CLAIMS

1. A method for data processing and analysis by component analysis configurator for report generation comprises the steps of:

receiving a set of information from a user through an electronic user interface;

identifying a base data set from a data lake based on the information wherein the base data set is an abstraction layer embedded over an underlining data structure such that a plurality of data attributes and the data structure are identified using functional objects thereby enabling the user to define a plurality of components;

processing the information using at least one decision tree data model to extract the plurality of data attributes from the data lake;

capturing by a definition engine, a metadata associated with the plurality of attributes and storing the metadata in a metadata database;

generating at least one query based on the metadata and extracting a plurality of reporting data based on the query from the data lake; and

generating at least one report based on the extracted plurality of reporting data,

wherein the component analysis configurator schedules jobs to execute components with dynamic parameters to pre-create the plurality of reporting data, and wherein a plurality of queries is executed and the plurality of reporting data is aggregated to generate a visualization report for time ranges.

2. The method of claim 1 further comprises the step of connecting an output of one report to another report by using mathematical formula.

3. The method of claim 2 further comprises the step of scheduling and pre-processing execution of frequently used reports.

4. The method of claim 3 further comprises the step of generating reports based on a report type selected by the user.

5. The method of claim 4 further comprises the step of generating actionable reports wherein the user selects data points in a first report, enters comments to record actions that are assigned to the user such that a second report when generated is compared with the first report based on the recorded actions.

6. The method of claim 1 wherein the components include measures, filters, hierarchies and extraction formats.

7. The method of claim 6 wherein the measures identify a set of financial parameters on which a drill down analysis is performed.

8. The method of claim 7 wherein the filters enable filtering for the base data set used for analysis by identifying predicate conditions.

9. The method of claim 8 wherein the hierarchies identify specific aggregation layers at which measures are analyzed.

10. The method of claim 9 wherein the extraction formats identifies the format in which reporting data is extracted for analysis.

11. A system for data processing and analysis by component analysis configurator for report generation, the system comprises the steps of:

an electronic user interface configured for receiving a set of information from a user;

a data lake storing a plurality of data attributes;

an abstraction base data set layer embedded over an underlining data structure such that the plurality of data attributes and the data structure are identified using functional objects thereby enabling the user to define a plurality of components wherein the base data set is identified from the data lake based on the information;

a processor configured for processing the information using at least one decision tree data model to extract the plurality of data attributes from the data lake;

a controller coupled to the processor and encoded with instructions enabling the controller to function as a bot for controlling multiple components of the system for data processing and analysis;

a definition engine configured for capturing a metadata associated with the plurality of attributes and storing the metadata in a metadata database; and

an executing engine configured for generating at least one query based on the metadata and extracting a plurality of reporting data based on the query from the data lake,

wherein at least one report is generated based on the extracted plurality of reporting data,

wherein the component analysis configurator schedules jobs to execute components with dynamic parameters to pre-create the plurality of reporting data, and wherein a plurality of queries is executed and the plurality of reporting data is aggregated to generate a visualization report for time ranges.

12. The system of claim 11 wherein the definition engine is configured to identify a base data set, built components and trigger dynamic executions using the user interface.

13. The system of claim 11 wherein the execution engine is configured for processing data from the definition engine and extract reporting data into format that is utilized for report.

14. The system of claim 13 further comprises a reporting layer consisting of pre-defined reporting templates that combine with the extracted plurality of reporting data to generate different types of visualization.

15. The system of claim 14 wherein the scheduler is configured to pre-execute components when required thereby enabling the report to be readily available.

16. A computer-readable non-transitory storage medium storing executable program instructions for data processing and analysis by component analysis configurator which when executed by a computer cause the computer to perform operations comprising:

receiving a set of information from a user through an electronic user interface;

identifying a base data set from a data lake based on the information wherein the base data set is an abstraction layer embedded over an underlining data structure such that a plurality of data attributes and the data structure are identified using functional objects thereby enabling the user to define a plurality of components;

processing the information using at least one decision tree data model to extract the plurality of data attributes from the data lake;

capturing by a definition engine, a metadata associated with the plurality of attributes and storing the metadata in a metadata database;

generating at least one query based on the metadata and extracting a plurality of reporting data based on the query from the data lake; and

generating at least one report based on the extracted plurality of reporting data,

wherein the component analysis configurator schedules jobs to execute components with dynamic parameters to pre-create the plurality of reporting data, and wherein a plurality of queries is executed and the plurality of reporting data is aggregated to generate a visualization report for time ranges.

17. The computer-readable storage medium of claim 16 further comprises executable program instructions in a memory to be executed for generating decision tree data model.

18. The computer-readable storage medium of claim 16 further storing instructions that cause the processor to automatically add storage for storing the received data.