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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 AMIN SHAH-HOSSEINI

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Appeal 2016-004359
Application 13/718,912[1]
Technology Center 3600

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Before ANTON W. FETTING, PHILIP J. HOFFMANN, and
ROBERT J. SILVERMAN, *Administrative Patent Judges.*

SILVERMAN, *Administrative Patent Judge.*

DECISION ON APPEAL

STATEMENT OF THE CASE

The Appellant appeals under 35 U.S.C. § 134(a) from the Examiner's
decision rejecting claims 1–4, 6–11, and 13–21. We have jurisdiction under
35 U.S.C. § 6(b).

We REVERSE.

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[1] The Appellant identifies Siemens Product Lifecycle Management Software
Inc. as the real party in interest. Appeal Br. 4.

ILLUSTRATIVE CLAIM

1. A computer implemented method for supply chain data analysis, the method comprising:

storing supply chain data including test data, genealogy data, repair data, a plurality of factors and a plurality of items, in one or more databases;

integrating, by one or more computers, the stored supply chain data in a plurality of combinations, each combination including one or more items and five or more factors, wherein each factor comprises one of the group consisting of product, product category, product version, test, subtest, measurement, station, station type, operator, assembly line, site, building, software version, hardware version, component, join, board version, fail category, error message, component parent, component supplier, component child, fail code, defect code, repair type, component, location of a component on a product, part number, lot name, lot size, customer, site, product, call reason, operator, defect code, severity, and failed component;

receiving a minimum failure rate and sample size;

extracting, by the one or more computers, a portion of the plurality of combinations according to received minimum failure rate and sample size, by analyzing factor properties from the stored data, integrating a portion of the factor properties to find different combinations of factors, retrieving subtest data and matching the subset data with the different combinations, retrieving measurement data and matching the measurement data with the combinations, and determining test structure and test limits;

analyzing said extracted portion of the plurality of combinations, by the one or more computers, to detect a plurality of faulty combinations of factors and items that results in an unexpected change in a key performance index, according to said extracted portion of the plurality of combinations;

performing correlation analysis on said plurality of faulty combinations, by the one or more computers, to determine a root cause for each faulty combination;

generating, by the one or more computers, a subset of said plurality of faulty combinations, according to said root causes of said plurality of faulty combinations;

generating a root cause chart, by the one or more computers and according to the generated subset of said plurality of faulty combinations, that illustrates at least one parameter value that is a cause of the unexpected change in a key performance index; and

displaying or storing the root cause chart by the one or more computers.

REJECTION

Claims 1–4, 6–11, and 13–21 are rejected under 35 U.S.C. § 101 as ineligible subject matter.

ANALYSIS

Applying the first step of the methodology delineated in *Alice Corp. Pty. Ltd. v. CLS Bank International*, 134 S. Ct. 2347, 2355 (2014), the rejection states that the claims at issue are directed to an abstract idea — "a process for supply chain data analysis, including storing supply chain data, integrating the stored supply chain data in a plurality of combination[s], extracting a portion of the plurality of combinations, analyzing the extracted portion o[f] the plurality of combinations." Final Action 5. According to the rejection, the abstract idea further includes the recited details of "receiving a minimum failure rate and a sample size, performing correlation analysis on the plurality of faulty combinations, and generating a subset of plurality of faulty combinations." *Id.* at 5–6. Further, the identified concept is an abstract idea, because it "can be performed mentally or in a computer" and because it is the type of method for organizing human activity that courts have regarded as an abstract idea. *Id.* at 5. *See also* Answer 6–7.

Under the second *Alice* step, the Examiner determines that the claims

require "the additional limitations of one or more computers, one or more

databases, an input device and software including an extract and calculate

module, a multidimensional failure analysis module" — all of which are

generic computer components that, as claimed, "perform their basic

functions of storing supply chain data, integrating the stored supply chain

data in a plurality of combination, extracting a portion of the plurality of

combinations, analyzing the extracted portion or the plurality of

combinations," "amount[ing] to mere instructions to implement the abstract

idea on a computer." Final Action 6.

Alleging error in the rejection, the Appellant contends independent

claim 1 is patent-eligible, because it is not directed to an abstract idea, under

the first *Alice* step, and also argues that the claim amounts to significantly

more than the abstract idea identified in the rejection, under the second *Alice*

step. Appeal Br. 20–31. The following discussion focuses on the

Appellant's argument regarding the second *Alice* step, which persuades us of

error in the rejection.

In particular, as to the second *Alice* step, the Appellant argues that the

rejection fails to demonstrate sufficiently that particular limitations of

claim 1 merely recite generic computer structure that performs generic

computer functions that are well-understood, routine, and conventional

activities:

> For example, there is no showing that the claim
> limitation of *extracting a portion of the plurality of*
> *combinations according to received minimum failure rate and*
> *sample size, by analyzing factor properties from the stored*
> *data, integrating a portion of the factor properties to find*
> *different combinations of factors, retrieving subtest data and*

> *matching the subset data with the different combinations,*
> *retrieving measurement data and matching the measurement*
> *data with the combinations, and determining test structure and*
> *test limits* is "well-understood, routine and conventional in the
> field" as described in Step 2B of the analysis required by the
> 2014 Interim Guidance on Patent Subject Matter Eligibility. If
> the Examiner believes that such a process is "well-understood,
> routine and conventional in the field," then the Examiner is
> obligated to support such a belief with documentary evidence,
> as described above and required by 37 CFR 1.104 and [*In re*]
> *Zurko*[, 258 F.3d 1379 (Fed. Cir. 2001)].
>
> As another example, there is no showing that the claim
> limitations of *analyzing said extracted portion of the plurality*
> *of combinations to detect a plurality of faulty combinations of*
> *factors and items that results in an unexpected change in a key*
> *performance index, according to said extracted portion of the*
> *plurality of combinations; performing correlation analysis on*
> *said plurality of faulty combinations to determine a root cause*
> *for each faulty combination; and generating a subset of said*
> *plurality of faulty combinations, according to said root causes*
> *of said plurality of faulty combinations* is "well-understood,
> routine and conventional in the field" as described in Step 2B of
> the analysis required by the 2014 Interim Guidance on Patent
> Subject Matter Eligibility. Such steps amount to "significantly
> more" by describing an automated process that analyzes
> specific data to determine the root causes of failures in a way
> that cannot be accomplished manually. If the Examiner
> believes that such a process is "well-understood, routine and
> conventional in the field," then the Examiner is obligated to
> support such a belief with documentary evidence, as described
> above and required by 37 CFR 1.104 and *Zurko*.

Appeal Br. 27–29. See also Reply Br. 17–19.

The Examiner's Answer states that "[t]he claims require the additional

limitations of *one or more computers and one or more databases*," which

are characterized as "generic computer components" that "are claimed to

perform their basic functions of *supply chain data analysis*." Answer 7. "In

other words," the Answer explains, "the claims recite the additional
limitations of using *one or more computers to store, integrate, receive,
extract, analyze, perform, generate, and display data.*" Answer 8.

Yet, although the Examiner's analysis appears to consider these
referenced functions individually, there is no indication that the claimed
elements have been considered sufficiently as an "ordered combination"
under the second part of the *Alice* framework. *See Alice*, 134 S. Ct at 2355
("[W]e 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.")
(quoting *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct.
1289, 1298, 1297 (2012)). Critically, notwithstanding that the Examiner
references the identified individual claim elements, "[t]he inventive concept
inquiry requires more than recognizing that each claim element, by itself,
was known in the art," because an "inventive concept" that satisfies the
second *Alice* step "can be found in the non-conventional and non-generic
arrangement of known, conventional pieces." *BASCOM Global Internet
Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1350 (Fed. Cir. 2016).

The Appellant advances the same arguments, discussed above, with
regard to independent claim 15 — the other independent claim involved in
this Appeal. *See* Appeal Br. 46–51. The Examiner's Answer addresses
these arguments in the same manner discussed above, with regard to claim 1.
See Answer 10–11.

Accordingly, on the record before us, we do not sustain the rejection
of independent claims 1 and 15 — or any of their dependent claims 2–4, 6–
11, 13, 14, and 16–21 — under 35 U.S.C. § 101.

DECISION

We REVERSE the Examiner's decision rejecting claims 1–4, 6–11, and 13–21 under 35 U.S.C. § 101.

REVERSED