UNITED STATES PATENT AND TRADEMARK OFFICE

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13/125,725	04/22/2011	Cipriano A. Santos	82656090	6832

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EXAMINER
MISIASZEK, AMBER ALTSCHUL

ART UNIT	PAPER NUMBER
3624	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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PTOL-90A (Rev. 04/07)

	Application No. 13/125,725	Applicant(s) SANTOS ET AL.
Office Action Summary	Examiner AMBER A. MISIASZEK	Art Unit 3624	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>10/18/2013</u>.
  ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5) ☒ Claim(s) <u>1-15</u> is/are pending in the application.
  5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6) ☐ Claim(s) _____ is/are allowed.

7) ☒ Claim(s) <u>1-15</u> is/are rejected.

8) ☐ Claim(s) _____ is/are objected to.

9) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

* If any claims have been determined <u>allowable</u>, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

10) ☐ The specification is objected to by the Examiner.

11) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
  Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

  a) ☐ All   b) ☐ Some** c) ☐ None of the:

  1. ☐ Certified copies of the priority documents have been received.

  2. ☐ Certified copies of the priority documents have been received in Application No. _____.

  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date _____.

3) ☐ Interview Summary (PTO-413)
  Paper No(s)/Mail Date. _____.

4) ☐ Other: _____.

The present application is being examined under the pre-AIA first to invent

provisions.

DETAILED ACTION

1.   An appeal brief was filed on October 18, 2013. Claims 1-15 are presented for

examination.

Applicant's arguments, see Appeal Brief page 11, filed October 18, 2013, with

respect to claims 1-15 have been fully considered and are persuasive. The rejection of

claims 1-15 has been withdrawn.

Claim Rejections - 35 USC § 101

2.   35 U.S.C. 101 reads as follows:

> 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.

3.   Claims 12-15 recite a system comprising a project data logic to perform a
plurality of steps. These recitations amount to mere data structures as they do not
positively recite any structural components of the system in the body of the claim, and
therefore could merely comprise the program code or modules for performing the steps
of the invention.

A machine (type of product) is a concrete thing, consisting of parts, or of certain
devices and combination of devices. This includes every mechanical device or
combination of mechanical powers and devices to perform some function and produce a
certain effect or result. A claim that includes terms that imply that the invention is
directed to a product, for instance by reciting "a machine comprising...", but fails to
include tangible structural elements or limitations under the broadest reasonable
interpretation is not limited to a practical application, but rather wholly embraces or
encompasses the concept upon which the invention is based This is impermissible as
such claim coverage would extend to every way of applying the abstract idea, law of
nature or natural phenomenon. Thus, such a claim is therefore non eligible subject
matter. Furthermore, Examiner notes that when the claimed invention taken as a whole
is directed to a mere program listing, i.e., to only its description or expression, is it
descriptive material per se and hence nonstatutory. See MPEP 2106.10(I).

Claim Rejections - 35 USC § 103

4.   The following is a quotation of pre-AIA 35 U.S.C. 103(a) which forms the basis

for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described
> as set forth in section 102 of this title, if the differences between the subject matter sought to
> be patented and the prior art are such that the subject matter as a whole would have been
> obvious at the time the invention was made to a person having ordinary skill in the art to which
> said subject matter pertains. Patentability shall not be negatived by the manner in which the
> invention was made.

5.   Claims 1-15 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable

over United States Patent Application Publication Number 2004/0162753, Vogel, et al.,

hereinafter Vogel in view of The Architecture of Economic Systems: Hierarchies and

Polyarchies, Sah, et al., hereinafter Sah and further in view of An intergrated framework

for project portfolio selection and further in view of An integrated framework for project

portfolio selection, Archer et al, hereinafter Archer.

6.   (Previously Presented) As per claim 1, Vogel teaches a non-transitory computer-

readable medium storing computer-executable instructions that when executed by a

computer cause the computer to perform a method, the method comprising:

establishing an objective function that is based, at least in part, on the project data, and

a set of constraints including associated calibrated costs, where the objective function

concerns a workforce allocation plan, (page 1, para. 6 and page 6, paragraphs 59-60);

minimizing a workforce cost by solving the objective function in light of the set of

constraints, where solving the objective function includes optimizing a tradeoff between

labor utilization and project demand fulfillment,(page 1, para. 4 and page 6, para. 59);

and

providing the workforce allocation plan, (page 1, para. 6 and page 3, paragraphs 34 and

38).

Vogel does not explicitly teach where the probability data describes the likelihood of a

project opportunity being selected.

However, Sah teaches receiving a project data associated with a project opportunity,

where the project data includes a probability data, where the probability data describes

the likelihood of a project opportunity being selected, and where the project data

includes a workforce demand, (see Sah page 4, the probabilities that the project x will

be accepted in the system, page 9, the probability that projects with different levels of

profit are accepted by a bureau or a firm).

It would have been obvious to one of ordinary skill in the art at the time of the invention

to have modified the system of Vogel with the probability data describes the likelihood of

a project opportunity being selected, as taught by Sah, since such a modification would

have only united elements of the prior art, with no change in their respective functions,

and the combination would have yielded predictable results.

Vogel in view of Sah does not explicitly teach receiving a project data associated with a

project opportunity, where the project data includes a probability data, and where the

project data includes a workforce demand.

However, Archer teaches receiving a project data associated with a project opportunity,

where the project data includes a probability data, and where the project data includes a

workforce demand, (see Archer page 4, scoring models use a small number of decision

criteria, such as cost, work force availability, probability of technical success, etc., to

specify project desirability).

It would have been obvious to one of ordinary skill in the art at the time of the invention

to have modified the system of Vogel in view of Sah with the project data, as taught by

Archer, since such a modification would have only united elements of the prior art, with

no change in their respective functions, and the combination would have yielded

predictable results.

7.   (Previously Presented) As per claim 2, Vogel teaches the non-transitory

computer-readable medium of claim 1 as described above. Vogel further teaches

where the project data includes a number of jobs required by the project opportunity, a

duration for a job required by the project opportunity, a probability data that describes

the likelihood of employee attrition, and a set of skills associated with a job of the project

opportunity, (page 1, para. 8, page 2, para. 12, page 4, para. 42 and page 7, para. 65).

8.   (Previously Presented) As per claim 3, Vogel teaches the non-transitory

computer-readable medium of claims 1-2 as described above. Vogel further teaches

where the set of skills includes a job management level, a job proficiency, an industry

type, a job skill set, a job role, and a job title, (page 7, para. 65).

9.   (Previously Presented) As per claim 4, Vogel teaches the non-transitory

computer-readable medium of claims 1-2 as described above. Vogel further teaches

where the workforce allocation plan maps employees to jobs according to one or more

of, by project opportunities, and by the length of time employees are associated with a

workforce buffer capacity, (page 7, Para. 62).

10.   (Previously Presented) As per claim 5, Vogel teaches the non-transitory

computer-readable medium of claims 1-2 and 4 as described above. Vogel further

teaches where minimizing the workforce cost includes assigning a cost in the workforce

buffer capacity, where the cost is directly proportional to the time an employee has been

associated with the workforce buffer capacity, (page 9, para. 80).

11.   (Previously Presented) As per claim 6, Vogel teaches the non-transitory

computer-readable medium of claims 1-2 and 4 as described above. Vogel further

teaches where the workforce allocation plan includes a labor transformation plan and a

labor procurement plan, where the labor transformation plan includes data concerning

training, data concerning promotions, and data concerning re-deployment, where the

labor transformation plan includes data associated with a lead time for training an

employee to attain the job skill set, and where the labor procurement plan includes data

associated with a hiring lead time for a job title, (page 1, para. 8, page 2, para. 12, page

4, para. 42 and page 7, para. 65).

12.   (Previously Presented) As per claim 7, Vogel teaches the non-transitory

computer-readable medium of claim 1 as described above. Vogel further teaches

where minimizing the workforce cost includes one or more of, calculating the workforce

allocation plan for multi-period environments, and assigning a first, higher cost to a labor

shortage, and assigning a second, lower cost to a labor oversupply, (page 7, para. 62).

13.   (Previously Presented) As per claim 8, Vogel teaches the non-transitory

computer-readable medium of claim 1 as described above. Vogel further teaches the

method including:

calculating a workforce buffer capacity for dealing with supply and demand uncertainty

of project opportunities, where the workforce buffer capacity varies based, at least in

part, on uncertainty associated with project opportunities, (page 9, para. 80).

14.   (Previously Presented) As per claim 9, Vogel teaches the non-transitory

computer-readable medium of claim 1 as described above. Vogel further teaches

where the set of constraints includes one or more of, a workforce transformation

constraint, a workforce buffer capacity constraint, a hiring detail constraint, an employee

allocation hierarchy constraint, and a job assignment constraint, (page 1, para. 8, page

2, para. 12, page 4, para. 42, and page 7, para. 65).

15.   (Previously Presented) As per claim 10, Vogel teaches the non-transitory

computer-readable medium of claim 1 as described above. Vogel further teaches

where the associated calibrated costs are calibrated to induce a desired resource

allocation behavior, and include at least one of a cost of leaving a current gap, a cost of

leaving a future gap, a training cost, a hiring cost, a cost of idle excess workforce, and a

workforce buffer cost, and where the objective function may trigger a workface

transformation based on a project that demands labor, (page 6, paragraphs 59-60 and

page 7, para. 62).

16.   (Previously Presented) As per claim 11, Vogel teaches A method, comprising:

selecting an active opportunity from a set of opportunities, where the active opportunity

is associated with a project opportunity, (page 7, para. 62);

preparing an objective function to calculate a minimum cost for a workforce, where the

objective function is solvable to optimize a tradeoff between labor utilization and project

demand fulfillment, (page 1, para. 8, page 2, para. 12, page 4, para. 42, and page 7,

para. 65);

preparing a set of constraints for the objective function, where the constraints include

associated calibrated costs including a cost of leaving a current gap, a cost of leaving a

future gap, a training cost, a hiring cost, a cost of idle excess workforce, and a

workforce buffer cost, (page 1, para. 8, page 2, para. 12, page 4, para. 42, page 6,

paragraphs 59-60, and page 7, paragraphs 62 and 65); and

solving the objective function for the active opportunity using a mixed integer

programming (MIP) approach, as controlled by the set of constraints, (page 1, para. 8,

page 2, para. 12, page 4, para. 42, and page 7, para. 65).

17.   System claims 12-15 repeat the subject matter of medium claims 1-10

respectively, as a set of apparatus elements rather than a series of steps. As the

underlying processes of claims 12-15 have been shown to be fully disclosed by the

teachings of [Vogel in view of Sah and further in view of Archer] in the above rejections

of claims 12-15, it is readily apparent that the system disclosed by [Vogel in view of Sah

and further in view of Archer] include the apparatus to perform these functions, (see

Vogel page 3, paragraphs 32, 33, 35, and 36). As such, these limitations are rejected

for the same reasons given above for method claims 1-10, and incorporated herein.

Response to Arguments

18.   Applicant's arguments filed October 18, 2013 have been fully considered but they are not persuasive. Applicant's arguments will be addressed hereinbelow in the order in which they appear in the response filed October 18, 2013.

(A)   At pages 9-12 of the October 18, 2013 response, Applicant argues that Vogel in view of Petrovykh does not teach the use of an objection function to solve a workforce allocation plan, where the objective function is based at least in part on constraints including calibrated costs as recited in claims 1, 11, and 12.

In response, the Examiner respectfully disagrees. It is readily apparent that Vogel in view of Petrovykh does teach the use of an objection function to solve a workforce allocation plan, where the objective function is based at least in part on constraints including calibrated costs as recited in amended claims 1, 11, and 12, (see Vogel page 1, para. 6 and page 6, paragraphs 58-60, The workforce rationalization parameters are next selected (step 615). The workforce can be rationalized across a number of different dimensions. At the most basic level, the workforce can be rationalized to identify excess supply or open demand for the roster in general, which can indicate that the enterprise is currently carrying unnecessary costs or forgoing additional revenue. Rationalization parameters may be used to identify excess supply or open demand with greater specificity. For example, excess supply and open demand may be identified by skill, geographic assignment, or by worker type (e.g., employee or contractor). Other rationalization parameters may be used to identify sub-optimal workforce deployments, which may represent excess overhead or opportunity costs. For

example, rationalization parameters may relate to the geographic deployment of the

workforce (e.g., home versus current geographic assignments), the resource yield (e.g.,

current billing level or revenue generated compared with pay rate or with the potential

billing level for the worker's primary skill and/or the effective use of contractors or

outsourcing), the degree to which workers are currently using their primary skills, and/or

other resource characteristics). Specifically, Vogel teaches selecting workforce

rationalization parameters to determine a workforce plan. Examiner interprets the

workforce rationalization parameters described by Vogel to encompass the constraints

defined in the objection function to solve a workforce allocation plan as claimed by

application. Vogel specifically teaches identifying sub-optimal workforce deployments,

which may represent excess overhead or opportunity costs by using the resource yield

of a current billing level or revenue generated compared with pay rate or with the

potential billing level for the worker's primary skill and/or the effective use of contractors

or outsourcing. Examiner interprets the opportunity costs defined by Vogel to

encompass the calibrated costs as claimed by application.

(B)   At pages 10-11 of the October 18, 2013 response, Applicant argues that

Petrovykh does not teach probability data that describes the likelihood of a project

opportunity being selected.

However, Applicant's arguments with respect to "Petrovykh does not teach probability

data that describes the likelihood of a project opportunity being selected" has been

considered and is moot because the arguments do not apply to any of the references

being used in the current rejection.

(C)   Claims 2-10 and 13-15 which depend from claims 1, 11, and 12 respectively,

include similar limitations to claims 1, 11, and 12. As such, Applicant's remarks with

regard to the application of Vogel in view of Petrovykh to any of these claims are moot

in the above Office Action.

Conclusion

19.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Amber L. Altschul whose telephone number is (571)

270-1362. The examiner can normally be reached on M-Th 7:30-5, F 7:30-4, every

other Friday Off.

20.   If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Justin Pats can be reached on 571-270-1363. The fax phone numbers for

the organization where this application or proceeding is assigned are (571) 273-8300.

21.   Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the receptionist whose telephone number is (571) 272-

8219.

22.   Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) computer-accessible medium. Status

information for published applications may be obtained from either Private PAIR or

Public PAIR. Status information for unpublished applications is available through Private

PAIR only. For more information about the PAIR computer-accessible medium, see

http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

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Representative or access to the automated information computer-accessible medium,

call 800-786-9199 (IN USA OR CANADA) or (571) 272-1000.

/A. A. M./

Examiner, Art Unit 3624

March 27, 2014

/JUSTIN M PATS/
Supervisory Patent Examiner, Art Unit 3624