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 MELISSA STARK and CHARLES JANS

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Appeal 2017-002373
Application 12/840,527
Technology Center 3600

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Before: ELENI MANTIS MERCADER, CARL W. WHITEHEAD JR., and SCOTT B. HOWARD, *Administrative Patent Judges*.

MANTIS MERCADER, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134 from a rejection of claims 1–2, 7–9, and 15–16. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

CLAIMED SUBJECT MATTER

The claims are directed to future cost estimate forecasting for technologies. Claim 1, reproduced below, is illustrative of the claimed subject matter:

1. A computer system to transform information for a technology into

an arrangement on a screen, comprising:

an input device to receive user inputs, wherein the information for the technology includes the user inputs;

a processor;

a memory storing instructions for causing the processor to execute:

a cost receipt unit to

receive, for the technology, a first cost point identifying a starting cost of manufacturing the technology at a first time period,

receive, for the technology, a second cost point identifying a midpoint cost of manufacturing the technology at a second time period that is later than first time period, and

express the first cost point and the second cost point as a percentage of potential improvement, and

calculate a third cost point for the technology using the first cost point and the second cost point, wherein the third cost point is a cost of manufacturing the technology at maturity, and is a percentage of improvement at a time period beyond the second cost point,

wherein the third cost point is determined by subtracting the percentage of improvement for the third cost point from 1.00 and multiplying a result of the subtraction with a price parameter of the second cost point,

solve two logical distribution cumulative distribution functions using the first and the second cost points as inputs to derive mean and standard deviation values of the two logical distribution cumulative distribution functions;

a base curve unit to translate the calculated third cost point to a non-percentage value, and determine a base S-curve from the first cost point, the second cost point and the third cost point using the derived mean and standard deviation values, the second cost point being the midpoint of the base S-curve;

a weighting unit to:

receive a plurality of cost reduction drivers,

for each of the cost reduction drivers, determine whether the cost reduction driver is in a yield category describing productive efficiency in a manufacturing process for the technology, or is in a scale category describing production volume of a product,

receive a plurality of weightings for each of the cost-reduction drivers,

wherein the plurality of weightings for each of the cost-reduction drivers includes at least a first weighting representing an impact of the cost-reduction driver on a manufacturing cost of the technology, and a category weighting representing an importance of the yield category if the cost reduction driver is in the yield category and an importance of the scale category if the cost reduction driver is in the scale category for the manufacturing cost of the technology, and the category weightings vary depending on a type of the technology;

receive an adjusted midpoint of the base S-curve; and

receive an indication as to which one of the cost-reduction drivers is associated to the adjusted midpoint;

a base curve adjustment unit to:

create a new midpoint of the base S-curve by multiplying the received adjusted midpoint by the plurality of

weightings for the cost-reduction driver associated with the received adjusted midpoint, and

create an adjusted S-curve fitted to the first cost point and the new midpoint to adjust the base S-curve based on the plurality of weightings for each of the cost-reduction drivers; and

a graphical user interface on a display, the graphical user interface displaying the base S-curve and the adjusted S-curve on the display and displaying a prompt for a user to enter the user inputs including at least one of the weightings, the adjusted midpoint and the indication using the input device.

REFERENCES

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

Hertz	US 7,584,156	Sep. 1, 2009
Buck	US 2004/0030592 A1	Feb. 12, 2004
Dennard	US 2011/0131078 A1	Jun. 2, 2011

Mathias, *S-shaped market adoption curve*, Clear Lines Consulting LLC, http://web.archive.org/web/20080803192315/http://www.clear-lines.com/blog/post/S-sha ... (6/8/2008) (last visited 11/17/2012)

REJECTIONS

Claims 1–2, 7–9, and 15–16 stand rejected under 35 U.S.C §101 as being directed to patent-ineligible subject matter.

OPINION

Appellants argue that the claims are directed to a system and method for transforming information for a technology into an arrangement on a screen (App. Br. 13). Appellants assert that the claims are directed to an

apparatus and method, which are statutory categories of invention, and are not directed to merely manipulating abstract mathematical equations and performing conventional mathematical processes. *Id.* Appellants further assert that the burden is initially on the Examiner to provide a prima facie showing that the claimed invention constitutes an abstract idea, and without such showing, the burden does not shift to Appellants to prove the claimed invention does not constitute an abstract idea. *Id.* at 16.

Appellants further argue that the system of independent claim 1 includes structure such as an input device, a processor, a memory storing instructions for the processor and a display, wherein the instructions cause the processor to present a graphical user interface on the display, and a prompt for a user to input required data using the input device. *Id.* at 17. According to Appellants, the claimed system allows a user to manage the automated creation of cost projections, by prompting the user for data required for the specific recited calculations, calculating cost projections, and enabling the user to visualize representations of the cost projections. *Id.* at 18.

Appellants conclude that paragraph 22 of the Specification states that the system provides "an improved, continued man-machine interaction, by facilitating the acquisition, display and storage of data" and therefore, the claims are directed to the technical solution of an improved man-machine interface, which is not an abstract idea. *Id.* at 19.

Appellants also assert that the detailed steps of the claim weigh cost reduction drivers and weigh cost reduction drivers, creating and adjusting an S-curve, and thus, go far beyond the simple plotting of points of a graph. *Id.* 21.

Appellants assert that the claim features are directed to an improved man-machine interface that facilitates adjusting a base S-curve in an unconventional, novel and non-obvious manner to present data on the improved man-machine interface in a manner that more accurately depicts future manufacturing cost estimates for disruptive technologies. *Id.* 22 citing Spec. paras. 19, 20.

Finally, Appellants assert that the claims are drafted so that they do not preempt the entire field of forecasting a future cost estimate for a technology. *Id.* at 23–24.

We do not agree with Appellants' argument. The Supreme Court's two-step framework guides our analysis. *See Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2355 (2014). According to step one, we must decide "whether the claims at issue are directed to a patent-ineligible concept," such as an abstract idea. *Id.* In this step, we consider the claims "in their entirety to ascertain whether their character as a whole is directed to excluded subject matter." *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1346 (Fed. Cir. 2015).

We agree with the Examiner that the mere fact that a claim is directed to one of the four statutory categories of invention is not a cure for it being directed to an abstract idea, as argued by the Appellants. Ans. 3. The Examiner finds, and we agree, the abstract elements of the claimed invention include data gathering limitations, mathematical manipulation limitations and a display limitation. *Id.* at 3–4.

"In a similar vein, we have treated *analyzing information* by steps people go through in their minds, or by mathematical algorithms, without more, as essentially mental processes within the abstract-idea category."

Elec. Power Grp., LLC v. Alstom S.A., 830 F.3d at 1350, 1354 (Fed. Cir. 2016) (emphasis added); *see also In re TLI Comm'ns LLC Patent Litig.*, 823 F.3d 607, 613 (Fed. Cir. 2016). That the claim is implemented by a generic computer is not sufficient to show the claimed concept is patent-eligible. *See FairWarning IP, LLC v. Iatric Sys., Inc.*, 839 F.3d 1089, 1094 (Fed. Cir. 2016) (merely implementing an old practice in a new environment is abstract).

Thus, implementing a mathematical calculation on a computer for adjusting an S-curve on the display based on the plurality of weightings for each of the cost-reduction drivers constitutes an abstract idea.

Because the claims are "directed to an abstract idea," we analyze the claims to determine if the limitations, when considered both "individually and as an ordered combination" contain an inventive concept sufficient to transform the claimed abstract idea into a patent-eligible application. *Alice*, 134 S. Ct. at 2355–58.

Here, we further agree with the Examiner that the additional elements of a computer, input device, processor, memory and graphical user display are used in a conventional and routine manner. Ans. 4.

"The written description is particularly useful in determining what is well-known or conventional." *Intellectual Ventures I LLC v. Symantec Corp.*, 838 F.3d 1307, 1317 (Fed. Cir. 2016). Here, the recited computer system and network for executing the mathematical formula is conventional as evidenced by Appellants' Specification stating "[i]t will be apparent to one of ordinary skill in the art *that other known electronic components may be added or substituted in the computer system* 700" (emphasis added). Spec. ¶ 54. We agree with the Examiner that the algorithm itself is the key

feature and once that is known, the claimed process could be performed in a basic spreadsheet application such as Microsoft Excel using the charting features. *Id.* Plotting points using received data points and derived by solving a system of equations does not qualify as a transformation; instead, a transformation involves changing a physical article into a different state or thing. *Id.* The claims are similar to the claims of *Electric Power*, because they do not require any nonconventional computer or network components, or even a "non-conventional and non-generic arrangement of known, conventional pieces." *See Elec. Power*, 830 F.3d at 1355.

Lastly, Appellants' assertion regarding pre-emption is unpersuasive, because "[w]hile preemption may signal patent ineligible subject matter, the absence of complete preemption does not demonstrate patent eligibility . . . . Where a patent's claims are deemed only to disclose patent ineligible subject matter under the *Mayo* framework, as they are in this case, preemption concerns are fully addressed and made moot." *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) (holding "that 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").

Accordingly, we affirm the Examiner's rejection of claim 1 and for the same reasons the rejections of claims 2, 7–9, and 15–16 under 35 U.S.C § 101 as being directed to patent-ineligible subject matter.

DECISION

The Examiner's rejection of claims 1–2, 7–9, and 15–16 is affirmed.

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

<u>AFFIRMED</u>