UNITED STATES PATENT AND TRADEMARK OFFICE

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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Ex parte CATALIN POPESCU, LIN HE, MING LEI, and CHUN TANG[1]

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Appeal 2017-010513
Application 14/051,670
Technology Center 3600

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Before BIBHU R. MOHANTY, PHILIP J. HOFFMANN, and
CYNTHIA L. MURPHY, *Administrative Patent Judges.*

MOHANTY, *Administrative Patent Judge.*

DECISION ON APPEAL

STATEMENT OF THE CASE

The Appellants seek our review under 35 U.S.C. § 134 of the final
rejection of claims 1, 2, 4, 6–9, 11, 13–16, 18, and 20–24 which are all the
claims pending in the application[2]. We have jurisdiction under 35 U.S.C.
§ 6(b).

SUMMARY OF THE DECISION

We AFFIRM.

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[1] The real party in interest is Oracle International Corporation. App. Br. 2.
[2] The Appeal Brief Claims Appendix lists these claims as the pending
claims.

THE INVENTION

The Appellants' claimed invention is related to a system that generates a sales forecast for an item (Spec., para. 4). Claim 8, reproduced below with the italics added, is representative of the subject matter on appeal.

> 8. A method for generating a sales forecast for an item, the method comprising:
> *receiving sales history for prior sales periods* comprising active promotion events that are active during each respective sales period, wherein each sales period is a discrete time period;
> *determining one or more types of overlapping promotions during the sales periods*, wherein each type of overlapping promotion occurs when two or more active promotion events are active during the same sales period, and a first type of overlapping promotion differs from a second type of overlapping promotion when a set of the two or more active promotion events of the first type is different from a set of the two or more active promotion events of the second type so that each type of overlapping promotion has a unique combination of active promotion events compared to other types of overlapping promotions;
> *for each type of overlapping promotion, creating a unique overlapping promotion event* that replaces the corresponding two or more active promotion events of the respective type of overlapping promotion that are active during the same sales period;
> *generating a set of promotion events* comprising the unique overlapping promotion events and each of the active promotion events that were not replaced and did not overlap with another active promotion during the respective sales period; and
> *generating a lift for each of the promotion events in the set of promotion events by running a linear regression using each promotion event in the set of promotion events as variables.*

THE REJECTIONS

The following rejections are before us for review:

1.   Claims 1, 2, 4, 6–9, 11, 13–16, 18, and 20–24 are rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter.

2.   Claims 1, 2, 4, 6–9, 11, 13–16, 18, and 20–24 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Bibelnieks et al., (US 6,567,786 B1, issued May 20, 2003) ("Bibelnieks"), in view of Granville (US 2014/0122200 A1, published May 1, 2014), in further view of Holman et al., (US 2014/0279428 A1, published September 18, 2014) ("Holman"), in further view of Ouimet et al., (US 2005/0273377 A1, published December 8, 2005) ("Ouimet"), in further view of Myr et al., (US 2005/0096963 A1, published May 5, 2005) ("Myr").

FINDINGS OF FACT

We have determined that the findings of fact in the Analysis section below are supported at least by a preponderance of the evidence.[3]

ANALYSIS

Rejection under 35 U.S.C. § 101

The Appellants argue that the rejection of claim 8 is improper because the claim is not directed to an abstract idea (App. Br. 4–8; Reply Br. 2–5). The Appellants argue further that the claimed subject matter improves computer-related technology (App. Br. 8, 9).

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[3] *See Ethicon, Inc. v. Quigg*, 849 F.2d 1422, 1427 (Fed. Cir. 1988) (explaining the general evidentiary standard for proceedings before the Patent Office).

In contrast, the Examiner has determined that the rejection of record is proper (Final Action 3–6; Ans. 11–17).

We agree with the Examiner. An invention is patent eligible if it claims a "new and useful process, machine, manufacture, or composition of matter." 35 U.S.C. § 101. However, the Supreme Court has long interpreted 35 U.S.C. § 101 to include implicit exceptions: "[l]aws of nature, natural phenomena, and abstract ideas" are not patentable. *E.g.*, *Alice Corp. v. CLS Bank Int'l*, 573 U.S. 208, 216 (2014).

In determining whether a claim falls within an excluded category, we are guided by the Supreme Court's two-step framework, described in *Mayo* and *Alice*. *Id.* at 217–18 (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 75–77 (2012)). In accordance with that framework, we first determine what concept the claim is "directed to." *See Alice*, 573 U.S. at 219 ("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."); *see also Bilski v. Kappos*, 561 U.S. 593, 611 (2010) ("Claims 1 and 4 in petitioners' application explain the basic concept of hedging, or protecting against risk . . . .").

Concepts determined to be abstract ideas, and thus patent ineligible, include certain methods of organizing human activity, such as fundamental economic practices (*Alice*, 573 U.S. at 219–20; *Bilski*, 561 U.S. at 611); mathematical formulas (*Parker v. Flook*, 437 U.S. 584, 594–95 (1978)); and mental processes (*Gottschalk v. Benson*, 409 U.S. 63, 69 (1972)). Concepts determined to be patent eligible include physical and chemical processes, such as "molding rubber products" (*Diamond v. Diehr*, 450 U.S. 175, 191 (1981)); "tanning, dyeing, making water-proof cloth, vulcanizing India

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rubber, smelting ores" (*id.* at 182 n.7 (quoting *Corning v. Burden*, 56 U.S. 252, 267–68 (1853))); and manufacturing flour (*Benson*, 409 U.S. at 69 (citing *Cochrane v. Deener*, 94 U.S. 780, 785 (1876))).

In *Diehr*, the claim at issue recited a mathematical formula, but the Supreme Court held that "[a] claim drawn to subject matter otherwise statutory does not become nonstatutory simply because it uses a mathematical formula." *Diehr*, 450 U.S. at 176; *see also id.* at 191 ("We view respondents' claims as nothing more than a process for molding rubber products and not as an attempt to patent a mathematical formula."). Having said that, the Supreme Court also indicated that a claim "seeking patent protection for that formula in the abstract . . . is not accorded the protection of our patent laws, and this principle cannot be circumvented by attempting to limit the use of the formula to a particular technological environment." *Id.* (internal citation omitted) (citing *Benson* and *Flook*); *see, e.g., id.* at 187 ("It is now commonplace that an *application* of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection.").

The PTO recently published revised guidance on the application of § 101. *2019 Revised Patent Subject Matter Eligibility Guidance*, 84 Fed. Reg. 50 (Jan. 7, 2019) ("Guidance"). Under the Guidance, we first look to whether the claim recites:

> (1) any judicial exceptions, including certain groupings of abstract ideas (i.e., mathematical concepts, certain methods of organizing human activity such as a fundamental economic practice, or mental processes); and

> (2) additional elements that integrate the judicial exception into a practical application (*see* MPEP § 2106.05(a)–(c), (e)–(h)).

Only if a claim (1) recites a judicial exception and (2) does not integrate that exception into a practical application, do we then look to whether the claim:

(3) adds a specific limitation beyond the judicial exception that is not "well-understood, routine, conventional" in the field (*see* MPEP § 2106.05(d)); or

(4) simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception.

See Guidance.

If the claim is "directed to" an abstract idea, we turn to the second step of the *Alice* and *Mayo* framework, where "we must examine the elements of the claim to determine whether it contains an '"inventive concept"' sufficient to 'transform' the claimed abstract idea into a patent-eligible application." *Alice*, 573 U.S. at 221 (citation omitted). "A claim that recites an abstract idea must include 'additional features' to ensure 'that the [claim] is more than a drafting effort designed to monopolize the [abstract idea].'" *Id.* (quoting *Mayo*, 566 U.S. at 77). "[M]erely requir[ing] generic computer implementation[] fail[s] to transform that abstract idea into a patent-eligible invention." *Id.*

Here, the Examiner has determined that the claim is directed to the concept of forecasting retail sales with overlapping promotion effects, which is directed to comparing data and therefore an abstract idea (Ans. 2). We substantially agree with the Examiner in this regard as claim 8 is directed to the steps of italicized in the claim above. The steps include [1] "receiving sales history for prior sales periods"; [2] "determining one or more types of overlapping promotions during the sales periods"; [3] "for each type of overlapping promotion, creating an unique overlapping promotion event"; [4] "generating a set of promotion events"; and [5] "generating a lift for each of the promotion events . . . by running a linear regression using each

promotion." These steps are directed to generating a sales forecast taking into account sales history and promotion effects which is a fundamental economic practice and a method of organizing human activities and directed to a judicial exception. *See Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350 (Fed. Cir. 2016) (collecting information, analyzing it, and displaying results from certain results of the collection and analysis was held to be an abstract idea). "[A] process that employs mathematical algorithms to manipulate existing information to generate additional information is not patent eligible." *See Digitech Image Techs, LLC v. Elecs. for Imaging, Inc.*, 758 F.3d 1344, 1351 (Fed. Cir. 2014). In *Int. Ventures I LLC v. Capital One Financial Co.*, 850 F.3d 1332, 1340 (Fed. Cir. 2017) it was held that collecting, displaying, and manipulating data was directed to an abstract idea. Thus, we consider the claim to be directed to an abstract idea as identified above.

Turning to the second step of the *Alice* and *Mayo* framework, we determine that the claim does not contain an inventive concept sufficient to "transform" the abstract nature of the claim into a patent-eligible application. The claims do not improve computer functionality, improve another field or technology, utilize a particular machine, or effect a physical transformation. Rather, we determine that nothing in the claims imposes a meaningful limit on the judicial exception, such that the claims are more than a drafting effort to monopolize the judicial exception.

For example, in claim 8 the steps of [1] "receiving" sales history for prior sales periods; [2] "determining" one or more types of overlapping promotions; [3] "creating" a unique overlapping promotion event; [4] "generating" a set of promotion events; and [5] "generating" a lift for each

of the promotion events by running a linear regression are merely
conventional steps performed by a generic computer that do not improve
computer functionality. That is, these recited steps [1]–[5] "do not purport
to improve the functioning of the computer itself" but are merely generic
functions performed by a conventional processor. Likewise, these same
steps [1]–[5] listed above do not improve the technology of the technical
field and merely use generic computer components and functions to perform
the steps. Also, the recited method steps [1]–[5] above do not require a
"particular machine" and can be utilized with a general purpose computer,
and the steps performed are purely conventional. In this case the general
purpose computer is merely an object on which the method operates in a
conventional manner and does not provide "significantly more" to the claim
beyond a nominal or insignificant execution of the method. Further, the
claim as a whole fails to effect any particular transformation of an article to
a different state in a manner that would render the claim "significantly
more" than the abstract idea. The recited steps [1]–[5] fail to provide
meaningful limitations to limit the judicial exception and rather are mere
instructions to apply the method to a generic computer. Considering the
elements of the claim both individually and as "an ordered combination" the
functions performed by the computer system at each step of the process are
purely conventional. Each step of the claimed method does no more than
require a generic computer to perform a generic computer function.

Further the claim fails to add a specific limitation beyond the judicial
exception that is not well-understood, routine, and conventional in the field.
Rather the claim uses well-understood, routine, and conventional activities
previously known in the art at a high level of generality to the judicial

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exception. The Specification at paragraph 14 for example describes using conventional computer components such as RAM, ROM, static storage disks, computer readable media, in a conventional manner. The claim does not include any specific recitations to a computer the implement the method. The Specification at paragraph 14 does describe using a computer to implement the method but these computer components are all used in a manner that is well-understood, routine, and conventional in the field. The Appellants have not shown the claim requires any computer components which are used to implement the claimed method are not well-understood, routine, or conventional in the field. The Appellants have not demonstrated that the computer components described in the Specification at page 14 or any claimed functions for instance are not a general purpose computer components beyond those known to be routine and conventional known to perform similar functions in a well-understood manner.

We note the point about pre-emption (App. Br. 9, 10). While pre-emption "might tend to impede innovation more than it would tend to promote it,' thereby thwarting the primary object of the patent laws" (*Alice*, 573 U.S. at 216 (quoting *Mayo, Inc.*, 566 U.S. at 71), "the absence of complete preemption does not demonstrate patent eligibility" (*Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1379 (Fed. Cir. 2015)). *See also OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1362–63 (Fed. Cir. 2015), cert. denied, 136 S. Ct. 701 (2015) ("[T]hat the claims do not preempt all price optimization or may be limited to price optimization in the e-commerce setting do not make them any less abstract.").

For these above reasons the rejection of 8 is sustained.

We reach the same conclusion as to independent system claim 15. Here, as in *Alice*, "the system claims are no different in substance from the method claims. The method claims recite the abstract idea implemented on a generic computer; the system claims recite a handful of generic computer components configured to implement the same idea." *Alice* 573 U.S. at 211. "[T]he mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention. Stating an abstract idea 'while adding the words 'apply it' is not enough for patent eligibility." *Id.* at 223 (quoting *Mayo*, 566 U.S. at 72).

The same or similar arguments have been presented for the remaining claims and the § 101 rejection of these claims is sustained as well.

Rejection under 35 U.S.C. § 103(a)

The Appellants argue that the rejection of claim 8 is improper because the prior art does not disclose "replacing each unique set of overlapping active promotion events with a unique overlapping promotion event to generate a set of promotion events, and running a linear regression to determine a lift of each promotion in the set" (App. Br. 11).

In contrast, the Examiner has determined that the rejection of record is proper, and the argued claim language is found in Holman at Figures 6, 7 and paragraphs 249, 251–255; Myr at paragraphs 76, 279; and Ouimet at Fig. 3B, 10, 11, and paragraphs 14, 42, 76, 91–96 (Final Rej. 10, 11; Ans. 7, 8, 17).

We agree with the Appellants. Claim 8 includes language requiring:

> for each type of overlapping promotion, creating a unique
> overlapping promotion event that replaces...two or more active

event promotion events of the respective type of overlapping
promotion . . .;
    generating a set of promotion events comprising the
unique overlapping promotion events . . .;
    generating a lift for each of the promotion events in the
set of promotion events by running a linear regression using
each promotion.

Here, the above cited portions of Holman, Myr, and Ouimet fail to
disclose or suggest the cited combination of argued claim steps.

For this reason, the § 103 rejection of claim 8 is not sustained. The
remaining claims contain a similar limitation and the § 103 rejection of these
claims is not sustained as well.

CONCLUSIONS OF LAW

We conclude that Appellants have not shown that the Examiner erred
in rejecting claims 1, 2, 4, 6–9, 11, 13–16, 18, and 20–24 under 35 U.S.C.
§ 101.

We conclude that Appellants have shown that the Examiner erred in
rejecting claims 1, 2, 4, 6–9, 11, 13–16, 18, and 20–24 under 35 U.S.C.
§ 103(a) as listed in the Rejections section above.

DECISION

The Examiner's rejection of claims 1, 2, 4, 6–9, 11, 13–16, 18, and 20–24 is sustained.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv). *See* 37 C.F.R. § 41.50(f).

AFFIRMED