UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF ILLINOIS
EASTERN DIVISION

BERKELEY*IEOR d/b/a B*IEOR,	)	
	)	
Plaintiff,	)	
	)	
v.	)	17 C 7472
	)	
TERADATA OPERATIONS, INC.,	)	
	)	
Defendant.	)	

MEMORANDUM OPINION

CHARLES P. KOCORAS, District Judge:

Before the Court is Defendant Teradata Operations, Inc.'s ("Teradata") motion to dismiss Plaintiff Berkeley*IEOR's ("Berkeley") Second Amended Complaint ("SAC") pursuant to Federal Rule of Civil Procedure 12(b)(6). For the following reasons, the Court denies the motion to dismiss.

BACKGROUND

For purposes of this motion, the Court accepts as true the following facts from the complaint. *Alam v. Miller Brewing Co.*, 709 F.3d 662, 665–66 (7th Cir. 2013). All reasonable inferences are drawn in Berkley's favor. *League of Women Voters of Chicago v. City of Chicago*, 757 F.3d 722, 724 (7th Cir. 2014).

A. The Relevant Parties

Plaintiff Berkeley is a Nevada corporation that provides consulting services, specializing in the design and development of large-scale decision support solutions.

Richard Lepman ("Lepman") is Berkeley's president and the named inventor for U.S. Patent Number 7,596,521 (the "'521 Patent"), U.S. Patent Number 7,882,137 (the "'137 Patent"), and U.S. Patent Number 8,612,316 (the "'316 Patent") (the "Asserted Patents").

Defendant Teradata is headquartered in Ohio and is a developer and retailer of enterprise-wide data-analytics software, services, and related data-warehousing platform technology. Teradata offers its data-analytical products and services to customers throughout various industries, which include financial services, retail, travel, transportation, communications, media, and entertainment.

Teradata was originally formed as a collaboration between researchers at the California Institute of Technology and Citibank's Advanced Technology Group. After fifteen years as a division within both NCR Corporation ("NCR") and AT&T, Teradata re-emerged as an independent company in 2007.

Berkeley makes claims against other parties, including Grainger, DHL Express, Danzas, and Air Express (collectively, the "non-Teradata Defendants"), but those actions have been severed and stayed.

B.   The Asserted Patents

Lepman was the inventor of the patents-in-suit owned by Berkeley. He developed a method that calculated profitability associated with the smallest common component of profit measurement desired, namely the profit "object." The inventions of the Asserted Patents provide management with a single version of the truth when

evaluating multiple dimensions of profitability, such as product, account, customer, or item, which was not previously possible. Lepman assigned all rights, title, and interest in the Asserted Patents to Berkeley's predecessor, and thus, Berkeley is presently the owner and assignee of the Asserted Patents.

For purposes of this motion, Berkeley is willing to treat—but does not concede—claim 1 of the '521 Patent as a representative claim for simplicity's sake. As to the '521 Patent, claim 1 is the only independent claim. Claim 1 in the '137 Patent and the '316 Patent are nearly identical to claim 1 of the '521 Patent and are also the only independent claims in their respective patents. The '521 Patent states as follows:

> The '521 Patent, entitled "Process for Determining Object Level Profitability," is "a process for determining object level profitability," and claims in relevant part:

> 1. A process for determining object level profitability in a computer, comprising the steps of:

> providing a relational database management system operable in association with a computer;

> preparing information to be accessed electronically through the relational database management system;

> establishing, in the relational database, rules for processing the prepared information;

> using the relational database management system to independently calculate at least one marginal value of profit for each object being measured using the established rules as applied to a selected set of prepared information;

using the relational database management system to calculate a fully absorbed profit adjustment value for each object being measured; and

combining the at least one marginal value of profit and the fully absorbed profit adjustment value to create a measure for object level profitability.

2. The process of claim 1, wherein the relational database comprises a structured query language (SQL).

3. The process of claim 1, wherein the preparing step further includes the step of calculating opportunity values of funds used or supplied by each object being measured.

4. The process of claim 1, wherein the establishing step includes the steps of providing the information necessary to select objects, and performing the correct profit calculus.

1:17-cv-7472, Dkt. #105 at 7.

Before the filing date of the Asserted Patents, prior attempts to calculate certain profitability-related measures for individual customer accounts on a limited scale, either manually or sometimes through traditional procedural-based computer software, faced limited success. Due to the technical limitations associated with relying primarily on traditional procedural-based software (if-then-else statements), such prior attempts did not have the flexibility or capability needed to perform the number of calculation permutations simultaneously and in a timely manner, which is required to achieve the functionality made possible by the Asserted Patents.

The Asserted Patents allow for the independent and simultaneous processing of multiple profitability factors using a relational database management system

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("RDBMS"). When compared to methods that rely on traditional procedural-based software, this method for processing profitability factors resulted in improved performance. The Asserted Patents disclose and claim not only the idea of determining object level profitability, but also recite limitations directed at employing allegedly unconventional technological solutions to these technological problems encountered by the prior art.

The claim is that the Asserted Patents employ relational database management techniques, independent simultaneous calculation techniques, and combinations of rules and data in a mathematical set theoretic framework, in an unconventional manner that improves upon the capabilities, performance, and scalability of traditional procedural-based computer software. Berkeley alleges that these features enable it to achieve a technologically scalable solution that can measure profit at a speed, resolution, and precision previously not possible in prior computerized financial performance measurement processes.

Against this backdrop, the specification describes, generally, the goals of the invention:

> To gain this new level of profit resolution this invention is designed to use micro profit measurement rules applied at a granular level consistent with standard accounting practice using a combination of actuarial science and mathematical set theory. The invention is designed to utilize massively parallel computing operations using relational database management techniques enabling profit measurement at a level not available today in a large individual customer scale business. This invention does this through a consistent application of measures to a class of business entities which

represent the smallest common component of profit measurement desired—the Profit Object.

C. The Underlying Action

In the 1990s, Berkeley provided consulting services to Defendant Teradata's predecessor, NCR. Around this time, Lepman was strategizing and designing an improved profitability measurement solution that both NCR and Berkeley could bring to market, and he envisioned the functional and technical ideas behind the inventions claimed in the Asserted Patents. Subsequently, in April 1999, the Royal Bank of Canada implemented the first commercial embodiment of Lepman's invention. This commercial embodiment received much industry acclaim and was ultimately named the Teradata Value Analyzer ("TVA").

The TVA calculates the profit contribution for all of a company's accounts, customers, relationships, or other entities. It gives management the valuable information needed to understand and affect the profit dynamics of business. The software allows multiple profitability factors to be independently and simultaneously processed by a relational database management system.

On June 1, 1999, Berkeley and NCR executed a licensing agreement that allowed NCR limited use of the TVA. NCR subsequently spun off into a separate legal entity, creating Defendant Teradata in 2007.

On September 29, 2009, Berkeley sent a letter to Teradata announcing the issuance of the '521 Patent and asking for a meeting with Teradata to discuss its ongoing

sales of the TVA, particularly those falling outside of the licensing agreement. In July 2010, the two parties met and discussed the '521 Patent and then-existing implementations of the TVA. Berkeley alleges that Teradata and its customers continued using the TVA, even though at that meeting, Teradata allegedly took the position that it and some of its customers were discontinuing use of the TVA and that they were not infringing the '521 Patent.

Berkeley further alleges that sometime in 2010, Teradata partnered with Grainger and implemented the TVA software, which allocates to "the lowest profit object." To this effect, Teradata's website discussed the benefits promoted by Teradata and enjoyed by Grainger through their implementation of the TVA and use of the inventions in the Asserted Patents.

Similarly, Berkeley alleges that in 2013 Teradata partnered with DHL Express and implemented the TVA "as a costing and profitability engine." Teradata and DHL Express refer to DHL's TVA implementation, together with a corresponding data warehouse, as INSIGHT. As a result, Berkeley claims that Danzas and Air Express, both part of DHL Express's parent company, Deutsche Post AG, would have access to the INSIGHT application.

On March 26, 2018, Berkeley filed its five-count SAC, alleging claims for direct infringement of the Asserted Patents against the non-Teradata Defendants in Counts I-IV, and a claim for indirect infringement of the Asserted Patents by Teradata in Count V. This court previously severed and stayed Counts I-IV against the non-Teradata

Defendants. On August 29, 2019, Defendant Teradata moved to dismiss Count V under

Federal Rule of Civil Procedure 12(b)(6) for failure to state a claim.

LEGAL STANDARD

A motion to dismiss pursuant to Federal Rule of Civil Procedure 12(b)(6) "tests

the sufficiency of the complaint, not the merits of the case." *McReynolds v. Merrill*

Lynch & Co., 694 F.3d 873, 878 (7th Cir. 2012). The allegations in the complaint must

set forth a "short and plain statement of the claim showing that the pleader is entitled to

relief." Fed. R. Civ. P. 8(a)(2). Plaintiffs need not provide detailed factual allegations,

but they must provide enough factual support to raise their right to relief above a

speculative level. *Bell Atlantic Corp. v. Twombly*, 550 U.S. 544, 555 (2007). A claim

must be facially plausible, meaning that the pleadings must "allow . . . the court to draw

the reasonable inference that the defendant is liable for the misconduct alleged."

Ashcroft v. Iqbal, 556 U.S. 662, 678 (2009). The claim must be described "in sufficient

detail to give the defendant 'fair notice of what the…claim is and the grounds upon

which it rests.'" *E.E.O.C. v. Concentra Health Servs., Inc.*, 496 F.3d 773, 776 (7th Cir.

2007) (quoting *Twombly*, 550 U.S. at 555). "Threadbare recitals of the elements of a

cause of action, supported by mere conclusory statements," are insufficient to withstand

a 12(b)(6) motion to dismiss. *Iqbal*, 556 U.S. at 678.

DISCUSSION

Section 101 of the Patent Act broadly defines the scope of patentable subject

matter as "any new and useful process, machine, manufacture, or composition of matter,

or any improvement thereof." 35 U.S.C. § 101. However, claims directed toward laws of nature, natural phenomena, and abstract ideas are not patent eligible ("the exclusionary principle"). *Alice Corp. Pty. Ltd. v. CLS Bank Int'l,* 573 U.S. 208, 216 (2014). That said, "an invention is not rendered ineligible for patent simply because it *involves* an abstract concept." *Alice*, 573 U.S. at 217. And the exclusionary principle does not bar patents that claim "applications of those concepts." *Id.*

To determine whether a patent is barred by the exclusionary principle, courts follow a two-step analysis. *Id.* The first step is to "determine whether the claims at issue are directed to . . . patent-ineligible concepts." *Id.* If the claims are directed to a patent-ineligible concept, the second step is to determine whether the claim limitations, analyzed individually and as ordered combinations, contain an inventive concept that transforms the claims into patent-eligible subject matter. *Id.*

Patent eligibility can sometimes be determined at the Rule 12(b)(6) stage. *Aatrix Software, Inc. v. Green Shades Software, Inc.*, 882 F.3d 1121, 1125 (Fed. Cir. 2018). This determination can only be made when there are no factual allegations that, taken as true, prevent resolving the eligibility question as a matter of law. *Id.* While the ultimate determination of eligibility under Section 101 is a question of law, that determination turns on whether the claim elements or the claimed combinations are well-understood, routine, and conventional, which is a question of fact. *Id.* at 1128. The Federal Circuit has held that patentees who adequately allege their claims contain inventive concepts sufficient to "transform" the claimed abstract idea into a patent-

eligible application survive a Section 101 eligibility analysis under Rule 12(b)(6). *Id.* at 1126–27.

Teradata urges the Court to dismiss the case because the Asserted Patents claim patent ineligible subject matter, violating 35 U.S.C. § 101. Teradata asserts that these claims cannot pass the two-part patent eligibility test set forth in *Alice* because: (1) the claims are directed towards calculating profitability, which is mathematics and an abstract idea, and (2) the claims do not recite an inventive concept and are therefore invalid under 35 U.S.C. § 101 as a matter of law. The Court addresses each argument in turn.

I.   *Alice* **Step One: Whether Calculating Profitability is Mathematics and Therefore an Abstract Idea**

To uncover whether a claim covers an abstract idea, one must "identify the purposes of the claim – in other words, determine what the claimed invention is trying to achieve – and ask whether that purpose is abstract." *Enfish, LLC v. Microsoft Corp.*, 56 F. Supp. 3d 1167, 1173 (C.D. Cal. 2014). The idea of collecting, analyzing, and displaying information, even when particularly limited, is an abstract idea. *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353–54 (Fed. Cir. 2016) (holding method claims directed to "collecting information, analyzing it, and displaying certain results of the collection and analysis" is unpatentable because they merely recited an abstract idea). Even if techniques claim to be "[g]roundbreaking, innovative, or even brilliant," that is not enough for eligibility. *Ass'n for Molecular Pathology v. Myriad Genetics,*

Inc., 569 U.S. 576, 591 (2013). Nor is it enough for subject-matter eligibility that claimed techniques be novel and nonobvious in light of prior art. *See Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 89–90 (2012).

The Court finds that the claims here are ineligible because their innovation is in an ineligible subject matter. The claims do no more than prepare, organize, and apply mathematical calculations to existing information. No matter how much of an advance in the business field the claims recite, the advance lies entirely in the realm of abstract ideas.

Berkeley argues that limitation 1[d] within the Asserted Patents improved on the prior technological process for determining object level profitability and, therefore, makes the Asserted Patents non-abstract. The Court disagrees.

At the first *Alice* step, the "claims are considered in their entirety to ascertain whether their *character as a whole* is directed to excluded subject matter." *Two-Way Media Ltd. V. Comcast Cable Comms.*, 874 F.3d 1329, 1337 (Fed. Cir. 2017) (emphasis added). Here, the "character of the whole" involves the overarching method of performing profitability calculations with a computer system. Accordingly, the character as a whole, not just an isolated limitation, is directed to excluded subject matter because calculating profitability is an abstract idea.

This case is similar to *Digitech Image Techs., LLC v. Electronics for Imaging, Inc.*, 758 F.3d 1344 (Fed. Cir. 2014) (hereinafter "Digitech"). In *Digitech*, the court found the claims of the challenged patent were directed to the abstract idea of organizing

information through mathematical correlations. *Id.* at 1350–51. It explained that the claim at issue "recites a process of taking two data sets and combining them into a single data set" simply by organizing existing data into a new form. *Id.* at 1351. The Court held that a process that started with data, added an algorithm, and ended with a new form of data was directed to an abstract idea. *Id.*

In this case, the '521 Patent claims a method whereby a business starts with data in the form of financial statements, that data is processed via a RDBMS where multiple profitability factors are handled independently and simultaneously, and the output is the same data in the new form of object level profitability. We discern no material difference between the *Alice* step one analysis in *Digitech* and the analysis here.

The Court, therefore, finds that the claims of the Asserted Patents are directed to an abstract idea. We now proceed to the second step of *Alice*.

II.   *Alice* Step Two: Whether the SAC and Asserted Patents Recite an Inventive Concept

Although the Asserted Patents cover a mathematical construct, they may survive if they contain an inventive concept that transforms the claims into patent-eligible subject matter. *Alice*, 573 U.S. at 221 ("A claim that recites an abstract idea must include 'additional features' to ensure 'that the [claim] is more than a drafting effort designed to monopolize the [abstract idea].'"). The "inventive concept" may arise in one or more of the individual claim limitations or in the ordered combination of the limitations. *Id.* at 217. This second step of the test is satisfied when the claim

limitations "involve more than performance of well-understood, routine, [and] conventional activities previously known to the industry." *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1367 (Fed. Cir. 2018) (internal quotation marks omitted). The question of whether a claim element or combination of elements is well-understood, routine and conventional to a skilled artisan in the relevant field is a question of fact. *Id.* at 1368. Whether a particular technology is well-understood, routine, and conventional goes beyond what was simply known and disclosed in the prior art. *Id.* at 1369.

In *Berkheimer*, the court found that the claims were directed to the abstract idea of parsing, comparing, storing, and editing data. *Id.* at 1366. The plaintiff argued that the claimed combination improved computer functionality, and the specification discussed the state of the art at the time the patent was filed and the invention's purported improvements. *Id.* at 1369. The specification explained that the claimed improvement increased computer efficiency and functionality over the prior art systems and described an inventive feature that stored parsed data in a purportedly unconventional manner. *Id.* To the extent such improvements were captured in the claims, they were sufficient to create a factual dispute regarding whether the invention described well-understood, routine, and conventional activities. *Id.* Because certain claims recited a specific method of archiving that, according to the specification, provided benefits that improved computer functionality, the *Berkheimer* Court found a fact issue as to whether they contained an inventive concept. *Id.* at 1369–70.

Berkeley alleges in the SAC that the inventive concept of the Asserted Patents is found in the non-conventional and non-generic arrangement of the claim limitations. Teradata argues that the Asserted Patents merely recite the use of conventional devices. This is a fact issue similar to the one in *Berkheimer*.

Berkeley sufficiently alleges the shortcomings of the prior art and how the invention overcomes these shortcomings by improving computer functionality. Specifically, Berkley alleges that the Asserted Patents make it possible to achieve a technologically scalable solution that can measure profit at a level of precision, resolution, and speed not possible in prior art. Prior art had little success in its attempts to calculate certain profitability-related measures for individual customer accounts on a limited scale, either manually or through traditional procedural-based computer software.

In contrast, Berkley alleges, the Asserted Patents' limitations contain an inventive concept that arranges known conventional pieces in an unconventional order. This arrangement combines at least three concepts to achieve the desired result: (1) the RDBMS itself performs profitability calculations, which provides speed and efficiency; (2) the calculations execute "independently" of each other, allowing the method to take advantage of parallel processing capabilities that further improve on speed and efficiency; and (3) the method uses established rules as applied to a selected set of prepared information to perform the calculations.

Accordingly, the limitations within the Asserted Patents and the SAC sufficiently claim a particularized and unconventional use of RDBMS capabilities, not the mere presence of an RDBMS. Each claim limitation operates together to achieve a specific profitability calculator that takes advantage of RDBMS capabilities, parallel processing, and the rules and data to achieve a solution capable of processing more object-level profitability calculations than its predecessors in the same amount of time.[1]
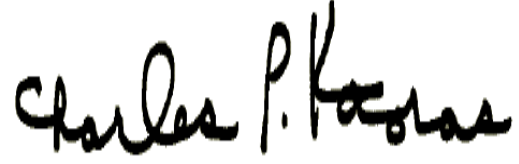
Drawing reasonable inferences in favor of Berkeley, as this Court must at the Rule 12(b)(6) stage, the SAC sufficiently alleges that the claimed unconventional combination improves the functioning and operation of the computer itself by performing parallel computations in a faster amount of time. *See Cellspin Soft, Inc. v. Fitbit, Inc.*, 927 F. 3d 1306, 1315 (Fed. Cir. 2019) ("we have explained that claims directed to 'an improvement to a computer functionality itself, not on economic or other tasks for which a computer is used in its ordinary capacity,' are patent eligible."). Accordingly, Berkley sufficiently alleges an inventive concept, and Teradata's motion to dismiss is therefore denied.

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[1] This Court recognizes that conflicting case law exists on whether an innovative concept exists in this context. Defendant Teradata cites various cases to suggest that the patents in this case lack an inventive concept, but those cases are distinct in that they found a lack of innovative concept after the 12(b)(6) stage. This case is similar to *Aatrix Software, Inc. v. Green Shades Software, Inc.*, 882 F.3d 1121, 1127 (Fed. Cir. 2018), where the court found the complaint sufficiently alleged that the claimed improvements to computer technology were not simply directed to generic components performing conventional activities.

CONCLUSION

For the aforementioned reasons, the Court denies Teradata's motion. It is so

ordered.

Dated: 3/25/20   _____

Charles P. Kocoras
United States District Judge