

CLAIMS

1. A computer-implemented method comprising:

determining a dataset of transactions occurring during a first time period;

determining at least one subset of related transactions from the dataset of transactions
by:

identifying a first group of transactions from the dataset of transactions,
wherein the transactions of the first group have one or more common attributes;

determining an interval for each of the at least one subsets, each of the intervals being
indicative of a periodicity of the respective one of the at least one subsets;

wherein determining the interval for each of the at least one subsets comprises:

determining that a regularity of an occurrence of the related transactions of the
at least one subset of transactions throughout the first time period meets a regularity threshold; and

wherein determining that a regularity of an occurrence of the transactions of the at
least one subset of transactions throughout the first time period meets a regularity threshold
comprises:

determining, for each related transaction of the at least one subset of
transactions, a number of days between the related transaction and a next occurring related transaction
based on a date of the related transaction and the next occurring related transaction;

determining a standard deviation value of the numbers of days for the at least
one subset of transactions; and

determining that the standard deviation value meets the regularity threshold;
and

generating a model of periodic transactions, the model including, for each of the at least one subsets: (i) the interval; and (ii) at least one of the common attributes.

2. The method of claim 1, wherein identifying a first group of transactions from the dataset of transactions comprises identifying transactions between a first entity and one or more second entities.

3. The method of claim 1, wherein identifying a first group of transactions from the dataset of transactions comprises identifying transactions between a first account associated with a first entity and one or more second entities.

4. The method of claim 1, wherein identifying a first group of transactions from the dataset of transactions comprises identifying transactions with substantially similar payment amounts.

5. The method of any one of the claims 1 to 3, wherein determining the at least one subset of related transactions from the dataset of transactions further comprises:

identifying a second group of transactions from the first group of transactions, wherein the second group of transactions each relate to transactions with substantially similar payment amounts.

6. The method of claim 4, wherein determining the at least one subset of related transactions from the dataset of transactions further comprises:

identifying a second group of transactions from the dataset of transactions, wherein the second group of transactions each relate to transactions between a first entity and one or more second entities.

7. The method of any one of claims 4 to 6, further comprising:

rounding the payment amount of each of the first group of transactions or of the dataset of transactions prior to identifying the second group of transactions.

8. The method of claim 1, wherein the one or more common attributes comprise one or more of: (i) account name; (ii) contact; (iii) payment amount.

9. The method of any one of the preceding claims, wherein determining the interval for each of the at least one subsets comprises comparing a distribution of individual intervals of the related transactions with one or more distribution models indicative of periodicity to determine a best fit.

10. The method of any one of the preceding claims, further comprising:

determining that a time span covered by the related transactions of the at least one subset throughout the first time period meets a coverage threshold.

11. The method of any one of the preceding claims, further comprising predicting one or more instances of future transactions using the model.

12. The method of claim 11, wherein the model predicts, for each recurring transaction, one or more of the following attributes of the transaction:

(i) payment amount;

(ii) regularity of payment;

(iii) day(s), week(s), month(s), and/or year(s) on which payment is predicted to be paid;

(iv) account to and/or from which payment is predicted to be made; and

(v) contact to and/or from which payment is predicted to be made.

13. A system comprising:

one or more processors;

a memory in communication with the one or more processor, the memory comprising program code which when executed by the one or more processors configures the one or more processors to perform the method of any one of claims 1 to 12.

14. A machine-readable medium storing computer readable code, which when executed by one or more processors is configured to perform the method of any one of claims 1 to 12.

15. A computer implemented method comprising:

assessing financial data associated with a primary entity during a time frame;

predicting recurring transactions during the time frame;

determining a baseline cash flow forecast for the primary entity for the time frame based at least one the predicted recurring transactions;

determining predicted capital surplus and/or capital deficit during the time frame based at least on the baseline cash flow forecast;

determining one or more sub-time frames of the time frame where cash flow is predicted to be in surplus or deficit;

based on the determined sub-time frames, generating by a recommendation engine, one or more recommendations to improve capital management for the primary entity;

wherein predicting recurring transactions during the time frame comprises performing the method of any one of claims 1 to 12.

16. The method of claim 15, wherein determining the baseline cash flow forecast comprises:

determining a trend component based on the financial data associated with the primary entity for that time frame;

determining a first seasonality component based on the financial data; and

projecting the trend component and the first seasonality component to the time frame to determine the baseline cash flow forecast.

17. The method of claim 16, wherein determining the baseline cash flow forecast comprises:

determining the first seasonality component based on a first periodicity in the financial data;

determining a fitness metric by comparing the financial data with the trend model and the seasonality component;

responsive to the determined fitness metric being below a predetermined fitness threshold, determining a second seasonality component based on a second periodicity in the financial data; and

projecting the trend component and the second seasonality component to the time frame to determine the baseline cash flow forecast.

18. The method of any one of claims 15 to 17, further comprising generating a cash flow forecast tool within a graphical user interface (GUI) of a display device, wherein the cash flow forecast tool depicts a representation of the baseline cash flow forecast and the one or more recommendations.

19. The method of claim 18, further comprising:

in response to detecting user selection of one or more of the one or more suggestions using the cash flow forecast tool, adjusting the financial data in accordance with the selected one or more suggestions;

determining a modified cash flow forecast for the time frame based on the adjusted financial data; and

depicting a representation of the modified cash flow forecast within the cash flow forecast tool.

20. The method of any one of claims 15 to 19, further comprising:

automatically executing at least one of the recommendations based on target parameters;

analysing the automatically executed recommendations to determine whether the executed capital management recommendations mitigated the forecasted one or more cash flow shortfall periods or one or more cash flow excess periods; and

revising the recommendation engine based on the analysis.

21. A system comprising:

one or more processors;

a memory in communication with the one or more processor, the memory comprising program code which when executed by the one or more processors configures the one or more processors to perform the method of any one of claims 15 to 20.

22. A machine-readable medium storing computer readable code, which when executed by one or more processors is configured to perform the method of any one of claims 15 to 20.