AN INTELLIGENCE SYSTEM AND METHOD

The present invention relates generally to an intelligence system and a method of providing intelligence and finds particular, although not exclusive, utility in providing business intelligence.

It is recognised that all decisions should be informed; that is, all decisions should be made on the basis of the best possible information. However, people can often find themselves facing a deluge of data, when what they need is a sound knowledge base for strategic planning.

In the present era of "big data", when more facts and figures are captured and stored than ever before, it can be difficult for organisations to get the insight they really need.

The role of "intelligence" is to help organisations cut through the proliferation of databases, spreadsheets and files and make sense of the information that matters to them.

There is a need for a system to help provide such intelligence, by mining multiple sources of data and analysing them in combination for a more holistic, big picture result.

Effective intelligence informs and adds certainty to operational decisions that organisations make throughout the year, and qually feeds into longer-term strategic decisions for an organisation, helping to set goals for the future at the broadest level.

The storage and analysis of extremely large data sets can be problematic for the average business, which may not have the technology or skills to get the most from the abundance of content that the big data revolution has made available. Part of the challenge is knowing what each dataset can offer and how to extract the right information, so as not to be overwhelmed with data.

According to a first aspect of the present invention, there is provided an intelligence system, comprising: at least one database comprising: XBRL data; and non-XBRL data; an XBRL engine configure to process a selected portion of the XBRL data in the database and provide an output; and an application programming interface configured to: receive user instructions; interrogate the database in response to the user instructions; control operation of the XBRL engine, including by selecting a portion of the XBRL data in the database to process, to provide the output in response to the user

instructions; and provide intelligence based on the interrogation of the database and the output of the XBRL engine.

In this way, intelligence may be provided to a user based on both XBRL and non-XBRL data. Thus, organisations of all sizes can access information that will help them build an effective strategy to drive current performance and direct future growth.

The intelligence system may comprise a system for providing business intelligence to a user.

The intelligence system, and in particular the XBRL engine and/or the application programming interface, may comprise at least one computing device, at least one computer program and/or computer program code. For instance, the XBRL engine and/or the application programming interface may be embodied in software. In particular the or each computer program may be run on the at least one computing device and/or the or each computer program may comprise the computer program code.

The system may comprise at least one computer-readable-medium having non-transitory software instructions stored therein.

In this way, the intelligence may be provided automatically.

The database may be stored on at least one computer-readable memory.

In this way, the database may be interrogated automatically.

The XBRL data may comprise data in an eXtensible Business Reporting Language, such as that administered by XBRL International, Inc.

The XBRL data may comprise financial data, in particular the XBRL data may comprise business performance reports. The XBRL data may include accounting and/or tax information. The XBRL data may comprise financial statements (e.g. table sheets), and/or reports, notes and/or policies (e.g. online text documents).

In this way, business data is provided in a standardised format, making it easy for users to draw comparisons and weigh up the financial health of a company.

Companies submit financial statements to government regulators each year. XBRL uses these statements and internationally standardises this data so that it can be reviewed and compared, regardless of geographic origin. As such, XBRL data has become a global standard for exchanging business information and is freely available to anyone.

The non-XBRL data may comprise XML data of a kind not consistent with the XBRL specification published by XBRL International, Inc. The XBRL engine may comprise an XML engine and be configured to process non-XBRL XML. The system may comprise a non-XBRL XML engine distinct from the XBRL engine.

5 Alternatively or additionally, the non-XBRL data may comprise non-XML data. The system may comprise a non-XBRL engine distinct from the XBRL engine.

The non-XBRL data may comprise house price data, property ownership information, exchange rate data, Companies House data (i.e. UK company information) for example registry data, contact info, nature of business, filling history documents (e.g. 10 PDFs), and directors: address, date of birth, occupation and connections with other companies, HM Land Registry data (i.e. information about registered land and property in England and Wales owned by UK companies) for example the registration number, address of the property, price paid and the country of incorporation, population information (e.g. demographics, housing and infrastructure in an area), census data (e.g. 15 business, agricultural and traffic censuses) for example in the UK the Office for National Statistics (ONS) conducts a census of the UK population every ten years including population density, ethnicity and gender, postcode classification and average incomes.

In this way, the system is able to provide users with an essential overview of any 20 organisation with whom they are planning to conduct business.

The user instructions may be provided via a user application.

Interrogating the database may comprise controlling operation of the XBRL engine. Alternatively or additionally, interrogating the database may be a distinct action, separate from controlling operation of the XBRL engine.

25 Selecting a portion of the XBRL data in the database to process may comprise selecting all the XBRL data, or a subset thereof.

The system may further comprise at least one automated analytical tool, for processing raw data prior to introduction into the database. For example, profitability and/or liquidity of companies may be determined from the raw data and the results 30 introduced into the database as either XBRL or non-XBRL data.

Alternatively or additionally, such profitability and/or liquidity determinations may be carried out as part of the interrogation by the application programming interface and/or the processing by the XBRL engine.

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The profitability and/or liquidity determination may comprise calculating an Altman Z score for a company. An Altman Z score below 1.8 indicates a company is likely to be declared bankrupt; in contrast, an Altman Z score above 3 is unlikely to be declared bankrupt. Accordingly, the Altman Z score is an indication of a company's financial strength. The Altman Z-score is equal to $1.2A+1.4B+3.3C+0.6D+1.0E$, where A is the ratio of working capital to total assets, B is the ratio of retained earnings to total assets, C is the ratio of earnings before interest and tax to total assets, D is the ratio of market value of equity to total liabilities, and E is the ratio of sales to total assets.

According to a second aspect of the present invention, there is provided a method of providing intelligence, the method comprising the steps of: providing at least one database comprising: XBRL data; and non-XBRL data; providing an XBRL engine configure to process a selected portion of the XBRL data in the database and provide an output; providing an application programming interface, and with said application programming interface: receiving user instructions; interrogating the database in response to the user instructions; controlling operation of the XBRL engine, including by selecting a portion of the XBRL data in the database to process; providing the output of the controlling step in response to the user instructions; and provide intelligence based on the interrogation of the database and the output of the XBRL engine.

In a first example, an owner of a small chain of cafes may be considering opening a new outlet in one of two medium-sized market towns in the UK. The cafe chain has reviewed its internal data and identified three core customer groups for which it caters: (a) people calling in for a coffee on their way to work; (b) mothers of young children meeting up after the school run; and (c) older people taking afternoon tea. While its existing outlets perform well among these customer groups, the cafe chain owner needs to be sure that this model can be replicated successfully in its new branch.

Both possible locations for the new cafe have a similar profile, with a growing population and a higher than average proportion of affluent households, including premium retirement homes. New housing developments have attracted young families to the locations, there are large numbers of professional employees, and use of home internet and social media is higher than the national average.

Conventionally, the cafe owner would not be able to distinguish between each possible location; however, using the present invention, census data may be cross-

referenced with company information to determine that similar businesses had thrived in one area (by virtue of evidence of healthy financial data and strong credit scores). However, in the second location, a large number of small retail outlets and cafe have low credit scores and some have faced bankruptcy. Further investigation reveals that a large supermarket chain recently opened a new branch in the town, complete with a cafe that serves free coffee to loyalty card holders.

Having reviewed the intelligence provided by the present invention, the cafe owner is capable of making a more informed decision regarding where to open the new outlet.

In a second example, a large technology corporation may be looking for a new investment opportunity to extend its business software offering. They are considering three possible contenders, each of which has an excellent product range, detailed business plans and a strong board of directors. Again, conventionally there would be no practical way to choose between these companies.

However, by cross-referencing commercial land registration data with company data, registration numbers, addresses of the companies and details of any property owned, details of the three companies' directors, their backgrounds and any other directorships held by these individual, and with financial data including balance sheets, profit and loss statements and statements of cashflow, using the Altman-Z score and other profitability ratios including gross profit margin and operating profit margin, the level of risk in investing in each company becomes clear.

The data reveals that one of the entities under consideration has faced financial difficulties, while another company has a bad payment history. The third company has a healthy financial track record with good debt management and performance history, providing a positive investment opportunity for the corporation.

In a third example, an owner of a building services firm requires specific geographic and industry research to locate specialist companies in the building trade with whom to create partnerships.

Intelligence relating to the mean and median sales of each prospective company, along with data on receivables and payables may be provided by the present invention. This intelligence may be presented in a tree map format which makes it easy for the business owner to make comparisons between the companies, and/or a heat map of the most influential players in a particular sector; this shows where each of the companies

are located and identifies areas where certain businesses have the highest concentration, along with a description of these areas. Census data may also be included to provide a profile of the areas in question. The above and other characteristics, features and advantages of the present invention will become apparent from the following detailed description, taken in conjunction with the accompanying drawings, which illustrate, by way of example, the principles of the invention. This description is given for the sake of example only, without limiting the scope of the invention. The reference figures quoted below refer to the attached drawings.

Figure 1 is representation of an intelligence system.

The present invention will be described with respect to certain drawings but the invention is not limited thereto but only by the claims. The drawings described are only schematic and are non-limiting. Each drawing may not include all of the features of the invention and therefore should not necessarily be considered to be an embodiment of the invention. In the drawings, the size of some of the elements may be exaggerated and not drawn to scale for illustrative purposes. The dimensions and the relative dimensions do not correspond to actual reductions to practice of the invention.

Furthermore, the terms first, second, third and the like in the description and in the claims, are used for distinguishing between similar elements and not necessarily for describing a sequence, either temporally, spatially, in ranking or in any other manner. It is to be understood that the terms so used are interchangeable under appropriate circumstances and that operation is capable in other sequences than described or illustrated herein.

Moreover, the terms top, bottom, over, under and the like in the description and the claims are used for descriptive purposes and not necessarily for describing relative positions. It is to be understood that the terms so used are interchangeable under appropriate circumstances and that operation is capable in other orientations than described or illustrated herein.

It is to be noticed that the term "comprising", used in the claims, should not be interpreted as being restricted to the means listed thereafter; it does not exclude other elements or steps. It is thus to be interpreted as specifying the presence of the stated features, integers, steps or components as referred to, but does not preclude the presence or addition of one or more other features, integers, steps or components, or groups thereof. Thus, the scope of the expression "a device comprising means A and

B" should not be limited to devices consisting only of components A and B. It means that with respect to the present invention, the only relevant components of the device are A and B.

Similarly, it is to be noticed that the term "connected", used in the description, should not be interpreted as being restricted to direct connections only. Thus, the scope of the expression "a device A connected to a device B" should not be limited to devices or systems wherein an output of device A is directly connected to an input of device B. It means that there exists a path between an output of A and an input of B which may be a path including other devices or means. "Connected" may mean that two or more elements are either in direct contact, or that two or more elements are not in direct contact with each other but yet still co-operate or interact with each other. For instance, wireless connectivity is contemplated.

Reference throughout this specification to "an embodiment" or "an aspect" means that a particular feature, structure or characteristic described in connection with the embodiment or aspect is included in at least one embodiment or aspect of the present invention. Thus, appearances of the phrases "in one embodiment", "in an embodiment", or "in an aspect" in various places throughout this specification are not necessarily all referring to the same embodiment or aspect, but may refer to different embodiments or aspects. Furthermore, the particular features, structures or characteristics of any embodiment or aspect of the invention may be combined in any suitable manner, as would be apparent to one of ordinary skill in the art from this disclosure, in one or more embodiments or aspects.

Similarly, it should be appreciated that in the description various features of the invention are sometimes grouped together in a single embodiment, figure, or description thereof for the purpose of streamlining the disclosure and aiding in the understanding of one or more of the various inventive aspects. This method of disclosure, however, is not to be interpreted as reflecting an intention that the claimed invention requires more features than are expressly recited in each claim. Moreover, the description of any individual drawing or aspect should not necessarily be considered to be an embodiment of the invention. Rather, as the following claims reflect, inventive aspects lie in fewer than all features of a single foregoing disclosed embodiment. Thus, the claims following the detailed description are hereby expressly incorporated into this detailed description, with each claim standing on its own as a separate embodiment of this invention.

Furthermore, while some embodiments described herein include some features included in other embodiments, combinations of features of different embodiments are meant to be within the scope of the invention, and form yet further embodiments, as will be understood by those skilled in the art. For example, in the following claims, any of the claimed embodiments can be used in any combination.

In the description provided herein, numerous specific details are set forth. However, it is understood that embodiments of the invention may be practised without these specific details. In other instances, well-known methods, structures and techniques have not been shown in detail in order not to obscure an understanding of this description.

In the discussion of the invention, unless stated to the contrary, the disclosure of alternative values for the upper or lower limit of the permitted range of a parameter, coupled with an indication that one of said values is more highly preferred than the other, is to be construed as an implied statement that each intermediate value of said parameter, lying between the more preferred and the less preferred of said alternatives, is itself preferred to said less preferred value and also to each value lying between said less preferred value and said intermediate value.

The use of the term "at least one" may mean only one in certain circumstances. The use of the term "any" may mean "all" and/or "each" in certain circumstances.

The principles of the invention will now be described by a detailed description of at least one drawing relating to exemplary features. It is clear that other arrangements can be configured according to the knowledge of persons skilled in the art without departing from the underlying concept or technical teaching, the invention being limited only by the terms of the appended claims.

Figure 1 is representation of an intelligence system in which a database 1 comprises XBRL data 3 and non-XBRL data 5. A platform 7 is provided in which a XBRL engine 9 receives and processes XBRL data 3 and passes it to an application programming interface 11. Simultaneously, the application programming interface 11 receives non-XBRL data 5 from the database 1 in response to an interrogation thereof.

The application programming interface 11 can then communicate intelligence from regarding the data within the database 1 to a user application 13.

CLAIMS

1.   An intelligence system, comprising:

at least one database comprising:

XBRL data; and

non-XBRL data;

an XBRL engine configure to process a selected portion of the XBRL data in
the database and provide an output; and

an application programming interface configured to:

receive user instructions;

interrogate the database in response to the user instructions;

control operation of the XBRL engine, including by selecting a portion
of the XBRL data in the database to process, to provide the output in
response to the user instructions; and

provide intelligence based on the interrogation of the database and the
output of the XBRL engine.

2.   The intelligence system of claim 1, in which the database is stored on at least
one computer-readable memory.

3.   The intelligence system of claim 1 or claim 2, further comprising a non-XBRL
engine distinct from the XBRL engine.

4.   The intelligence system of claim 3, in which the non-XBRL engine comprises a
non-XBRL XML engine.

5.   The intelligence system of any preceding claim, in which the non-XBRL data
comprises non-XML data.

6.   The intelligence system of any preceding claim, in which the non-XBRL data
comprises XML data of a kind not consistent with XBRL.

7.   The intelligence system of any preceding claim, in which the user instructions are provided via a user application.

8.   The intelligence system of any preceding claim, in which interrogating the database comprises controlling operation of the XBRL engine.

9.   The intelligence system of any preceding claim, in which interrogating the database comprises a distinct action, separate from controlling operation of the XBRL engine.

10.   The intelligence system of any preceding claim, in which selecting a portion of the XBRL data in the database to process comprises selecting all the XBRL data

11.   The intelligence system of any preceding claim, in which selecting a portion of the XBRL data in the database to process comprises selecting a subset of the XBRL data.

12.   The intelligence system of any preceding claim, further comprising at least one automated analytical tool.

13.   The intelligence system of claim 12, in which the automated analytical tool is configured to process raw data prior to introduction into the database.

14.   The intelligence system of claim 12 or claim 13, in which the automated analytical tool is configured to process data within the database as part of the interrogation by the application programming interface and/or the processing by the XBRL engine.

15.   A method of providing intelligence, the method comprising the steps of:
        providing at least one database comprising:
                XBRL data; and
                non-XBRL data;

providing an XBRL engine configure to process a selected portion of the XBRL data in the database and provide an output;

providing an application programming interface, and with said application programming interface:

    receiving user instructions;

    interrogating the database in response to the user instructions;

    controlling operation of the XBRL engine, including by selecting a portion of the XBRL data in the database to process;

    providing the output of the controlling step in response to the user instructions; and

    provide intelligence based on the interrogation of the database and the output of the XBRL engine.

Title:

AN INTELLIGENCE SYSTEM AND METHOD

Abstract:

5   It is recognised that all decisions should be well informed; however, people can often find themselves facing a deluge of data, when what they need is a sound knowledge base for strategic planning. The present invention provides a system and method for mining multiple sources of data and analysing them in combination for a more holistic, big picture result.
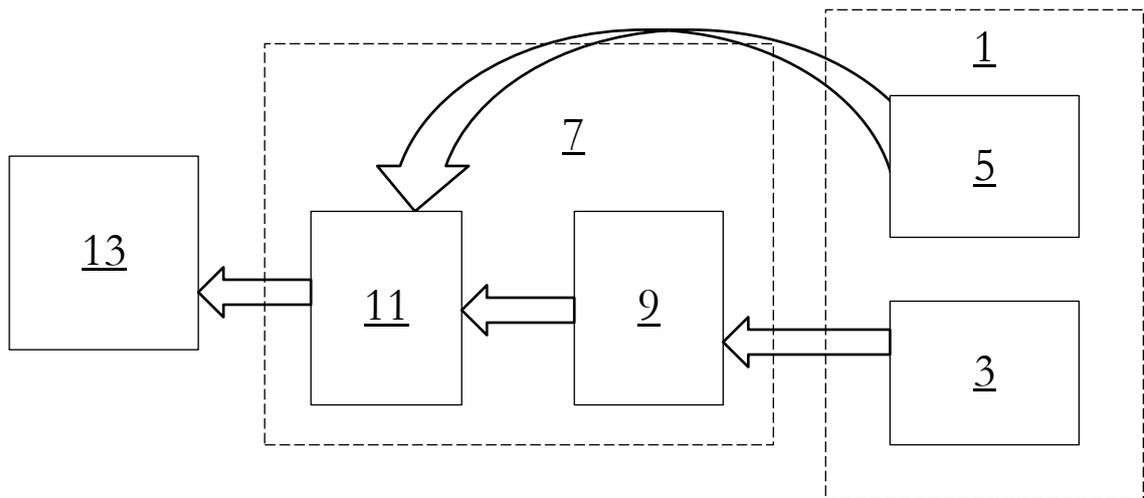
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Figure 1

Figure 1