UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

----------x

iSENTIUM, LLC,

Plaintiff,

17-cv-7601 (PKC)

-against-

OPINION
AND ORDER

BLOOMBERG FINANCE L.P., BLOOMBERG L.P. and BLOOMBERG INC.,

Defendant.

----------x

CASTEL, U.S.D.J.

Plaintiff iSentium, LLC ("iSentium") creates computer applications that collect and analyze messages posted to social media. On October 7, 2014, the United States Patent and Trademark Office ("USPTO") issued United States Patent No. 8,856,056 to iSentium, titled "Sentiment calculus for a method and system using social media for event-driven trading" (the "'056 Patent"). The '056 Patent describes a multi-step method for evaluating statements posted to Twitter that discuss publicly traded assets. This method purports to evaluate whether the statements express a positive, negative or neutral opinion, and assigns them a score of 1, 2 or 3 based on the strength of the opinion. It claims to do so with a scale, efficiency and accuracy that is not possible for human readers, and to anticipate changes in an asset's price before human traders can act.

In May 2013, before the '056 Patent was issued, iSentium entered into an agreement with defendants Bloomberg Finance L.P., Bloomberg L.P. and Bloomberg Inc. (collectively, "Bloomberg") to incorporate iSentium's technology into the well-known

Bloomberg terminal platform. In or around February 2016, Bloomberg and iSentium terminated their arrangement pursuant to a mutual non-disclosure agreement (the "NDA").

On October 4, 2017, iSentium commenced this action, alleging, among other things, that Bloomberg has infringed the '056 Patent by developing its own application for analyzing social media posts. iSentium also brings claims under New York law.

Bloomberg has moved to dismiss the Complaint pursuant to Rule 12(b)(6), Fed. R. Civ. P. Bloomberg urges that the '056 Patent is directed to an abstract idea that is not eligible for patent protection under 35 U.S.C. § 101. Bloomberg separately moves to dismiss iSentium's claims for the misappropriation of trade secrets, promissory estoppel and unjust enrichment, all of which are brought under New York law. The Court heard argument on the motion on October 15, 2018.

For the reasons that will be explained, Bloomberg's motion to dismiss iSentium's patent infringement claim is granted. Drawing every reasonable inference in favor of iSentium, the '056 Patent is directed to the abstract idea of interpreting a written statement posted to social media. It describes a method for using algorithms and databases to determine the meanings of words based on their surrounding context. But selecting information, analyzing it with mathematical techniques and reporting the results is an abstract idea that is not eligible for patent protection. See SAP Am., Inc. v. InvestPic, LLC, 898 F.3d 1161, 1167 (Fed. Cir. 2018). The '056 Patent does not describe an additional, inventive concept that transforms this abstract idea into a patent-eligible application. Bloomberg's motion to dismiss iSentium's patent infringement claim is therefore granted.

RULE 12(b)(6) STANDARD.

Rule 12(b)(6) requires a complaint to "contain sufficient factual matter, accepted as true, to 'state a claim to relief that is plausible on its face.'" Ashcroft v. Iqbal, 556 U.S. 662, 678 (2009) (quoting Bell Atlantic Corp. v. Twombly, 550 U.S. 544, 570 (2007)). In assessing the sufficiency of a pleading, a court must disregard legal conclusions, which are not entitled to the presumption of truth. Id. Instead, the Court must examine the well-pleaded factual allegations and "determine whether they plausibly give rise to an entitlement to relief." Id. at 679. "Dismissal is appropriate when 'it is clear from the face of the complaint, and matters of which the court may take judicial notice, that the plaintiff's claims are barred as a matter of law.'" Parkcentral Global Hub Ltd. v. Porsche Auto. Holdings SE, 763 F.3d 198, 208-09 (2d Cir. 2014) (quoting Conopco, Inc. v. Roll Int'l, 231 F.3d 82, 86 (2d Cir. 2000)).

In deciding a Rule 12(b)(6) motion, "'the complaint is deemed to include any written instrument attached to it as an exhibit or any statements or documents incorporated in it by reference.'" Chambers v. Time Warner, Inc., 282 F.3d 147, 152 (2d Cir. 2002) (quoting Int'l Audiotext Network, Inc. v. Am. Tel. & Tel. Co., 62 F.3d 69, 72 (2d Cir. 1995) (per curiam)); see also Rule 10(c), Fed. R. Civ. P. ("A copy of a written instrument that is an exhibit to a pleading is a part of the pleading for all purposes."). The Complaint attaches a copy of the '056 Patent, which the Court may consider in connection with this motion without converting it into a motion for summary judgment.

When a defendant challenges patent eligibility through a Rule 12(b)(6) motion, courts "must apply the well-settled Rule 12(b)(6) standard which is consistently applied in every area of law." Berkheimer v. HP Inc., 890 F.3d 1369, 1372 (Fed. Cir. 2018) (concurring in denial of rehearing en banc) ("Berkheimer II"). If a motion "'raise[s] factual disputes underlying the §

101 analysis,'" the Complaint should not be dismissed. Id. at 1373 (quoting Aatrix Software, Inc. v. Green Shades Software, Inc., 882 F.3d 1121, 1124 (Fed. Cir. 2018)). A patent is presumed to be valid, and "[t]he burden of establishing invalidity of a patent or any claim thereof shall rest on the party asserting such invalidity." 35 U.S.C. § 282(a); cf. Tranxition, Inc. v. Lenovo (United States), 664 Fed. App'x 968, 972 n.1 (Fed Cir. 2016) (indicating that district court erred by not applying a presumption of validity in deciding section 101 eligibility) (summary order).

However, "not every § 101 determination contains genuine disputes over the underlying facts material to the § 101 inquiry," and statements in the pleadings may provide a basis to conclude that a claimed invention is ineligible for patent protection. Berkheimer v. HP Inc., 881 F.3d 1360, 1368 (Fed. Cir. 2018) ("Berkheimer I"). "Patent eligibility can be determined at the Rule 12(b)(6) stage 'when there are no factual allegations that, taken as true, prevent resolving the eligibility question as a matter of law.'" Voter Verified, Inc. v. Election Sys. & Software LLC, 887 F.3d 1376, 1384 (Fed. Cir. 2018) (quoting Aatrix, 882 F.3d at 1125).

DISCUSSION.

I. Bloomberg's Motion to Dismiss iSentium's Patent Infringement Claim on Grounds of Patent Ineligibility Is Granted.

A. Overview of the '056 Patent.

The USPTO approved the '056 Patent on October 7, 2014. (Compl't ¶ 11 & Ex. 1.) As broadly summarized in the Complaint, the '056 Patent "allows for the delivery of highly predictive and real-time market sentiment data, derived from social media, to financial professionals, including traders, portfolio managers, and other market participants, that has hitherto been unavailable from any other source." (Compl't ¶ 12.) The Complaint asserts that development of the '056 Patent was "a complicated endeavor" that required the investment of

"substantial capital" and the work of "internationally recognized experts in linguistics and computer science, over a period of five years." (Compl't ¶ 34.)

The '056 Patent describes a process that it calls "sentiment analysis," which "attempts to ascertain the feelings, thoughts, attitude, opinion, etc. of a speaker or a writer with respect to a topic." (Col. 1, *l*. 22-25.) In essence, a "sentiment analysis" reviews a statement and identifies any opinion that it contains. The '056 Patent states that sentiment analysis traditionally has had two approaches. The first is a "bag of words" approach, which considers the frequency of words used in a document and classifies the document as either positive or negative. (Id., *l*. 25-35.) The second approach is described as "semantic orientation," which classifies words as either "good" or "bad," and "computes an overall good/bad score for the text." (Id., *l*. 36-43.)

According to the '056 Patent, these two approaches do not adequately analyze sentiments contained in the short, 140-character posts made to Twitter. (Col. 1, *l.* 44-48; Col. 6, *l.* 13-25.) "[A]n object of the present invention" is to provide a "sentiment calculator of social-media messages for the real-time evaluation" of publicly traded assets. (Col. 1, *l.* 52-60.) For publicly traded stocks, the "sentiment calculator" purports to analyze social-media messages "to predict stock movements before human traders can act." (Col. 7, *l*. 16-17.) By evaluating the contents and frequency of posts made to Twitter, the '056 Patent intends to provide traders with a decision-making tool about anticipated changes to a stock's value. (Col. 21, *l.* 6-19.)

The '056 Patent bases its sentiment analysis on two concepts: "polarity and strength." (Col. 2, *l*. 2-3.) Polarity simply means whether a statement is positive, negative or neutral. (Id., *l.* 32-34.) Strength indicates how strongly held the opinion is, and is scored with integers of 1, 2 or 3. (Col. 8, *l.* 13-16.)

The ’056 Patent explains that it determines polarity and strength by “apply[ing] rules considering syntactic constituents in head-complement, modifier-modified, and subject-predicate relations.” (Col. 2, *l.* 10-13.) The terms “head-complement, modifier-modified, and subject-predicate” are basic elements of English grammar. (Col. 15, *l.* 1-17.) For example, a “modifier” just means an adverb or adjective, accompanied by the noun or verb it describes. (Id., *l.* 9-12.) A head “is a lexical item such as a verb” that relates to another part of the sentence, called a “complement.” (Col. 15, *l.* 5-17.) “Syntactic constituents” include adjectives, nouns and verbs. (Col. 14, *l.* 65-67.) In plain English, the ’056 Patent proposes a method for determining the meaning of words in a Twitter post, based on their use in the context of other words.

The ’056 Patent describes, as a preferred embodiment, a “pipeline” that “ingests” posts made to Twitter. (Col. 18, *l.* 5-19.) This includes several steps. First, the ’056 Patent describes an “Ingest Compound,” which permits traders to perform the routine activity of conducting a keyword search. (Col. 9, *l.* 17 to Col. 10, *l.* 19.) A “Language Identifier Module” excludes posts in languages other than English. (Col. 10, *l.* 20-36.) A “Filter Module” eliminates hashtags and URLs, and replaces symbols and abbreviations with natural language. (Col. 10, *l.* 38-62.)

The Twitter post is then reviewed by a “Natural Language Processor,” or “NLP.” (Col. 10, *l.* 63 to Col. 14, *l.* 23.) The NLP describes a series of steps to identify important words and score them for “polarity” and “strength.” The NLP uses two databases: one called the “Sent-Lex” and a second called the “Stock-Lex.” The “Sent-Lex” is “a hand-crafted sentiment-based repository, or database,” of words and phrases common to social media. (Col. 10, *l.* 65-67.) Words are associated with an “inherent polarity value” (that is, a positive, negative or neutral

meaning) and "strength" values of 1, 2 or 3. (Col. 11, *l.* 21-50.) For example, the words "good," "better" and "best" are all positive, with respective strength scores of 1, 2 and 3. (Col. 11, *l.* 58-60.) The "Stock-Lex" serves a similar function: it is a database of common financial terms assigned positive, negative or neutral meanings, and strength values of 1, 2 or 3. (Col. 12, *l.* 1-45.) As an example, "die" has a negative value of 3, whereas "develop" has a positive value of 1. (Col. 12, *l.* 21-22.) A third component of the NLP is described as a "Part of Speech" tagger, which identifies adjectives, adverbs, verbs and nouns. (Col. 12, *l.* 46 to Col. 13, *l.* 38.) This purports to be an improvement on past methods of "sentiment analysis" that detected only adjectives. (Col. 13, *l.* 23-38.)

The '056 Patent next describes a "Sentiment Calculator." The Sentiment Calculator is central to the inventions described in Claim 1 and Claim 11, which are the only two independent claims of the '056 Patent that are identified by the parties. As described by the '056 Patent, "[a] sentiment is an integer" calculated to decide whether an opinion is positive, negative or neutral, and the strength of the underlying opinion. (Col. 14, *l.* 25-42.) The '056 Patent lists examples of rules that determine whether a sentiment is positive, negative or neutral. (Col. 15, *l.* 24-59.) For instance, in determining the "polarity" of a statement, it recites the following rule:

> (22) if (Pol (x)=Pol (y)), then
> if (x is n) and (y is n), then Pol (y=n)n, n = n average result
> if (x is +) and (y is +), then Pol (x=+)+, + = + announce an upgrade
> if (x is -) and (y is -), then Pol (y = -)- = - downgrade to sell

(Col. 15, *l.* 43-48.) This exemplar rule purports to identify neutral (n), positive (+) and negative (-) statements, and to determine the statements' effect for a particular asset. A neutral opinion is an "average result," a positive opinion results in "announce an upgrade" and a negative opinion results in "downgrade to sell."

The Sentiment Calculator also recites rules for determining the strength of an opinion. (Col. 16, *l.* 5-19.) The '056 Patent explains that the Sentiment Calculator isolates words related to a specific asset, and does not evaluate other language in the post. (Col. 16, *l.* 20-33.) As an example, it uses the sentence, "Canadian dollar falls for second week. Crude Oil prices rise." (Col. 16, *l.* 39 to Col. 17, *l.* 15.) For a trader who researches oil, the Sentiment Calculator would assess only the sentence "Crude Oil prices rise," and attribute a positive score of 3 to the statement based on the concept of a rising price. (Id.)

The '056 Patent next describes an "Inference Engine." (Col. 17, *l.* 16 to Col. 18, *l.* 36.) The Inference Engine purports to draw conclusions that would normally require input from human experts. (Col. 17, *l.* 16-29.) It uses two bodies of information: "knowledge of the stock market world and knowledge of the world." (Id., *l.* 25-29.) The sources of "knowledge" and how it is used in the inference engine is not described in meaningful detail, but the '056 Patent explains that such knowledge allows for conclusions that match the reasoning used by humans, as opposed to those in traditional programming rules. (Id., *l.* 35-47.) For instance, the Inference Engine would recognize the sentence, "Will this be the summer we finally see $5/gal at the pump???" as reflecting a negative opinion about high gas prices. (Id., *l.* 48-67.)

The final step recited in the "pipeline" of the '056 Patent is a graphical user interface. (Col. 18 *l.* 37 to Col. 20, *l.* 40.) It displays the sentiment and strength of opinion related to an asset, and permits a trader to view changes and averages in the opinions expressed about a certain asset. (Col. 18, *l.* 45-68.)

Of the twenty claims of by the '056 Patent, Claim 1 and Claim 11 are the only two identified by the parties as independent claims. All other claims are dependent claims. Claims 1 and 11 state as follows:

The invention claimed is:

> **1.** A sentiment calculator using social media messages for the real-time evaluation of publicly traded assets wherein a sentiment is a computed integer per asset comprising:
>
> means for determining polarity in the social media messages based upon pairs of lexical items in local syntactic context; and
>
> means for determining a strength value in the social media messages based upon the pairs of lexical items in local syntactic context.
>
> . . .
>
> **11.** A method for calculating sentiment using social media messages for the real-time evaluation of publicly traded assets wherein a sentiment is an integer computed based upon pairs of lexical items in local syntactic context, comprising:
>
> determining polarity in the social media messages based upon pairs of lexical items in local syntactic context; and
>
> determining a strength value of the lexical items used in the social media messages.

(Col. 24, *l.* 9-17, 48-55.)

B. The Two-Step Analysis for Determining Patent Eligibility.

Under the United States Code, "[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title." 35 U.S.C. § 101. The Supreme Court "has long held that this provision contains an important implicit exception. '[L]aws of nature, natural phenomena, and abstract ideas' are not patentable." Mayo Collaborative Servs. v. Prometheus Labs., Inc., 566 U.S. 66, 70 (2012) (quoting Diamond v. Diehr, 450 U.S. 175, 185 (1981)). This "exclusionary principle" promotes

innovation by not granting monopoly power over the universal concepts that provide the building blocks of ingenuity. Alice Corp. v. CLS Bank Int'l, 134 S. Ct. 2347, 2354 (2014).

At the same time, "too broad an interpretation of this exclusionary principle could eviscerate patent law. For all inventions at some level embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas." Mayo, 566 U.S. at 71. Thus, an invention that embodies a law of nature or an abstract idea may be eligible for patent protection if it is applied to "'a new and useful end.'" Id. at 72 (quoting Funk Bros. Seed Co. v. Kalo Inoculant Co., 333 U.S. 127, 130 (1948)).

Under Alice and Mayo, courts undertake a two-step inquiry to decide patent eligibility under section 101. First they determine whether the claims at issue are "directed to" a patent-ineligible idea that is anchored in an abstract idea or natural phenomenon. Alice, 134 S. Ct. at 2355-56. If that question is answered in the affirmative, courts then consider whether the claims at issue have an inventive concept that transforms the abstract idea into a patent-eligible application. Id. at 2357.

At step one of Alice, the Supreme Court has declined "to delimit the precise contours of the 'abstract ideas' category," although it has identified common business concepts like risk hedging and intermediate settlements involving a clearinghouse as "fundamental" business practices that are abstract ideas, and thus ineligible for patent protection. Id. at 2355-57; see also In re TLI Commc'ns LLC Patent Litig., 823 F.3d 607, 613 (Fed. Cir. 2016) ("we have applied the 'abstract idea' exception to encompass inventions pertaining to methods of organizing human activity."). The Federal Circuit has also concluded that a claim directed to "selecting certain information, analyzing it using mathematical techniques, and reporting or displaying the results of the analysis" constitutes an abstract idea. SAP, 898 F.3d at 1167.

If a court concludes that a claim is directed to an abstract idea, it proceeds to the second step of deciding whether the claim's elements include an "inventive concept sufficient to transform the abstract idea into a patent-eligible application." Alice, 134 S. Ct. at 2357 (quotation marks omitted). This analysis looks to whether a claimed invention includes "additional features" that render it as something "more than a drafting effort" intended to monopolize an abstract idea. Id. These features must be more than conventional steps articulated at a high level of generality, and "[t]he introduction of a computer into the claims does not alter the analysis . . . ." Id. That is, the use of a computer to implement an abstract idea does not, in itself, create a patentable application. Id. at 2357-58. As Alice summarized: "Stating an abstract idea while adding the words 'apply it with a computer' simply combines those two steps, with the same deficient result. Thus, if a patent's recitation of a computer amounts to a mere instruction to implement an abstract idea on a computer, that addition cannot impart patent eligibility." Id. at 2358 (quotation marks and internal citation omitted).

C. The '056 Patent Is Directed to an Abstract Idea.

At step one of the Alice test, the Court concludes that the invention claimed in '056 Patent is directed to an abstract idea. Drawing every reasonable inference in favor of iSentium, the Court concludes that the independent claims in the '056 Patent are directed to the abstract idea of collecting statements from social media and identifying opinions through the use of algorithms and databases. It describes a method for identifying an opinion and giving that opinion a strength score of 1, 2 or 3 based on the use of words in the context of other words. This is an exercise in analyzing words and data, applied with a computer. As an abstract idea, it is ineligible for patent protection under step one of Alice.

In deciding step one of Alice, the Court considers whether Claims 1 and 11 of the '056 Patent are directed to an abstract idea, and whether, in light of the patent specification, "their character as a whole is directed to excluded subject matter." Enfish, LLC v. Microsoft Corp., 822 F.3d 1327, 1335 (Fed. Cir. 2016) (quotation marks omitted). Claim 11 describes "[a] method for calculating sentiment using social media messages for the real-time evaluation of publicly traded assets," where "a sentiment is an integer" calculated from the "polarity" and "strength" of sentiments posted on social media. (Col. 24, *l.* 48-55.) A sentiment is "computed as an integer" using "pairs of lexical items in local syntactic context." (Id., *l.* 53.) In plain language, Claim 11 describes a method to review an opinion about a publicly traded asset, and the assignment of a score of 1, 2 or 3 based on the strength of the opinion. It makes this calculation based on word pairs, considered in the context of other words. This is an abstract idea.

Claim 1 similarly describes "[a] sentiment calculator using social media messages for the real-time evaluation of publicly traded assets" by determining polarity and strength "based upon pairs of lexical items in local syntactic context." (Col. 24, *l.* 9-17.) Describing the method as a "sentiment calculator," Claim 11 similarly describes the evaluation of an opinion about a publicly traded asset and a determination of its overall nature and strength based on word pairs, considered in the context of other words. This, too, is an abstract idea.

Reviewing the language of Claims 1 and 11 in light of the patent specification, the Court concludes that their character as a whole is directed to an abstract idea. Each claims an invention for determining the opinion expressed in a written statement based on a review of words used in the context of other words. The idea of "polarity" merely refers to whether an opinion has a positive, negative or neutral view, and strength is gauged on a scale of 1 to 3.

"[S]horn of the typically obtuse syntax of patents, the patents here really only cover an abstract concept:" whether a published statement communicates an opinion about a publicly traded asset, and the strength of that opinion. Smart Sys. Innovations, LLC v. Chicago Transit Auth., 873 F.3d 1364, 1371 (Fed. Cir. 2017)

The Federal Circuit has held that data analysis is an abstract idea excluded by section 101, even if done with an efficiency and scale not achievable by individuals. The SAP decision is instructive. The patent at issue in SAP described a statistical sampling method to analyze data from the financial markets, and purported to control for and improve upon the randomness of conventional sampling. 898 F.3d at 1163-65. The district court granted a motion for declaratory judgment on the pleadings, and concluded that because the patent merely described a statistical analysis and did not add an inventive concept, it was ineligible for patent protection. Id. at 1165-66.

The Federal Circuit affirmed, explaining that "claims focused on 'collecting information, analyzing it, and displaying certain results of the collection and analysis' are directed to an abstract idea." Id. at 1167 (quoting Electric Power Grp., LLC v. Alstom S.A., 830 F.3d 1350, 1353 (Fed. Cir. 2016)). Information itself is intangible, and therefore abstract, and the collection and analysis of information by mathematical algorithm is also abstract. Id. SAP distinguished the collection and analysis of financial information from patent-eligible inventions that had tangible, concrete applications. Id. at 1167-68. "Here, in contrast, the focus of the claims is not a physical-realm improvement but an improvement in wholly abstract ideas – the selection and mathematical analysis of information, followed by reporting or display of the results." Id. at 1168.

Similarly, in Electric Power Group, the Federal Circuit held that a method for monitoring the electrical-power grid by gathering and analyzing data from the grid and displaying the results in real time was "directed to an abstract idea," and not eligible for patent protection. 830 F.3d at 1353-54. It explained that the collection of information, including information limited to a particular type of content, was an abstract idea, as was analyzing information "by steps people go through in their minds, or by mathematical algorithms . . . ." Id.

In other contexts, the Federal Circuit has similarly concluded that the collection of data and its automated analysis constituted an abstract idea. See Credit Acceptance Corp. v. Westlake Servs., 859 F.3d 1044, 1055-56 (Fed. Cir. 2017) (the collection of information from different sources to create an automated method for processing automobile-financing applications is an abstract idea ineligible for patent protection); OIP Tech., Inc. v. Amazon.com, Inc., 788 F.3d 1359, 1362-64 (Fed. Cir. 2015) (use of a computerized system to gather data and automatically determine optimal sale price for merchandise in e-commerce is an abstract idea ineligible for patent protection).

iSentium urges that, in contrast to these precedents, the '056 Patent falls within the category of patent-eligible inventions described in McRO, Inc. v. Bandai Namco Games Am. Inc., 837 F.3d 1299, 1312 (Fed. Cir. 2016). In McRO, the Federal Circuit concluded that, at the pleading stage, the claimed invention's rules-based method for automatically generating facial expressions in computer-animated characters was eligible for patent protection because the use of limitations-based rules did not claim protection for all rules-based animation, and was designed to improve on conventional industry practices. Id. at 1314-16. SAP, however, described the collection and analysis of data as "critically different from" the patent-eligible software in McRO, which was "directed to the creation of something physical" through the

display of animated facial expressions. 898 F.3d at 1167. The claimed invention in SAP described only an improvement in "mathematical technique." Id. SAP's distinction of McRO applies here.

Like the claimed inventions in SAP and Electric Power Group, the '056 Patent describes a method for gathering and analyzing data. The '056 Patent recites individual rules that purport to perform a sentiment analysis that is actionable by traders. But ultimately, the two independent claims of Claim 1 and Claim 11 describe the abstract idea of discerning the meaning of a statement based on the use of words in context. The '056 Patent purports to collect data from information posted on social media, perform a multi-step analysis guided by algorithms and databases, and synthesize the data into information that can be acted upon by traders. The collection and analysis of information "by steps people go through in their minds, or by mathematical algorithms," is an abstract idea ineligible or patent protection under section 101. Electric Power Grp., 830 F.3d at 1353-54.

The Court therefore concludes that, under step one of Alice, the claimed invention in the '056 Patent is directed to an abstract idea.

D. The '056 Patent Does Not Describe an Additional Inventive Concept that Renders It Eligible for Patent Protection.

1. iSentium Has Not Identified an Inventive Concept in the Means-Plus-Function Character of Claim 1.

At the second step of the Alice test, courts consider whether the claimed inventions include an inventive concept "sufficient to remove them from the class of subject matter ineligible for patenting and transform them into an eligible application." SAP, 898 F.3d at 1168. A court considers a claim's elements, both individually and as an ordered combination, to discern whether the elements identify an inventive concept. Alice, 134 S. Ct. at 2355.

The Federal Circuit in Berkheimer I cautioned against deciding step two of the Alice inquiry if a factual dispute exists as to whether a claim's elements or combination of elements is well understood, routine and conventional. 881 F.3d at 1368. However, the Federal Circuit has continued to affirm conclusions of ineligibility at the pleading stage when "there is nothing in the claims sufficient to remove them from the class of subject matter ineligible for patenting and transform them into an eligible application." SAP, 898 F.3d at 1168. "What is needed is an inventive concept in the non-abstract application realm." Id.

iSentium urges that Claim 1 is a means-plus-function claim, and that the use of algorithms as "performed by the structure" is an inventive concept that confers patent eligibility. (Oct. 15 Tr. at 11, 34, 36.) It also urges that the use of databases and a "system of rules" provides a novel method for analyzing sentiments posted on social media. (Opp. Mem. at 16.) It further argues that step two of Alice should not be decided at the Rule 12 stage because the inventive concept of the '056 Patent involves "natural language processing" that can only be construed and understood with the aid of testimony by persons skilled in the relevant art. (Opp. Mem. at 16; Oct. 15 Tr. at 10.)

"Construction of a means-plus-function limitation includes two steps. First, the court must determine the claimed function." Enfish, 822 F.3d at 1336 n.3 (quotation marks omitted). iSentium urges that the function of the '056 Patent "is to determine polarity based upon pairs of local items in local syntactic context." (Oct. 15 Tr. at 19.) At the pleading stage, and based on the text of Claim 1, the Court concludes as a matter of law that the function of Claim 1 is to determine polarity – that is, the opinion and strength of an opinion – based on pairs of words as they are used in their "syntactic context" alongside other words.

At the second step of construing a means-plus-function claim, courts "must identify the corresponding structure in the written description of the patent that performs the function." Enfish, 822 F.3d at 1336 n.3 (quotation marks omitted). "It is well-established that the corresponding structure for a function performed by a software algorithm is the algorithm itself." EON Corp. IP Holdings LLC v. AT & T Mobility LLC, 785 F.3d 616, 621 (Fed. Cir. 2015).

Consistent with Enfish and EON, iSentium urges that algorithms used by the '056 Patent provide the structure that determines polarity. At argument, counsel to iSentium struggled at times to articulate the inventive concept embodied by the algorithms, and ultimately acknowledged that the '056 Patent did not describe these algorithms. (See Oct. 15 Tr. at 33.) iSentium's counsel stated, "It is not rules of grammar, it is not generic computers. What's really at the core here, and really the inventive concept, these databases and the natural language processing algorithms, this is really the skill, this is really the inventive concept." (Oct. 15 Tr. at 10.) When asked to identify the inventive algorithm, counsel described it as "the consideration of words in relation to each other." (Id. at 13.) Counsel urged that this was an improvement over the "bag of words" approach that was conventional and routine in the field, and explained "what is new is going beyond the adjectives" to ascertain the meaning of text. (Id. at 13, 21.) Counsel to iSentium stated that "[t]he inventive concept of the patent lies at a lower level of how the terms are scored and then how they're used in order to rank the elements that are being scored." (Id. at 26.)

In explaining the structure for performing the function of Claim 1, counsel stated as follows:

> But the specification is complicated. There is no road map here that says this is the structure is right here. I mean, some patents are

> written that way and they'll say means plus function and they'll recite the language of the function and they'll say, for example, this particular structure can perform this function and so on. That's not what we have here. It is something more complicated and we have a patent that does not disclose the way of performing this. It solves a technological problem and comes up with a specific way of doing this that is not claiming all sentiment of analysis, it is only claiming a particular way of doing it.

(Id. at 23; emphasis added.)

Counsel also asserted that use of the "Sent-Lex" and "Stock-Lex" databases are an inventive concept that conferred patent eligibility: "What's really at the core here, and really the inventive concept, these databases and the natural language processing algorithms, this is really the skill, this is really the inventive concept." (Oct. 15 Tr. at 10; see also Opp. Mem. at 16.) Under questioning from the Court, counsel to iSentium asserted that it was claiming the use of the databases as an inventive concept. (Oct. 15 Tr. at 15-16.) Counsel stated that "the natural language processor in conjunction with the database" were the structure for determining polarity, and that the databases were part of "the means plus function format of the claim here." (Id. at 19.) Counsel described the "Sent-Lex" and "Stock-Lex" databases as "hand crafted" and "individually constructed and created" for use by the natural language processor. (Id. at 29-30.) While counsel described the databases as "definitely integral to the invention," counsel also acknowledged that the databases were not claimed to have patent protection. (Id. at 29.)

For the purposes of this Rule 12 motion, the Court accepts as true that the '056 Patent calculates the polarity of sentiments posted to Twitter by using a structure that consists of undisclosed algorithms, as well as input from two "handcrafted" databases, the "Sent-Lex" and "Stock-Lex." This does not describe a structure that confers patent protection to an abstract idea. The inventive concepts attributed to the algorithms included "the consideration of words in relation to each other," and the assertion that "what is new is going beyond the adjectives" to

determine the meaning of text. (Id. at 13, 21.) But, as Alice instructs, "[s]imply appending conventional steps, specified at a high level of generality, [is] not enough to supply an 'inventive concept.'" 134 S. Ct. at 2357 (quotation marks omitted). The consideration of words in relation to each other and the consideration of words other than adjectives is conventional, and the '056 Patent's instructions for implementing the method is articulated at a high level of generality. Similarly, considering words in relation to each other, and reviewing words other than adjectives, "add[s] nothing outside the abstract realm." SAP, 898 F.3d at 1169.

Counsel also stated that the inventive concepts relate to "how the terms are scored and then how they're used in order to rank the elements that are being scored." (Oct. 15 Tr. at 26.) The transformation of one type of data into another type of data – in the '056 Patent, scoring a social media post as a 1, 2 or 3 – does not add an inventive concept. See RecogniCorp, LLC v. Nintendo Co., 855 F.3d 1322, 1328 (Fed. Cir. 2017) ("The addition of a mathematical equation that simply changes the data into other forms of data cannot save it."); Digitech Image Techs., LLC v. Elecs. for Imaging, Inc., 758 F.3d 1344, 1351 (Fed. Cir. 2014) ("[A] process that employs mathematical algorithms to manipulate existing information to generate additional information is not patent eligible.").

iSentium has also urged that step two of Alice is not properly decided on a Rule 12 motion because of factual questions as to whether a person of ordinary skill in the relevant field would understand the sentiment analysis of the '056 Patent to be an improvement over existing methods, such as the "bag of words" approach. (Opp. Mem. at 16; Oct. 15 Tr. at 28.) Counsel stated that "at this stage there are a number of questions that are hard to answer" due to "the nature of the subject matter . . . ." (Oct. 15 Tr. at 34.) At the Rule 12 stage, the Court assumes as true that a person of ordinary skill in the relevant field would regard the structure for

performing sentiment analysis as described in Claim 1 as an improvement over prior methods. This would still not be enough to identify an inventive concept. A court may assume "that the techniques claimed are '[g]roundbreaking, innovative, or even brilliant,' but that is not enough for eligibility." SAP, 898 F.3d at 1163 (quoting Ass'n for Molecular Pathology v. Myriad Genetics, Inc., 569 U.S. 576, 591 (2013)). "[A] claim for a new abstract idea is still an abstract idea." Id. (quotation marks omitted). And an improved method for analyzing a written sentiment does not differentiate the invention from an ordinary mental process. Electric Power Grp., 830 F.3d at 1355. Thus, even if the '056 Patent would be understood by a person of ordinary skill in the relevant field to offer an improved method for sentiment analysis, iSentium has still not described an inventive concept that takes the independent claims beyond the abstract realm.

Because the structure for implementing Claim 1 of the '056 Patent does not recite an inventive concept and is only generally identified, the claimed invention does not satisfy step two of Alice.

2. The '056 Patent Does Not Describe an Inventive Concept that Improves Computer or Network Functionality.

Separately, iSentium has urged that the '056 Patent solves "a technological problem" by using a common off-the-shelf computer, "but with limitations that when considered as an ordered combination recite an inventive concept through the system's architecture." (Opp. Mem. at 15.) It cites Amdocs (Israel) Limited v. Openet Telecom, Inc., 841 F.3d 1288, 1301 (Fed. Cir. 2016), which held that a claim consisting of arguably generic components was patent-eligible when combined in an unconventional manner to improve computer functionality. The invention in Amdocs described "a technological solution to a technological problem" by reducing congestion over data networks and devices. Id. at 1300-01.

Amdocs is consistent with other Federal Circuit precedent concluding that an abstract idea under step one of Alice may nevertheless be patent-eligible under step two if an inventive concept improves computer or network functionality. See, e.g., Bascom Global Internet Servs., Inc. v. AT&T Mobility LLC, 827 F.3d 1341, 1347-52 (Fed Cir. 2016) (although use of content-filtering on the internet is an abstract idea, the specific implementation contained an inventive concept that permitted customizable filters for each end user); Berkheimer I, 881 F.3d at 1370 (fact issues precluded deciding ineligibility as a matter of law where the patent described improvements to the efficiency and functionality of archiving digital information); Aatrix, 882 F.3d at 1128-30 (the combination of claims related to a "data file" improved the functioning of a computer and was sufficient to allege an inventive concept).

In contrast to those cases, the '056 Patent does not describe an improvement to the functionality of a computer or network. It instead purports to describe an improvement to existing methods for interpreting posts on social media, specifically related to opinions posted on Twitter about publicly traded assets. This is not a technological solution to technological problem, as discussed by Amdocs and related authority, but a type of data analysis that is ineligible for protection under the reasoning of SAP, Electric Power Group and similar authorities. A claim "for a mental process" that "merely aid[s] in mental translation as opposed to computer efficacy, [is] not an inventive concept . . . ." Synopsys, Inc. v. Mentor Graphics Corp., 839 F.3d 1138, 1152 (Fed. Cir. 2016); see also Electric Power Grp., 930 F.3d at 1355 (the use of a conventional computer to gather and display information was "not even arguably inventive . . . ."). "There is, in short, nothing 'inventive' about any claim details, individually or in combination, that are not themselves in the realm of abstract ideas." SAP, 898 F.3d at 1170.

Contrary to iSentium's argument, the '056 Patent purports to describe an improvement to data analysis, and not an improvement to the functionality of a computer or network. It does not describe an inventive concept sufficient to satisfy step two of Alice.

E. Because the '056 Patent Is Not Eligible for Protection, iSentium's Patent Infringement Claim Is Dismissed.

In light of the foregoing, the Court concludes that the '056 Patent does not describe an inventive concept that makes the claimed invention eligible for patent protection under section 101. Because the '056 patent does not survive scrutiny on either step one or step two of Alice, iSentium's patent infringement claim is dismissed.

II. The Parties Are Invited to Make Supplemental Submissions as to the Court's Jurisdiction over the Remaining State Law Claims.

Bloomberg also moves to dismiss iSentium's claims for misappropriation of trade secrets, breach of contract, promissory estoppel and unjust enrichment. Its motion is denied without prejudice, pending further submissions as to the Court's jurisdiction over those remaining state law claims.

The Complaint invokes federal question jurisdiction on the basis of its patent infringement claim, 28 U.S.C. § 1331, 1338(a). (Compl't ¶ 7.) It separately invokes supplemental jurisdiction over iSentium's claim for misappropriation of trade secrets under New York law, 28 U.S.C. § 1367. (Compl't ¶ 7.) The Complaint also brings common-law claims for breach of contract, unfair competition, promissory estoppel, unjust enrichment, and seeks an accounting. (Compl't ¶¶ 46-53, 66-85.)

No later than November 13, 2018, the parties may submit letter-briefs setting forth their views as to whether the Court should exercise supplemental jurisdiction over the remaining state law claims.

CONCLUSION.

Bloomberg's motion to dismiss the Complaint is GRANTED as to iSentium's claim of patent infringement. The Clerk is directed to terminate the motion. (Docket # 22.)

No later than November 13, 2018, the parties may submit letter-briefs setting forth their views as to whether the Court should exercise supplemental jurisdiction over the remaining state law claims.

SO ORDERED.

P. Kevin Castel
United States District Judge

Dated: New York, New York
October 29, 2018