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EXHIBIT A

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**FIRST JUDICIAL DISTRICT COURT
COUNTY OF SANTA FE, NEW MEXICO**

STATE OF NEW MEXICO, EX REL.
RAÚL TORREZ, ATTORNEY
GENERAL,

Plaintiff,

v.

META PLATFORMS, INC.;
INSTAGRAM, LLC;
META PAYMENTS, INC.; and
META PLATFORMS
TECHNOLOGIES, LLC,

Defendants.

No. D-101-CV-2023-02838

EXPERT REPORT OF DR. JOHN CHANDLER, Ph.D.

July 11, 2025



DR. JOHN CHANDLER, Ph.D.

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platforms monitor monthly active people (“MAP”) and daily active people (“DAP”). They also develop calculations for LTV to determine the value for users based on the time they are available to receive advertisements.⁴² By monitoring these data, social media platforms are better able to refine their methods for keeping users on their platforms and for measuring the results of their strategies.

E. Data Collection and Personalization

80. As stated above, social media platforms harness behavioral data, demographic insights, and interest to help advertisers micro-target their ads. Every interaction that is tracked (likes, comments, clicks, even hovering) feeds into complex algorithms that map out individual preferences and behavioral patterns. The process by which behavioral actions are turned into modeling output is conceptually straightforward, but the details can become mathematically complicated. The key idea is to associate a piece of data, say, age, with a set of consumers.⁴³ The behavior of these consumers can be used to model patterns that typify various ages. For instance, consumers over 50 may interact with content related to finance, mortgage rates, and Medicare supplemental plans at rates much higher than younger consumers. Conversely, users under 25 may interact with new musicians and fashion trends at much higher rates. These patterns are then used to model the ages of consumers for which the platform does not have reliable age estimates.

81. Through these interactions, social media platforms can make inferences about demographic data, such as age, gender, location, and socioeconomic status. AI-driven interest profiling takes it a step further, predicting not just what users actively engage with, but also what they might be drawn to in the future.

82. Every action a user takes—from filling out a profile to liking a post or clicking on a link—provides valuable information that platforms use to build detailed consumer profiles. Demographic details such as age, gender, and location are typically gathered during sign-up, while behavioral data such as interests, scrolling habits, and engagement patterns, are continuously tracked in the background. This constant stream of data allows social media companies to refine their understanding of individual users and categorize them into precise audience segments for advertisers.

83. Beyond direct user interactions, platforms employ cookies, pixel tracking, and device fingerprinting to monitor activity across the internet. These tools allow companies to see what users do beyond their platforms, tracking visits to external websites, shopping behaviors, and even interactions with competitor services. For example, if a user browses an online store for

⁴² Deposition of Robert Chen. Mar. 25, 2025. 83:8-12. (“Chen Dep.”) (“anything you need to make a decision regarding spending to acquire users, LTV is useful.”).

⁴³ For instance, some users will post messages about their birthdays on social media, and some of those posts will disclose the age of the poster.

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sneakers, social media platforms can detect this behavior and serve them ads for similar products the next time they log in. This cross-platform surveillance is further enhanced by third-party data brokers, who aggregate consumer information from various sources, including credit card transactions, loyalty programs, and public records, to provide an even more comprehensive view of a user's lifestyle and spending habits.

84. Social media apps take data collection a step further by accessing sensors and system-level information from users' devices. Many apps request permissions to track location, access contact lists, read messages, or even listen through microphones—sometimes under the guise of improving the user experience. This allows platforms to offer hyper-localized advertising, such as promoting a nearby restaurant or alerting users to a sale at a store they recently visited. Even passive data, such as motion sensors detecting when a user is walking or stationary, can be used to infer lifestyle patterns that advertisers find valuable.

85. Social media companies also analyze social connections and network behaviors to improve ad targeting. They track how users interact with friends, what groups they join, and which influencers they follow, creating a web of associations that helps advertisers pinpoint people with similar interests. This form of targeting, called lookalike targeting (which I have defined above) allows businesses to reach new audiences who are likely to be interested in their products based on shared behaviors and social circles. Additionally, AI-powered sentiment analysis scans comments, posts, and interactions to gauge users' moods and emotional states, enabling advertisers to time their campaigns for maximum impact.

86. All of these data collection methods feed into sophisticated machine learning algorithms that predict not only what users are interested in now, but also what they might want in the future. Predictive analytics allow advertisers to reach users at key moments—whether they are considering a major purchase, planning a vacation, or showing early signs of a life event such as moving or starting a family. The result is an advertising ecosystem where brands can deliver highly personalized, often eerily accurate ads that feel less like marketing and more like a natural part of the user's digital experience.

87. In general, the process of collecting data and building audiences works in a feedback loop with targeted ads. Advertisers target ads using the data they buy from inventory suppliers; they are able to monitor the responses that users give to those ads; and that data, alongside the other data collection that social media platforms facilitate, creates audience data that makes microtargeting increasingly refined.

F. Foundational Monetization Formula

88. Social media platforms' core business model relies on advertising revenue generated through user engagement. While each platform may employ distinct variations, the fundamental equation governing their monetization can be expressed as:

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$$\text{Revenue} = \text{Users} \times \text{Time on Site} \times \text{Ads per Time Unit} \times \text{Ad Rate}$$

89. This equation encapsulates the key variables that platforms seek to optimize through their design choices and business strategies. This formula matches formulas I worked with while working on the publisher side for Microsoft. Each component represents a distinct lever that platforms can adjust to increase revenue, though these adjustments often involve complex tradeoffs.

90. The first two variables—number of users and time on site—form the foundation of a platform’s value proposition to advertisers. As detailed in Section VI.B, platforms employ various strategies to build and maintain valuable audience segments. The relationship between these variables and revenue is generally linear: more users spending more time on the platform typically translates directly to increased advertising opportunities and revenue.

91. The latter two variables—ads per time unit and ad rates—reflect the platforms’ sophistication in monetizing their user bases. The frequency of ad delivery must be carefully balanced against user experience considerations, as excessive advertising can drive users away, thereby reducing the first two variables. Platforms typically adjust this variable dynamically based on user engagement metrics and revenue optimization algorithms.

92. Ad rates represent perhaps the most complex variable in the equation, as they are influenced by multiple factors:

- **Ad Format and Placement:** Different ad types (e.g., in-feed posts, stories, video interruptions) command different rates based on their effectiveness and user engagement levels.
- **Contextual Relevance:** Ads appearing alongside relevant content typically generate higher engagement rates and therefore command premium prices.
- **Targeting Capabilities:** The platform’s ability to deliver ads to specific demographic and psychographic segments significantly impacts ad rates. As targeting becomes more precise, rates typically increase due to improved conversion rates and return on investment for advertisers.
- **Audience Quality:** Certain user segments (e.g., high-income professionals) command premium rates due to their purchasing power and influence.

93. Platform design decisions consistently reflect the imperative to maximize these variables. User interface elements, notification systems, content recommendation algorithms, and social features are all engineered to increase user engagement and time spent on the platform. Similarly, ad delivery systems are continuously refined to optimize the balance between revenue generation and user retention.