurt Meta’s profits by driving users outside the company, and has used its control of Facebook and Instagram to increase ad load on both apps in a manner that would not be possible if both apps were operated independently. *See* 5/13 (Hemphill) 6:22-7:4, 10:14-19, 89:18-90:17 & PDX0090-078, -178, 94:10-95:7 & PDX0090-180 (PX8154); 5/27 (Hemphill) 79:7-13, 84:16-85:11 & PDX0149-060; 4/15 (MZ) 92:4-12, 131:11-18 & PX3602-001, -003; PX15129-001; 5/8 (Mosseri) 59:6-21 & PX12344-001.

**337.** In 2015, for example, Meta—“under the gun” with “revenue pressure”—forced Instagram to rapidly monetize and raise its ad load over the objections of Mr. Systrom, who knew “how much advertising degrades the consumer experience.” 4/22 (Systrom) 106:3-108:18 & PX15233-005-06; 5/13 (Hemphill) 94:10-16 & PDX0090-180 (PX8154).

**338.** Similarly, in 2018, Mr. Zuckerberg assessed that Instagram’s ad load was lower than Facebook’s, to the detriment of engagement on the latter. PX2227-004-05; 4/15 (MZ) 91:11-22, 92:13-93:12 & PX15112-007-08. Meta then increased Instagram ad load again—to equalize the “ad load tax,” slow Instagram’s growth, and allow for a small decrease in Facebook’s ad load to “correct friending issues” and “engagement issues.” PX15129-001; PX15112-007-08; 5/13 (Hemphill) 94:17-19 & PDX0090-180 (PX8154); PX12344-001. Though this was “a no brainer” for Mr. Zuckerberg, Mr. Systrom called it “a terrible tradeoff.” PX15112-007; 4/22 (Systrom) 148:2-20 & PX15240-001, -003. Mr. Mosseri observed that “[c]learly [Mr. Zuckerberg] wants some painful tra[d]e offs . . . He wants to stick it to IG.” PX12347-003-04.

**339.** If independent, Instagram would have had greater ability and incentive to minimize ad load to grow, including at the expense of Facebook. 5/13 (Hemphill) 89:18-90:17, 94:10-95:7, 137:20-138:2; 5/27 (Hemphill) 84:16-85:11; 4/22 (Systrom) 59:21-61:5, 106:3-108:18 & PX15233-005.

**D. Meta has worsened the friends and family experience on both Facebook and Instagram.**

**340.** Meta has also reduced quality by degrading the friends and family experience on Facebook and Instagram. 5/13 (Hemphill) 22:16-25:1 & PDX0090-092, 99:25-101:1 & PDX0090-186-87; *infra* ¶¶ 341-345.

**341.** Meta has internally assessed that many users are frustrated with the level of friend content on Facebook and Instagram. Meta ordinary course evidence shows that a lack of friend content is a “pain point” for Meta users; users want to see more posts from a wider range of friends and family. PX3174-003 (“This pain point has a long history . . . Users are seeing fewer friends (distinct friend actors) than they want.”); *see also* 5/13 (Hemphill) 100:14-101:1 & PDX0090-187; 5/27 (Hemphill) 60:21-61:13 & PDX0149-054; 4/14 (MZ) 169:7-24, 188:20-190:1 & PX0798; 5/14 (Alison) 166:11-169:9 & PX3008-032, -034, -039-40; PX3778-006; PX3827-002 & PX3570-001 (“[U]sers report a range of pain points related to unconnected content on Facebook & Instagram[.]”); *see also* PX3785-009 (“US Top Problems . . . Felt that I don’t see enough posts from my friends[.]”), -022 (“Felt that not enough people see the things I share on Instagram[.]”); PX3790-001 (“[R]eoccurring triggers for negative Feed sentiment include” “[s]eeing content from the same set of accounts and not F&F” and “lack of control – ‘Instagram is favoring ads over posts from my friends and family[.]’”); PX3172-001 (“I don’t see posts from enough of my friends’ is a prevalent top complaint for users, second only to ‘I see too many ads[.]’”); PX3568-007 (“Felt that you don’t see enough posts from your friends[.]”), -032; PX3408-001 (“A consistent theme across user research is that users want their Feed to contain more friend content . . . . The large volume of unconnected content is a pain point for specific user cohorts.”).

**342.** Despite this user frustration, Meta has, by its own internal assessment, “underinvested” in the F&F sharing experience on Facebook and Instagram since the acquisitions. PX12497-001

(“Friend sharing continues to be a big asset for Facebook, but we’re not investing as much in it[.]”), -003 (“Open questions . . . How do we resolve the issues that Stories (in all apps) are an engagement lever but are consistently underinvested in?”); PX3168-003 (“We underinvest in reciprocal follows, despite them being the most valuable type of follow within the Instagram community.”); 5/13 (Hemphill) 22:16-23:12 & PDX0090-092, 99:25-100:13 & -186; 5/1 (Hegeman) 184:21-185:9 & PX12669-005; 5/7 (Cathcart) 32:10-33:24 & PX14987-002, 34:8-35:2 & -003; \*Dep. (Cox) 85:14-86:23; PX3170-038 (“Stories is highly incremental to Facebook usage in terms of sharing, interaction, and app visitation. . . . [B]ut we’ve pulled from Stor[i]es to shift resources to Reels.”); 5/12 (Schultz) 184:21-185:2 (confirming significant decrease to resources Meta allocated to Stories); PX3567-009 (“We are the indisputable leader in Friends and Family especially with extended networks, but we have not innovated on it for a while.”).

**343.** Meta’s underinvestment has contributed to decreased production and consumption of friend content on Facebook and Instagram—a reduction of output. 5/13 (Hemphill) 23:13-24:5 & PDX0090-092, 53:23-55:22 & PDX0090-136-37, 99:25-101:1 & -186-87; 5/27 (Hemphill) 60:21-61:13, 76:6-79:6 & PDX0149-054. Meta’s ranking algorithms determine the content served to its apps’ users, including the volume and variety of friend content. 5/14 (Alison) 169:12-171:6 & PX3008-041; 5/1 (Hegeman) 192:7-21. Meta has recognized that it could invest in the F&F sharing experience by serving users fewer ads in favor of more friend content and more friend connection prompts through its “People You May Know” and “Accounts You Should Follow” features on Facebook and Instagram, respectively. PX15112-005-06; *see supra* ¶¶ 160, 338; *see also* PX3167-001-03 (correlation between friend connections and CAU). Meta also recognizes that friend content consumption positively correlates with friend content production—and user engagement generally—due to network effects. 5/15 (Alison) 79:8-84:2 & PX3390-062, -067, -074, -095;

PX3433-008-10 (discussing efforts to measure “network value of social interactions” and content); 5/14 (Alison) 224:3-227:17 & PX3008-013, -049 (“Boosting friend reshare. . . [i]ncreases engagement (Feed MSI) . . . Friend Original: main lever for original posting[.]”); 5/27 (Hemphill) 57:15-58:21 & PDX0149-034-35; *see also* PX12497-003 (noting that “Stories (in all apps) are an engagement lever”); PX3631-009, -019 (“Experiments that boost F&F content increase IG time spent . . . , interactivity, and feed production.”); PX3175-027-28 (“Friends and Family content in Feed *triggers* sessions . . .and deepens [F]eed sessions[.]”); 5/8 (Schultz) 255:10-260:14 & PX11095-001, -007 (Instagram “connections pivot” increased user engagement, retention, and posting); 5/12 (Schultz) 164:21-165:23; *see also* PX12378-002-03 (“In H1 2019, we are pivoting our focus to F+F interactions in Feed . . . . F+F interactions are the most personally satisfying, improve well-being, increase content production and directly achieve our mission of *connecting you to the people you love*[.]”).

**344.** Meta’s reduced investment and quality related to F&F sharing is aided by the lack of competitive constraints it faces for PSN services and the removal of Instagram and WhatsApp as competitive threats. Meta has strived to compete to improve its PSN offering when facing brief episodes of PSN services competition from an independent Instagram, Google+, Path, and Snapchat. *Supra* ¶¶ 322-324. But lacking strong PSN services competition, Meta now has limited incentives to invest in improving the F&F sharing experience. 5/27 (Hemphill) 62:24-63:8, 78:23-79:13; *see also* 5/12 (Hemphill) 209:22-210:23 & PDX0090-011; 5/13 (Hemphill) 10:14-19, 87:21-89:5 & PDX0090-176, 92:21-23, 93:15-16, 108:7-13 & -197.

**345.** Additionally, Meta has used its control of Instagram to specifically harm the F&F sharing experience on Instagram, to avoid cannibalization of Facebook. For example, in 2018, to forestall Facebook’s potential “network collapse” and ward off “cannibalization” of Facebook by

Instagram, Meta altered Instagram’s social graph to reduce its emphasis on friend content. PX3602-001-02; 4/15 (MZ) 104:21-105:1 & PX15129-001; PX12341-001-02; PX1017-010 (describing “[d]ifferent objectives for [the social graph of] each app to optimize toward”). Meta recommended more public figures among Instagram’s Accounts You Should Follow suggestions, with these recommendations displacing users’ real-life friends. 4/15 (MZ) 149:13-21, 152:3-16.

**E. Meta has maintained poor privacy and data protection practices.**

**346.** Since the acquisitions, Meta has maintained poor privacy and data protection practices. 5/13 (Hemphill) 26:12-27:5 & PDX0090-093, 104:2-106:11 & -188-91 (PX8155-8156); *infra* ¶¶ 347-354.

**347.** Users care about data privacy. According to Meta’s own internal assessment, Meta users have “express[ed] that their concerns about privacy and data collection outweigh[ed] any potential benefits” of targeted advertising, and “that the primary beneficiaries of personalized advertising” were not consumers but “companies like [Meta].” 4/30 (Cobb) 207:21-211:13 & PX3789-002-03; 5/13 (Hemphill) 105:15-21 & PDX0090-191; PX3774-004. In line with another internal assessment of Meta’s, *see* 5/7 (Cathcart) 56:11-57:4, 59:10-61:11 & PX15006-001, -010, when Apple iOS users were given the opportunity in 2021 to opt out of sharing their third-party data with Meta for use in advertising, [REDACTED], notwithstanding Meta’s pitch that the data would allow for more “personalized ads.” 5/1 (Hegeman) 125:7-25, 126:15-127:19 & PDX0054, 128:22-130:11 & PX13189-002, 134:20-135:6, 135:17-137:2 & PX10074-002-03.

**348.** Ignoring users’ preferences, Meta collects and uses a “ludicrous” amount of its users’ personal data to fuel its advertising business. 5/8 (Schultz) 266:22-24; 5/1 (Hegeman) 86:8-88:6 & PX0722-007, -021; *Vid.* (Chandlee) 34:22-35:18; *see generally* PX0722. This includes extensive data about how and when users use Facebook and Instagram, and about users’ devices and website, app, and purchase history. 5/1 (Hegeman) 85:15-86:21 & PX0722-004-07.

**349.** In addition to harvesting more data than users prefer, Meta has also had multiple significant privacy breaches. For instance, since 2011, Meta has operated under a consent order with the Federal Trade Commission related to its “treatment of user data and privacy settings.” 5/1 (Hegeman) 89:3-11; PX0292-026 (noting 2011 date). Around 2020, following Cambridge Analytica, Meta settled with the FTC concerning violations of this order, paying a \$5 billion fine—the largest in the agency’s history. 5/1 (Hegeman) 90:10-18; DX248 at 25 (“Paid \$5Bn fine to FTC – largest ever”); *supra* ¶ 166; *see also* PX0299-045 (settling 2015 privacy class action about “tag suggestions” facial recognition feature for \$650 million); PX0715-042 (settling “tag suggestions” lawsuit brought by state of Texas).

**350.** Meta’s poor privacy practices are a form of reduced quality. Numerous internal records show significant user frustration and declining sentiment on privacy. 5/13 (Hemphill) 26:12-27:5 & PDX0090-093, 104:2-15 & -188-89 (PX8155-8156); PX3774-012; *see also* PX3776-012, -021; PX3785-011, -019; PX3824-017, -029, -032 (privacy and security of data as top themes in complaints); PX3809-034, -036 (user concerns about privacy). Comparative metrics also rank Meta worse on privacy than other major online platforms. PX3773-047 (“large gaps” included “protecting users’ privacy”; Meta had far lower scores than other platforms on “protects users’/customers’ privacy”); 5/15 (Horowitz) 106:9-107:22 & PX11309-008; PX2437-002.

**351.** Meta’s poor privacy practices are related to the lack of competitive constraints it faces for PSN services and the removal of Instagram and WhatsApp as competitive threats. Mr. Zuckerberg confirmed that “users value their privacy” and “place a value on a company’s data practices in terms of the use it makes of their data.” 4/15 (MZ) 165:14-166:1. And, as noted, when Meta briefly felt pressure from the “real competition” of Google+, PX2527-001, it attempted to “combat a product gap in privacy,” 4/16 (Sandberg) 206:13-208:14 & PX2356, recognizing that privacy was

“[p]erhaps [Meta’s] biggest sore spot compared to Google.” PX2831-002-03; *supra* ¶ 322.

**352.** Meta’s control of both Facebook and Instagram has also prevented differentiation on this “element of competition,” 4/15 (MZ) 165:14-16; 5/13 (Hemphill) 106:3-11; 4/23 (Lampe) 66:4-13 & PDX0026-005, with Meta uniformly applying its privacy policy across Facebook and Instagram. 4/15 (MZ) 170:6-14; 5/1 (Hegeman) 85:9-11. By contrast, Snap has been able to distinguish itself with privacy-focused “guardrails” on app features [REDACTED]

[REDACTED]. Vid. (Andreou) 186:20-188:14, [REDACTED]

**353.** Meta has also used its control of Instagram and WhatsApp to reduce or deprioritize privacy on those apps, contrary to the wishes of the app founders. Instagram received “zero” of a particular investment allocation following Cambridge Analytica; per Mr. Systrom, Instagram was “at the whims of other people’s priorities, and we simply weren’t one at the time.” 4/22 (Systrom) 90:23-93:4. And after assessing that [REDACTED]

[REDACTED]; 5/13 (Hemphill) 104:16-105:14 & PDX0090-190. Likewise, in 2016, Meta forced WhatsApp to change its privacy policy and let Meta leverage WhatsApp user data for use in ads on Facebook, over the concerns of Mr. Acton and others at WhatsApp, triggering a fine from the European Commission. 5/20 (Acton) 206:24-208:18.

**354.** Despite reaping huge profits from its use of user data for advertising, Meta has not compensated or rewarded users for its collection and use of their data. 5/1 (Hegeman) 84:2-4, 147:13-18; PX12664-007, -033, -054; 5/13 (Hemphill) 106:12-21 & PDX0090-192.

**F. Meta’s “strategy tax” and underinvestment has hindered Instagram.**

**355.** Since its acquisition by Meta, Instagram has been burdened by the diseconomies of Meta’s “strategy tax,” which prioritizes Facebook, hinders Instagram’s access to resources, and harms the consumer experience on Instagram. PX3602-004-06.

**356.** As Mr. Zuckerberg described, “the strategy tax” has prevented Instagram from “just optimiz[ing] for itself,” with Instagram instead needing to operate “within the constraints of whatever the strategy is that [Meta has] put in place.” 4/15 (MZ) 142:18-143:13 & PX3602-004-06. Mr. Mosseri has observed recently that these diseconomies have made Instagram “increasingly difficult to manage.” PX3505-001. And Mr. Zuckerberg has recognized that with “the strategy tax” in effect and with Instagram under Meta’s ownership, Instagram has been impeded from “building [its] best app,” as Instagram has instead needed to focus on “strengthen[ing] the overall family,” and abstain from “undermin[ing] the Facebook network.” PX12341-001; PX3602-006.

**357.** Instagram product design has been subordinated to benefit Facebook, which, in Mr. Zuckerberg’s estimation, was “the more engaging and more profitable product.” 4/15 (MZ) 134:9-17 & PX3602-002; *see supra* ¶¶ 338, 345 (to prevent the “cannibalization” of Facebook, Meta altered Instagram’s social graph to reduce its emphasis on friend content).

**358.** Meta has prioritized Facebook over Instagram with respect to resources. In 2015, for example, Meta also pulled growth resources from Instagram. 4/22 (System) 85:20-89:3 & PX15224-001-02, 216:21-219:10; 5/12 (Schultz) 14:3-7. More generally, Meta has repeatedly failed to provide Instagram with the engineers Instagram needed to support its services and develop new features. 4/22 (System) 90:7-100:13 & PX11032-002 & PX15241-002.

**359.** Meta has prioritized Facebook over Instagram with respect to addressing integrity (objectionable content and behavior). *See* 5/6 (McCoy) 162:19-24. Meta has exhibited a “strong Blue bias,” and a “default” of prioritizing Facebook’s integrity, to the detriment of users. PX10899-001 & 5/6 (Rosen) 42:16-43:4; 4/22 (Systrom) 92:4-17; 5/8 (Mosseri) 48:9-16, 48:25-49:1; PX15225-001. Mr. Zuckerberg directed Meta’s integrity teams to “continue to focus on FB as their primary target, even if there are low-hanging fruit in other apps,” PX15147-003, and Meta understaffed Instagram’s integrity teams relative to Facebook’s. *See, e.g.,* 4/22 (Systrom) 92:18-93:4, 269:19-270:10 (Meta only had “20-ish” people working on Instagram-specific integrity and “needed our own team”); PX3811-001 & 5/6 (Rosen) 75:2-23; 5/8 (Mosseri) 45:24-46:18; PX3070-005, -012-13; 5/6 (McCoy) 206:15-208:5 & PDX0077-033-37.

**360.** Meta underinvested in Instagram’s integrity. *See, e.g.,* PX12350-001 & 5/8 (Mosseri) 51:15-52:4; PX3811-004-06 & 5/6 (Rosen) 82:21-83:1; 5/6 (McCoy) 203:11-206:14 & PDX0077-030-35. This decision was “deliberate.” PX10928-001 & 5/6 (Rosen) 48:7-49:24. Though Instagram had “roughly a billion users” and was “40[%] the size of Facebook” when Meta began investing more in integrity in 2018, Instagram received none of those allocations. 4/22 (Systrom) 91:10-21.

**361.** By Meta’s own account, its underinvestment in Instagram’s integrity has resulted in significant integrity problems and harm to the consumer experience. *See* PX3605-006-07 (showing Instagram as “very vulnerable” in 90% or 24 out of 27 problem areas in 2017); PX10899-003. Instagram users have been exposed to “high-severity safety problems” such as nudity, solicitation, child sexual exploitation images, and non-consensual intimate images. PX3070-007; PX12204-003, -008, -024; PX10160-009; PX3620-006. And other internal assessments show that Instagram has repeatedly connected minors with potential child groomers. PX3612-023, -052, -055, & 5/6 (Rosen) 92:23-94:3; PX3094-004; PX3618-006 & 5/6 (McCoy) 211:20-212:11.

**VIII. Meta Has Failed to Substantiate Non-Pretextual and Merger-Specific Procompetitive Justifications Sufficient to Overcome the Significant Harm**

**362.** Meta has failed to substantiate non-pretextual, merger-specific procompetitive justifications sufficient to overcome the substantial harms associated with its removal of competitive constraints and maintenance of monopoly power. 5/13 (Hemphill) 107:6-109:25 & PDX0090-195-200, 134:14-139:6 & PDX0090-200-03; *see supra* §§ VI - VII.

**363.** Meta's procompetitive justifications are not a form of competition on the merits and are pretextual because Meta acquired Instagram and WhatsApp to remove them as competitive threats. *Supra* §§ IV - V. Meta has also not established that its claimed benefits are merger-specific because numerous apps have successfully grown and managed infrastructure, integrity, monetization, and feature development without Meta. *See, e.g.*, 4/30 (Presser) 63:13-64:16, [REDACTED]; 4/28 (Roberts) 146:8-154:5, 154:23-158:5; 5/15 (Jain) 203:11-205:2, 217:1-7, 218:15-220:2; Vid. (Bennett) 190:3-11, 191:10-14; Vid. (Chandlee) 36:9-37:6; [REDACTED]; 4/28 (Coleman) 39:21-40:9, 40:22-43:4; [REDACTED]

[REDACTED] Many of Meta's claimed benefits also involve affirmative harms to consumers of PSN services (e.g., higher ad load) or are out of market (e.g., related to mobile messaging or the sale of advertising), and Meta has not demonstrated that its claimed benefits were passed through to consumers of PSN services. 5/13 (Hemphill) 136:10-137:3, 137:12-139:6 & PDX0090-203.

Dated: July 2, 2025

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**Appendix*****Trial & Video Testimony***

<b>Witness</b>	<b>Trial Dates</b>	<b>Transcript Pages</b>	<b>Cited As</b>	<b>Relevant Documents Cited in Findings</b>
Acton, Brian	5/20 AM & PM	103-215	5/20 (Acton)	PX3641, PX3661, PX3828, PX15197
Alison, Tom	5/14 PM	160-264	5/14 (Alison)	PX0310, PX0795, PX3008, PX10236, PX10249, DX600 PDX0103
	5/15 AM	4-86	5/15 (Alison)	PX3390, PX3827, PX10236, DX600 PDX0090
Andreou, Jacob (video)	5/5 AM	82-85	Vid. (Andreou)	PX14959, PX14967, DX885
Arora, Neeraj	4/21 PM	134-189	4/21 (Arora)	PX14795, PX14798, PX14801, PX14806, PX14807, PX14810
Bennett, Jason (video)	4/28 PM	195	Vid. (Bennett)	PX15359
Botha, Roelof (video)	4/21 PM	189-191; 193	Vid. (Botha)	PX10080
Carlton, Dennis	5/21 AM & PM	62-243	5/21 (Carlton)	DDX36
Cathcart, Will	5/7 AM	21-122	5/7 (Cathcart)	PX2831, PX3855, PX10068, PX14986, PX14987, PX15006
Chandlee, Blake (video)	4/24 AM & PM	83-84; 104-106	Vid. (Chandlee)	PX11521, PX11525
Chen, Jonathan (video)	5/21 AM	60-61	Vid. (Chen)	
Cobb, Curtiss	4/30 PM	192-231	4/30 (Cobb)	PX3013, PX3774, PX3789, PX12968, PX12971, PX12991, PX12992, PX12993
	5/1 AM	14-76	5/1 (Cobb)	PX0722, PX3873, PX10074, PX12501, PX12664, PX12669, PX12687, PX13189, DX336, DX342 PDX0054, DDX16

<b>Witness</b>	<b>Trial Dates</b>	<b>Transcript Pages</b>	<b>Cited As</b>	<b>Relevant Documents Cited in Findings</b>
Coleman, Keith	4/28 AM	5-88	4/28 (Coleman)	PX0823, PX7070, PX15043
Davenport, Ben (video)	4/28 PM	194-195	Vid. (Davenport)	PX1297, PX10330
Deng, Peter	5/5 AM	6-82	5/5 (Deng)	PX1103, PX1586, PX1708, PX1998, PX10333, PX10449, PX10452, PX10453, PX10454, PX10457, PX15224
Esfahani, Ali (video)	5/5 AM	82-85	Vid. (Esfahani)	PX10227, PX11878
Filner, Aaron	4/17 PM	149-247	4/17 (Filner)	PX13494, PX13495, PX13502, PX13506
Goetz, Jim	4/17 AM & PM	60-147	4/17 (Goetz)	PX1365, PX3116, PX3814, PX10215, PX10216, PX10227, PX10229, PX10232
Hearle, Kevin	4/24 AM	6-83	4/24 (Hearle)	PX8052, PX8054, PX8055, PX8056, PX8057, PX8058, PX10858, PX12692  PDX0029
Hegeman, John	5/1 AM & PM	77-196	5/1 (Hegeman)	PX0722, PX3873, PX10074, PX12501, PX12664, PX12669, PX12687, PX13189, DX336, DX342  PDX0054
Hemphill, Scott	5/12 PM	201-270	5/12 (Hemphill)	PX8082, PX8083, PX8085, PX8086, PX8087, PX8088, PX8090, PX8091, PX8092, PX8094, PX8095, PX8096, PX8097, PX8098, PX8100  PDX0090
	5/13 AM & PM	5-271	5/13 (Hemphill)	PX3827, PX8102, PX8103, PX8104, PX8105, PX8106, PX8107, PX8108,

<b>Witness</b>	<b>Trial Dates</b>	<b>Transcript Pages</b>	<b>Cited As</b>	<b>Relevant Documents Cited in Findings</b>
				PX8109, PX8110, PX8111, PX8113, PX8116, PX8122, PX8124, PX8125, PX8127, PX8128, PX8129, PX8136, PX8137, PX8138, PX8139, PX8141, PX8142, PX8143, PX8144, PX8146, PX8147, PX8149, PX8150, PX8151, PX8153, PX8154, PX8155, PX8156, PX8158, PX8162, PX8168, PX8174, PX8175, DX600, DX885, DX1127  PDX0090
	5/14 AM & PM	4-160	5/14 (Hemphill)	PX8016, PX8108, PX8142, PX8158, PX8159, PX8160, PX8164, PX8165, PX8166, PX8167, DX1127  PDX0090
	5/27 AM & PM	10-182	5/27 (Hemphill)	PX3390  PDX0149
Horowitz, Bradley	5/15 AM & PM	86-149	5/15 (Horowitz)	PX11304, PX11307, PX11309
Jain, Saral	5/15 PM	149-240	5/15 (Jain)	
Lampe, Cliff	4/23 AM & PM	59-279	4/23 (Lampe)	PDX0026, DDX8
Levenson, David	5/15 PM	240-266	5/15 (Levenson)	PX14959, DX885, DX1127
	5/19 AM	12-70	5/19 (Levenson)	PX14959
List, John	5/19 AM & PM	70-240	5/19 (List)	DX1220, DX1221, DDX31  PDX0120

Witness	Trial Dates	Transcript Pages	Cited As	Relevant Documents Cited in Findings
Malkiewicz, Michal	5/7 AM & PM	123-171	5/7 (Malkiewicz)	PX8060, PX8061, PX8062, PX8064, PX8066, PX8067, PX8068, PX8069, PX8070, PX8071, PX8072, PX8073  PDX0081
McCoy, Damon	5/6 PM	161-231	5/6 (McCoy)	PDX0077
	5/7 AM	12-21	5/7 (McCoy)	PDX0077
Morrison, Eric (video)	5/1 PM	197	Vid. (Morrison)	
	5/5 AM	82-85		PX13564
Mosseri, Adam	5/8 AM & PM	4-127; 151-236	5/8 (Mosseri)	PX0048, PX0698, PX0708, PX0778, PX1017, PX3024, PX3389, PX3605, PX3778, PX12333, PX12338, PX12341, PX12344, PX12350, PX12374, DX517, DX573  PDX0079
Olivan, Javier	4/29 AM & PM	7-129; 153-213	4/29 (Olivan)	PX1297, PX1486, PX2320, PX3643, PX10598, PX10600, PX10608, PX10626, PX11287, PX12105, PX12106, PX12108, PX12110, PX12127
Ortega, Mateo	4/28 AM	89-110	4/28 (Ortega)	PX0820, PX8013A  PDX0046
Pappas, V (video)	4/17 PM	248-250	Vid. (Pappas)	PX13616
Pattabiraman, Kumaresh (video)	5/5 AM	82-85	Vid. (Pattabiraman)	PX14865, PX14894, PX14903, DX797
Presser, Adam	4/30 AM & PM	30-192	4/30 (Presser)	PX0546, PX0689, PX13575, PX13581, PX13582, PX13583, PX13757, DX1307  PDX0063

Witness	Trial Dates	Transcript Pages	Cited As	Relevant Documents Cited in Findings
Raymond, Winter (video)	4/24 PM	157-160	Vid. (Raymond)	PX13216, PX13218
	4/28 AM	111		
Rim, Jihoon	4/21 AM	9-110	4/21 (Rim)	PX8081, PX10227 PDX0021
Roberts, Julia	4/28 PM	132-193	4/28 (Roberts)	PX0817, PX7034, PX12609, PX12610 PDX0048, PDX0049
Rosen, Guy	5/6 AM & PM	9-160	5/6 (Rosen)	PX3070, PX3612, PX3811, PX10899, PX10928, PX15147
Sandberg, Sheryl	4/16 PM	183-280	4/16 (Sandberg)	PX1093, PX1204, PX2356, PX2514, PX2518, PX2521, PX2522, PX2526, PX2527, PX14319
	4/17 AM	4-59	4/17 (Sandberg)	
Schultz, Alex	5/7 PM	246-273	5/7 (Schultz)	PX10452, PX11076, PX11078, PX11079, PX11080
	5/8 PM	236-271	5/8 (Schultz)	PX11095, PX11108, PX15200
	5/12 AM & PM	6-121; 149-201	5/12 (Schultz)	DX0522
Shah, Ronak	4/29 PM	213-272	4/29 (Shah)	
Shortway, Nick	5/20 PM	240-281	5/20 (Shortway)	
	5/21 AM	3-62	5/21 (Shortway)	
Stoop, Dirk	4/23 AM	4-58	4/23 (Stoop)	PX1295, PX2488, PX2947, PX3367, PX12403, PX12404, PX12409
Systrom, Kevin	4/22 AM & PM	10-279	4/22 (Systrom)	PX2757, PX2980, PX3004, PX3221, PX3426, PX11032, PX15224, PX15233, PX15240, PX15241, PX15244, DX1287
Tang, Julia	4/24 PM	108-156	4/24 (Tang)	PX13874 PDX0031, PDX0032, PDX0034, PDX0035, PDX0037, PDX0039

Witness	Trial Dates	Transcript Pages	Cited As	Relevant Documents Cited in Findings
Tucker, Catherine	5/19 PM	240-256	5/19 (C. Tucker)	
	5/20 AM	15-103	5/20 (C. Tucker)	PDX0127
Tucker, Eli	4/30 AM	3-30	4/30 (E. Tucker)	PX0822
Vallery, Jason (video)	4/28 PM	196-197	Vid. (Vallery)	
Weinstein, Debbie (video)	5/20 AM	102	Vid. (Weinstein)	
Yam, Sylvia	5/20 PM	215-240	5/20 (Yam)	
Zoufonoun, Amin (video)	4/21 PM	192	Vid. (Zoufnoun)	PX1413
Zuckerberg, Mark	4/14 PM	148-254	4/4 (MZ)	PX0292, PX0307, PX0794, PX0797, PX0798, PX1102, PX1180, PX2357, PX2437, PX2888, PX2892, PX10034, PX12202, PX15123, PX15151, PX15183
	4/15 AM & PM	6-242	4/15 (MZ)	PX0545, PX0610, PX1002, PX1009, PX1136, PX1486, PX2389, PX2965, PX2976, PX3023, PX3602, PX10034, PX10271, PX10594, PX12108, PX12341, PX15112, PX15129, PX15138, PDX0022
	4/16 AM & PM	19-183	4/16 (MZ)	PX1115, PX2965, DX1054

***Post-Trial Deposition Designations***

Witness (Affiliation)	Transcript	Cited As
Cox, Chris (Meta)	4/4/2023 Deposition	*Dep. (Cox)
Cunningham, Tom (Meta)	8/3/2020 Investigational Hearing	*IH (Cunningham)
Imam, Mubarik (Meta)	5/10/2023 Deposition	*Dep. (Imam)
Malhotra, Nipoon (Meta)	5/19/2023 Deposition	*Dep. (Malhotra)
Smith, Ian (Allen & Co.)	1/26/2023 Deposition	*Dep. (Smith)

<b>Witness (Affiliation)</b>	<b>Transcript</b>	<b>Cited As</b>
Rose, Dan (Meta)	3/9/2023 Deposition	*Dep. (Rose)
Wahi, Ashish (Snap)	5/22/2023 Deposition	*Dep. (Wahi)