



(51) International Patent Classification:

G06Q 10/0631 (2023.01) G06F 30/27 (2020.01)
G06Q 10/087 (2023.01) G06F 17/11 (2006.01)
G06Q 30/0202 (2023.01) G06Q 10/04 (2023.01)
G06F 30/20 (2020.01)

(21) International Application Number:

PCT/US2024/019896

(22) International Filing Date:

14 March 2024 (14.03.2024)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

63/490,884 17 March 2023 (17.03.2023) US

(71) Applicant: **DOW GLOBAL TECHNOLOGIES LLC**
[US/US]; 2211 H.H. Dow Way, Midland, Michigan 48674
(US).

(72) Inventors: **HARSHBARGER, Kyle C.**; c/o Dow Global
Technologies LLC, 2211 H.H. Dow Way, Midland, Michi-
gan 48674 (US). **CZYZYK, JR., Joseph J.**; c/o Dow
Global Technologies LLC, 2211 H.H. Dow Way, Midland,
Michigan 48674 (US).

(74) Agent: **FOSTER, Justin B.** et al.; Dinsmore & Shohl LLP,
One South Main Street, Suite 1300, Dayton, Ohio 45402
(US).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ,

CA, CH, CL, CN, CO, CR, CU, CV, CZ, DE, DJ, DK, DM,
DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT,
HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, JO, JP, KE, KG,
KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY,
MA, MD, MG, MK, MN, MU, MW, MX, MY, MZ, NA,
NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO,
RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH,
TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS,
ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, CV,
GH, GM, KE, LR, LS, MW, MZ, NA, RW, SC, SD, SL, ST,
SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ,
RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ,
DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT,
LU, LV, MC, ME, MK, MT, NL, NO, PL, PT, RO, RS, SE,
SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN,
GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

- as to applicant's entitlement to apply for and be granted a
patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the
earlier application (Rule 4.17(iii))

Published:

- with international search report (Art. 21(3))

(54) Title: METHOD AND SYSTEM FOR SEASONAL PLANNING AND SCHEDULING APPROACH USING MULTIPLE HORIZON FORECASTS FROM MONTE CARLO SIMULATION

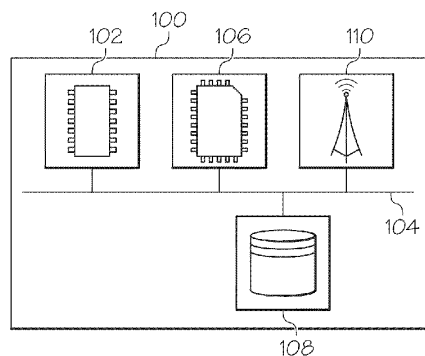


FIG. 1

(57) Abstract: A method may include receiving historical data indicat-
ing demand for a product during a plurality of weeks within previous
years, determining a best fit Gamma distribution for each week based
on the historical data, performing first simulations of the Gamma dis-
tributions over a short-term time horizon to generate a first estimated
demand for the product over the short-term time horizon, performing
second simulations of the Gamma distributions over a long-term time
horizon to generate a second estimated demand for the product over
the long-term time horizon, determining a first inventory amount of the
product needed to satisfy the first estimated demand with a first con-
fidence level, determining a second inventory amount of the product
needed to satisfy the second estimated demand with a second con-
fidence level, and ordering a third inventory amount comprising a mini-
mum of the first inventory amount and the second inventory amount.