UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

IN RE APPLE IPHONE ANTITRUST LITIGATION

Case No. 4:11-cv-6714-YGR

ORDER GRANTING APPLE'S *DAUBERT* MOTION TO EXCLUDE THE EXPERT TESTIMONY OF DARRYL THOMPSON AND MOTION TO DECERTIFY THE CLASS

Re: Dkt. Nos. 1001, 1005, 1059, 1064, 1066

Pending before the Court are two motions: Apple, Inc.'s *Daubert*[1] Motion to Exclude the Expert Testimony of Darryl Thompson (Dkt. No. 1001) and Apple's Motion to Decertify the Class. (Dkt. No. 1005.) Almost two years ago, the Court certified a class of consumer plaintiffs over Apple's objection and accepted plaintiffs' representation that their experts could match Apple ID accounts with *actual consumers,* and with this methodology, could in turn determine (within reasonable parameters) whether and to what extent consumer class members were harmed. (Dkt. No. 789 at 1.) In that order, the Court warned that should plaintiffs' expert fail to do so, it would consider decertifying the class. (*Id.*) The expert—on which plaintiffs *chose* to rely—could not do so and instead conducted an error-ridden "matching" attempt. As explained in more detail below, because plaintiffs' process is not sufficiently reliable, the Court **GRANTS** Apple's *Daubert* motion and, as a result, Apple's motion to decertify the class.[2]

I. BACKGROUND

A. FACTUAL BACKGROUND

The facts of this case are well known to the parties. The Court provides some basic background and facts upon which the decision relies.

[1] *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579 (1993).

[2] The Court denies consumer plaintiffs' repeated and belated request to hold an evidentiary hearing on Apple's *Daubert* motion related to Darryl Thompson. (Dkt. No. 1064.) The Court has reviewed Thompson's reports and deposition testimony. No further explanation is needed.

Consumer plaintiffs allege that Apple charges iPhone operating system ("iOS") app developers a supracompetitive commission, which developers then pass on to consumers through charging higher prices to download an app or make in-app purchases. (Dkt. No. 228, Third Amended Complaint, ¶¶ 4–6, 9, 47.) Plaintiffs allege that Apple's conduct allowed it to unlawfully monopolize the aftermarket for iOS apps. (*Id.*) They advance two claims against Apple on behalf of a certified class: (1) unlawful monopolization of the applications aftermarket in violation of Section 2 of the Sherman Act and (2) attempted monopolization of the applications aftermarket in violation of Section 2 of the Sherman Act. Class representatives are Stephen Schwartz, Robert Pepper, and Edward Lawrence ("consumer plaintiffs").[3]

Consumer plaintiffs represent the following class:

> All **persons** in the United States, exclusive of Apple and its employees, agents and affiliates, and the Court and its employees, who purchased one or more iOS applications or application licenses from Defendant Apple Inc. ("Apple"), or **who paid Apple for one or more in-app purchases,** including, but not limited to, any subscription purchase, for use on an iOS Device at any time since July 10, 2008 (the "Class Period"). The Class is limited **to those persons who paid more than $10.00 in total** to Apple during the Class Period for iOS application and in-app purchases from any one Apple ID account.

(Dkt. No. 789, Order Granting Renewed Motion for Class Certification; emphases supplied.) The class was defined, as the Court has previously explained, to consist of "persons," not Apple accounts.

B. PROCEDURAL BACKGROUND

1. FIRST CLASS CERTIFICATION ORDER – MARCH 2022

Consumer plaintiffs first moved for class certification in June 2021. The Court rejected plaintiffs' motion because it did not satisfy Rule 23(b)(3)'s predominance requirement and could not prove antitrust injury on a classwide basis. (Dkt. No. 630 at 25–26.)

The Court's analysis hinged on Professor Daniel L. McFadden's econometric model and accompanying report. The model attempted to estimate how an app developer's pricing would

[3] The Court **GRANTS** consumer plaintiffs' request to voluntarily dismiss the individual claims of plaintiff Edward Hayter. (Dkt. No. 1066.)

respond to competitive commission rates. The Court determined that Professor McFadden's model[4] was not reliable, and was therefore excluded, for multiple reasons. ***First***, the model incorporated a cherry-picked "but-for commission rate" of between 10 to 12% that was not rooted in any legitimate scientific, economic, or mathematic principle. (*Id.* at 5.) Professor McFadden was not qualified to opine specifically on app development, pricing, or payment processing. (*Id.*) ***Second***, Apple and its experts identified many confounding errors in the model, including data errors, mixed-up calculation methods, and the failure to account for net harm. (*Id.* at 8–9.) All told, the percentage of uninjured class accounts rose from at least 5.8% to 14.6% after Apple's corrections, which Professor McFadden conceded were appropriate. ***Third***, Professor McFadden's model ignored focal-point and tiered pricing in analyzing the but-for pricing. (*Id.* at 11–12.) ***Fourth*** and finally, Professor McFadden's model was volatile, and consumers might switch between being injured or not depending on the sample size. (*Id.* at 13.) The Court ultimately concluded that consumer plaintiffs did not "meet their predominance burden because they rel[ied] on an unsound methodology, which cannot reliably demonstrate which members, and how many, were injured as common proof of class wide impact" or classwide damages. (*Id.* at 25–26.)

2. ORDER ON RENEWED MOTION TO CERTIFY CLASS – FEBRUARY 2024

Consumer plaintiffs renewed their motion for class certification in March 2023. This time, the Court found that plaintiffs had proffered a valid methodology to determine injury and damages on a classwide basis. The Court granted the motion and certified consumer plaintiffs' proposed class, with reservations. (Dkt. No. 789.) To remedy prior errors, consumer plaintiffs submitted a supplemental report from Professor McFadden that ostensibly corrected the prior-identified errors and a new expert report from Dr. Rosa Abrantes-Metz, who the Court found was qualified to, and reliably did, calculate the but-for commission rate of 13.63%.

On round two, when the Court analyzed predominance, it determined that Professor McFadden's model *was* capable of showing antitrust injury on a classwide basis. (*Id.* at 27.)

[4] Professor McFadden's model was created by estimating consumer demand in the iOS aftermarket and developer costs. The model then calibrates but-for pricing based on the "but-for" commission rate. (*Id.* at 7.)

Professor McFadden had tweaked his model consistent with the Court's prior opinion and had attempted to reduce the number of uninjured accounts. In the background, consumer plaintiffs narrowed the class definition to apply to "[a]ll persons . . . who paid Apple for one or more in app purchases" which were "more than $10 in total to Apple" from any, and all, of their Apple ID accounts. (Dkt. No. 789 at 25.) That decision eliminated a large portion of uninjured accounts. (*Id.*) Moreover, consumer plaintiffs represented to the Court that the number of uninjured class members would decrease after Apple's payor data—upon which the model was based—was deduplicated. (*Id.*) That step was necessary because there are significantly more Apple ID accounts than payors, meaning a single payor, or consumer, likely has multiple accounts or payor records. (*Id.*)

Professor McFadden now estimated that only 7.9% of class accounts were uninjured. (*Id.*) Because consumer plaintiffs had reduced uninjured class accounts and would reduce the number of uninjured class members, the Court agreed that individualized issues of antitrust injury, as proposed, would not predominate, and the "model, once run, will answer the common question of whether Apple's conduct caused class members to suffer an antitrust injury." (*Id.* at 27.)

Although the Court certified the class, the Court was transparent about what it expected from consumer plaintiffs to maintain the class. It cautioned:

> Given the procedural posture of this motion, the Court accepts plaintiffs' representation that Professor McFadden can: **(i) match the Apple identification numbers he has with *actual consumers*** to ascertain class members, and (ii) **limit the percentage of unharmed class members** swept in by the narrowed class definition. Should Professor McFadden's model fail to do both, the Court will consider whether modification or **decertification is appropriate** for all or part of the class.

(*Id.* at 1; emphases supplied.) The Court explained in its predominance analysis that plaintiffs have "now affirmed to the Court that Professor McFadden will calculate both aggregate and individual damages *before* trial with the full transactions data of the entire App Store." (*Id.* at 24, n. 17.) It was not lost on the Court that running the full analysis would be expensive, and it may have been economically unfeasible to do so before the class was certified. The Court thus allowed consumer plaintiffs to proceed, given their assurances.

In reasoning that Professor McFadden's model was capable of showing anticompetitive impact across all class members, the Court again stated that plaintiffs have "represented to the Court that, once Apple produced the rest of its app transactional data, Professor McFadden will be able to calculate the exact extent of injury suffered by each class member." (*Id.* at 26.) The Court voiced its concern about the number of uninjured class members, and signaled that "it expects, given plaintiffs' representations, that once the model is fully run, that number [of uninjured class members] will be reduced or the cutoff could be changed to reduce the impact of including unharmed accounts." (*Id.*)

3. POST-CERTIFICATION EXPERT DISCOVERY[5]

After the Court certified the class, consumer plaintiffs set out to calculate class damages by payor, not Apple ID. That exercise required consumer plaintiffs to match over a billion payor records ([redacted] billion) to individual consumers. The number of payor records is several times greater than the number of consumers. (Stodden Rebuttal Report, ("Stodden Reb. Rep."), Ex. 29, Dkt. No. 1003-30, ¶ 12; Thompson Supplemental Report ("Thompson Supp. Rep."), Ex. 35, Dkt. No. 1003-36, ¶ 8.) A single payor may be associated with several payor records because a new record is created each time the payor creates a new Apple ID account or changes their name, address, or payment method. (Stodden Reb. Rep. ¶ 21.)

Consumer plaintiffs engaged Darryl Thompson, the Chief Information Officer of JND Legal Administration, to deduplicate and match Apple's payor records to consumers. That process first required Thompson to "clean" Apple's user-generated payor data, which entails "the detection and removal of errors and inconsistencies from data with the aim of improving data quality." (Stodden Reb. Rep. ¶ 109.) Once the data was cleaned, Thompson was then required to "match" Apple ID accounts to payors (i.e. class members) and validate those results. Thompson used JND Legal's "well-accepted" and "proprietary" methods to deduplicate Apple's payor

[5] The Court finds that most of the parties' filed documents were not appropriately sealed and denies those requests by unsealing here. Any forthcoming omnibus motion to seal should be consistent with the content of this Order.

records. He reduced the number from [redacted] billion records to upwards of 200 million ([redacted] million[6]) unique payors. (Song Report ("Song Rep."), Ex. 34, Dkt. No. 1003-35, ¶¶ 70, 74.)

Apple then engaged its own expert, Victoria Stodden, Ph.D., an Associate Professor of Industrial and Systems Engineering at the University of Southern California, to examine Thompson's work. Professor Stodden found that she could not replicate Thompson's work and instead identified several alarming errors. For example, Thompson failed to match all payment records belonging to the named plaintiff, Mr. Pepper, and determined that "Rob Pepper" and "Robert Pepper" were different people, despite that the data listed the same home address and credit card information for each. (Stodden Reb. Rep. ¶ 64.) Among other errors, Thompson lumped together all payment records for individuals that shared the first name Kim, despite that those over 40,000 records have nothing else in common, including different last names and addresses. (*Id.* ¶ 66.) He did not omit, or otherwise address, records that inappropriately listed Apple's Headquarters or "N/A" as the payor address. (*Id.* ¶¶ 57–58.) Nor did Thompson's "propriety method" recognize that Bronx/Manhattan (which was cleaned to "BronxManhattan") matched with some iteration of New York City. (*Id.* ¶ 100.) Professor Stodden further suspects that Thompson did not systematically validate his output. By way of example, Professor Stodden points to an instance where Thompson identified 1.9 million "unique payors" in King Salmon, Alaska—a town of 375 residents. (*Id.* ¶ 101.)

Thomspon conceded at his deposition that his work contained several errors. Crucially, he admitted that he did not, and could not, provide an error rate or confidence interval to validate his work. (Deposition Transcript of Darryl Thompson ("Thompson Dep. Tr."), Ex. 16, Dkt. No. 1003-17, 99:16–22.)

Thompson's matching analysis was ultimately incorporated into consumer plaintiffs' damages model, namely that of Professor McFadden and Dr. Minjae Song (the McFadden-Song

[6] Thompson's initial declaration included a "typographical" error that stated that the number of unique payors was [redacted] million. (Dkt. No. 1029, Oppo. at 1, n. 1.) Thompson repeats that error in his declaration in support of consumer plaintiffs' opposition to the *Daubert* motion. (Dkt. No. 1029-1.)

model). The McFadden-Song model relies on Thompson's matched dataset to calculate damages for each individual payor. (Song Rep. ¶¶ 70–74, Ex. 1.)

* * *

Apple, having observed these and other errors in plaintiffs' damages model, moved to strike as unreliable Thompson's expert testimony and to decertify the class, arguing that consumer plaintiffs did not, and could not, fulfill their representation to the Court and obligations under Rule 23.

II. *DAUBERT* MOTION

A. LEGAL FRAMEWORK

Federal Rule of Evidence 702 permits an expert's opinion testimony if the witness is qualified and based upon that qualification, the witness's opinion is relevant and reliable. Reliability turns on "the soundness of [the expert's] methodology." *Daubert v. Merrell Dow Pharms., Inc.*, 43 F.3d 1311, 1318 (9th Cir. 1995); *Engilis v. Monsanto Co.*, 151 F.4th 1040, 1048 (9th Cir. 2025) ("[T]he reliability test may be applied to an expert's reasoning process.") An expert witness may be qualified by "knowledge, skill, experience, training, or education" as to the subject matter of the opinion. Fed. R. Evid. 702. The proponent of expert testimony has the burden of proving admissibility in accordance with Rule 702. *Id.*, Advisory Committee Notes (2000 amendments). At the class certification stage, "the relevant inquiry is a tailored *Daubert* analysis which scrutinizes the reliability of the expert testimony in light of the criteria for class certification and the current state of the evidence." *Rai v. Santa Clara Valley Transportation Auth.*, 308 F.R.D. 245, 264 (N.D. Cal. 2015); *Grodzitsky v. Am. Honda Motor Co.*, 957 F.3d 979, 985–86 (9th Cir. 2020). For scientific opinions, they must be based on scientifically valid principles. *Daubert*, 509 U.S. at 589. Experts assist the fact finder in their own evaluation of the evidence by providing them with opinions based upon verifiable, scientific, or other objective analysis. *Id.* at 589–90.

B. *DAUBERT* CHALLENGE TO DARRYL THOMPSON'S OPINIONS

Apple moves to exclude the opinions of Darryl Thompson in their entirety, arguing that (i) Thompson is not qualified to clean and match Apple's payor data for purposes of the damages model, (ii) his methods and application of those methods are unreliable, and (iii) his analysis is

irrelevant because it misunderstood the key term "payor" as "account holder." (Dkt. No. 1001.)[7] The Court analyzes each argument in turn.

1. QUALIFICATIONS

Apple first argues that Thompson's opinions should be excluded because he is not qualified to offer an expert opinion on data cleaning and matching as a non-statistician. In this context, the Court agrees.

Rule 702 requires that the Court determine that an expert witness "is qualified by special knowledge as an expert *in the relevant area of expertise*." *AFMS LLC v. United Parcel Serv. Co.*, 2014 WL 12515335, *6 (C.D. Cal. Feb. 5, 2014) (emphasis supplied). An expert's opinion will be excluded if it does not have a "reliable foundation" or if it is not based "in the knowledge and experience of [the relevant] discipline." *Kumho Tire Co., Ltd. v. Carmichael*, 526 U.S. 137, 141, 149 (1999) (quoting *Daubert*, 509 U.S. at 592).

As noted above, Thompson is the Chief Information Officer at JND Legal Administration, where he has worked for the last 27 years. (Thompson Supp. Rep., Appendix A.) He holds a Bachelor of Arts in Management Information Systems from Washington State University. (*Id.*) Thompson is not a statistician and does not have a degree or training in statistics. (Thompson Dep. Tr. 23:19–24:9; 58:12–14.) At JND Legal, Thompson "oversees the entire IT organization," which includes "infrastructure, networking, and data administration." (*Id.* at 24:19–25:5.) During claims administration for class action lawsuits, Thompson supervises class notice and distribution, and for "complex cases" is "involved in the data management and processing and prep and deduplication of data." (*Id.* at 25:6–24.) Thompson conceded at his deposition that notice and claims administration is different from matching data to identify injured persons because in the notice process, "[i]f you are able to deduplicate with high confidence but don't deduplicate the records that you do not have high confidence in the deduplication, you may slightly over-notice, but you are still notifying the class in the most efficient way possible." (*Id.* at 61:10–18.)

[7] In the same motion, Apple also moves to exclude the expert opinions of Professor Alan MacCormack to the extent that his opinions relate to the average profit margin earned by app developers on the App Store. The Court will not rule on that motion in this Order.

The issue here, Apple argues, is that consumer plaintiffs were not tasked with identifying members to administer a settlement. Consumer plaintiffs were to match Apple ID accounts identified in payor records to *actual consumers* in order to run the damages model. (Dkt. No. 789 at 1.) That is a different inquiry, and for that exercise, Apple argues that Thompson is unqualified. Thompson concedes that he has never served as a testifying expert in a prior case. (Thompson Dep. Tr. 10:5–7.) Moreover, at the October 14, 2025 hearing, counsel for consumer plaintiffs confirmed that Thompson had *never* previously performed this exercise, or a similar matching exercise. (Dkt. No. 1062, Oct. 14, 2025 Tr. 34:6–24.)

Apple argues that a qualified statistician or data scientist should have performed this exercise. According to Apple's expert, Professor Stodden:

> The topics of data cleaning and deduplication have long been active areas of research in statistics and data science. Scientists frequently develop methods to clean (including data verification and validation) and deduplicate user entered addresses and other identifying information in application areas. . . . Statistical methods . . . are routinely used today in address matching, and many such models have been in frequent continuous use for many years. Statistical methods are also important to assess the reliability of data cleaning and deduplication, including through quantification of the error rates associated with data cleaning, deduplication, and estimation of unique payors.

(Stodden Reb. Rep. ¶ 29.) Professor Stodden details the extensive history and literature in this discipline. (*Id.* ¶ 117.) For data matching, while there is "no single approach from the published literature that works in all cases, there are certain best practices from the literature, which Mr. Thompson did not utilize, such as allowing matches for records for which it is sufficiently clear that they represent the same information and yet are not verbatim matches." (*Id.*) As to data cleaning, Professor Stodden explains that "[t]here is extensive academic literature on the importance of identifying and eliminating data errors to maximize the accuracy and reliability of results" through proper data cleaning. (*Id.* ¶ 110.) At his deposition, Thompson conceded that he was not aware of, and his methodology was not rooted in, literature or studies relating to data matching. (Thompson Dep. Tr. 109:9–110:24.)

Nor was Thompson familiar with rudimentary statistical concepts. He admitted that he was

unfamiliar with common distance metrics, like Levenshtein or Hamming distance, which are used to help determine whether names or addresses match. (*Id.* at 114:6–19.) He did not know how to measure an error rate or attempt to quantify it at all. (*Id.* at 99:16–22) ("Q: How likely do you think it is that you eliminated 100 percent of the duplication? A: I – I don't know how to quantify – quantify that. I – I yeah, I don't know how to quantify that. Q: Okay. Have you tried to quantify it at all? A: I have not.")

Consumer plaintiffs respond that Thompson's experience as a data specialist at JND Legal qualifies him as in expert in data deduplication. They continue that Thompson has worked on data deduplication and claims administration for several large, high-profile antitrust and data breach settlements, and that he has prior experience deduplicating Apple's data. Consumer plaintiffs posit that experience is worth more than any credential. According to consumer plaintiffs, there are "no meaningful differences between the data deduplication work that Mr. Thompson and an academic statistician perform" because he "carefully limits false positives and false negatives" and perfection is not expected. (Oppo. at 11.)[8]

That argument is fundamentally misguided. Although the Court agrees that perfection is not expected, the parties have not settled the case, and the litigation is not proceeding through a settlement phase where Thompson's experience would be relevant. There, when deduplicating payor records for purposes of providing class notice or administering a settlement, "overnotice" may be appropriate. Here, the inquiry is different.

Consumer plaintiffs were to engage an expert to assist with their damages model. The deduplicated data was intended to serve as an input to an econometric model that would determine whether class members have antitrust standing. An accurate and reliable measure is necessary because antitrust injury is an element of plaintiffs' claims. Not only has Thompson never performed such work, but despite his work experience, he was not familiar with basic statistical

[8] Consumer plaintiffs' argument that "the deduplication process was done to fulfill the Court's request for Plaintiffs to identify actual consumers with and without damages, the full implementation of which will only become necessary after trial during Class administration" is not accurate. (*Id.*) As the Court has explained in its prior order, matching records to consumers is necessary to prove antitrust injury—an element of consumer plaintiffs' antitrust claim.

methods and could not provide an error rate or some other mechanism to validate his work.

Consumer plaintiffs' cited cases allowing an expert to testify based on the expert's professional experience do not persuade. In those cases, experts were qualified to testify about their workplace experience or industry norms. *Thomas v. Newton Int'l Enters.*, 42 F.3d 1266 (9th Cir. 1994) (longshoreman qualified to testify as an expert about deck conditions); *Hangarter v. Provident Life & Acc. Ins. Co.*, 373 F.3d 998 (9th Cir. 2004) (insurance industry norms); *In re PFA Ins. Mkt'g Litig.*, 2022 WL 3146557, at *2 (N.D. Cal. June 15, 2022) (practices and norms of the life insurance industry). Thompson does not offer that sort of testimony here.

Accordingly, the Court finds that Thompson is not qualified to serve as an expert in identifying payors for purposes of consumer plaintiffs' damages model.

2. RELIABLE METHODOLOGY

For its second ground for exclusion, Apple argues that Thompson's opinions should be excluded because Thompson's methodology is unreliable under *Daubert*. Again, the Court agrees.

Evidentiary reliability is "based upon scientific validity." *Daubert,* 509 U.S. at 590 n. 9. "The question of reliability probes whether the reasoning or methodology underlying the testimony" is valid. *Murray v. S. Route Mar. SA*, 870 F.3d 915, 922 (9th Cir. 2017). The Court is concerned "not [with] the correctness of the expert's conclusions but the soundness of [their] methodology." *Primiano v. Cook,* 598 F.3d 558, 564 (9th Cir.2010). The reliability inquiry is "a flexible one." *Kumho Tire,* 526 U.S. at 150. Here, the Court may analyze "1) whether a theory or technique can be tested; 2) whether it has been subjected to peer review and publication; 3) the known or potential error rate of the theory or technique; and 4) whether the theory or technique enjoys general acceptance within the relevant scientific community." *United States v. Hankey,* 203 F.3d 1160, 1167 (9th Cir. 2000).

a. First Factor: Testability

Apple argues that Thompson's methodology is a "black box" that cannot be tested or replicated, in part because Thompson failed to document many steps in his methodology.

"To demonstrate testability under *Daubert*, an expert must provide sufficient explanation for their methodology such that '[s]omeone else using the same data and methods [would] be able

to replicate the result[s].'" *In re Incretin-Based Therapies Prods. Liab. Litig.*, 2022 WL 898595, at *1 (9th Cir. Mar. 28, 2022) (citing *City of Pomona v. SQM N. Am. Corp.*, 750 F.3d 1036, 1047 (9th Cir. 2014)). "Experts must follow some discernable methodology, [which] may not be 'a black box into which data is fed at one end and from which an answer emerges at the other.'" *GPNE Corp. v. Apple, Inc.*, 2014 WL 1494247, at *4 (N.D. Cal. Apr. 16, 2014).

Thompson's methodology (in which he used code to clean and manipulate data) cannot be tested or replicated. In his supplemental report, Thompson claims that he first cleaned Apple's data using a proprietary "data cleansing algorithm" that he had developed. (Thompson Supp. Rep. ¶ 17.b–c.) Next, Thompson deduplicated the payor data, which required him to write new code. (*Id.* ¶ 17.d–f.) Thompson applied "multiple tiers" of a deduplication algorithm to identify possible matches. (*Id.* ¶ 17.e.) "Each tier of the deduplication algorithm utilizes different available data points in combination, or alone, to produce a match, and each match requires a different level of review and validation based on the data points used in the match." (*Id.*) After Thompson evaluated those results, he "wrote more code to apply additional matching logic" to records that were not properly matched. (*Id.* ¶ 17.f) Thompson stopped the algorithm once he determined that "the marginal returns were outweighed by the time and effort required to continue." (*Id.*) When the deduplication process was complete, Thompson "cross-checked the address information against publicly available data." (*Id.* ¶ 17.g.) Counsel for consumer plaintiffs produced Thompson's code to Apple.

Upon review, Apple and its expert Professor Stodden determined that Thompson's code was "not complete" and would not run without significant modifications. (Stodden Reb. Rep. ¶ 128.) Thompson stated in a ReadMe file to Professor Stodden that he did not "save code" to "create" rounds two and three of deduplication. (*Id.*) At his deposition, Thompson admitted that his code was not in "deliverable" form and could not be run without modifications (i.e. turning on or off undefined portions of the code), which were not recorded. (Thompson Dep. Tr. 127:2–12; 169:18–170:17; 173:12–15.) Nor did Thompson record, or could he otherwise explain, his reasoning for selecting the data fields that he prioritized, each tier of the deduplication algorithm, or the criteria for when Thompson would stop running the algorithm based on "marginal returns."

(*Id.* at 176:16–177:7; 103:17–104:13.) Further, Thompson outsourced certain of his work to a third party—Melissa Data Solutions—but could not explain or describe what that third party did. (*Id.* at 187:13–188:5.) [9]

Professor Stodden, unsurprisingly, could not replicate Thompson's work. (Stodden Reb. Rep. ¶¶ 128–29.) At his deposition, Thompson testified that counsel produced the code "substantially in the form [he] ran it with" which "should produce similar outcomes," yet Thompson could not rule out "that there would be some – some level of a discrepancy." (Thompson Dep. Tr. 174:2–24.)

Consumer plaintiffs respond that Thompson produced his code, and that running the code, and turning on or off certain portions, "should be relatively obvious to an individual experienced in – in SQL code." (*Id.* 172:18–173:11.) They did not address Apple's argument that certain rounds of code were not documented or saved. Consumer plaintiffs further claim that any "reasoned judgment" Thompson made rests on "decades of data deduplication experience," and they argue that any concerns related to Professor Stodden's different result is "fodder for cross examination." (Oppo. at 20.)

Consumer plaintiffs miss the point. The Court finds that Thompson's work is not testable, and that this factor weighs in favor of exclusion. Thompson failed to record, or explain, his entire methodology such that it could be replicated. That includes the role of Melissa Data Solutions, which remains a "black box" to Apple and this Court. *GPNE Corp.*, 2014 WL 1494247, at *4. Although the Court agrees that an expert may make reasoned judgment calls based on their expertise, that expert must document and record those judgment calls so that they may be tested and analyzed. *Open Text S.A. v. Box, Inc.*, 2015 WL 349197, at *6 (N.D. Cal. Jan. 23, 2015) ("Rather than spelling out the steps she took to go from the data to the royalty rate opinion, Holt cites her 'experience'—an abstraction not visible to the eyes of the Court, the jury, and opposing

[9] Melissa Data Solution's policies prevented Professor Stodden from accessing the tool. (Stodden Reb. Rep. ¶ 131) ("I was also unable to perform any analyses regarding the Melissa Data Solutions NCOA product used by Mr. Thompson, except using the data he provided, since my analytical use case did not meet the requirements for access under the Melissa Data Solutions policies.")

counsel, or testable in the crucible of cross-examination.") Such documentation is particularly important, where, as here, consumer plaintiffs seek damages exceeding $20 billion. Thompson did not do so.

b. Second and Fourth Factors: Peer Review & Acceptance in the Scientific Community

Apple argues that Thompson's method was not peer reviewed, nor did he rely on any method that has been peer reviewed, and his method is not generally accepted in the scientific community. Professor Stodden found that Thompson's methodology went against scientific consensus in requiring "exact string matches in order to group records," because "many scientific publications have found that exact string matching algorithms are significantly less reliable than alternative statistical methods because they can be too restrictive." (Stodden Reb. Rep. ¶¶ 119–120.)

Consumer plaintiffs do not dispute Apple's points, notwithstanding Thompson's report indicating that he uses "well accepted" methods (without describing them). Instead, they respond that those factors are irrelevant because plaintiffs offer Thompson as an expert based on his experience as a claims administrator, and Thompson used competitively sensitive methods to deduplicate that cannot be peer reviewed.

Consumer plaintiffs' arguments do not persuade given that the Court has already found that Thompson's experience is not relevant to this inquiry. Both factors also weigh in favor of excluding Thompson's testimony.

c. Third Factor: Error Rate

Apple argues that Thompson's testimony should be excluded because he does not provide, and cannot calculate, an error rate or confidence interval for his deduplication work.

Professor Stodden explains that:

> In data analytics and statistics, validation is an essential step to ensure that a method is reliable. In the context of Mr. Thompson's data cleaning, validation should be applied to the data, to ensure data cleaning actually brings the cleaned values closer to the correct values, and to the output itself, to ensure the statistical estimates are close to what they should be. As it relates to his deduplication effort, validation would allow the estimation of the magnitude of errors in his method that could either lead to incorrectly grouping records that

> should not have been grouped, and therefore underestimating the number of unique payors, or fail to group records that should be grouped, resulting in overestimation of the number of unique payors. Error estimation is crucial for assessing the reliability of Mr. Thompson's methods.
>
> . . .
>
> In scientific work, typically a confidence interval is calculated, which allows a scientist to quantify the expected accuracy of the estimated output. Thus, I would expect Mr. Thompson's estimate of unique payors to be accompanied by a measure of error such as a confidence interval, so a reader can assess the accuracy of his estimate of the true number of unique payors.

(Stodden Reb. Rep. ¶¶ 93, 95.) Thompson admitted that he did not measure an error rate and did not know how to do so. (Thompson Dep. Tr. 99:16–22; 114:6–19.) When asked about the sources of the mistakes that Thompson was able to identify, Thompson responded "I don't know how to answer that because I – I looked for mistakes. I tried to identify mistakes and then fix mistakes. So if I had a – a area where I thought, oh, there's mistakes, I would have attempted to fix and resolve." (*Id.* at 165:15–166:2.)

Consumer plaintiffs argue that "Mr. Thompson's methods remain reliable notwithstanding the absence of an error rate" because "an overall error rate cannot be determined in a meaningful way." (Oppo. at 22.) Consumer plaintiffs then deflect by attempting to shift the burden to Professor Stodden to calculate Thompson's error rate which she did not do.[10] It is not Apple's burden.

Here, the Court finds that Thompson's failure to provide an error rate, confidence interval, or otherwise meaningfully validate his work weighs in favor of excluding his testimony. Because Thompson's method was not analytical, he could not identify the sources of his mistakes. Although consumer plaintiffs argue that calculating an error rate is not possible, Professor Stodden has offered several ways in which Thompson may have done so. (Stodden Reb. Rep. ¶ 96.) That Thompson chose not to, combined with Thompson other unreliable decisions, further suggests that his testimony should be excluded.

[10] Professor Stodden did not attempt to estimate the error rate but anticipated that she would find a "high error rate given the numerous problems" identified. (*Id.* ¶ 97.)

Based on the four factors analyzed, Thompson's opinions should be excluded.

3. RELIABLE APPLICATION OF THE METHODOLOGY

For its third ground for exclusion, Apple argues that Thompson did not reliably apply his methodology. Apple claims that Thompson's deduplication work was replete with errors in terms of both cleaning and deduplicating Apple's payor data. Consumer plaintiffs disagree. The Court considers both.

a. Data Cleaning

Data cleaning is "the detection and removal of errors and inconsistencies from data with the aim of improving data quality." (Stodden Reb. Rep. ¶ 109.) In effect, it means to audit or to correct the data. Here, and from the outset, Apple cautioned that its payor data was "user generated" and regularly contained inadvertent or intentional user error.[11]

Apple argues that rather than "clean" the data, Thompson's "cleaning" merely eliminates key characters.[12] For example, many payor records, for unknown reasons, list Apple's former corporate headquarters as the home address. Although Thompson testified that it would be appropriate to remove that address from the dataset, he instead "cleaned" the data by removing the address's spaces. Without explaining his logic, "Apple Computer Inc. 1 Infinite Loop" became "AppleComputerInc1InfiniteLoop." (Stodden Reb. Rep. ¶ 58, Ex. 6.; Thompson Dep. Tr. at 89:20–90:17) ("No. In my opinion, that – Apple's address as an Apple payor address is not a valid address.") Thompson removed backslashes from fractional addresses and abbreviations. Thus,

[11] Thompson encountered many data quality issues. (Stodden Reb. Rep. ¶ 25, n. 3) (citing Thompson Decl. ¶ 5 ("A large portion of the records had missing data, values of '[Missing in DS]', 'NA' and 'X'. Nearly 10% of records provided have these data issue. Records also contained non-standard ASCII values ranging from foreign language characters to emojis. Fields contained unexpected data. For example, the state field contained over 1600 unique values. This is because sometimes a state, like California, for instance would be represented as 'CA' or 'California.' In addition, some data was in the wrong fields – for example, some of the 1600 states were cities. Also, some portion of the data seemed to have values shifted to the wrong fields (name in the phone field as an example).")

[12] In large and complex datasets, "where it is impossible to manually review all the observations, researchers typically follow a systematic approach of auditing data to identify the types of anomalies reducing the data quality, . . . choosing appropriate methods to automatically detect and remove them." (Stodden Reb. Rep. ¶ 111.)

"N/A" became "NA" and "1/2" became "12." (Stodden Reb. Rep. ¶¶ 57–59.) Nor did Thompson consistently clean or format the apartment number field—"#2" became "2" and "Apt. 2" became "Apt2," but 2 would not match with Apt2. (*Id.* ¶ 60.) Where individuals entered their email address rather than their physical address, Thompson omitted the "@" symbol and continued to use the data to match based on that invalid address. (*Id.* ¶ 59.) Those exemplars, according to Professor Stodden, accounted for hundreds of thousands of payor records. (*Id.* ¶ 58, Ex. 6.) Professor Stodden explains that these "outliers" should have been studied, corrected, or removed from the data set. (*Id.* ¶ 115.)

In response, consumer plaintiffs argue that none of the errors that Apple identified would have been match dispositive, meaning that for records to match and "roll up," those records must have also matched based on some other trustworthy piece of data. Those "no harm, no foul" arguments do not persuade. One, they still ignore that the Court must assess the reliability of the approach. Two, they ignore the responsibility to take some legitimate approach with the data, which includes preparing the data such that it is not over or under matched. There may be records that *should* have been matched and were not. Three, consumer plaintiffs do not explain what the other "trustworthy" pieces of data are such that the Court can evaluate the reliability of Thompson's work. Four, in effect, Thompson admits that he kept unreliable, and invalid, information in the dataset by maintaining Apple's address in the data set while acknowledging that it is not a valid payor address. [13]

Based on the factors analyzed, the Court finds that Thompson did not use a reliable method to clean Apple's payor data such that it could reliably be used in the model.

b. Data Deduplication

In terms of deduplicating the data, Thompson claims that he was able to deduplicate [redacted] billion payor records to identify over two hundred "[redacted] [sic] million unique individuals." (Thompson Supp. Rep. ¶ 18.) Apple challenges his process on at least three grounds.

[13] Consumer plaintiffs contend that valid reasons may explain why people entered Apple's corporate address. For instance, consumer plaintiffs hypothesize that some of those individuals may have been Apple employees. That argument does not address the problem.

First, Apple argues that Thompson's methodology required verbatim matching for certain data fields, like name, and that requirement led to absurd results. (Stodden Reb. Rep. ¶ 119.) For example, Thompson failed to properly match records for *named plaintiff* Robert Pepper because his name(s) included in the records—"Rob Pepper" and "Robert Pepper"—were not an exact match despite that Pepper's address, phone number, and credit card number otherwise matched across records. (*Id.*) Here, according to Professor Stodden, "[i]n the academic literature, two records are considered equivalent if they are equal semantically, meaning the two records convey equivalent information. Therefore, two records do not need to be exactly identical to be considered a match." (*Id.* ¶ 120; cleaned up.) At his deposition, Thompson admitted the underlying error. He conceded that the first names "Deb" and "Debra" are likely the same individual when the address (but for a period) and last name matched. (Thompson Dep. Tr. 154:11–155:13.)

Second, Apple argues that Thompson's analysis overmatches in other respects. By way of example, Apple points to the "Kim" error, where Thompson matched over 40,000 individuals that share the first name Kim, "some of which have little or no information in common other than the first name." (Stodden Reb. Rep. ¶ 66.) Exhibit 9 to Professor Stodden's report shows three exemplar "Kims" that were incorrectly matched, each listing different last names, credit card numbers, phone numbers, and addresses. (*Id.*) When Professor Stodden ran her best recreation of Thompson's code in attempt to replicate his work, she identified 2,908 unique payors instead of one unique payor. (*Id.*) At his deposition, Thompson again conceded that "as a general statement, I agree that matching on first name alone is not a – a valid match criteria." (Thompson Dep. Tr. at 152:5–7.) Based on those examples, Professor Stodden concluded that "Mr. Thompson's method has serious errors that cause his method to both overestimate and underestimate the number of distinct payors." (Stodden Reb. Rep. ¶ 67.) Taken together, Apple's exemplars suggest that Thompson's errors are more than an aberration.

Third, Apple argues that Thompson does not appear to have validated or cross-checked his results.[14] As an example, Apple points to an instance where Thompson identified 1.9 million

[14] Although not argued in the parties' briefing, Thompson also appears to have failed to remove obviously fake phone numbers from the dataset, including numbers like "1234567"

"unique payors" located in King Salmon, Alaska, a town of 375 residents. (*Id.* ¶ 101.) For context, that would mean that King Salmon, Alaska has more than twice the number of residents as San Francisco, California. Apple argues that Thompson's failure to catch that clear error suggests that he did not reliably validate his work product. Professor Stodden explains that this too is not an aberration. There "are purportedly unique payors in Mr. Thompson's matched results that are associated with hundreds or thousands of records" and other locations "with an implausible number of payors." (*Id.*)

In response to those three arguments, consumer plaintiffs explain that Thompson's "code did include logic that allowed matching on 'a partial first name'—the first three initials [sic] of the first name, last name, address, and Apple ID." (Oppo. at 25) (Thompson Dep. Tr. 155:19–25) ("So the – the al – matching algorithm does do partial first name along with last name and address. But I believe because partial first name does, you know, present a – a increased risk of overmatching, I believe the algorithm includes a – the phone number hashed as a – as a validator to compensate for the increased risk of partial name.") That argument raises more questions than answers. If the algorithm supposedly allowed partial matches, why did Thompson's algorithm not match payor records for named plaintiff Pepper? Or with Deb as opposed to Debrah? At the hearing, counsel attempted to argue that Thompson's failure to match Pepper's records was not an "error" because, depending on "cultural context," it may not be obvious that "Rob" is a nickname for "Robert." Maybe so, but Stodden identified routine methods that address those kinds of issues. (Stodden Reb. Rep. ¶¶ 120– 121.)[15]

Consumer plaintiffs' response explains little. They argue that Thompson reliably applied his methodology, but "the data compelled different results" pointing to the King Salmon, Alaksa example and suspected fraud. Or, in response to the "Kim" error, they remarkably blame Apple for

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despite that Apple provided Thompson with a list of 16 fake numbers, the vast majority of which Thompson did not remove. (Stodden Reb. Rep. ¶ 99.)

[15] Partial name matching that is based on only the first three letters of a full name and nickname would not address many potential scenarios, including a William that goes by Bill, (Stodden Reb. Rep. ¶ 64, n. 78) or an individual that goes by their middle name rather than their first name.

failing to "clean up bad consumer-entered data"[16] and assert that the users had all entered the same phone number and address. (Thompson Decl. ¶ 37.) That latter explanation, however, is inconsistent with Exhibit 9 of Professor Stodden's report, which details several "Kim" entries associated with different phone numbers and addresses. (Stodden Reb. Rep. ¶ 66, Ex. 9.)

In short, the Court is left without a consistent or cohesive explanation of how the exemplar errors occurred. For the "Kim" error—which plaintiffs concede was an error—consumer plaintiffs suggest that the error is insignificant to the overall analysis. (Thompson Decl. ¶¶ 37–38.) The Court would agree if it had any assurance that Apple's exemplars defined the universe of Thompson's errors. Without an error rate, however, the Court cannot tell, and the burden lies with the consumer plaintiffs. Moreover, in the face of obvious error, Thompson did not correct, systematically analyze, or eliminate the data.[17]

Given those errors, the Court agrees with Apple that Thompson did not reliably apply his methodology.

4. DEFINITION OF PAYOR

Apple's fourth and final ground urges exclusion because Thompson sought to match "names" rather than "payors" and only "payors" are relevant to this action. To be a member of the class in this litigation, a member must have directly purchased an app or in app content from Apple. *Apple Inc. v. Pepper*, 587 U.S. 273, 281 (2019) ("The iPhone owners purchase apps directly from the retailer Apple, who is the alleged antitrust violator. The iPhone owners pay the alleged overcharge directly to Apple. The absence of an intermediary is dispositive.") Expert testimony, of course, must be "relevant to the task at hand." *Daubert*, 509 U.S. at 597.

Here, Thompson equated payors with the names listed in payor records. Apple asserts that

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[16] Thompson reviewed a sample of Apple's payor data and determined that he could reliably and accurately deduplicate it. (Thompson Supp. Rep. ¶¶ 9–11.)

[17] Consumer plaintiffs also respond that the Court need not be concerned with Apple's exemplars because Dr. Song's supplemental report, based on Apple ID accounts, somehow validates Thompson's work. The Court struck Dr. Song's supplemental report—which consumer plaintiffs did not dispute—as untimely and unnecessary at the October 14, 2025 hearing. (Dkt. No. 1062, Oct. 14 Tr. 28:22–30:10.)

payors must be identified through analyzing credit card or other payment information. To illustrate its point, Apple cites a common example: families. Children often use their parent's credit card to purchase apps or make in-app purchases in Apple's App Store through their own Apple ID. Here, although the parent paid Apple for the transaction, and was therefore the direct purchaser, Thompson's analysis viewed the child—who did not directly pay Apple—as a payor. (Thompson Dep. Tr. 160:18–24) (Q: What is your definition of "payor"? A: A – a individual that paid for something. And I'm not aware of anything that suggests that it has to be their own credit card, just that they have to make a payment. And, therefore, they have a transact – a record in the transaction data with their personal information on it.") In other words, Thompson identified two payors rather than matching those records to one payor. That error pervades Thompson's analysis. Professor Stodden identifies that, of Apple users who paid with credit or debit cards, 22.3% used a card that has also been attributed to another payor. (Stodden Reb. Rep. ¶ 53.)

Consumer plaintiffs disagree with that analysis, citing the class definition and Supreme Court precedent. They assert that "[i]f an iPhone owner clicked 'purchase' on an app, they are the direct purchaser" and argue in conclusory fashion that the indirect-purchaser rule is not concerned with "analyzing *whose* money the direct purchaser spent." (Oppo. at 13.)

On this argument, the Court disagrees. As the Supreme Court stated in its prior decision in this case: "If the iPhone owners prevail, they will be entitled to the *full amount* of the unlawful overcharge that *they paid* to Apple." *Apple*, 587 U.S. at 287 (emphasis supplied). To the extent consumer plaintiffs argue that children were "purchasers" because they directed the payment, those children likely would not have Article III or antitrust standing to advance their claim because they do not have a concrete economic injury. *See Y.H. v. Blizzard Ent., Inc.*, 2024 WL 5431490, at *5 (C.D. Cal. Aug. 14, 2024) ("Plaintiff purchased the cards with her father's credit cards on her father's account. . . . Thus, any claimed economic damage resulting from the cards was her father's, not her own.").[18]

[18] *See also*, (Dec. 8, 2014 Transcript of *Apple iPod iTunes Anti-Trust Litigation*, No. 05-000037-YGR at 1303) (finding that the named direct-purchaser plaintiff did not have standing because plaintiff did not purchase the iPod with her own money, rather her husband's law firm did).

On the other hand, the record is mixed with respect to identifying payors via payment method. At the October 14, 2025 hearing, the parties discussed whether Thompson could have, or should have, deduplicated the payor data by payment method, for example by credit card or PayPal account. Consumer plaintiffs requested payment information, including "the full card number," from Apple. (Dkt. No. 1061-2, Ex. B.) In response, Apple provided consumer plaintiffs with hashed, complete payment information, but represented via email and in an accompanying data dictionary that the data field included only the last four digits of the payment method. (Dkt. Nos. 1061-2, Ex. B; 1035-14.) Consumer plaintiffs did not move to compel that information (Dkt. No. 1061-2), nor did they inquire about whether the hashed data field (containing letters and 16 numbers) represented anything other than the last four digits of the payment method. (*Id.*) Thompson incorporated the last four digits of the credit card into his matching analysis but still could not sufficiently identify the payors.[19]

The Court agrees that Thompson's presented analysis is not relevant to this case because it does not identify payors.

* * *

In sum, the Court finds that Thompson's expert testimony should be excluded because he is not qualified, his methods are not reliable, he did not reliably apply his methods, and his testimony is not relevant to this action. The Court has no confidence in Thompson's work. For those reasons, the Court **GRANTS** Apple's *Daubert* motion as it relates to Darryl Thompson.

In light of the ultimate resolution, the Court need not opine on the notion of whether, in an individual case, children may have reimbursed their parents thus classifying the parent as the intermediary. Issues between parents and children can be resolved if the model connects the payor with a payment method.

[19] Apple should have accurately transmitted the information and affirmatively corrected consumer plaintiffs' understanding of the data that Apple produced. Consumer plaintiffs should have known or identified that they received complete information regarding payment method and confirmed that understanding with Apple, given how important that data is to this case. In the end, the failures on both sides do not compel a different result.

III. MOTION TO DECERTIFY

A. LEGAL FRAMEWORK

"A district court may decertify a class at any time." *Rodriguez v. W. Publ'g Corp.*, 563 F.3d 948, 966 (9th Cir. 2009). "Even after a certification order is entered, the judge remains free to modify it in the light of subsequent developments in the litigation." *Gen. Tel. Co. of Sw. v. Falcon*, 457 U.S. 147, 160 (1982). "A motion for class decertification is subject to the same standard as a motion for class certification under Federal Rule of Civil Procedure 23." *Wood v. Marathon Ref. Logistics Servs. LLC*, 2024 WL 4868181, at *1 (N.D. Cal. Oct. 28, 2024) (citing *Marlo v. United Parcel Serv., Inc.*, 639 F.3d 942 (9th Cir. 2011)). Like with class certification, "the party seeking certification bears the burden of demonstrating that the requirements of Rule[ ] 23(a) and (b) are met." *Id.* Decertification should "only take place after some change, unforeseen at the time of the class certification, that makes alteration of the initial certification decision necessary." *In re Apple iPod iTunes Antitrust Litig.*, 2014 WL 6783763, at *5 (N.D. Cal. Nov. 25, 2014). Whether to decertify a class is ultimately within the discretion of the court. *See Leyva v. Medline Indus. Inc.*, 716 F.3d 510, 513 (9th Cir. 2013).

B. ANALYSIS

Apple moves to decertify the class under Rule 23(a) and (b)(3). Given the Court's prior orders, the crux of the dispute is whether consumer plaintiffs satisfy Rule 23(b)(3)'s predominance requirement as it relates to injury and damages.

1. PREDOMINANCE: LEGAL FRAMEWORK

As the Court has explained in its prior rulings, Rule 23(b)(3)'s predominance requirement is demanding. *Amchem Prods., Inc. v. Windsor*, 521 U.S. 591, 624 (1997). Under Rule 23(b)(3), a court must find that "the questions of law or fact common to class members predominate over any questions affecting only individual members." Fed. R. Civ. P. 23(b)(3). "[P]laintiffs wishing to proceed through a class action must actually *prove*—not simply plead—that their proposed class satisfies each requirement of Rule 23, including (if applicable) the predominance requirement of Rule 23(b)(3)." *Halliburton Co. v. Erica P. John Fund, Inc.*, 573 U.S. 258, 275 (2014).

"When individualized questions relate to the injury status of class members, Rule

23(b)(3) requires that the court determine whether individualized inquiries about such matters would predominate over common questions." *Olean Wholesale Grocery Coop., Inc. v. Bumble Bee Foods LLC*, 31 F.4th 651, 668 (9th Cir. 2022) (en banc). That is particularly true in antitrust class actions, where plaintiffs must prove as "an essential element of the cause of action," that antitrust injury is "capable of being established through a common body of evidence, applicable to the whole class." *Id.* at 666. Where experts are involved, a court must decide if the expert's methodology is "capable of showing class-wide antitrust impact" in light of "factors that may undercut the model's reliability (such as unsupported assumptions, erroneous inputs, or nonsensical outputs)." *Id.* at 683.

The Ninth Circuit has clarified that a class may contain a "*de minimis* number of uninjured class members," so long as "the district court determine[s] after rigorous analysis whether the common question predominates over any individual questions, including individualized questions about injury or entitlement to damages." *Id.* at 669. Even then, "a court must consider whether the possible presence of uninjured class members means that the class definition is fatally overbroad." *Id.* at 669, n. 14.

2. PREDOMINANCE: ANALYSIS

Apple argues that consumer plaintiffs, through the McFadden-Song model, are not capable of establishing antitrust impact on a classwide basis. Consumer plaintiffs disagree.

The McFadden-Song model attempts to predict "the app and in-app content prices consumers would have paid absent Apple's alleged misconduct" through analyzing "the But-For commission rate, consumer demand, and developer costs." (Report of Daniel L. McFadden ("McFadden Rep."), Dkt. No. 1003-34, Ex. 33, ¶¶ 38–39.) The Court thoroughly examined this model in its prior class certification orders. (Dkt. Nos. 630, 789.) Consumer plaintiffs and their experts acknowledge that not all app developers respond in the same way to Apple's commission rate; some developers may choose to pass through some or all of Apple's charged commission to their consumers, while others may not. (McFadden Rep. ¶¶ 47–48.) One of the ways the McFadden-Song model attempts to address this issue is through constraining the model with "margin bounds" based on app genre. (*Id.*) Under the model, some consumers may be injured

while others may be better off, depending on what apps, or combination of apps, those consumers purchased. (Song Rep. ¶¶ 79–80.)

Because of that differing injury status, it is crucial that the model accurately and reliably match payor records to actual consumers to determine whether the consumer was injured, and if so, to what extent. (Rebuttal Expert Report of Jeffrey T. Prince ("Prince Reb. Rep."), Dkt. No. 1003-99, Ex. 98, ¶ 49.) For example, as Apple's expert Dr. Jeffrey Prince explains, if "Payor A" was harmed by $2 and "Payor B" was unharmed by $5, if those transactions "were actually associated with a single payor, rather than two separate payors, the single payor would be unharmed by $3." (*Id.*)

Without the Thompson report, which this Court excluded, the litigation is back to square one. Consumer plaintiffs proffer no methodology to match Apple ID accounts to consumers, and therefore no way to show that antitrust injury is "capable of being established through a common body of evidence, applicable to the whole class." *Olean*, 31 F.4th at 666. That alone requires decertification. The Court finds that consumer plaintiffs no longer satisfy the predominance inquiry for three reasons, which overlap with the Court's prior *Daubert* analysis.

First, as the Court has already explained, Thompson's matching exercise is unreliable, untested, and contains obvious errors. *See* Section II.B.3.b, incorporated herein.

Consumer plaintiffs' efforts to downplay Thompson's errors or the importance of his work do not persuade. They argue that the errors that Apple identified are overstated and can be measured in the "thousandths of a percent." (Oppo. at 12.) That estimate assumes that Apple's cited errors are *not* exemplars. Without an error rate or confidence interval, the Court is not convinced.[20] Inasmuch as consumer plaintiffs contend that Dr. Song conducted his analysis separate from Thompson's work, his report belies that conclusion. (*Compare* Oppo. at 9 *with* Song Rep. ¶¶ 69–70.)

[20] Consumer plaintiffs also attempt to blame Thompson's errors on Apple's data keeping practices. They cannot do so, and Thompson himself claimed that he could deduplicate Apple's payor data after he reviewed a sample of that data. (Thompson Supp. Rep. ¶ 15.)

With respect to consumer plaintiffs' argument that they need not identify every class member, and that Apple raises ascertainability (not predominance) arguments, the Court agrees with the former, but not the latter. The Court previously certified a class expecting a small percentage of unharmed *people* to be included in the final analysis.[21] That is not the issue. The task was to employ a common and reliable methodology that was "capable of establishing antitrust impact on a class-wide basis." *Olean*, 31 F.4th at 678. Here, if "individualized questions relate to the injury status of class members, Rule 23(b)(3) requires that the court determine whether individualized inquiries about such matters would predominate over common questions." *Id.* at 668; *see also Torres v. Mercer Canyons Inc.*, 835 F.3d 1125, 1136–39 (9th Cir. 2016) (addressing claim that class definition was overbroad—and thus arguably contained some members who were not injured—as a Rule 23(b)(3) predominance issue); *Briseno v. ConAgra Foods, Inc.*, 844 F.3d 1121, 1124 n.4 (9th Cir. 2017). Consumer plaintiffs did not satisfy their burden. The Court's predominance analysis is appropriate.

Second, Thompson's work is ultimately not relevant because, rather than focusing on matching payment records to the "person" who "paid" or the "payor," his methodology revolves around names. It does not identify injured class members. *See S*ection II.B.4, incorporated herein.

Third*,* as a last-ditch effort, consumer plaintiffs pivot and argue that all class members are "harmed" by a lack of choice, which satisfies the "antitrust injury" requirement. Even if that were true for all class members, which Apple disputes, consumer plaintiffs would still be required to prove damages on a classwide basis. The Court previously rejected consumer plaintiffs' belated request for injunctive relief because plaintiffs did not move for it. (Dkt. No. 981) ("Plaintiffs did not move to certify an injunctive class, and the Court is unprepared to do so via class notice when its prior orders addressing the issue contemplated only a damages class.") Consumer plaintiffs must prove damages.

[21] The Court disagrees with Apple's focus on the number of unharmed members rather than the percentage. Given Apple's size, that approach would almost inevitably shield Apple from ever being held accountable for potentially illegal conduct.

Accordingly, the Court finds that the consumer plaintiffs have failed to provide a model capable of reliably showing classwide injury and damages in one stroke. Nor can it reliably limit the percentage of uninjured class members, such that the Court may determine whether the class is "fatally overbroad." *See Olean*, 31 F.4th 669, n. 14. The Court **GRANTS** Apple's motion to decertify the class.

IV. IMPACT ON TRIAL

On October 11, 2024, the Court approved the parties' request to modify the pretrial schedule but advised the parties that they would be required to parallel process the pending motions and trial motions to maintain the trial date. (Dkt. No. 933.) With trial deadlines looming, the Court issued this order promptly to conserve the parties' resources. Consumer plaintiffs indicated to the Court at the October 14, 2025 hearing that they (i) would elect not to proceed with trial on the individual claims of Stephen Schwartz, Robert Pepper, and Edward Lawrence on February 2, 2025, but (ii) will seek appeal of this decision under Rule 23(f) within fourteen (14) days of this order. As the parties are required to begin trial preparations soon, the Court advises that it is inclined to stay the action should an appeal be taken.[22] The parties shall file a joint status report within fifteen (15) days of this order. Other pending motions will be addressed in due course.

V. CONCLUSION

For the foregoing reasons, Apple's motion to exclude the expert testimony of Darryl Thompson and motion to decertify the class are **GRANTED.**

This Order terminates Docket Nos. 1001, 1005, 1059, 1064, 1066.

IT IS SO ORDERED.

Dated: October 27, 2025

YVONNE GONZALEZ ROGERS
UNITED STATES DISTRICT COURT JUDGE

[22] This Order should not be interpreted to take a position on whether the Court should stay the companion case *Lepesant et al. v. Apple, Inc.*, No. 4:21-cv-08819 (N.D. Cal.). The Court will await the parties' position statements on that topic.