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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte BRIAN M. WOLF, JOHN F. CURRAN, JAMES W. FARRELL,
PAUL J. CALLAWAY, BARRY L. GALSTER, ANDREW MILNE,
GIUSEPPE SCIMECA, PEARCE PECK-WALDEN, and JAMES WILCOX

Appeal 2016-007431
Application 13/534,416¹
Technology Center 3600

Before: ROBERT E. NAPPI, CATHERINE SHIANG, and
SCOTT B. HOWARD, *Administrative Patent Judges*.

HOWARD, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's Final Rejection of claims 1, 3, 9–14, 16, and 22–27, which constitute all of the claims pending in this application. Claims 2, 4–8, 15, 17–21, and 28–30 have been cancelled. *See* App. Br. 12–14, 16 (Claims App.). We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

¹ Appellants identify Chicago Mercantile Exchange Inc. as the real party in interest. App. Br. 2.

THE INVENTION

According to Appellants, the disclosed and claimed invention “relates to software, systems and methods for electronic trading in a commodities exchange, derivatives exchange or similar business involving tradable items where orders from buyers are matched with orders from sellers.” Spec. ¶ 1.²

Claim 1, reproduced below, is illustrative of the claimed subject matter:

1. A computer implemented method for improving the efficiency of a trading system, the system comprising a processor, the method comprising:

receiving, by the processor from at least one market participant of a plurality of market participants, a first order for a first instrument and a second order for a second instrument, the first and second orders having a relationship there between from which at least a third order for a third instrument may be implied;

selectively generating, by the processor, the implied third order based on the first and second orders; and

preventing by the processor, the generation of the implied third order when the best bid price in the market for the third instrument is within a threshold number of price ticks of the best ask price in the market for the third instrument, when a delivery month of the third instrument is a defined delivery month, when a delivery month for the third instrument is the current month, when a likelihood of receiving an order, at a better price with respect to a resting counter order thereto, for the third instrument satisfying the relationship between the first and second orders from one of the plurality of market participants exceeds a threshold, and/or when the implied third order will not improve a spread between a best bid price and a best ask price in the market for the third instrument and otherwise making the generated implied third order available in

² The Specification contains two paragraphs identified as paragraph 1. *See* Spec. 1. The quoted section is from the second paragraph identified as paragraph 1.

a market for the third instrument for trading by the plurality of market participants.

REFERENCES

The prior art relied upon by the Examiner as evidence in rejecting the claims on appeal is:

Milne ("Milene '633")	US 2010/0174633 A1	July 8, 2010
Milne ("Milne '536")	US 2011/0066536 A1	Mar. 17, 2011

REJECTIONS

Claims 1, 3, 9–14, 16, and 22–27 stand rejected under 35 U.S.C. § 101 as being directed to patent-ineligible subject matter. Final Act. 2–6; Adv. Act. 2–6.

Claims 1, 3, 9-12, 14, 16, 21-25, and 27 stand rejected under 35 U.S.C. §102(b) as being anticipated by Milne '633. Final Act. 7–9; Adv. Act. 6.

Claims 13 and 26 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Milne '633 in view of Milne '536. Final Act. 10–11.

ANALYSIS

We have reviewed the Examiner's rejection in light of Appellants' arguments that the Examiner erred. In reaching this decision, we have considered all evidence presented and all arguments made by Appellants.³

³ Rather than reiterate the entirety of the arguments of Appellants and the positions of the Examiner, we refer to the Appeal Brief (filed Nov. 23, 2015, "App. Br."); the Reply Brief (filed July 20, 2016, "Reply Br."); the Final Office Action (mailed June 25, 2015 "Final Act."); the Advisory Action

We are not persuaded by Appellants' arguments regarding the pending claims. Instead, we agree with and adopt as our own: (1) the findings and reasons set forth by the Examiner in the action from which this appeal is taken (Final Act. 2–11); and (2) the reasons and rebuttals set forth in the Advisory Action and the Examiner's Answer in response to Appellants' arguments (Adv. Act. 2–6; Ans. 2–14). We incorporate such findings, reasons, and rebuttals herein by reference unless otherwise noted. However, we highlight and address specific findings and arguments for emphasis as follows.

I. Section 101 Discussion

A. Appellants' Arguments

Appellants argue because the Examiner did not rely on objective evidence and the claims do not preempt a fundamental business practice, the Examiner erred in determining the claims are directed to an abstract idea:

In particular, the Examiner has not shown, e.g. by objective evidence, and a person of ordinary skill in the art would not find, that the claims are directed to, nor do they pre-empt or otherwise tie up a fundamental economic practice, such as the operation of an economic market to buy and sell, nor directed to methods of organizing human activities, an idea in and of itself or a mathematical relationship or formula.

App. Br. 4–5; *see also* Reply Br. 4 (“Further, the claimed invention does not pre-empt all use of an abstract idea but instead recite a specific and discrete implementation.”).

Instead, according to Appellants, the claims are directed to a patentable system for improvements in the “technical field of transaction

(mailed Sept. 4, 2015 Adv. Act.”); and the Examiner's Answer (mailed May 20, 2016 “Ans.”) for the respective details.

processing and risk management by reducing transactional load on the system.” Reply 5. The claims are not directed to “a routine, a long standing business practice nor conventional activity previously known in the industry, or a generic computerization thereof” and, instead, “[t]he claimed system at least solves the technical problem of reducing transactional load of resource intensive operations.” *Id.*; *see also* Reply Br. 2 (“Appellants submit that the combination of elements in Appellants’ claims perform functions which are not merely generic and at least some of the problems solved by Appellants’ invention are specifically rooted in technology, specifically in electronic transaction processing systems where unnecessary transactions consume limited available processing resources.”).

Appellants further argue that the pending claims are similar to those found patent-eligible in *DDR*⁴ and *Enfish*.⁵ Reply Br. 2–3. Specifically, Appellants argue the pending claims are “directed to solving a transaction/data processing-centric problem. As with the invention of *DDR*, Appellants’ claims do not generically recite ‘use of a communications network’ to perform a business practice, but instead recites a specific way to restrict the number of open/pending transactions of a given participant.” *Id.* at 2. Appellants further argue the “combination of steps recited show that the claim is not to an abstract idea, but rather that the steps impose meaningful limits that allow for evaluation of the transactional environment and selective prevention of transaction generation, thereby minimizing wasted computations resources and improving the overall efficiency of the system.” *Id.* at 3 (citing Spec. ¶ 7).

⁴ *DDR Holdings, LLC v. Hotel.com, L.P.*, 773 F.3d 1245 (Fed. Cir. 2014).

⁵ *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327 (Fed. Cir. 2016).

Appellants further argue that even if the claims are directed to an abstract idea, the claims amount to something more than the abstract idea. *See* App. Br. 5–8; Reply Br. 1–4. Specifically, according to Appellants, “the claimed invention solves the technical problem of devoting significant computational resources to the calculating implied orders when some of those calculations may be unnecessary.” App. Br. 6. Appellants further contend that “[t]he claimed invention solves this problem via novel evaluation of the transactional environment and selective prevention of transaction generation, thereby minimizing wasted computations resources and improving the overall efficiency of the system.” *Id.* Thus, Appellants argue, “[t]he claims include meaningful limitations that are ‘other than what is well-understood, routine and conventional in the field’ and do not seek to monopolize the exception.” *Id.* at 7.

B. Examiner’s Determinations and Conclusions

Applying the two-step *Alice/Mayo*⁶ framework, the Examiner concludes the claims are directed to patent-ineligible subject matter. *See* Final Act. 2–7; Adv. Act. 2–6; Ans. 2–12. Specifically, the Examiner determines that “the claim is directed to suppression of implied contract generation, which is a fundamental economic practice and therefore an abstract idea.” Final Act. 2. The Examiner further determines “that the courts have recently found claims drawn to concepts involving human activity relating to commercial practices ineligible” and that pending claims, which are directed to managing market data, “is similar to the commercial

⁶ *Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 134 S. Ct. 2347 (2014); *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66 (2012).

practices that have been found by the courts to be abstract ideas.” *Id.* at 2–3;⁷ *see also* Ans. 4–5.⁸

The Examiner further determines that a determination of patent eligibility under section 101 is a matter of law and does not require evidentiary support. Ans. 2–4. Instead “the Examiner [may] identif[y] abstract ideas . . . by correlating the claimed invention to examples of other inventions identified by the courts as being abstract ideas.” *Id.* at 3. The Examiner further determines that preemption is not a requirement for determining whether or not a claim is patent-eligible. Adv. Act. 2–4; Ans. 6–7. The Examiner also determines that Appellants’ “argument regarding novelty is not persuasive because judicial exceptions need not be old or long-prevalent, and even newly discovered judicial exceptions are still exceptions, despite their novelty.” Ans. 7.

⁷ Citing *Alice*, 134 S. Ct. 2347; *Ultramercial Inc. v. Hulu LLC*, 722 F.3d 1335 (Fed. Cir. 2013), *vacated and remanded*, *Wildtangent, Inv. v. Ultramercial LLC*, 134 S. Ct. 2870 (2014) (remanding for consideration in light of *Alice*, 134 S. Ct. 2347); *Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat’l Assoc.*, 776 F.3d 1343 (Fed. Cir. 2016); *buySAFE, Inc. v. Google, Inc.*, 765F.3d 1350 (Fed. Cir. 2014); *OIP Tech., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359 (Fed. Cir. 2017).

⁸ Citing *buySAFE*, 765F.3d 1350; *Bilski v. Kappos*, 561 U.S. 593 (2010); *Alice*, 134 S. Ct. 2347; *Dealertrack, Inc. v. Huner*, 674 F.3d 1315 (Fed. Cir. 2012); *Bancorp Servs. L.L.C. v. Sun Life Assur. Co of Canada*, 687 F.3d 1266 (Fed. Cir. 2012); *Planet Bingo, LLC v. VKGS LLC*, 576 Fed. Appx. 1005 (Fed. Cir. 2014); *Gametek LLC v. Zynga Inc.*, 597 Fed. Appx. 644 (Fed. Cir. 2015); *Accenture Global Serv., GmbH v. Guidewire Software, Inc.*, 728 F.3d 1336 (Fed. Cir. 2013); *Ultramercial*, 722 F.3d 1335; *In re Ferguson*, 558 F.3d 1359 (Fed. Cir. 2009); *In re Maucorps*, 609 F.2d 481 (CCPA 1979); *Graff/Ross Holdings LLP v. Federal Home Loan Mortg. Corp.*, 892 F.Supp.2d 190 (D.D.C. 2012), *aff’d*, 604 Fed. Appx. 930 (Fed. Cir. 2015).

The Examiner further determines that, “[v]iewed as a whole, the additional claim elements do not provide meaningful limitations to transform the abstract idea into a patent eligible application of the abstract idea such that the claims amount to significantly more than the abstract idea itself.” Final Act. 5; *see also* Adv. Act. 4–6; Ans. 8–12. Specifically, the Examiner determines “the claims do not include an improvement to another technology or technical field, an improvement to the functioning of the computer itself, or meaningful limitations beyond generally linking the use of an abstract idea to a particular technological environment.” Adv. Act. 4. The Examiner further determines the claims are just directed to generic components and routine functions:

[T]he limitations, in the instant claims, are done by the generically recited computer products. The generically recited computer elements such as “processor”, “memory”, and “logic” do not add a meaningful limitation to the abstract idea because they would be routine in any computer implementation. The steps for data gathering and processing do not add a meaningful limitation to the method as they would be routinely used by those of ordinary skill in the art in order to apply the abstract idea.

Adv. Act. 4; *see also* Ans. 8 (determining “the additional limitations are merely drawn to a generic, routine, well-understood, and conventional application of computing technology”). The Examiner also determines the Specification “recites general computer products” and “does not contribute any technically-specific computer algorithm or code, but rather merely states that the claimed steps may be performed by the generic modules with the expectation that one of ordinary skill in the art would be capable of implementation without further instruction.” Ans. 8–9. The Examiner further determines that there is no need to find a lack of novelty in order to

determine the claims describes generic components used in a routine fashion:

Appellant argues that the additional limitations cannot be conventional because they are unsupported by prior art (see Appeal Brief, pg. 5). However, the argument is not persuasive because the terms “routine, well-understood, and conventional” are used to describe the generic application of the computing technology and should not be confused with novelty.

Id. at 10.

C. *Analysis*

1. *Law Governing Patent-Eligible Subject Matter*

Patent-eligible subject matter is defined in § 101 of the Patent Act, which recites:

Whoever 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.

There are, however, three judicially created exceptions to the broad categories of patent-eligible subject matter in § 101: laws of nature, natural phenomena, and abstract ideas. *Alice*, 134 S. Ct. at 2354; *Mayo*, 566 U.S. at 70–71. Although an abstract idea, itself, is patent-ineligible, an application of the abstract idea may be patent-eligible. *Alice*, 134 S. Ct. at 2355. Thus, we must consider “the elements of each claim both individually and ‘as an ordered combination’ to determine whether the additional elements ‘transform the nature of the claim’ into a patent-eligible application.” *Id.* (citing *Mayo*, 566 U.S. 79). The claim must contain elements or a combination of elements that are “sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [abstract idea] itself.” *Id.* (citing *Mayo*, 566 U.S. 79).

The Supreme Court set forth a two-part “framework for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts.” *Id.* at 2355.

First, we determine whether the claims at issue are directed to one of those patent-ineligible concepts. [*Mayo*,] 132 S. Ct., at 1296–1297. If so, we then ask, “[w]hat else is there in the claims before us?” *Id.*, at —, 132 S. Ct., at 1297. To answer that question, we consider the elements of each claim both individually and “as an ordered combination” to determine whether the additional elements “transform the nature of the claim” into a patent-eligible application. *Id.*, at —, 132 S. Ct., at 1298, 1297. We have described step two of this analysis as a search for an “‘inventive concept’”—*i.e.*, an element or combination of elements that is “sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself.” *Id.*, at —, 132 S. Ct., at 1294.

Id.

“The ‘abstract idea’ step of the inquiry calls upon us to look at the ‘focus of the claimed advance over the prior art’ to determine if the claim’s ‘character as a whole’ is directed to excluded subject matter.” *Affinity Labs of Tex. v. DirectTV, LLC*, 838 F.3d 1253, 1257 (Fed. Cir. 2016) (quoting *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016)); *see also Enfish*, 822 F.3d at 1335. There is no definitive rule to determine what constitutes an “abstract idea.” Rather, the Federal Circuit has explained that “both [it] and the Supreme Court have found it sufficient to compare claims at issue to those claims already found to be directed to an abstract idea in previous cases.” *Enfish*, 822 F.3d at 1334; *see also Amdocs (Israel) Ltd. v. Openet Telecom, Inc.*, 841 F.3d 1288, 1294 (Fed. Cir. 2016) (explaining that, in determining whether claims are patent eligible under

§ 101, “the decisional mechanism courts now apply is to examine earlier cases in which a similar or parallel descriptive nature can be seen—what prior cases were about, and which way they were decided”).

Under the second step of the *Alice/Mayo* framework, we examine the claim limitations “more microscopically,” (*Electric Power*, 830 F.3d at 1354), to determine whether they contain “additional features” sufficient to “‘transform the nature of the claim’ into a patent-eligible application.” *Alice*, 134 S. Ct. at 2355, 2357 (quoting *Mayo*, 566 U.S. at 78). “Mere recitation of concrete, tangible components is insufficient to confer patent eligibility to an otherwise abstract idea. Rather, the components must involve more than performance of well-understood, routine, conventional activit[ies] previously known to the industry.” *In re TLI Commc’ns LLC Patent Litig.*, 823 F.3d 607, 613 (Fed. Cir. 2016) (citing *Alice*, 134 S. Ct. at 2359).

2. *Abstract Idea*

In determining whether claims are patent eligible under § 101, “the decisional mechanism courts now apply is to examine earlier cases in which a similar or parallel descriptive nature can be seen—what prior cases were about, and which way they were decided.” *Amdocs*, 841 F.3d at 1294. The Examiner identifies over a dozen decisions in which the courts have determined similar claims directed to business methods to be directed to abstract ideas. *See* footnotes 5 and 6, *supra*. Appellants have not addressed those cases or provided any persuasive reasoning as to why that are not similar to the claims at issue.

We agree with the Examiner that, based on the identified cases, that pending claims are directed to subject matter that the Supreme Court and

Federal Circuit have determined are abstract idea. Accordingly, we adopt the Examiner’s determination and conclusions. *See Ex parte Frye*, 94 USPQ2d 1072, 1075 (BPAI 2010) (precedential) (“If an appellant fails to present arguments on a particular issue — or, more broadly, on a particular rejection — the Board will not, as a general matter, unilaterally review those uncontested aspects of the rejection.”). Moreover, as discussed below, we are not persuaded by any of Appellants’ arguments that the Examiner’s determination was in error.

3. *Objective Evidence*

Appellants have not cited any cases in support of the argument that the Examiner erred by not citing any objective evidence to support the conclusion that the claim is directed to an abstract idea. *See* App. Br. 4–5.⁹ Despite Appellants providing no legal support for the proposition that objective evidence is required to support a conclusion that a claim is directed to patent-ineligible subject matter, we conducted an independent review of the cases and conclude that although objective evidence may be cited in support of the claims being directed to an abstract idea, there is no per se requirement that the Examiner do so.

We start with Supreme Court jurisprudence on patent-eligible subject matter. Having reviewed the Supreme Court cases addressing section 101, the Court has never stated or implied that objective evidence is required to establish that the claimed subject matter is no patent-eligible.

⁹ We note Appellants did not address the Examiner’s analysis of the relevant case law. *Compare* Ans. 3–4 (discussing relevant Supreme Court decisions), *with* Reply Br. 5–6, (not addressing cases cited by the Examiner).

As the Examiner noted, in two cases, *Alice* and *Bilski*, the Court cited objective evidence as part of its discussion.¹⁰ Ans. 3–4. However, in neither cases did the Court state or imply that objective evidence must be considered. *See Bilski*, 561 U.S. at 611; *Alice*, 134 S. Ct. at 2356. Instead, in both cases, the Court focused not on the objective evidence, but on the comparison of the claims at issue to previous claims considered by the Court. For example, in *Alice*, the Court focused on the similarities between the claims at issue with those found to be directed to an abstract idea in *Bilski*:

On their face, the claims before us are drawn to the concept of intermediated settlement, i.e., the use of a third party to mitigate settlement risk. **Like the risk hedging in *Bilski***, the concept of intermediated settlement is “ ‘a fundamental economic practice long prevalent in our system of commerce.’ ” *Ibid.*; see, e.g., Emery, *Speculation on the Stock and Produce Exchanges of the United States, in 7 Studies in History, Economics and Public Law* 283, 346–356 (1896) (discussing the use of a “clearing-house” as an intermediary to reduce settlement risk). The use of a third-party intermediary (or “clearing house”) is also a building block of the modern economy. See, e.g., Yadav, *The Problematic Case of Clearinghouses in Complex Markets*, 101 *Geo. L.J.* 387, 406–412 (2013); J. Hull, *Risk Management and Financial Institutions* 103–104 (3d ed. 2012). Thus, intermediated settlement, like hedging, is an “abstract idea” beyond the scope of § 101.

Alice, 134 S. Ct. at 2356 (emphasis added). Similarly, in *Bilski*, although the Court references objective evidence, the focus of its analysis focused on the

¹⁰ In *Bilski*, none of the references were prior art. *See Bilski*, 561 U.S. at 611. In *Alice*, one of the references was prior art. *See Alice* 134 S. Ct. at 2356.

similarities and differences with the instant claims and those in other section 101 cases:

In light of these precedents,^[11] it is clear that petitioners' application is not a patentable "process." Claims 1 and 4 in petitioners' application explain the basic concept of hedging, or protecting against risk: "Hedging is a fundamental economic practice long prevalent in our system of commerce and taught in any introductory finance class." 545 F.3d, at 1013 (Rader, J., dissenting); see, e.g., D. Chorafas, Introduction to Derivative Financial Instruments 75–94 (2008); C. Stickney, R. Weil, K. Schipper, & J. Francis, Financial Accounting: An Introduction to Concepts, Methods, and Uses 581–582 (13th ed.2010); S. Ross, R. Westerfield, & B. Jordan, Fundamentals of Corporate Finance 743–744 (8th ed.2008). The concept of hedging, described in claim 1 and reduced to a mathematical formula in claim 4, is an unpatentable abstract idea, **just like the algorithms at issue in *Benson and Flook***. Allowing petitioners to patent risk hedging would pre-empt use of this approach in all fields, and would effectively grant a monopoly over an abstract idea.

Bilski, 561 U.S. at 611–12 (emphasis added).

Similarly enlightening is the Court's decision in *Mayo*. Although the Court considered statements in the Specification concerning the state of the art in determining that one of the recited steps of the claim was well known, the Court did not consider any evidence, either intrinsic or extrinsic, for the other two limitations or the combination of all three limitations. See *Mayo*, 566 U.S. at 78–79. Moreover, the Court emphasized that the issue before them "rests upon an examination of the particular claims before us in light of

¹¹ Immediately prior to the quoted paragraph, the decision discusses the holdings in *Gottschalk v. Benson*, 409 U.S. 63 (1972), *Parker v. Flook*, 437 U.S. 584 (1978), and *Diamond v. Diehr*, 450 U.S. 175 (1981). See *Bilski*, 561 U.S. at 609–11

the Court’s precedents.” *Id.* at 72; *see also id.* at 82 (holding “[t]he claim before us presents a case for patentability that is weaker than the (patent-eligible) claim in *Diehr* and no stronger than the (unpatentable) claim in *Flook*”).

Moreover, none of the other recent cases, such as *Benson*, *Flook*, *Diehr*, or *Association for Molecular Pathology v. Myriad Genetics, Inc.*, 569 U.S. 576 (2013), cite to any objective evidence. Instead, the analysis in those cases focuses solely on a comparison of the claims at issue to those that the Court had previously ruled upon. Thus, although the Supreme Court cases indicate that a court can consider objective evidence, such as to show something is a fundamental business practice or well-known medical procedure, there is no requirement to do so.

Similarly, Federal Circuit precedent also makes it clear that no extrinsic evidence is required. First, similar to the Supreme Court cases discussed above, the Federal Circuit has adopted a common-law approach to determine whether or not claims are directed to patent-eligible subject matter:

Instead of a definition, then, the decisional mechanism courts now apply is to examine earlier cases in which a similar or parallel descriptive nature can be seen—what prior cases were about, and which way they were decided. *See, e.g., Elec. Power Grp.*, 830 F.3d at 1353–54. That is the classic common law methodology for creating law when a single governing definitional context is not available. *See generally* Karl N. Llewellyn, *The Common Law Tradition: Deciding Appeals* (1960). This more flexible approach is also the approach employed by the Supreme Court. *See Alice*, 134 S.Ct. at 2355–57. We shall follow that approach here.

Amdocs, 841 F.3d at 1294 (footnote omitted). That is, the Federal Circuit has adopted an approach in which the claims in dispute are compared to claims that have already been adjudicated, not to objective evidence.

Second, the procedural setting for many cases resolving section 101 disputes prohibits consideration of extrinsic, objective evidence. That is, the Federal Circuit has held “that in many cases it is possible and proper to determine patent eligibility under 35 U.S.C. § 101 on a Rule 12(b)(6) motion.” *Genetic Tech. Ltd. v. Merial L.L.C.*, 818 F.3d 1369, 1373–74 (Fed. Cir. 2016) (citing *OIP*, 788 F.3d at 1362; *Content Extraction*, 776 F.3d at 1351; *buySAFE*, 765 F.3d at 1355); *see also Secured Mail Sols. LLC v. Universal Wilde, Inc.*, 873 F.3d 905, 912 (Fed. Cir. 2017) (deciding § 101 question “at the motion to dismiss stage based on intrinsic evidence from the [patent’s] specification without need for ‘extraneous fact finding outside the record.’”); *FairWarning IP LLC v. Iatric Sys., Inc.*, 839 F.3d 1089, 1097 (Fed. Cir. 2016). As a general matter, a motion to dismiss is based solely on the complaint, accepting as true the factual allegations made in the complaint. *See, e.g., BASCOM*, 827 F.3d at 1347 (applying the law of the Fifth Circuit); *Aatrix Software, Inc. v. Green Shades Software, Inc.*, No. 2017-1452, ___ F.3d ___, 2018 WL 843288, *2 (Fed. Cir. Feb. 14, 2018) (applying the law of the Eleventh Circuit).¹² Thus, the Federal Circuit has adopted an approach that would normally preclude the consideration of extrinsic evidence.

¹² The Federal Circuit reviews dismissal of a complaint for failure to state a claim under the law of the regional circuit. *E.g., BASCOM*, 827 F.3d at 1347.

Accordingly, based on the above analysis, there is no per se rule requiring the Examiner to cite objective evidence to support a rejection of the claims as directed to patent-ineligible subject matter.

Although there is no per se rule requiring the Examiner to cited objective evidence, there may be some circumstances where evidence of some sort is required to support a rejection. Specifically, in the context of a motion to dismiss, the Federal Circuit has “acknowledged . . . that plausible factual allegations may preclude dismissing a case under § 101 where, for example, ‘nothing on th[e] record . . . refutes those allegations as a matter of law or justifies dismissal under Rule 12(b)(6).’” *FairWarning*, 839 F.3d at 1097 (quoting *BASCOM*, 827 F.3d at 1352); *see also Aatrix* 2018 WL 843288, *2.

For example, in *FairWarning*, the Federal Circuit held that patent owner did not raise sufficient factual claims to prevent the resolution of patent eligibility during a motion to dismiss and, accordingly, the district court properly granted the motion:

FairWarning argues that the district court wrongly found facts outside of the pleadings and construed disputed facts in a light unfavorable to FairWarning. It argues that the court erred in finding, on a motion to dismiss, that the '500 patent is not necessarily rooted in computer technology. It points to the ability of its system and method to collect and analyze disparate data sources in real time. And it claims that the court, drawing all reasonable inferences in its favor, could not resolve this issue on a motion to dismiss. We disagree. As we explained above, the practices of collecting, analyzing, and displaying data, with nothing more, are practices “whose implicit exclusion from § 101 undergirds the information-based category of abstract ideas.” *Elec. Power*, 830 F.3d at 1355. ***The district court correctly dismissed FairWarning’s***

purportedly factual claims as insufficient to impart patent eligibility.

FairWarning, 839 F.3d at 1097–98 (emphasis added).

On the other hand, in *Aatrix*, the Federal Circuit vacated a motion to dismiss and reversed the denial of a motion to amend where the proposed amended complaint added “concrete allegations . . . that individual elements and the claimed combination are not well-understood, routine, or conventional activity. There are also concrete allegations regarding the claimed combination's improvement to the functioning of the computer.” *Aatrix*, 2018 WL 843288, *5. The Federal Circuit further determined that there was “no proper basis for rejecting those allegations as a factual matter.” *Id.* Accordingly, the Court held “[i]n light of the allegations made by *Aatrix*, the district court could not conclude at the Rule 12(b)(6) stage that the claimed elements were well-understood, routine, or conventional.” *Id.* at *6.

Similarly instructive is the Federal Circuit’s decision reversing in part a grant of summary judgment of patent invalidity in *Berkheimer v. HP Inc.*, 881 F.3d 1360 (Fed. Cir. 2018). In that case, the Court held that although the determination on “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, . . . not every § 101 determination contains genuine disputes over the underlying facts material to the § 101 inquiry.” *Id.* at 1368.¹³ In cases where “there is no genuine issue of material fact regarding whether the claim element or claimed combination is well-

¹³ We note that unlike Appellants’ argument in this case (which is directed to the first step of the *Alice/Mayo* framework), *Berkheimer* involves a specific issue under the second step of the *Alice/Mayo* framework.

understood, routine, conventional to a skilled artisan in the relevant field, this issue can be” summarily decided, whether by a motion to dismiss or summary judgment motion. *Id.*

Relying on statements in the specification, the patent owner argued “that the claimed combination improves computer functionality through the elimination of redundancy and the one-to-many editing feature, which provides inventive concepts.” *Id.* at 1369. More specifically, the specification “describes an inventive feature that stores parsed data in a purportedly unconventional manner. This eliminates redundancies, improves system efficiency, reduces storage requirements, and enables a single edit to a stored object to propagate throughout all documents linked to that object.” *Id.* The Federal Circuit held those “improvements in the specification, to the extent they are captured in the claims, create a factual dispute regarding whether the invention describes well-understood, routine, and conventional activities . . . so we must analyze the asserted claims and determine whether they capture these improvements.” *Id.* (citations omitted).

With respect to claim 1, the Federal Circuit affirmed the summary judgement of patent invalidity. *Id.* at 1369–70. Specifically, the Court held that although the claim “recites a method of archiving including parsing data, analyzing and comparing the data to previously stored data, and presenting the data for reconciliation when there is a variance,” the claim “does not recite any of the purportedly unconventional activities disclosed in the specification.” *Id.* at 1369. On the other hand, the Federal Circuit reversed the grant of summary judgment with respect to claims 4–7, which “contain limitations directed to the arguably unconventional inventive

concept described in the specification. Claim 4 recites ‘storing a reconciled object structure in the archive without substantial redundancy,’” which, “according to the specification, provides benefits that improve computer functionality.” *Id.* at 1370.

Based on the cases discussed above, we are not persuaded by Appellants’ arguments that the Examiner erred in not relying on objective evidence. First, with regard to whether or not the claims are directed to an abstract idea, Appellants merely criticize the Examiner for not relying on objective evidence but do not provide any factual evidence of their own, let alone sufficient factual evidence to create a genuine issue of material fact. *See* App. Br. 4–5. Further, the Examiner has provided a reasoned rationale showing the claims recite features similar to those found by the courts to be abstract ideas, which Appellants have not addressed. Final Act. 3. Accordingly, the Examiner did not err in concluding the claims are directed to an abstract idea.

Second, with regard to the second step of the *Alice/Mayo* framework, the Examiner does rely on objective evidence. Specifically, just like the Supreme Court in *Mayo*,¹⁴ the Examiner relies on the specification to show the claimed invention involves the “use of generic technical features” and “generic computer products” that “serve their well-known functions.” Adv. Act. 4–5(citing Spec. ¶ 78); *see also* Ans. 8–9 (citing Spec. ¶¶ 64, 78). Moreover, the Examiner finds that “the specification does not contribute any technically-specific computer algorithm or code, but rather merely states that the claimed steps may be performed by the generic modules with the

¹⁴ *See Mayo*, 566 U.S. at 78–79.

expectation that one of ordinary skill in the art would be capable of implementation without further instruction.” Ans. 9. Therefore, Appellants’ argument that the Examiner erred by not relying on objective evidence is not supported by the record and does not persuade us that the Examiner erred.

4. *Preemption*

We are also not persuaded by Appellants’ arguments that the claims do not preempt or monopolize the field. Although the extent of preemption is a consideration, the absence of complete preemption is not dispositive. *See, e.g., Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1379 (Fed. Cir. 2015) (“While preemption may signal patent ineligible subject matter, the absence of complete preemption does not demonstrate patent eligibility.”); *Ultramercial*, 722 F.3d at 1346 (“[T]he Supreme Court has stated that, even if a claim does not wholly pre-empt an abstract idea, it still will not be limited meaningfully if it contains only insignificant or token pre- or post-solution activity—such as identifying a relevant audience, a category of use, field of use, or technological environment.”).

5. *Solving a Technical Problem*

We are also not persuaded of Examiner error based on Appellants’ argument that the claims are directed to a technological problem. Appellants’ argument is based on conclusory attorney statements, without a citation to evidence or cases involving similar claims which support Appellant’s assertion. Moreover, Appellants have not attempted to distinguish the over a dozen cases cited by the Examiner that held similar claims to be directed to an abstract idea.

In addition to the cases cited by the Examiner, we find two additional Federal Circuit cases instructive. First, in *CyberSource*, the Court held that

claims such as these which can be performed by a human thought alone is an abstract idea:

Thus, claim 3's steps can all be performed in the human mind. Such a method that can be performed by human thought alone is merely an abstract idea and is not patent-eligible under § 101. Methods which can be performed entirely in the human mind are unpatentable not because there is anything wrong with claiming mental method steps as part of a process containing non-mental steps, but rather because computational methods which can be performed entirely in the human mind are the types of methods that embody the "basic tools of scientific and technological work" that are free to all men and reserved exclusively to none.

CyberSource Corp. v. Retail Decisions, Inc., 654 F.3d 1366, 1373 (Fed. Cir. 2011) (quoting *Gottschalk v. Benson*, 409 U.S. 63, 67 (1972)) (footnote omitted). Although the claims will be practiced faster using the computational power of a computer, the simple investing rules of the preventing step can also be done by a person using their mind or pen and paper.

Second, in *SmartGene*, the Court found claims patent-ineligible because they did "no more than call on a 'computing device,' with basic functionality for comparing stored and input data and rules, to do what doctors do routinely." *SmartGene, Inc. v. Adv. Bio. Labs. SA*, 555 Fed. Appx. 950, 954 (Fed. Cir. 2014). While *SmartGene* is a non-precedential decision, it nonetheless provides another example of claims held to recite an abstract idea. In the instant case, the recited "preventing by the processor step" is nothing more than a system (i.e., computer) to adjust the processing of data using mathematical comparisons and rule-based processes. The claims at issue in *SmartGene* relied upon "expert rules" for "evaluating and selecting" from a stored 'plurality of different therapeutic treatment

regimens.” *Id.* at 951–952. The “expert rules” in *SmartGene* are analogous to rule set forth in the preventing step.

6. *Something More*

We agree with and adopt the Examiner’s determinations and conclusions regarding the claims not providing any meaningful limitations to transform the abstract idea into a patent eligible application of the abstract idea. Appellants have not argued persuasively the claims include an improvement to another technology or technical field, an improvement to the functioning of the computer itself, or meaningful limitations beyond generally linking the use of an abstract idea to a particular technological environment. Instead, the claims are broadly written and can be performed by generic computer components used in a conventional manner.

Appellants’ reliance on the patent eligibility examples is not persuasive. Although Appellants contend that the claims are similar to the examples found to be directed to patent-eligible subject matter, Appellants’ contentions are conclusory and fail to link the arguments to claim limitations recited in the claims. *See* App. Br. 6–7. Instead, for the reasons given in the Answer (Ans. 10–12), those example are not applicable to the claims on appeal.

We are also not persuaded by Appellants’ argument that the claims is similar to one found patent-eligible in *DDR*. First, as our reviewing court held in *DDR*, “not all claims purporting to address Internet-centric challenges are eligible for patent.” *DDR*, 773 F.3d at 1258. As the Federal Circuit recognized:

For example, in our recently-decided *Ultramerical* opinion, the patentee argued that its claims were “directed to a specific method of advertising and content distribution that was

previously unknown and never employed on the Internet before.” 772 F.3d at 714. But this alone could not render its claims patent-eligible. In particular, we found the claims to merely recite the abstract idea of “offering media content in exchange for viewing an advertisement,” along with “routine additional steps such as updating an activity log, requiring a request from the consumer to view the ad, restrictions on public access, and use of the Internet.” *Id.* at 715–16.

Id. Because, for the reasons set forth in the Answer, Appellants have merely identified routine additional steps, they are insufficient to render the claims patent-eligible.

Moreover, we disagree with Appellants’ assertion that the claims in this case are directed to a computer-centric problem similar to that in *DDR*. In *DDR*, the Court found that the claims “do not merely recite the performance of some business practice known from the pre-Internet world along with the requirement to perform it on the Internet. Instead, the claimed solution is necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks.” *Id.* at 1257. Unlike the claims in *DDR*, the claims in this case are merely adopting a pre-existing business practice, in this case generating in some circumstances an implied order based on two received orders, for use with computer technology.

Instead of *DDR*, this case is similar to *Electric Power*, in which our reviewing court found the claims patent-ineligible because “[t]he claims at issue do not require any nonconventional computer, network, or display components, or even a ‘non-conventional and non-generic arrangement of known, conventional pieces,’ but merely call for performance of the claimed information collection, analysis, and display functions ‘on a set of generic computer components’ and display devices.” *Electric Power*, 830 F.3d at

1355 (citing *BASCOM*, 827 F.3d at 1349–52). Similarly, the claims in this case merely recite the use of generic computer components and conventional computer networks. Such an arrangement is not patent eligible. *Id.*

7. *Conclusion on Patentable Subject Matter*

For the reasons set forth above, the claims are directed to an abstract idea and did not contain limitations, either considered separately or together, that provide something more than the abstract idea sufficient to transform the claim into patentable subject matter. Accordingly, we sustain the Examiner’s rejection of claims 1, 3, 9–14, 16, and 22–27 as directed to patent-ineligible subject matter.

II. *Prior Art Rejections*

Appellants argue the Examiner erred in finding Milne ’663 discloses “preventing by the processor, the generation of the implied third order,” as recited in claim 1. *See* App. Br. 8–10; Reply Br. 4–5. Specifically, Appellants argue “Milne ’633 discloses filtering already generated implied orders from being published in the market data but Milne ’633 neither teaches nor suggests preventing their generation in the first place as required by Appellants’ claims.” App. Br. 9; *see also* Reply Br. 4–5.

Appellants further argue the Examiner’s claim construction is incorrect. *See* App. Br. 10; Reply Br. 4. Specifically, Appellants argue “limiting reporting of an order IS NOT the same as preventing the generation of that order in the first place if for no other reason than the generating of an order requires the expenditure of computational resources which Appellants’ claimed system avoids.” App. Br. 10. According to Appellants, the Specification draws a distinction between preventing generation of an order and preventing an implied order from being listed:

Applicants strenuously disagree with the Examiner's interpretation and submit that one of ordinary skill in the art would understand that generating an order and then listing or publishing that order in a market are not the same. In fact, Applicants distinguish these two events in their Specification at para[graph] 46 which states “. . . the disclosed embodiments suppress or otherwise prevent the computation of the implied front-month contract order 318 and the subsequent listing thereof” in conjunction with para[graph] 48 which states “[i]t will be appreciated that for the purpose of keeping a particular bid/ask spread close, once calculated, an implied order may simply be prevented from being listed.”

Reply Br. 4.

The Examiner concludes the disputed claim limitation is broad enough to encompass preventing an initially generated implied order from being generated in the market:

Applicant argues that Milne fails to disclose preventing the generation of the implied order as claimed. The argument is not persuasive because even though the implied order is initially generated in Milne, the order is still prevented from being generated in the market. Here, limiting the reporting of such orders to certain markets is equivalent to preventing generation of those orders in the other markets.

Adv. Act. 6; *see also* Ans. 13 (“However, Examiner disagrees because ‘generation’, under broadest reasonable interpretation, does not limit the claim to only the initial generation of an order. That is, an order may be initially generated and then subsequently generated in certain markets.”). Based on that claim construction, the Examiner finds Milne '633 discloses the disputed limitation. Final Act. 7–8 (citing Milne '633 ¶¶ 87–93).

During examination of a patent application, a claim is given its broadest reasonable construction “in light of the specification as it would be interpreted by one of ordinary skill in the art.” *In re Am. Acad. of Sci. Tech*

Ctr., 367 F.3d 1359, 1364 (Fed. Cir. 2004) (quoting *In re Bond*, 910 F.2d 831, 833 (Fed. Cir. 1990)). Under this standard, we interpret claim terms using “the broadest reasonable meaning of the words in their ordinary usage as they would be understood by one of ordinary skill in the art, taking into account whatever enlightenment by way of definitions or otherwise that may be afforded by the written description contained in the applicant’s specification.” *In re Morris*, 127 F.3d 1048, 1054 (Fed. Cir. 1997). “[T]he protocol of giving claims their broadest reasonable interpretation . . . does not include giving claims a legally incorrect interpretation” “divorced from the specification and the record evidence.” *Microsoft Corp. v. Proxyconn, Inc.*, 789 F.3d 1292, 1298 (Fed. Cir. 2015) (quoting *In re Skvorecz*, 580 F.3d 1262, 1267 (Fed. Cir. 2009) and *In re NTP, Inc.*, 654 F.3d 1279, 1288 (Fed. Cir. 2011)), *overruled on other grounds by Aqua Products, Inc. v. Matal*, 872 F.3d 1290 (Fed. Cir. 2017).

Based on the entirety of the Specification, we are not persuaded by Appellants’ argument that the Examiner erred in construing the claim. In the Appeal Brief, Appellants identified Specification paragraphs 43–47, 50, 51, and 57. *See* App. Br. 2–3 (setting forth the summary of the claimed invention). Those paragraphs support the Examiner’s claim construction.

For example, paragraph 46, relied on by Appellants in the Reply Brief, states that “the disclosed embodiments may also improve the efficiency of the trading system 100 *by reducing the number of implied orders which must be calculated, listed and managed*, thereby minimizing the calculations that the trading system 100 must undertake and reduces the messages that are transmitted via market data.” Spec. ¶ 46 (emphasis added). The Specification continues in the next paragraph—which

Appellants do not discuss—to indicate that the invention also covers embodiments in which the implied order is initially calculated but not listed:

It will be appreciated that for the purpose of keeping a particular bid/ask spread close, once calculated, an implied order may simply be prevented from being listed. While not necessarily reducing the computation load on the trading system 100, such an implementation would also improve system 100 efficiency by reducing message traffic as well as minimizing resources consumed due to listing and managing the implied orders.

Spec. ¶ 47 (emphasis added).

Similarly, paragraph 50 discusses how “an implied order generator 508 . . . selectively generate[s] the implied third order based on the first and second orders *and make[s] the computed implied third order available in a market* for the third instrument for trading by the plurality of market participants.” Spec. ¶ 50 (emphasis added). The Specification continues by describing how the implied order generator may also operate “to prevent, at least, the availability of the implied third order, such as by preventing it from being listed in the order book for the third instrument, when the market for the third instrument is determined to be substantially liquid.” Spec. ¶ 51. Taken as a whole, these paragraphs link generating an implied order to generating an implied order that is listed, or not, in the market.

Similarly, paragraph 57 states that “[t]he operation also includes selectively generating, by the processor 402, the implied third order based on the first and second orders and making the computed implied third order available in a market for the third instrument for trading by the plurality of market participants (block 604).” As with the other sections discussed above, that paragraph 57 focuses not on any internal generation of an

implied order, but selectively generating an implied order for availability in the market.

Accordingly, based on the disclosure in the Specification, we agree with the Examiner's construction that the claim is broad enough to encompass a processor that generates implied orders but only selectively generates the orders for the market. Because Appellants' arguments are not commensurate with the scope of the claims, they are unpersuasive. *See In re Self*, 671 F.2d 1344, 1348 (CCPA 1982).

Accordingly, we sustain the Examiner's rejection of claim 1, along with the rejection of claims 14 and 27, which are argued on the same grounds, and dependent claims 3, 9–12, 16, 21–25, and 27, which are not argued separately. *See App. Br. 10.*

With respect to dependent claims 13 and 26, Appellants merely contend that because the additional reference used in the rejection of these claims (Milne '536) do not cure the shortcomings of Milne '633 applied against claim 1, the Examiner failed to make a prima facie case of obviousness for these claims. *App. Br. 10–11.* Because we determine that the rejection of claim 1 is not erroneous for the reasons discussed above, we sustain the rejections of these claims.

DECISION

For the above reasons, we affirm the Examiner's decisions rejecting claims 1, 3, 9–14, 16, and 22–27.

No time period for taking any subsequent action in connection with

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this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv). *See*
37 C.F.R. § 41.50(f).

AFFIRMED