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UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
OAKLAND DIVISION

ORACLE USA, INC., *et al*.,

Plaintiffs,

v.

SAP AG, *et al*,

Defendants.

No. 07-CV-01658 PJH (EDL)

OPPOSITION TO DEFENDANTS' MOTION TO EXCLUDE TESTIMONY OF PAUL PINTO

Date: September 30, 2010
Time: 2:30 p.m.
Place: Courtroom 3
Judge: Hon. Phyllis J. Hamilton

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I. INTRODUCTION

Before companies commit to develop or license complex software applications, they commonly estimate the cost, time, and risk of developing that software. Oracle's expert, Paul C. Pinto, is an expert in providing those estimates. Over the course of his 24-year career in the software industry, Mr. Pinto has developed and managed over 100 software development projects. In so doing, he uses a cost estimation methodology that was developed and is currently used every day by software development shops around the world to estimate the cost to develop software, bid on software development projects, and actually construct enterprise application software. Many of Pinto's software estimation projects result in accepted bids. He and his team then must create the proposed software within the estimated budget. In this business, accuracy and reliability of cost estimates are essential, and require a proven methodology.

In his professional work and in this case, Pinto applies principles from two different cost estimation methodologies – function point and Constructive Cost Modeling ("COCOMO"). Applying that expertise and his professional experience, Pinto has estimated the amounts it would have cost Defendants to independently develop software similar to the Oracle software that Defendants, instead, simply accessed, took, and used without a license. He also offers opinions about the impact of considerations in addition to cost, such as development time and risk.

Pinto has engaged in hundreds of software license negotiations, typically after having first estimated, or in conjunction with estimating, the costs associated with development. He has direct experience working with businesses to obtain estimates of development cost, time, and risk, and then using that information to decide whether to license a software application, build it themselves, or hire a third party to build it for them. He has experience considering and understanding how such estimates influence how businesses make software development and licensing decisions.

Pinto's real-world software development and license negotiation experience contrasts with Defendants' two rebuttal experts, David Garmus (a purported expert in function point) and Donald Reifer (a purported expert in COCOMO). Both of Defendants' experts concede that it is possible to estimate what it would have cost for Defendants to develop the infringed Oracle software, but

carp at Pinto's methods and resulting estimate. Relying in part on these rebuttal experts, Defendants make three principal attacks on the admissibility of Pinto's testimony: (1) the August 17 Summary Judgment Order, Dkt. 762, renders his opinions irrelevant; (2) Pinto is not sufficiently qualified; and, (3) Pinto's methodologies are unreliable. Neither the facts, nor the law, support any of these three claims.

Pinto's Opinions Are Relevant to Damages. Defendants argue that the August 17 Summary Judgment Order, Dkt. 762, on "saved development costs" renders Pinto's opinions irrelevant. But Pinto's opinions are still relevant to damages in at least two ways. First, while Pinto does not measure what Oracle spent on its own research and development, he does estimate what Defendants would have spent to develop software of similar functionality to the Oracle products they infringed. To determine the fair market value of a hypothetical license – what a willing buyer would have paid a willing seller – the jury may consider the non-infringing alternatives that the buyer – SAP – would have had, including the cost of developing alternative software. Oracle's damages expert, Paul Meyer, properly considers Pinto's estimated cost as one alternative to a license, as *Georgia-Pacific* advises. Defendants' damages expert, Stephen Clarke, similarly concedes that the hypothetical license negotiation must consider the cost of non-infringing alternatives. Pinto's estimated cost is simply the "build" part of the classic "buy vs. build" alternative that any reasonable party would take into account in deciding whether or when to license a product. Second, Pinto opines about other factors software firms routinely consider in deciding whether to license software, and for how much, including the risks of development and time to market. These opinions also relate to the fair market license value. The more time and risk involved in building software, the more a buyer may pay for a license. Pinto should be allowed to offer, and Meyer should be allowed to consider, these opinions.

Pinto's Real-World Experience Is More Than Sufficient under Daubert. Second, Defendants argue that Pinto is not qualified to render opinions about the cost of software development. Not so. Pinto is fully qualified to provide his expert opinions, and his field-tested methodology is sound and reliable. Software consultancies around the world, including ones that Pinto worked at and managed, use the same methodologies for software development projects

every day. They are not purely the product of academic experience; they are better. Pinto's more than 100 real-world software estimation and subsequent development projects give him the experience and expertise to testify about the cost of non-infringing alternatives.

Pinto's Methodology Is Proven, Accurate, and Reliable. Third, Defendants attack Pinto's methodology. Defendants support this claim, however, with nothing more than speculation by counsel and the unproven assertions of their own rebuttal experts. At most, each of Defendants' five reliability arguments serve as fodder for cross-examination, not grounds for exclusion under *Daubert.*

First, Defendants assert that Pinto should have used the 2000 version of COCOMO, instead of the 1997 version. Pinto testified (but Defendants fail to mention) that he has used both versions of COCOMO, and found the 1997 version more accurate for developing software estimates like the one he performed here. Defendants merely speculate that Pinto's use of the older version was unreliable in some unspecified way.

Second, in his function point analysis, Pinto estimated the size of the development with a technique known as "backfiring" – converting the number of lines of code in a project into an equivalent number of "function points" for further analysis. Defendants argue that this technique is unreliable, but fail to mention that their own experts also use backfiring and publish tables for the backfiring conversion like the one that Pinto used here.

Third, Defendants claim Pinto's methodology is unreliable, mischaracterizing it as made-up for this litigation, and claiming it has not been "certified" by Defendants' self-anointed experts or their organizations. Defendants do not even attempt to rebut Pinto's testimony that software consultancies use this standard methodology to perform software estimation work in the real world on a daily basis. They also ignore that Pinto and the firms for which he worked have used this same methodology reliably over 100 times outside of litigation to estimate software development, bid on software development projects, and then manage them to completion.

Fourth, Defendants argue that Pinto should not have extrapolated from his analysis of two software products to determine a size and cost estimate for two others where a full estimation could not be completed. Defendants make this charge even though their own expert agreed there

was not enough time to fully analyze all the software at issue. Further, Pinto's deliberately conservative extrapolation is field-tested, reliable, and if anything undervalues these product lines.

Fifth, Defendants complained that Pinto did not produce copies of the source code he extracted from the underlying Oracle computer programs. Since filing their motion, Defendants have withdrawn this argument.[1] *See* Dkt. 825 (Min. Entry re Further Sett. Conf.) (referring to as yet unfiled stipulation in which Defendants agreed to withdraw the spoliation portion of their Pinto Daubert motion.)

Defendants' *Daubert* challenge to Pinto should be denied in its entirety.

II. SUMMARY OF EXPERT OPINIONS RELEVANT TO MOTION

A. Oracle's Experts

1. Paul Pinto's Expert Opinions on the Value of Use to Defendants and the Cost, Risk, and Delay of Alternatives

On November 16, 2009, Oracle served Pinto's expert report containing his affirmative opinions, including estimates of what Defendants would have spent to develop software similar to the Oracle software they took and used without a license. *See generally* Decl. of Tharan Gregory Lanier in Supp. Of Defs.' Mot., Dkt. 775 ("Lanier Decl."), Ex. 2 (Pinto Report). Pinto first developed estimates using function point analysis, then confirmed those numbers by also developing estimates using COCOMO. *See Id.*

Pinto's 24-year software development career includes senior executive positions at software companies that compete directly with Oracle and SAP. *Id.* at 3; Ex. 5 (Attachment A to Pinto Report). He has estimated software development costs for real projects, bid on those projects, and then delivered on those bids by building the software. Alinder Decl., Ex. A (Pinto Depo.) at 112:24-113:16. He has conducted over 100 software estimating efforts, applying a

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[1] Defendants' argument was also flawed both legally and factually. A "failure to produce documents is not a basis for invoking exclusion under Daubert." *McReynolds v. Sodexho Marriott Services, Inc.,* 349 F. Supp. 2d 30, 43 (D. D.C. 2004). Defendants' argument would have failed on this basis alone. Furthermore, Pinto produced all of the documents and data upon which his report and opinions rely.

variety of estimating models and techniques, including at least 50 using function point analysis and 50 using COCOMO *Id*., Ex. A (Pinto Depo.) at 100:4-22, 109:14-111:10 & 226:10-25. Pinto has represented both buyers and sellers in hundreds of software license negotiations. Lanier Decl., Ex. 2 (Pinto Report) at 6. In those negotiations, he considered avoided development costs, including the saved time and avoided risks inherent in licensing instead of developing software. *Id*.

Here, Pinto estimated the amount Defendants would have spent to develop non-infringing alternative software products to be between $1.134 and $3.477 billion, depending on the labor source and associated costs. *See* Lanier Decl., Ex. 2 (Pinto Report) at 43-44. Pinto further opined that such a development effort would be large, aggressive, risky and "exceedingly difficult" to complete within the two year window for a time sensitive market opportunity such as this one. *Id*. at 7.

Pinto was conservative in at least three significant ways: (1) he estimated only the amount to develop software similar to the most current versions, rather than every version Defendants infringed; Lanier Decl., Ex. 2 (Pinto Report) at 10-11; Alinder Decl., Ex. A (Pinto Depo.) at 27:3-29:20 & 125:10-126:18; *see also* Dkt. 745 (Joint Pretrial Statement) at 24-25, Undisputed Facts ¶¶ 68-91; (2) he did not quantify any additional value for the millions of related Oracle support materials that Defendants accessed, copied and used, rather than having developed themselves; *see id*.; and, (3) he did not quantify what Defendants would have spent to develop a product of similar functionality to the Oracle Database software, rather than infringing it. *See* Lanier Decl., Ex. 2 (Pinto Report) at 5 & 44; Alinder Decl., Ex. A (Pinto Depo.) at 27:3-29:20 & 125:10-126:18.[2]

[2] Defendants conceded their liability for copying the Oracle Database software in their opposition to Oracle's summary judgment motion, and the Court granted summary judgment in Oracle's favor on those claims. *See* Dkt. 762 (MSJ Order) at 24.

2. Pinto's Opinions Are One Consideration in Paul Meyer's Calculation of the Fair Market Value License

Pinto's opinions are one factor among many that Oracle's damages expert, Paul Meyer, takes into account in calculating the fair market value of the hypothetical license for Defendants' infringing activities. Specifically, Meyer considers Pinto's opinions in his evaluation of the *Georgia-Pacific* factors for establishing the value of use to SAP, as well as to demonstrate SAP's practical motivations and concerns at the time it would have engaged in the hypothetical license negotiation. *See* Alinder Decl., Ex. B (Meyer Report) ¶¶ 183 (third party provider would have to develop the software in a costly clean room; significant cost and risk associated with potential failed R&D efforts), 189 (acquiring IP from owner is less risky than developing a work-around), 204 (time and number of people it would take to develop), & 269 (relevant to market approach that SAP could not offer alternative in short time frame).

B. Defendants' Rebuttal Experts[3]

1. Reifer Uses Pinto's Methodology, Develops an Alternative COCOMO Estimate, But Lacks Comparable Real-World Experience

Defendants rely on their expert, Donald Reifer, a purported expert in the COCOMO estimation model to challenge Pinto's use of that model. Reifer does not have Pinto's real-world experience in software development. Pinto has used both COCOMO II 2000 and 1997 for actual software development projects. Reifer has used COCOMO II 2000 on multiple occasions, but he used it only once to estimate development costs for a project that was then developed to completion. *Id.*, Ex. A (Pinto Depo.) at 109:14-111:10; *Id.*, Ex. C (Reifer Depo) at 109:3-110:12. He has never used COCOMO II 1997 for any purpose. *See id*. at 101:15-23. Even lacking that practical experience, Reifer has testified in a prior case as a "valuation" expert and calculated, as the value of use, the amount that a defendant would spend developing a similar software product, just as Pinto did here. *See id.*, Ex. E (Reifer Evolution Report) at 1, 4, 6 & 7-9; *see id*., Ex. F

[3] Oracle has moved to exclude the opinions of each of Defendants' experts that relate to Pinto.

(Reifer Evolution Depo.) at 6:16-7:15, 13:2-18 & 44:2-9. For the present case, Reifer also used Pinto's 10-step methodology himself and does not criticize the reliability of the methodology itself. *See id*., Ex. D (Reifer Report) at 17-27. In any event, Reifer concedes that substituting his preferred COCOMO II 2000 for the 1997 version still yields a development estimate well over a billion dollars. *See id*. at 89.

2. Garmus Also Lacks Pinto's Practical Experience

Defendants rely on David Garmus, a function point hand-counter, to respond to Pinto's opinions that relate to function point analysis. *See id*., Ex. G (Garmus Report) at 1. Function point hand-counters, like Garmus and the organization he endorses, the International Function Point Users Group ("IFPUG"), read through software manuals or specifications, and then manually count the number of function points as a method for estimating the size of a piece of software. *See id.* at 5 & 7-9. Pinto explained this distinction at his deposition:

> With Regard to IFPUG and its – its approach to function point analysis, it espouses hand-counting. So IFPUG's primary revenue streams are associated with training people on hand-counting and certifying hand-counters. The constituency that they serve are hand-counters. So they espouse hand-counting.
>
> There are other schools of thought that show[] that you can very accurately obtain the functional size of an application in terms of function point by using backfiring and counting the numbers of lines of code.

See id., Ex. A (Pinto Depo.) at 102:9-20.

Garmus has no experience in the 10-step methodology that Pinto uses. *See id*., Ex. G (Garmus Report) at 16-17. He did not even attempt to analyze the same software versions as Pinto and, for the software he did analyze, he offers no cost estimate at all. *See id*. at 27-28, *see also* Ex. H (Garmus Depo.) at 88:11-13. Further, though he criticizes Pinto for using backfiring, he conceded at deposition that his consulting firm provides its own set of backfiring tables, because customers ask for them and find them useful for cost estimating. *Id*. at 246:21-247:25. Finally, because Garmus lacks real-world experience in software development, many of his criticisms of Pinto rely on speculation and lack practical or factual basis. *See id.* at 70:4-25 (noting that "most" of his experience relates to size, not cost estimates.); *see also id.* at 68:9-70:1.

III. LEGAL STANDARDS RELEVANT TO DAUBERT MOTIONS

As Oracle's affirmative *Daubert* motions describe, under Rule 702, the Court functions as a "gatekeeper" for expert testimony, and possesses broad latitude in its admission or exclusion. *See Kumho Tire Co., Ltd. v. Carmichael*, 526 U.S. 137, 147 (1999); *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 589 (1993); *Daubert v. Merrell Dow Pharmaceuticals, Inc*. (*Daubert II*), 43 F.3d 1311, 1315 (9th Cir. 1995). The proponent bears the burden of establishing admissibility; however, there is a presumption in favor of admissibility. *See Pierson v. Ford Motor Co.*, 2009 WL 1034233, at *3 (N.D. Cal.) (Hamilton, J.) (citing *Daubert*, 509 U.S. at 588); Fed. R. Evid. 702 advisory committee's note ("[R]ejection of expert testimony is the exception rather than the rule.").

Testimony of a qualified expert should therefore be admitted where it has been shown to be adequately relevant and reliable. *Kumho*, 526 U.S. at 147. Expert testimony is relevant if it will "assist the trier of fact to understand the evidence or to determine a fact in issue." Fed. R. Evid. 702; *see also Daubert II*, 43 F.3d at 1315 (Expert testimony is relevant where it "logically advances a material aspect of the proposing party's case."). The *Daubert* reliability analysis focuses on an expert's methodology. *Daubert*, 509 U.S. 592-93 (courts must make "preliminary assessment of whether the reasoning or methodology underlying the testimony is . . .valid and of whether that reasoning or methodology properly can be applied to the facts in issue."); *Perry v. Schwarzenegger*, 2010 WL 3025614, at *21 (N.D. Cal.) ("The party proffering the evidence 'must explain the expert's methodology and demonstrate in some objectively verifiable way that the expert has both chosen a reliable . . .method and followed it faithfully.'") (quoting *Daubert II*, 43 F3d at 1319 n.11). Expert testimony is reliable if based on "sufficient underlying facts or data," including "the reliable opinion of other experts," and "hypothetical facts that are supported by the evidence." Fed. R. Evid. 702 & advisory committee's note. This inquiry is a "flexible one," and must be tied to the facts of the case. *Kumho*, 526 U.S. at 150; *see also Southland Sod Farms v. Stover Seed Co.*, 108 F.3d 1134, 1142 (9th Cir. 1997) (expert testimony is admissible even if it is based on data collected by others and has not been subjected to peer review if based on the scientific method as it is practiced by at least a minority in the field).

The purpose of the Court's *Daubert* analysis is to evaluate the expert's "principles and methodology, not the conclusions that they generate." *Daubert*, 509 U.S. at 595. Disputes over the accuracy of either the expert's conclusions or the inputs they use should be resolved with "vigorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof," not exclusion of the testimony. *Daubert*, 509 U.S. at 595; *see also Sun Microsystems Inc. v. Hynix Semiconductor Inc.*, 608 F. Supp. 2d 1166, 1208-09 (N.D. Cal. 2009) (Hamilton, J.) ("Thus, to the extent that defendants challenge the accuracy or propriety of these variables, it is an issue that goes to the weight, rather than the admissibility."). Evaluating the credibility of competing expert witnesses is the province of the jury, not the court. *Wyler Summit P'ship v. Turner Broad. Sys., Inc.*, 235 F.3d 1184, 1192 (9th Cir. 2000).

IV. ARGUMENT

A. The MSJ Order Does Not Preclude Pinto's Opinions

SAP's first argument is that all of Pinto's opinions should be excluded as "irrelevant" following the August 17 Order Granting in Part and Denying in Part the Parties' Summary Judgment Motions ("MSJ Order"), Dkt. 762; *see also* Mot. at 3. Not so. The MSJ Order states that Plaintiffs cannot recover "saved development costs" for unjust enrichment, and "declines to permit" Oracle to recoup all of its "research and development costs as actual damages for infringement . . . ." MSJ Order at 19 & 22-23. Accordingly Oracle will not seek "saved development costs" as actual damages for any claim. However, Pinto's opinions are still relevant considerations in determining the fair market value of the hypothetical license for the software that SAP infringed in at least two ways.

First, the MSJ Order distinguishes calculations "based on the amounts that Oracle allegedly spent to develop and/or acquire the intellectual property at issue" from "what it would have cost SAP for research and development." MSJ Order at 23 n.5. Pinto's opinions calculating what SAP's costs would have been are relevant to the latter, non-excluded category. These opinions about "what it would have cost SAP for research and development" are one of many relevant and permissible considerations for Meyer to use to determine the fair market value of the hypothetical license at issue here. *See, e.g., Jaasma v. Shell Oil Co.*, 412 F.3d 501, 513-14 (3d

Cir. 2005*)* (error to exclude reliable expert testimony relevant to damages questions); *Smith v. Ingersoll-Rand, Co.*, 214 F.3d 1235 (10th Cir. 2000) (affirming admission of expert testimony that did not calculate damages but provided factors the jury should consider in calculating hedonic damages); *Semerdjian v. McDougal Littell*, 641 F. Supp. 2d 233, 242-43 (S.D.N.Y. 2009) (admitting expert testimony providing economic framework for assessing whether any infringer's profits should be awarded on copyright claim); *R.A. Mackie & Co. v. Petrocorp Inc.*, 329 F. Supp. 2d 477, 514 (S.D.N.Y. 2004) (expert testimony is relevant where it will "assist the Court in understanding the plaintiffs' damage evidence and determining the amount of the plaintiffs' damages").

Defendants' damages expert, Stephen Clarke, similarly considers the non-infringing alternatives available to SAP. Alinder Decl., Ex. I (Clarke Report) at 135. Among other "alternatives to the alleged inappropriate use of the Subject IP….", Clarke discusses "Alternatives to Copies of Customer Environments," "Alternatives to Cross-Use of Customer Environments," and "Alternatives to Using Downloaded Material for Multiple Customers." *Id*. at 135-37. While Clarke doesn't directly examine the cost to SAP to develop non-infringing software, he concedes "there are other alternatives," including buying another non-infringing "accounting system or inventory control package . . . ." *Id*. at 171-72.

Pinto's "buy vs. build" decision is one of the most basic considerations that any reasonable party would take into account when considering whether to license a software product, and how much to pay in license and maintenance fees. *See, e.g.*, Alinder Decl., Ex. J (Clarke Depo. Ex. 3205) at 526 & 531 ("[H]ow much would it cost to invent around this patent" is a "critical question" in any licensing negotiation); *see also Fresenius Medical Care Holdings, Inc., v. Baxter Intern. Inc.*, 2006 WL 1646113, at *1 (N.D. Cal.) ("[A] key part of the reasonable royalty determination under *Georgia Pacific* is whether the accused infringer had acceptable non-infringing alternatives available to it at the time of the hypothetical negotiation."); *Hanson v. Alpine Valley Ski Area, Inc.*, 718 F.2d 1075, 1080-81 (Fed. Cir. 1983) ("Reliance upon [infringer's] estimated cost savings from use of the infringing product is a well settled method of determining a reasonable royalty."). One non-infringing alternative would have been for

Defendants to develop what they stole, the cost of which is what Pinto estimates. Pinto's opinions relevant to the *Georgia-Pacific* factors were not a subject of Defendants' motion for partial summary judgment. They fall outside the MSJ Order and should not be excluded.

Second, Meyer also considers Pinto's opinions regarding the other factors that a willing buyer and seller would take into account in determining the fair market value of a hypothetical license, including the risks involved in building an alternative product and the added time to market. *See* Alinder Decl., Ex. B (Myer Report) ¶¶ 142, 150-151, 189, 204, 269, 288 & 449. The MSJ Order does not discuss these opinions (nor does the briefing), and so it does not preclude them. *See* MSJ Order at 18-23.

B. Pinto's Real-World Qualifications Exceed the *Daubert* Standard

Defendants' second argument is that Pinto lacks the "requisite 'knowledge, skill, experience, training, or education'" to be a software development and valuation expert. Mot. at 3-4. In support, Defendants selectively quote from Pinto's CV and his deposition. *See id*. at 4-5. But their attempts to marginalize Pinto's qualifications ignore that Pinto has years of real-world experience in software development and estimation (in contrast to Defendants' dual academic experts), including in the specific areas Defendants question. *See Sec.* II.A.1. above; Lanier Decl., Ex. 2 (Pinto Report) at 2-3; Ex. 5 (Attachment A to Pinto Report).

1. Pinto's Experience In Function Point Analysis Qualifies Him To Testify As To Its Use In His Methodology

First, Defendants claim that Pinto does not have the requisite qualifications in function point analysis to use it at all. Mot. at 4. They complain that he is not a career expert witness, does not have any articles published on function point analysis and only recently joined the trade organization Defendants' expert promotes, IFPUG. Mot. at 5. None of this matters. Defendants omit Pinto's testimony that, over the last decade, he has used function point analysis reliably, as he did here, over 50 times for software estimation projects. *See* Alinder Decl., Ex. A (Pinto Depo.) at 100:4-22.

It is well settled that a "witness can qualify as an expert through practical experience in a particular field, not just through academic training." *Rogers v. Raymark Industries, Inc.*, 922 F.2d

1426, 1429 (9th Cir. 1991). The advisory committee notes to Fed. R. Evid. 702 make clear that "[i]n certain fields, experience is the predominant, if not sole, basis for a great deal of reliable expert testimony." *See also Kumho Tire Co., Ltd. v. Carmichael*, 526 U.S. 137, 156 (1999) ("[N]o one denies that an expert might draw a conclusion from a set of observations based on extensive and specialized experience."). Pinto's expertise has been confirmed beyond dispute by the marketplace, where businesses rely on it regularly in making multi-million dollar decisions. *Hangarter v. Provident Life and Acc. Ins. Co.*, 373 F.3d 998, 1015-1016 (9th Cir. 2004) ("[E]xperience working for insurance companies and as an independent consultant . . . . lays at least the minimal foundation of knowledge, skill, and experience required in order to give expert testimony….") (citations omitted); *see* Alinder Decl., Ex. A (Pinto Depo.) at 226:10-25 ("I'm not talking about estimating for the sake of estimating. I'm talking about estimating for the sake of closing an engagement and then delivering on it and being held accountable for productivity against those estimates.").

Unable to challenge Pinto's actual experience, Defendants set up and assault a straw man. They conflate the estimation technique, "function point analysis" with one particular technique used in function point analysis, called function point hand-counting. *See* Mot. at 5. Defendants' expert, David Garmus, is a function point hand-counter, and the group that he endorses, IFPUG, certifies hand-counters. *See* Alinder Decl., Ex. G (Garmus Report) at 5 & 7-9. Though Garmus may prefer all function point analysis to mean function point hand-counting, the two are not the same. Having mistakenly equated Pinto's analysis with function point hand-counting, Defendants claim that only a certified hand-counter can use function point analysis methods in software estimation. Mot. at 5. But Pinto did not use function point hand-counting in any of his affirmative expert opinions. *See id*., Ex. A (Pinto Depo.) at 228:9-229:9. Consequently, Defendants' critique that Pinto did not apply "function point analysis" properly is mere sleight of hand – Defendants mean only that Pinto did not use the "hand-counting" method that their expert prefers. *See id*. at 103:22-104:4.

Pinto instead started with the lines of code in the actual software, rather than counting up function points in manuals by hand. As Defendants' expert, Reifer, stated before: "[Function

points and source lines of code are] just as appropriate. This is – function points and source lines of code in the software estimating world is religion, and we are arguing religion here. My opinion is that whatever is easy, as a pragmatist, so I use both." Alinder Decl., Ex. F (Evolution Depo.) at 98:7-19. Pinto plainly has sufficient expertise in function point analysis through his years of real-world experience using this method. In short, Defendants claim that their less qualified rebuttal experts think they have better ways of estimating software development costs than Pinto does. At most, that argument presents a credibility fight between experts, which is a question for the jury (*Kennedy v. Collagen Corp.*, 161 F.3d 1226, 1230-31 (9th Cir. 1998)), not a basis for disqualifying Pinto.

2. Pinto Has More Than Sufficient Experience in COCOMO

Defendants also claim Pinto does not have sufficient expertise in COCOMO. *See* Mot. at 3-4. They complain that Pinto is not an academic or published COCOMO expert. Mot. at 5. As above, Defendants ignore Pinto's significant real-world industry experience, applying COCOMO to estimate and build actual software. *See* Sec. II.A.1., above; Alinder Decl., Ex. A (Pinto Depo.) at 109:14-16.

Defendants also misleadingly argue that Pinto did not understand "basic equations used in COCOMO analysis." Mot. at 6-7. In fact, this argument merely highlights the (irrelevant) difference between COCOMO academicians and field experts like Pinto who actually use the tool for its intended purpose. In an attempt to catch Pinto off-guard, Defendants copied several equations out of a textbook related to COCOMO and then, without context and in an arcane textbook format, quizzed Pinto on them. For example, Defendants asked Pinto to explain the following equation:

$$PM_{NS} = A \times Size^{E} \times \prod_{i=1}^{n} EM_i$$

$$\text{where } E = B + 0.01 \times \sum_{j=1}^{5} SF_j$$

Alinder Decl., Ex. A (Pinto Depo. Ex. 2059), *see also id.* at 302:15-304:22. Defendants cite this in their motion. Mot. at 6-7.

Pinto recognized a number of these variables, even though they were out of context, but

not all of them. *See* Alinder Decl., Ex. A (Pinto Depo.) at 302:15-304:22. This was unsurprising because these equations only appear in textbooks, and are not visible to the user of COCOMO (a fact Defendants omit in their motion). *See* Pinto Decl., ¶ 7. A real-world COCOMO user is not required to memorize any of the underlying formulas to apply the model effectively – almost all COCOMO tools actually shield the user from ever seeing any of the underlying formulae. *See id.* COCOMO is a tool, and Pinto is an expert in its use, he is not required to be an expert in its underlying construction. Defendants' argument is akin to claiming that one cannot correctly use Microsoft Word without memorizing the underlying programming algorithms that make it work.

Defendants' pop quiz does not demonstrate that Pinto lacks expertise sufficient to disqualify him. Rather, it highlights that they have no substantive objections to Pinto's expertise. If Defendants feel Pinto's competence to estimate software development costs is undermined by his supposed lack of familiarity with arcane formulas, they can ask Pinto those questions before the jury. *See McCullock v. H.B. Fuller Co.*, 61 F.3d 1038, 1044 (2d Cir. 1995) (disputes regarding strength of credentials and use of methodology go to weight, not admissibility).

C. Pinto's Methodology Is Reliable, Accurate, And Proven

Defendants' third argument is that the methodology Pinto used is "unreliable." Mot. at 7. Defendants mischaracterize Pinto's methodology as "cobbled together for this litigation," and ignore the testimony they elicited from Pinto establishing the exact opposite. Mot. at 2. Contrary to Defendants' claims, Pinto's methodology is based directly on legitimate, preexisting research and development work by Pinto and others unrelated to the litigation, "the most persuasive basis for concluding that the opinions" are reliable. *Daubert II*, 43 F.3d at 1317; *see* Alinder Decl., Ex. A (Pinto Depo.) at 57:21-58:9 ("I don't want you to connotate that I built [this 10-step process]. This is around in consultancies forever. This is what consultants use to bid on deals.") & 104:12-106:23 (identifying numerous development firms that use the methodology that Pinto does).

Indeed, the 10-step process Pinto applied is used in the field every day to estimate **actual** software development projects, which then are built. *See Daubert II*, 43 F.3d at 1317 ("[W]e may not ignore the fact that a scientist's normal workplace is the lab or the field, not the courtroom or the lawyer's office."); s*ee* Alinder Decl., Ex. A (Pinto Depo.) at 104:22-23 ("Yes, at NIIT it's

what they do every day all day."). Pinto has confirmed its reliability time and again through many successful, on budget software development projects. *See* Alinder Decl., Ex. A (Pinto Depo.) at 226:10-25 ("So based on my, again, 25 years of experience and since 2001, using the process I have described here…having completed at least 100 estimating efforts and have delivered on those efforts as well, which is important here.").

Pinto also provides a step-by-step breakdown of his methodology, showing "precisely how [he] went about reaching [his] conclusions," using the methodology that software development firms use to estimate these costs in the real world. *Daubert II*, 43 F.3d at 1319; *see also* Alinder Decl., Ex. A (Pinto Depo.) at 104:12-106:23 & 226:10-25; Lanier Decl., Ex. 2 (Pinto Report) at 14-43 Pinto's 10-step methodology is also supported by books and articles in the field, and Defendants' own expert, Reifer, uses it in his rebuttal report. *See* Alinder Decl., Ex. A (Pinto Depo.) at 63:3-24, Ex. K (ORCLX-PIN-000100), Ex. L (ORCLX-PIN-000101) & Ex. M (ORCLX-PIN-000102); *see also id*., Ex. D (Reifer Report) at 17-27 (applying a similar ten-step process). Pinto has more than established that this methodology is reliable under the *Daubert* standard.

Defendants purport to identify five ways in which Pinto is unreliable. Mot. at 7-17. None of these arguments withstands scrutiny.

1. Pinto Used The 1997 Version of COCOMO Because He Found It More Accurate For This Type of Estimation

Defendants claim Pinto used "an outdated model for his COCOMO analysis." Mot. At 7. Defendants leap from Pinto's use of the COCOMO II 1997 model, rather than the 2000 model, to the unwarranted and unsupported conclusion that his analysis is unreliable. Mot. at 7-8. The only evidence about whether the 1997 model is reliable is Pinto's unrebutted testimony that he and others found it better for estimating this type of project than the 2000 model. Though Defendants omit this from their Motion, Pinto further explained that he chose to use the 1997 over the 2000 model, because:

> [B]ased on my experience with the model which I have over 50 data points of my own use, proven in the real world, and this is a very relevant point, where when I've conducted the estimate and have won the client's

> business, it's then on me to deliver against those estimates, and I am monitored and tracked against them. So I go with the model that I know works and that has been proven to me in the past in the exact same scenario where estimating an existing code base for a commercial software provider.

Alinder Decl., Ex. A (Pinto Depo.) at 112:24-113:16. Pinto further confirmed to Defendants that it was not only his own experience that COCOMO II 1997 was more accurate for this type of estimation project, but also the assessment of the software firms where he worked. Alinder Decl., Ex. A (Pinto Depo.) at 114:15-115:16.

Pinto's testimony that his use of the COCOMO II 1997 model is reliable and accurate, based on his own extensive experience with the use of that model, and that it is used by a significant group of software estimators in the field, easily satisfies the *Daubert* standard. *See Daubert II*, 43 F.3d at 1319. Defendants can do nothing but speculate that the COCOMO II 2000 model is somehow better or more reliable. Neither can their expert, Reifer, question whether the 1997 or 2000 model is more reliable and accurate for this project. He admitted that he had **never** used the 1997 model before, and that he had only used the 2000 model **once** to develop an estimate and manage that software project through to completion. *See* Alinder Decl., Ex. C (Reifer Depo.) at 101:15-23 & 109:23-110:12. There is no factual or legal basis to question Pinto's use of the 1997 model.

2. Pinto's Use Of Backfiring Is Also Based On Practical Experience and Produces Reliable Results

Defendants claim Pinto's use of a technique called "backfiring" is "inappropriate and unreliable." Mot. at 8-10. Defendants first assert that backfiring is not reliable because it is not "real" function point analysis as approved by Defendants' expert, Garmus, and his function point hand-counting colleagues. Mot. at 8-9. As described in Sec. II.B.2. above, Defendants conflate their own narrow function point hand-counting with the broader concept of function point analysis. Pinto did not use the hand-counting method espoused by Garmus, and which is the focus of function point counting groups like IFPUG. *See id.* IFPUG does not like "backfiring" because it renders them irrelevant – you don't have to count function points, if you use backfiring. *See* Alinder Decl., Ex. A (Pinto Depo.) at 101:1-102:20.

Backfiring provides an objective measurement of a software product's functional size, by counting the number of lines of source code and applying a series of conversion tables that have been developed based on data points derived from literally thousands of software development efforts. Pinto Decl., ¶ 9. Here, Pinto already had the software, and could count the lines of code. He did not need to hand-count the number of function points by reading through volumes of manuals. *Id.*, ¶ 10. Backfiring allowed Pinto to objectively develop a cost estimate using function point analysis. Numerous organizations publish conversion tables so that estimators like Pinto can do exactly this. *See id.*, ¶ 9 Indeed, Defendants omit that Garmus runs a company – the David Consulting Group – that publishes its ***own*** set of backfiring tables. *See* Alinder Decl., Ex. H (Garmus Depo.) at 249:7-22; *see also* Alinder Decl., Ex. O at 4 (David Consulting Group Co-Founder, David Herron, explaining that the David Consulting Group uses backfiring to "accurately estimate the number of function points…."). Defendants also omit that their other expert, Reifer, acting as a valuation expert for another software company, also supported backfiring rather than counting function points when estimating the cost of software development as the "value of use," as Pinto did here: "If they had a spec [they could hand count function points], but it's a much more labor intensive task. The easy way to do that is to backfire, which is a very common practice. Take the lines of code and convert them to function points or vice versa." *See id*., Ex G (Evolution Depo.) at 95:13-96:14. Thus, both of Defendants' experts directly contradict Defendants' vague complaints about Pinto's use of backfiring. Mot. at 9:21-22.

Defendants also argue the backfiring "error rate" is too high. Mot. at 9:27-10:6. While Defendants misleadingly confuse an "error rate" with an "accuracy range,"[4] in fact the accuracy of

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[4] Contrary to Defendants claims, error rates and accuracy ranges are two different things. *Compare* Mot. at 9:27-10:6 (discussing a purported "error rate") *with* Lanier Decl., Ex. 12 (ORCLX-PIN-000019) at 4 (discussing an "accuracy range"). An error rate tells how often you are wrong. Thus in Defendants' case, *United States v. Birdsbill*, 243 F. Supp. 2d 1128, 1135 (D. Mont. 2003), the test at issue provided an objectively wrong result up to 64% of the time. The accuracy range Defendants claim applies to backfiring is not a measure of how often the method is wrong. Instead, it measures how close the estimate is to the actual result. The presence of an accuracy range is commonplace, and indeed, Defendants' expert, Mr. Reifer also use ranges for

(Footnote Continued on Next Page.)

software estimating depends on the skill and expertise of the estimator. Pinto Decl., ¶ 11. Pinto has tested these techniques over 100 times and found the backfiring methodology, as he applied it here, to be much more accurate with a considerably tighter accuracy range when measured against the ultimate test — developing the software against the budget generated using these techniques. *Id.*, *see also* Alinder Decl., Ex. A (Pinto Depo.) at 226:3-25. Moreover, he applied them conservatively in this case. *See id* at. 27:9-29:20 &125:10-126:18; Lanier Decl., Ex. 2 (Pinto Report) at 5, 10-11 & 44. Courts do not require the level of "mathematical precision" that Defendants claim, but here any possible inaccuracy goes in Defendants' favor — by design. *See Data General Corp. v. Grumman Systems Support Corp.*, 36 F.3d 1147 1171 (1st Cir. 1994) ("the plaintiff need not prove its loss of revenue with mathematical precision."), *abrogated on other grounds by Reed Elsevier, Inc. v. Muchnick*, 130 S.Ct. 1237 (2010). Any dispute over the accuracy here goes to the weight, not the admissibility, of Pinto's opinions. *U.S. v. Harris*, 1994 WL 399180, at *2 (4th Cir.) (*Daubert* inquiry does not require a specific margin of error or particular degree of acceptance, "debate over the reliability of the particular test at issue . . . go[es] to the evidence's weight, and not its admissibility.") (citations omitted).

3. Pinto's 10-Step Process Is Well-Accepted

Defendants' third reliability attack is that the 10-step process that Pinto used to estimate the amounts that Defendants would have spent to develop relevant software is not certified or approved by the same hand-counting groups and organizations that their expert, Garmus, endorses. Mot. at 10-11. Defendants also wrongly suggest that Pinto made up this methodology "for this case." Mot. at 10. As established above, Pinto testified that this methodology is not something that he made up himself, much less for this case. *See* Section IV.C. above. Rather,

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(Footnote Continued from Previous Page.)

his own COCOMO cost estimates. Alinder Decl. Ex. D (Reifer Report) at 88-89 (offering estimates ranging from optimistic, to likely to pessimistic). Even if the "error rate" in *Birdsbill* and "accuracy range" here could be compared, the 9th Circuit has called the reliability analysis of *Birdsbill* into question in another context. *U.S. v. Daniels*, 541 F.3d 915, 926 (9th Cir. 2008) ("We also disagreed that Abel testing is unreliable.") (citing *U.S. v. Stoterau*, 524 F.3d 988 (9th Cir. 2008)).

numerous software development firms have practiced this same methodology for years, Pinto has used it at a number of different software development firms since 2001, and those firms and the software estimators working at them, including Pinto, found it to be accurate and reliable for estimating and then actually building software in the real world. *See id. See also Southland Sod Farms v. Stover Seed Co.*, 108 F.3d 1134, 1141-1142 (9th Cir. 1997). Further, Defendants' own expert, Reifer, used the 10-step methodology in his report and did not complain about its reliability. *See id*., Ex. D (Reifer Report) at 17-27. Defendants' experts are too far removed from practical applications of software development to challenge Pinto on this, but even if they could, that would at best present a dispute between experts for the jury to weigh. *See Kennedy v. Collagen Corp.*, 161 F.3d 1226, 1230-1231 (9th Cir. 1998) (presence of "opposing experts, additional tests, experiments, and publications" should not preclude the admission of the expert's testimony — they go to the *weight*, not the admissibility.").

4. Pinto's Estimation of the J.D. Edwards World and Siebel Software Suites Is Accurate and Reliable

Defendants next argue that Pinto's opinion regarding the estimated cost for Defendants to develop the J.D. Edwards World and Siebel Software suites is unreliable, because he used extrapolation in his analysis. *See* Mot. at 11-14. Where it is not possible to count all of the lines of code in software, as Pinto did for PeopleSoft and J.D. Edwards EnterpriseOne, experts in the field are also able to develop accurate cost estimates by extrapolating from a known, comparable analog. Pinto Decl., ¶ 12. In this case, counting the source code for J.D. Edwards World and Siebel software was not possible in the time allotted. *See, e.g.,* Alinder Decl., Ex. C (Reifer Depo.) at 86:15-87:3 & 88:5-10 (testifying that "[w]e tried to do a count, and we just ran out of time. We didn't have time. So we didn't fully analyze them at all. We just superficially looked at them.") As a result, Pinto had to use accepted alternatives to the full 10-step process in estimating the development costs associated with these products. Pinto Decl., ¶ 12.

Courts have routinely held that expert opinion may be based upon extrapolation. *In re Phenylpropanolamine Products Liability Litigation,* 289 F. Supp. 2d 1230, 1246 (W.D. Wash. 2003) ("The court finds the direct and extrapolated evidence sufficiently reliable evidence upon

which to base expert opinion. As such, it also finds opinions as to these sub-populations admissible under *Daubert*."); *Metabolife Intern., Inc. v. Wornick*, 264 F.3d 832, 843 (9th Cir. 2001) ("Difficulties with extrapolation might render the animal studies unreliable under *Daubert;* however, such a determination must be made on problems inherent to the studies themselves, not a general apprehension at inter-species and inter-dosage extrapolation."). Pinto and other professionals in his field regularly rely on this method to estimate how much it will cost to develop analogous software products. Pinto Decl., ¶ 12. Conservative but accurate estimates are required. *See id*. If their estimates (and their resulting bids) are too high they fail to win the business. I*d*. If their estimates are too low, they lose money. *Id*. Using extrapolation to help estimate the cost for Defendants to develop the J.D. Edwards World software and Siebel software suites was proper here.

J.D. Edwards World Software Estimation. To develop an estimate of the size of the J.D. Edwards World software suite, Pinto extrapolated from the size he had already calculated for the J.D. Edwards EnterpriseOne software. Based upon his previous experience working with these two specific products, Pinto determined that he could reliably and accurately extrapolate his analysis from J.D. Edwards EnterpriseOne to J.D. Edwards World, because there is a logical connection between the two – EnterpriseOne was developed with World as its base – and he determined the two products had "analogous" functionality. Alinder Decl., Ex. A (Pinto Depo.) at 278:6-25 & 281:9-282:3. Pinto, and others in the software estimation field, use extrapolation on a regular basis, particularly when a known, reasonable analog exists, as here. Pinto Decl., ¶ 12 & Ex A (Jingzhou Li & Guenther Ruhe, Decision Support Analysis for Software Effort Estimation by Analogy) at 1. The extrapolation technique Pinto used is reliable and accurate, and supported by "good science." *See* Pinto Decl., Ex B (Murali Chemuturi, Analogy Based Software Estimation) at 1 ("Analogy Based Software Estimation is [a] better indicator[] and predict[s] the future project performance much better than an estimate developed afresh from scratch."). This method is often used in real-world software development, where a cost estimate already exists for a similar software product.

Defendants complain that Pinto "assume[d] a one-to-one correlation between the numbers

of SLOC in each software suite." Mot. at 12. However, Pinto based his analysis on this assumption to be conservative. If he had factored into his estimate the fact that J.D. Edwards World was written in a different programming language than EnterpriseOne (RPG as opposed to C and Java), it would have led to an increase in the estimate for J.D. Edwards World. *See* Alinder Decl., Ex. A (Pinto Depo.) at 284:5-286:10. In addition, Pinto chose to use even more conservative settings in his COCOMO analysis for World software: for example, he lowered the settings on program reusability and platform volatility, both of which reduced the cost estimate substantially. *See* Lanier Decl., Ex. 2 (Pinto Report) at 39. His World estimate, if anything, is low.

Siebel Software Estimation. Pinto based his Siebel analysis, in part, on his already-completed size estimate for the PeopleSoft Customer Relationship Management ("CRM") product because Siebel primary functions as a CRM product. It also made sense to compare PeopleSoft CRM with Siebel, because PeopleSoft's CRM software is an acknowledged competitor to the Siebel CRM software in the marketplace. *See* Alinder Decl., Ex.P (ORCLX-PIN-000006) at 8-10, fig. 3 & Ex. A (Pinto Depo.) at 286:11-287:9. Pinto was able to extrapolate from the size of PeopleSoft CRM to Siebel CRM, by comparing the number of tables used in each. *See* Lanier Decl., Ex. 2 (Pinto Report) at 41. Extrapolation based upon a table comparison is a commonly used, accurate and reliable method of estimating the amount of functionality that is contained within a software product, from which the expert can estimate the cost of software development. Pinto Decl., ¶ 13.

Finally, Defendants argue that Pinto's Siebel analysis is unreliable because he received a number of tables for the comparison for each piece of software from Oracle employees deeply familiar with those applications. Mot. at 13-14. However, there is nothing improper or unreliable about an expert relying upon factual data he obtains from a fact witness. *Turck v. Baker Petrolite Corp.*, 10 Fed. Appx. 756, 766 (10th Cir. 2001) (holding it was not error to admit expert witness testimony regarding lost wages where it was based on numbers given by plaintiff to expert regarding what he had earned both before and after termination.); *Loeffel Steel Products, Inc. v. Delta Brands, Inc*., 372 F. Supp. 2d 1104, 1119 (N.D.Ill. 2005) ("There is no requirement that an

expert personally perceive the subject of his analysis. The practice of employing experience to analyze data assembled by others is neither illicit nor unusual.") (citations omitted).[5] Consequently, there was nothing improper about Pinto obtaining this specific input from Oracle employees with direct, factual, job-related knowledge.

5. Defendants Have Withdrawn Their Argument Regarding Pinto's Production of Code

Defendants have withdrawn their argument that Pinto failed to produce relevant materials. *See* Dkt. 825 (Min. Entry re Further Sett. Conf.) (referring to as yet unfiled stipulation in which Defendants agreed to withdraw the spoliation portion of their Pinto Daubert motion.) In reliance on that agreement, Oracle does not address the substance of Defendants' argument here. *See* fn. 1 above.

V. CONCLUSION

For the foregoing reasons, Oracle requests that the Court deny Defendants' motion to exclude the testimony of Paul Pinto in its entirety.

[5] The cases Defendants cite to the contrary are inapposite. Mot. at 14. In *Lava Trading, Inc. v. Hartford Fire Ins. Co.*, 2005 U.S. Dist. LEXIS 4566, at *33, *48-49 (S.D.N.Y.), the court excluded an expert's testimony, not because it was based upon factual information supplied by a party but because it was based on orally conveyed "estimates or guesses" supplied by a party. Similarly, in *Democratic Party Wash. State v. Reed*, 2002 U.S. Dist. LEXIS 27921, at *33 (W.D. Wash.), the court excluded the expert's testimony because, in a case that turned in part on the definition of a "member" of a political party, he used an "untenable" definition that was supplied by a party, that had no basis in fact.

DATED: September 9, 2010

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