A SYSTEM AND METHOD FOR IMPACT MANAGEMENT AND TO PROVIDE SUSTAINABLE FINANCE

FIELD OF THE INVENTION

The present invention relates to a system and method for impact management to provide sustainable finance. More particularly, the present invention relates to a system and method for measuring the impact of investments and generating reports for financial institutions and investors to understand their environmental and social impact utilizing machine-learning approach. Further, the impact analysis also provides recommendation on how and where to maximize impact to create a positive impact.

BACKGROUND OF THE INVENTION

In September 2015, 197 Member States of the United Nations adopted a plan for achieving a better future for all laying out a path over the next 15 years to end extreme poverty, fight inequality and injustice, and protect our planet. At the heart of "Agenda 2030" are the 17 Sustainable Development Goals (SDGs) which clearly define the world we want — applying to all nations and leaving no one behind. The SDGs are the blueprint to achieve a better and more sustainable future for all. They address the global challenges we face, including poverty, inequality, climate change, environmental degradation, peace and justice and organizations across sectors and across the globe are looking at how they can contribute.

The finance sector is an important area that can influence sustainable outcomes. Sustainable finance generally refers to the process of taking due account of environmental, social, and governance (ESG) considerations when making investment decisions in the financial sector, leading to increased longer-term investments into sustainable economic activities and projects. (https://ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-finance/overview-sustainable-finance_en). Further, in the context of sustainable finance, "impact" has been defined as a change in an important positive or negative outcome for people or the planet. (https://impactmanagementproject.com).

Despite the ambitious claims of investors and funds claiming their commitment to sustainability and impact, an annual UN SDG financing gap of US$2.5 trillion persists.

Moreover, there exists an urgent need for a robust impact measurement system comprising of the tools required to assess and report the impact of investments to assure investors and asset allocators that they are achieving the stated impact objectives, and not contributing to greater impact washing.

The objective of the present invention is to provide a system and a method for impact measurement that assesses and reports the impact of investments thereby assuring investors and asset allocators of achieving the stated impact objectives.

SUMMARY OF THE INVENTION

The following presents a simplified summary of the present disclosure in order to provide a basic understanding of some aspects of the disclosure. This summary is not an extensive overview. It is not intended to identify key or critical elements of the disclosure or to delineate its scope. The following summary merely presents some concepts in a simplified form as a prelude to the more detailed description provided below.

The present invention relates to a system and method for impact management to provide sustainable finance. More particularly, the present invention relates to a system and method for measuring the impact of investments and generating reports for financial institutions and investors to understand their environmental and social impact utilizing machine-learning approach. The system and method of the present invention helps in providing an insight into an investment's contribution towards sustainable development, offering transparent impact analysis on the current impact of an investment portfolio, as well as on how and where to maximize impact to create a positive impact.

According to an embodiment of the invention, the present invention follows an impact software-as-a-service (SaaS) module that enables the integration of sustainability and impact data to reflect

the outcomes of investments on society and the environment, helping financial institutions achieve their impact objectives and lead investors towards true sustainable and impact investments.

According to an embodiment of the invention, the system and method of the present invention provides a transparent impact analysis which is targeting greater financial inclusion, thereby being able to provide credible and transparent impact measurement and helping institutions measure as well as maximize the contribution of their financing towards creating positive impact.

According to an embodiment of the invention, the system and method of the present invention integrates impact management into financial decision-making that allows measurement and management of the expected impact of investments by calculating a proprietary developed impact score. Assigning an impact score brings standardisation to sustainable and impact reporting, providing a perspective for comparison and consistency.

According to an embodiment of the invention, a method is provided for calculating an impact score by measuring and analysing the contribution of financing/investment/loan towards creating impact. The method involves the following steps:

(i) Receiving at one or more processors a data set of social, environmental and governance related impact indicators to debt investments corresponding to a plurality of sectors of target beneficiaries wherein the target beneficiaries may include but are not limited to micro, small and medium enterprises (MSMEs), base of the pyramid population and wherein the impact indicators may include but are not limited to the associated UN SDGs, such as no poverty, zero hunger, gender equality, climate action, life on land, decent work and economic growth

(ii) Identifying and mapping, via one or more processors, a key set of impact indicators for use in providing an impact score, each factor including a defined respective set of categories, and each factor and each category including a respective initial weightage which are determined by publicly available national sociodemographic benchmarks; wherein the plurality of factors received are at least one from the data related to key set of impact indicators, SDGs and target beneficiaries;

(iii) generating via one or more processors an impact score by-

- receiving a set of rules for generating an impact score by using the plurality of factors and the categories, and using the respective weightage of the plurality of factors and the categories, the rule including a set of scores for combined weightage of the factors and categories;
- training, via one or more processors, a Machine-learning model to predict an impact score utilizing the set of rules wherein the said machine-learning model is constructed to perform sensitivity analysis and factor prioritization and run a set of rules wherein the set of rules may be provided by Machine Learning techniques including but not limited to decision trees and random forests as well as neural networks and / or a combination thereof;
- identifying factors and categories within the dataset received in step (i) that are significant to predicting impact and thereby determining weights for each factor and each category through multinomial regression with the trained Machine-Learning model; and
– determining weights for a given factor and a given category to stratify between high and low levels of impact with the trained Machine-Learning model thereby providing a more accurate reflection of disparities between the plurality of factors in a particular region; and
- inferring via one or more processors, a respective optimized impact score for the combined weightage of the factors and categories; wherein the impact score is calculated by the trained Machine Learning model by taking into account the respective weightage of the said factors; and

(iv) Storing the optimized Impact score and/or displaying the optimized Impact score.

The plurality of factors, the categories, and their respective initial weightage may be stored in a non-transitory storage medium. The rule for generating an impact score may be stored in a non-transitory storage medium.

According to an embodiment of the invention the system and method of the present invention provides social and / or environmental impact performance of financial loan portfolios, assigning

an Impact Score to all individual loans, which are then aggregated on a weighted average basis to a portfolio level.

According to an embodiment of the invention the system and method of the present invention provides a consolidated impact summary of the indicator metrics captured for each loan.

The majority of existing impact measurement solutions cover public markets, providing data on an entity or firm level. According to another embodiment of the invention the system and method of the present invention provides a tailored impact measurement for private debt markets, including loan portfolios, strategies and funds at an end beneficiary level, using an accredited impact measurement framework that considers socio-economic and development factors relative to national level benchmarks for context, the score provides a rating on the capacity of financing to generate positive impact for beneficiaries, and help financial institutions measure and maximize the contribution of their investments towards creating positive impact.

According to another embodiment of the invention the system and method of the present invention allows the integration of impact management into financial decision- making based on a rigorous systematic process.

According to an embodiment of the invention the method may further include the steps of:

(v) retrieving via one or more processors the stored respective optimized weightings for the plurality of factors, and for each category;

(vi) receiving from a user terminal, inputs relating to each factor of the plurality of factors, and to the categories;

(vii) generating via one or more processors an impact score and analytics relating to the impact score with the trained Machine Learning Model wherein the impact score is calculated by the trained machine learning model by taking into account the respective optimized weightage of the factors and for each category; and

(viii) transmitting the impact score and analytics the user terminal, to provide automated impact reporting.

According to another embodiment of the invention the user terminal is a smartphone, a tablet computer, a mobile device, a laptop computer, a desktop computer, a wearable computing device or other known type of computing device or a smart TV, or a voice control interface device. Communication with the user terminal may be wireless (e.g. cellular, Wi-Fi, Bluetooth) or by a wired connection.

According to an embodiment of the invention the recommendation provided in the method of the present invention may include providing a consolidated impact summary of the indicator metrics captured for each loan.

According to an embodiment of the invention the method provides an impact score that provides investors the ability to assess and compare the social and / or environmental impact of their investments. Low impact scores indicate that a given loan is not generating significant impact, medium impact scores indicate that the given loan is generating an average impact and high impact scores indicate that the given loan is generating high levels of impact.

According to an embodiment of the invention the Impact score is generated out of a scale of 10 wherein lower scales indicate a lower level of impact and higher scores indicate higher levels of impact. These scores reflect the positive impact that is created with each debt investment, according to the Impact Management Project's (IMP) five dimensions of impact measurement – who, where, what, how much and risk. The method of the present invention considers these dimensions into themes of impact, e.g., poverty level, scale, impact, additionality and impact risk – and select corresponding indicators based on but not limited to the GIIN's IRIS+ catalogue, IFC Operating Principles, Global Reporting Initiative (GRI) standards, with UN SDG mapping. Data for these metrics is collected on a beneficiary level, and with these metrics, the Impact Score is calculated taking into account their values relative to certain thresholds which are determined by publicly available national sociodemographic benchmarks.

According to an embodiment of the invention the methodology used to measure the impact in the aforementioned method is determined by the asset class and beneficiary impact sector. The beneficiary impact sector may include but is not limited to debt investments within the impact

sector of MSMEs and low-income and unbanked individuals for which the model is developed by mapping a theory of change for these sectors so as to ascertain what type of impact will be created and accordingly, impact model is developed. Further the analytics produced can be consumed by but are not limited to the following types of clients: Asset managers, Banks (lending), Core banking/loan management system providers, ESG/risk scoring providers, Financial analytics providers, Fintech lenders, MFIs and NBFCs and other suitable sectors.

According to an embodiment of the invention the method involves calibrating/training the advice model/software using past cases. According to an embodiment of the invention the method of the present invention involves a Machine Learning model wherein the model is able to dynamically set thresholds for impact metrics/data, based on the data that it is trained on, and further it is able to identify other metrics from the data inputs that are instrumental to predicting impact, that a human user may not have been able to identify as crucial to impact predictors.

According to an embodiment of the invention the method eliminates the need of a human expert making recommendations as the system and method of the present invention employs a supervised machine learning approach for impact scoring. The models are trained with human labels and can be scaled to be generalizable for a range of impact sectors and geographies.

According to an embodiment of the invention there is provided a computer system comprising:

-a processor physically configured according to computer executable instructions,

- a memory disposed in communication with the processor and storing, in code form, the computer executable instructions to perform operations comprising:

(i) Receiving from a user terminal, a data set of social, environmental and governance related impact indicators to debt investments corresponding to a plurality of sectors of target beneficiaries wherein the target beneficiaries may include but not limited to micro, small and medium enterprises (MSMEs), base of the pyramid population and wherein the impact indicators may include but not limited to the associated UN SDGs such as no poverty, zero hunger, gender equality, climate action, life on land, decent work and economic growth etc.

(ii) Identifying and mapping a key set of impact indicators for use in providing an impact score, each factor including a defined respective set of categories and each factor and each category including a respective initial weightage which are determined by publicly available national sociodemographic benchmarks; wherein the plurality of factors received are at least one from the data related to key set of impact indicators, SDGs and target beneficiaries;

(iii) Generating an impact score by-

- receiving a set of rules for generating an impact score using the plurality of factors and the categories, and using the respective weightage of the plurality of factors and the categories, the rule including a set of scores for combined weightage of the factors and categories;

- training, via one or more processors, a Machine-Learning Model to predict an impact score utilizing the set of rules wherein the said machine learning model is constructed to perform sensitivity analysis and factor prioritization and run a set of rules wherein the set of rules may be provided by Machine Learning techniques including but are not limited to decision trees, random forests as well as neural networks or a combination thereof;

- identifying factors and categories within the dataset received in step (i) that are significant to predicting impact and thereby determining weights for each factor and each category through multinomial regression with the trained Machine learning model;

- determining weights for a given factor and a given category to stratify between high and low levels of impact with the trained Machine-Learning model thereby providing a more accurate reflection of disparities between the plurality of factors in a particular region; and

– inferring via one or more processors a respective optimized impact score for the combined weightage of the factors and categories; wherein the impact score is calculated by taking into account the respective weightage of the said factors.

(iv) Storing the optimized impact score and/or displaying the optimized Impact score

The processor of the said computer system may be further configured to:

(v) retrieving via one or more processors the stored inferred respective optimized weightings for the plurality of factors, and for each category;

(vi) receiving from a user terminal, inputs relating to each factor of the plurality of factors, and to the categories;

(vii) generating via one or more processors an impact score and a recommendation relating to the Impact score with the trained Machine Learning Model wherein the impact score is calculated by the trained Machine Learning model by taking into account the respective optimized weightage of the factors and for each category, and

(viii) transmitting the impact score and analytics the user terminal, to provide automated impact reporting.

According to an embodiment of the invention, the system is including the processor and a user terminal. Further, there is provided a computer program product executable on the processor to perform a method as mentioned in previous embodiments of the invention.

The above and other features and aspects of the present invention are more clearly described in the complete specification.

BRIEF DESCRIPTION OF DRAWINGS:

The invention can be described in the terms of the following figures where-

Figure 1 shows a schematic diagram of a method for providing an impact analysis to measure the contribution of financing/investment/loan towards creating impact.

Figure 2 shows the functions performed by the impact scoring model.

Figure 3 illustrates a high-level block diagram of a computer system capable of implementing the present invention.

Figure 4 shows a schematic diagram of an example impact analysis which is indicative of high levels of impact

Figure 5 shows a schematic diagram of an example impact analysis which is indicative of low levels of impact

Figure 6 shows a schematic diagram of an example impact analysis which is indicative of medium levels of impact

Figure 7 shows a schematic diagram of an example impact analysis which is indicative of high levels of impact

DETAILED DESCRIPTION OF THE INVENTION

Discussed below are some representative embodiments of the present invention. The invention in its broader aspects is not limited to the specific details and representative methods. The illustrative examples are described in this section in connection with the embodiments and methods provided. The invention according to its various aspects is particularly pointed out and distinctly claimed in the attached claims read in view of this specification.

It is to be noted that, as used in the specification and the appended claims, the singular forms "a," "an," and "the" include plural referents unless the context clearly dictates otherwise. It should also be noted that the term “or” is generally employed in its sense including “and/or” unless the content clearly dictates otherwise.

References to “one embodiment,” “an embodiment,” “example embodiment,” “various embodiments,” “some embodiments,” “embodiments of the invention,” etc., may indicate that the embodiment(s) of the invention so described may include a particular feature, structure, or characteristic, but not every possible embodiment of the invention necessarily includes the particular feature, structure, or characteristic. Further, repeated use of the phrase “in one embodiment,” or “in an exemplary embodiment,” “an embodiment,” do not necessarily refer to the same embodiment, although they may. Moreover, any use of phrases like “embodiments” in connection with “the invention” are never meant to characterize that all embodiments of the invention must include the particular feature, structure, or characteristic, and should instead be understood to mean “at least some embodiments of the invention” includes the stated particular feature, structure, or characteristic.

A “computer” may refer to one or more apparatus and/or one or more systems that are capable of accepting a structured input, processing the structured input according to prescribed rules, and

producing results of the processing as output. Examples of a computer may include: a computer; a stationary and/or portable computer; a computer having a single processor, multiple processors, or multi-core processors, which may operate in parallel and/or not in parallel; a general purpose computer; a supercomputer; a mainframe; a super mini-computer; a mini-computer; a workstation; a micro-computer; a server; a client; an interactive television; a web appliance; a telecommunications device with internet access; a hybrid combination of a computer and an interactive television; a portable computer; a tablet personal computer (PC); a personal digital assistant (PDA); a portable telephone; application-specific hardware to emulate a computer and/or software, such as, for example, a digital signal processor (DSP), a field-programmable gate array (FPGA), an application specific integrated circuit (ASIC), an application specific instruction-set processor (ASIP), a chip, chips, a system on a chip, or a chip set; a data acquisition device; an optical computer; a quantum computer; a biological computer; and generally, an apparatus that may accept data, process data according to one or more stored software programs, generate results, and typically include input, output, storage, arithmetic, logic, and control units.

Those of skill in the art will appreciate that where appropriate, some embodiments of the disclosure may be practiced in network computing environments with many types of computer system configurations, including personal computers, hand-held devices, multi-processor systems, microprocessor-based or programmable consumer electronics, network PCs, minicomputers, mainframe computers, and the like. Where appropriate, embodiments may also be practiced in distributed computing environments where tasks are performed by local and remote processing devices that are linked (either by hardwired links, wireless links, or by a combination thereof) through a communications network. In a distributed computing environment, program modules may be located in both local and remote memory storage devices.

The present invention, in its product and process aspects, is described in detail as follows.

The present invention relates to a system and method for impact management and measurement to be provided to the sustainable finance sector. More particularly, the present invention relates to a system and method for measuring the impact of investments and generating reports for financial institutions and investors to understand their environmental and social impact utilizing machine-

learning approach. The system and method of the present invention helps in providing an insight into an investment's contribution towards sustainable development, offering transparent impact analysis on the current impact of an investment portfolio, as well as on how and where to maximize impact to create a positive social and environmental impact.

According to an embodiment of the invention the present invention follows an impact software-as-a-service (SaaS) module that enables the integration of sustainability and impact data to reflect the outcomes of investments on society and the environment, helping financial institutions achieve their impact objectives and lead investors towards sustainable and impact investments.

According to an embodiment of the invention the system and method of the present invention provides a transparent impact analysis which is targeting greater financial inclusion, thereby being able to provide credible and transparent impact measurement and helping institutions measure as well as maximize the contribution of their financing towards creating positive impact.

According to an embodiment of the invention the system and method of the present invention integrates impact management into financial decision-making that allows measurement and management of the expected impact of investments by calculating a proprietary developed impact score. Assigning an impact score brings standardisation to sustainable and impact reporting, providing a perspective for comparison and consistency.

According to an embodiment of the invention there is provided a method for providing an impact analysis to measure the contribution of financing/investment/loan towards creating impact. The method involves the following steps:

(i) Receiving at one or more processors a data set of social, environmental and governance related impact indicators to debt investments corresponding to a plurality of sectors of target beneficiaries wherein the target beneficiaries may include but are not limited to micro, small and medium enterprises (MSMEs), base of the pyramid population and wherein the impact indicators may include but are not limited to the associated UN SDGs, such as no poverty, zero hunger, gender equality, climate action, life on land, decent work and economic growth

(ii) Identifying and mapping, via one or more processors, a key set of impact indicators for use in providing an impact score, each factor including a defined respective set of categories, and each factor and each category including a respective initial weightage which are determined by publicly available national sociodemographic benchmarks; wherein the plurality of factors received are at least one from the data related to key set of impact indicators, SDGs and target beneficiaries;

(iii) generating via one or more processors an impact score by-

-receiving a set of rules for generating an impact score by using the plurality of factors and the categories, and using the respective weightage of the plurality of factors and the categories, the rule including a set of scores for combined weightage of the factors and categories;

– training, via one or more processors, a Machine-learning model to predict an impact score utilizing the set of rules wherein the said machine-learning model is constructed to perform sensitivity analysis and factor prioritization and run a set of rules wherein the set of rules may be provided by Machine Learning techniques including but not limited to decision trees and random forests as well as neural networks and / or a combination thereof;

- identifying factors and categories within the dataset received in step (i) that are significant to predicting impact and thereby determining weights for each factor and each category through multinomial regression with the trained Machine-Learning model; and

– determining weights for a given factor and a given category to stratify between high and low levels of impact with the trained Machine-Learning model thereby providing a more accurate reflection of disparities between the plurality of factors in a particular region; and

- inferring via one or more processors, a respective optimized impact score for the combined weightage of the factors and categories; wherein the impact score is calculated by the trained Machine Learning model by taking into account the respective weightage of the said factors; and

(iv) Storing the optimized Impact score and/or displaying the optimized Impact score.

The plurality of factors, the categories, and their respective initial weightage may be stored in a non-transitory storage medium. The rule for generating an impact score may be stored in a non-transitory storage medium.

Further, the data related to factors/impact indicators may be divided into Core data inputs and Partner data inputs. The core data inputs may be taken from various sources such as Impact Management Project (IMP) guidelines (102a), UN SDGs (102b), Global Impact Investing Network (GIIN)'s IRIS+ metrics (102c), Socioeconomic benchmarks (102d) and other sources such as but not limited to IFC Operating Principles, Global Reporting Initiative (GRI) standards. Further, Lender Datasets (102e) are also taken as inputs which may include data related to Loan size, Interest Rate, Income, Education, Gender Equality, Access to financing and other such data. The socioeconomic benchmarks data may be taken from the data related to Female and Informal Employment, Population with access to financial services, national Poverty line, Employment by sector, default rates and average loan size and other such data.

The factors/impact indicators taken into account when the target beneficiary is an MSME are different employment practices, gender equality and access to basic goods and services, environmental impact, as well as impact risk (negative consequence of not receiving the loan) etc. Further, different categories of these impact indicators may be but not limited to:

- Ownership of business by gender
- Employee diversification by gender
- Wage equality to measure fair compensation
- Education levels
- Age demographics
- Implementation of environmental management system
- Purpose of loan with further analysis e.g. if used for education purposes, how many end beneficiaries are female

The factors/impact indicators taken into account when the target beneficiary are low-income and unbanked individuals, are whether the loans are benefitting marginalised populations via income

level, gender and area of residence. Further, different categories of these impact indicators may be but not limited to:

- Access to essential products and services such as healthcare, education and food
- Recipient breakdown by gender
- Income level
- Number of dependents on income and loan proceeds
- Whether they live in a rural versus urban setting
- Purpose of loan with further analysis e.g. if used for education purposes, how many end beneficiaries are female

According to an embodiment of the invention the method may further include the steps of:

(v) retrieving via one or more processors the stored inferred respective optimized weightings for the plurality of factors, and for each category;

(vi) receiving from a user terminal, inputs relating to each factor of the plurality of factors, and to the categories;

(vii) generating via one or more processors an impact score and a recommendation relating to the impact score with the trained machine Learning Model wherein the impact score is calculated by the trained machine learning model by taking into account the respective optimized weightage of the factors and for each category; and

(viii) if the impact score is within a predefined range, transmitting the impact score and the recommendation to an adviser for further consideration, and if the impact score is outside the predefined range, transmitting the recommendation to the user terminal, to provide automated advice.

According to another embodiment of the invention the user terminal is a smartphone, a tablet computer, a mobile device, a laptop computer, a desktop computer, a wearable computing device or other known type of computing device or a smart TV, or a voice control interface device. Communication with the user terminal may be wireless (e.g. cellular, Wi-Fi, Bluetooth) or by a wired connection.

Figure 1 illustrates a schematic diagram of the steps involved in the method of the present invention for providing an impact analysis to measure the contribution of financing/investment/loan towards creating impact as described below:

(i) A computer system comprising a processor wherein the processor identifies and maps a key set of social, environmental and governance related impact indicators to debt investments. A framework is developed utilizing Data inputs (100) which are impact indicators. The data may be divided into Core data inputs and Partner data inputs. Core data inputs may be taken from various sources such as Impact Management Project (IMP) guidelines (102a), UN SDGs (102b), Global Impact Investing Network (GIIN)'s IRIS+ metrics (102c), Socioeconomic benchmarks (102d) and other sources such as but not limited to IFC Operating Principles, Global Reporting Initiative (GRI) standards. Further, Lender Datasets (102e) are also taken as inputs. The present method utilizes the IMP's five dimensions of impact measurement – who, where, what, how much, and risk. These dimensions are broken down into themes of impact e.g. poverty line/level, scale, social impact, additionality and impact risk and select corresponding indicators based on but not limited to GIIN's IRIS+ catalogue, IFC Operating Principles, Global Reporting Initiative (GRI) standards, with UN SDG mapping. The data collected for each investment is informed by the target impact (e.g. MSME) and associated UN SDGs. This data is acquired either via APIs or flat file spreadsheets. Further the said data may be stored in non-transitory computer-readable storage medium.

(ii) Next, the additional data inputs on additional impact factors and their categories are taken. For example, the Lender datasets may be further categorized into factors such as loan size (103a), interest rate (103b), income (103c), education (103d) level, gender equality (103e) and access to financing (103f), and other suitable factors. Socioeconomic Benchmarks data may be obtained through data related to female and informal employment (104a), population with access to financial services (104b), default rates (104c), average loan size (104d), national poverty lines (104e), employment by sector (104f), and other suitable factors. Further the said data may be stored in non-transitory computer-readable storage medium.

(iii) The data inputs of above steps are fed into a Machine Learning (ML) Impact Scoring Model (200). Data is collected for the aforementioned metrics on a beneficiary level, and with these metrics, the weightage is calculated taking into account their values relative to certain thresholds which are determined by publicly available national sociodemographic benchmarks. Machine learning Model is applied to the data obtained in Steps (i) and (ii) to modify the thresholds to a local level utilizing the data sets collected. The machine learning model performs sensitivity analysis and factor prioritization and runs a set of rules wherein the set of rules may be provided as decision trees, random forests and neural networks or a combination thereof. The model is able to 1) identify factors and categories within the dataset received in steps (i) and (ii) that are significant to predicting impact and thereby determining weights for each factor and each category through multinomial regression and to 2) determine weights for a given factor and a given category to stratify between high and low levels of impact thereby providing a more accurate reflection of disparities between the plurality of factors in a particular region.

(iv) Processing the set of rules to derive an output wherein said output is an optimized ML based impact score (301) and providing Impact Analytics (302) for the target beneficiary. The impact score along with the recommendation regarding the loan/investment being sustainable is then provided to the target beneficiary. The recommendation provided may include providing a consolidated impact summary of the indicator metrics captured for each loan.

Figure 2 shows the functions performed by the Machine Learning (ML) Impact Scoring Model (200) of the system and method of the present invention. A supervised machine learning approach for impact scoring is employed in the system and method of the present invention. The said impact score models are trained with human labels and scaled to generalize for other data. The algorithms utilized can be but not limited to a combination of ML techniques such as decision trees, random forests as well as neural networks to arrive at predicted impact scores and feature importance. The machine learning Model performs three functions namely: (a) Feature Identification (201), (b) Parameter Weights (202) and (c) Threshold Setting (203). The Feature Identification (201) is performed by conducting sensitivity analysis and factor prioritization which is done by running a

set of rules wherein the set of rules may be provided by ML techniques including but not limited to decision trees, random forests as well as neural networks or a combination thereof and it thereby identifies metrics within the dataset that are significant to predicting impact. Next step is Parameter Weights (202) wherein with the identified metrics, weights are determined for each metric through Multinomial Regression. The last step is Threshold setting (203) wherein thresholds are determined for a given indicator to stratify between high and low levels of impact. So, with these three functions, the model is able to optimize for predicted impact and ultimately allows us to understand where impact can be created.

According to an embodiment of the invention the method provides an impact score that provides investors the ability to assess and compare the impact of their investments. Low impact scores indicate that a given loan is not generating significant impact, medium impact scores indicate that the given loan is generating an average impact and high impact scores indicate that the given loan is generating high levels of impact. By analyzing the variables that contribute to an impact score, end-users would be able to ascertain in what ways their investments are or are not creating impact, e.g. reaching women, informal workers.

According to an embodiment of the invention the Impact score is generated out of a scale of 10 wherein lower scales indicate a lower level of impact and higher scores indicate higher levels of impact. These scores reflect the positive impact that is created with each debt investment, according to the Impact Management Project's (IMP) five dimensions of impact measurement – who, where, what, how much and risk. The method of the present invention considers these dimensions into themes of impact, e.g. poverty level, scale, impact, additionality and impact risk – and select corresponding indicators based on but not limited to the GIIN's IRIS+ catalogue, IFC Operating Principles, Global Reporting Initiative (GRI) standards, with UN SDG mapping. The indicator metrics considered for determining Impact score include loan-level metrics as well as a range of lender-level risk metrics. Some of these lender-level risk metrics include impact alignment, i.e., whether or not the lender has an impact focus with their lending, and default risk, i.e., the proportion of borrowers who have defaulted on their loans with the lender. Data for these metrics is collected on a beneficiary level, and with these metrics, the Impact Score is calculated

taking into account their values relative to certain thresholds which are determined by publicly available national sociodemographic benchmarks.

According to an embodiment of the invention the system and method of the present invention provides impact performance of financial loan portfolios, assigning an impact score to all loans, which are then aggregated on a weighted average basis to a portfolio level.

According to an embodiment of the invention the system and method of the present invention provides a consolidated impact summary of the indicator metrics captured for each loan. Providing this *ex-ante* rating gives a more comprehensive understanding of impact that goes beyond simple scale metrics e.g., number of beneficiaries reached. Amongst a set of possible investments, ratings can help investors identify investments with the greatest possible impact by providing a framework for comparison and consistency for decision making.

The majority of existing impact measurement solutions cover public markets, providing data on an entity or firm level. According to another embodiment of the invention the system and method of the present invention provides a tailored impact measurement for private debt markets including loan portfolios, strategies funds etc. at an end beneficiary level, using an accredited impact measurement framework that considers socio-economic and development factors relative to national level benchmarks for context, the score provides a rating on the capacity of financing to generate positive impact for beneficiaries, and help financial institutions measure and maximize the contribution of their investments towards creating positive impact.

According to another embodiment of the invention the system and method of the present invention allows the integration of impact management into financial decision- making based on a rigorous systematic process that allows for the measurement and management of the expected impact of investments by calculating a proprietary developed impact score. Assigning an impact score brings standardisation to impact reporting, providing a perspective for comparison and consistency.

According to an embodiment of the invention the methodology used to measure the impact in the aforementioned method is determined by the asset class and beneficiary impact sector. The

beneficiary impact sector may include but is not limited to debt investments within the impact sector of MSMEs and low-income and unbanked individuals for which the model is developed by mapping a theory of change for these sectors so as to ascertain what type of impact will be created and accordingly, an impact model is developed.

Further, the client sectors and the possible recommendations to them may further include but are not limited to the following:

- Asset managers
  - to standardize impact measurements and reporting as well to adhere to increased reporting requirements.
  - provide insights on how and where impact of debt investments can be maximized
- Banks (lending)
  - Standardise impact measurement and reporting, as well to adhere to increased reporting requirements
- Core banking/loan management system providers
  - Expand suite of products with impact reporting on private debt portfolios
- ESG/risk scoring providers
  - An impact scorecard for each financial institution, providing consolidated impact summary of its eligible loan portfolios - with granular metrics breakdown of each underlying loan
- Financial analytics providers
  - Expand suite of products with impact reporting on private debt portfolios
- Fintech lenders
  - Standardise impact measurement and reporting
  - Insights on how and where impact of lending can be maximised
- Insurance providers
  - To measure the impact of insurance products at an end beneficiary level
- MFIs
  - Digitise and automate manual impact reporting processes
- Non-bank financial companies (NBFCs)
  - Standardise impact measurement and reporting

- Insights on how and where impact of debt investments can be maximized

According to an embodiment of the invention the method involves calibrating/training the advice model/software using past cases. According to an embodiment of the invention the method of the present invention involves a machine learning model wherein the model is able to dynamically set thresholds for impact metrics/data, based on the data that it is trained on, and further it is able to identify other metrics from lender datasets that are instrumental to predicting impact, that a human user may not have been able to identify as crucial to impact predictors.

According to an embodiment of the invention the method eliminates the need of a human expert making recommendations. as the system and method of the present invention employs a supervised machine learning approach for impact scoring. The models are trained with human labels and can be scaled to be generalizable for a range of impact sectors and geographies.

According to an embodiment of the invention there is provided a computer system for providing an impact analysis to measure the contribution of financing/investment/loan towards creating impact, comprising:

-a processor physically configured according to computer executable instructions,

- a memory disposed in communication with the processor and storing, in code form, the computer executable instructions to perform operations comprising:

(i) Receiving from a user terminal, a data set of social, environmental and governance related impact indicators to debt investments corresponding to a plurality of sectors of target beneficiaries wherein the target beneficiaries may include but not limited to micro, small and medium enterprises (MSMEs), base of the pyramid population and wherein the impact indicators may include but not limited to the associated UN SDGs such as no poverty, zero hunger, gender equality, climate action, life on land, decent work and economic growth etc.

(ii) Identifying and mapping a key set of impact indicators for use in providing an impact score, each factor including a defined respective set of categories and each factor and each category including a respective initial weightage which are determined by publicly

available national sociodemographic benchmarks; wherein the plurality of factors received are at least one from the data related to key set of impact indicators, SDGs and target beneficiaries;

(iii) Generating an impact score by-

- receiving a set of rules for generating an impact score using the plurality of factors and the categories, and using the respective weightage of the plurality of factors and the categories, the rule including a set of scores for combined weightage of the factors and categories

- training, via one or more processors, a Machine-Learning Model to predict an impact score utilizing the set of rules wherein the said machine learning model is constructed to perform sensitivity analysis and factor prioritization and run a set of rules wherein the set of rules may be provided by Machine Learning techniques including but are not limited to decision trees, random forests as well as neural networks or a combination thereof;

- identifying factors and categories within the dataset received in step (i) that are significant to predicting impact and thereby determining weights for each factor and each category through multinomial regression with the trained Machine learning model;

- determining weights for a given factor and a given category to stratify between high and low levels of impact with the trained Machine-Learning model thereby providing a more accurate reflection of disparities between the plurality of factors in a particular region; and

– inferring via one or more processors a respective optimized impact score for the combined weightage of the factors and categories; wherein the impact score is calculated by taking into account the respective weightage of the said factors.

(iv) Storing the optimized impact score and/or displaying the optimized Impact score.

The processor of the computer system may be further configured to:

(v) retrieving via one or more processors the stored inferred respective optimized weightings for the plurality of factors, and for each category;

(vi) receiving from a user terminal, inputs relating to each factor of the plurality of factors, and to the categories;

(vii) generating via one or more processors an impact score and a recommendation relating to the Impact score with the trained Machine Learning Model wherein the impact score is calculated by the trained Machine Learning model by taking into account the respective optimized weightage of the factors and for each category, and

(viii) transmitting the impact score and analytics to the user terminal, to provide automated impact reporting.

According to an embodiment of the invention, there is provided a system including the processor and a user terminal. Further, there is provided a computer program product executable on the processor to perform a method as mentioned in previous embodiments of the invention.

Figure 3 illustrates a high-level block diagram of a computer system (400) capable of implementing the present invention. The above-described methods for impact analysis may be implemented on a computer using well-known computer processors (401), memory units (405), storage devices (404), computer software, and other components. Further, the above-described impact analysis server and impact analysis tool can also be implemented on a computer using well-known computer processors, memory units, storage devices, computer software, and other components. Computer (400) contains a processor (401) which controls the overall operation of the computer (400) by executing computer program instructions which define such operations. The computer program instructions may be stored in a storage device (404), or other computer readable medium (e.g., magnetic disk, CD ROM, etc.) and loaded into memory (405) when execution of the computer program instructions is desired. Thus, the operations of the methods may be defined by the computer system (400) wherein instructions stored in the memory (405) and/or storage (404) and controlled by the processor (401) executing the computer program instructions. The memory (405) may store the data inputs/sets (100), the ML Impact Scoring Model (200) and the final output (300). The computer system (400) also includes one or more network interface (402) for communicating with other devices via a network. The computer system (400) also includes other input/output devices (403) that enable user interaction with the computer system (400) (e.g., display, keyboard, mouse, speakers, buttons, etc.). One

skilled in the art will recognize that an implementation of an actual computer could contain other components as well.

The following examples are intended to further illustrate certain preferred embodiments of the invention and are not limiting in nature. The examples illustrate some examples of loans with low, medium and high impact scores, along with the corresponding loan-level metrics. Further, it is also illustrated by way of the examples how these metrics feed into the eventual impact score.

EXAMPLES

EXAMPLE 1

An impact analysis as performed by the system and method of the present invention is described herein. Figure 4 shows a schematic diagram of the said impact analysis which is indicative of high levels of impact.

A sample MSME loan is shown with the data that is collected for the loan, and the corresponding impact score. The data collected are as under:

Loan amount: $14375

Country: Philippines

Underlying Loan Currency: Philippine Peso (PHP)

Industry Sector: Professional Services

Purpose of Loan: Education/Training

Loan Term: 8 months

Payment Period: Monthly

Status: Active: On Time

Days Late: 0

Interest rate p.a.: 17.00%

Interest Amount Paid: USD 210

Late Fees Amount Paid: USD 0

Details of Contract Date, End Date, and Last Updated Date and Next Repayment Date

The data for other impact metrics considered are:

Semi-Annual Revenue: USD 28044

Months in Operation: 24

Employees Total: 7

Proportion of Female Employees (% of Total): 42

Proportion of Full-Time Employees (% of Total): 71

Average wage rate (p.m.): USD 446

Female-led MSME: Yes

Employees Age-Band (% of Total): 17-25: 28.57

26-45: 42.86

46-65: 14.29

Above 65: 14.29

Employees Education (% of Total): No formal education: 14.29

Completed Primary Education: 28.57

Completed High-School Education: 28.57

Completed Post High-School Education or Vocational Training: 14.29

Number of Suppliers and Distributors: 2

The above data was input into a user terminal and an impact analysis performed by the system and method of the present invention. The optimized Impact Score generated for this particular example was 7.51. A combined effect of all the factors when analysed results in a high impact score generation.

EXAMPLE 2

An impact analysis as performed by the system and method of the present invention is described herein. Figure 5 shows a schematic diagram of the said impact analysis which is indicative of low levels of impact.

A sample MSME loan is shown with the data that is collected for the loan, and the corresponding impact score. The data collected are as under:

Loan amount: $61,349

Country: Philippines

Underlying Loan Currency: Philippine Peso (PHP)

Industry Sector: Manufacturing

Purpose of Loan: Other

Loan Term: 2 months

Payment Period: Monthly

Status: Active: On Time

Days Late: 0

Interest rate p.a.: 15.00%

Interest Amount Paid: USD 0

Late Fees Amount Paid: USD 0

Details of Contract Date, End Date, and Last Updated Date and Next Repayment Date

The data for other impact metrics considered are:

Semi-Annual Revenue: USD 604,404

Months in Operation: 20

Employees Total: 146

Proportion of Female Employees (% of Total): 33

Proportion of Full-Time Employees (% of Total): 40

Average wage rate (p.m.): USD 172

Female-led MSME: No

Employees Age-Band (% of Total): 17-25: 30.34

26-45: 39.73

46-65: 19.86

Above 65: 10.27

Employees Education (% of Total): No formal education: 19.86

Completed Primary Education: 24.66

Completed High-School Education: 34.93

Completed Post High-School Education or Vocational Training: 19.86

Number of Suppliers and Distributors: 15

Incidence of Occupational injuries (past 6 months): 2

The above data was input into a user terminal and an impact analysis performed by the system and method of the present invention. The optimized Impact Score generated for this particular example was 3.89 indicating low level of impact being generated out of this loan.

The factors contributing to a low impact score generation are 1) relatively high semiannual revenue, 2) it has a total of 146 employees, of whom only 40% are full-time employees, both of which are below the national average in the Philippines; 3) it is classified as a medium scale enterprise in the Philippines and is therefore considered to have less impact than loans given to micro or small enterprises that have more difficulty in accessing credit. A combined effect of all these factors when analysed results in a low impact score generation.

EXAMPLE 3

An impact analysis as performed by the system and method of the present invention is described herein. Figure 6 shows a schematic diagram of the said impact analysis which is indicative of medium levels of impact.

A sample MSME loan is shown with the data that is collected for the loan, and the corresponding impact score. The data collected are as under:

Loan amount: $137

Country: Indonesia

Underlying Loan Currency: Rupiah (IDR)

Industry Sector: Manufacturing

Purpose of Loan: Transport Loan

Loan Term: 12 months

Payment Period: Monthly

Status: Active: On Time

Days Late: 0

Interest rate p.a.: 0.58%

Interest Amount Paid: USD 10

Late Fees Amount Paid: USD 0

Details of Contract Date, End Date, and Last Updated Date and Next Repayment Date

The data for other impact metrics considered are:
First-time borrower: No
New client to the lender: Yes
Salaried Individual: Yes
Monthly Income (USD): 177
Number of household members supported by the individual's income: 4
Rural resident: Yes
Female borrower: No
Access to other sources of financing at similar terms and ease: Yes

The above data was input into a user terminal and an impact analysis performed by the system and method of the present invention. The optimized Impact Score generated for this particular example was 5.58 indicating a medium level of impact.

The factors contributing to an average/medium impact score are: 1) it is given to a rural resident; 2) access to finances is difficult in rural populations; 3) the client is new to the lender, indicative of improved access to financing; 4) the borrower has four dependents which increases the scale of impact of the loan; 5) relatively high-income level of the borrower; 6) individual being salaried indicative of a stable flow of income. Therefore, the combined effect of all these factors contributes to a medium level of impact of this loan.

EXAMPLE 4

An impact analysis as performed by the system and method of the present invention is described herein. Figure 7 shows a schematic diagram of the said impact analysis which is indicative of high levels of impact.
A sample loan is shown with the data that is collected for the loan, and the corresponding impact score. The data collected are as under:
Loan amount: $105
Country: Philippines
Underlying Loan Currency: Philippine Peso (PHP)

Industry Sector: Manufacturing
Purpose of Loan: Healthcare expenses
Loan Term: 1 month
Payment Period: Monthly
Status: Active: On Time
Days Late: 0
Interest rate p.a.: 13.30%
Interest Amount Paid: USD 14
Late Fees Amount Paid: USD 0
Details of Contract Date, End Date, and Last Updated Date and Next Repayment Date

The data for other impact metrics considered are:
First-time borrower: Yes
New client to the lender: Yes
Salaried Individual: No
Average daily wage rate (USD): 5
Number of household members supported by the individual's income: 3
Rural resident: Yes
Female borrower: Yes
Access to other sources of financing at similar terms and ease: No
Access to required health services: No

The above data was input into a user terminal and an impact analysis performed by the system and method of the present invention. The optimized Impact Score generated for this particular example was 8.04 indicating that this loan contributed positively to all five dimensions of impact.

The information provided indicates that the loan has been given to a low-income, non-salaried borrower in a developing country, who is female and a rural resident. This profile of borrower would typically have among the lowest levels of accessibility to loans, given that low-income borrowers are deemed to have high credit risk, and women and rural residents are typically marginalised and left out of the formal banking system. Additionally, this borrower is accessing

credit for the first time, and has no other alternative means of accessing the requisite financing, which contributes significantly to improved access to finance and additionality created by the loan. Furthermore, this loan has been utilised for healthcare expenses, which is a critical need, and therefore elevates the level of impact created.

The figures depict preferred embodiments for purposes of illustration only. One skilled in the art will readily recognize from the following discussion that alternative embodiments of the system and methods illustrated herein may be employed without departing from the principles described herein.

Upon reading this disclosure, those of skill in the art will appreciate still additional alternative structural and functional designs for the systems and methods described herein through the disclosed principles herein. Thus, while particular embodiments and applications have been illustrated and described, it is to be understood that the disclosed embodiments are not limited to the precise construction and components disclosed herein. Various modifications, changes and variations, which will be apparent to those skilled in the art, may be made in the arrangement, operation and details of the systems and methods disclosed herein without departing from the spirit and scope defined in any appended claims. It is thereof intended to cover in the appended claims such changes and modifications that are within the scope of the invention.

We Claim:

1. A computer-implemented method for providing an impact analysis to measure the contribution of financing/investment/loan towards creating social and / or environmental impact, said method comprising the steps of:

(i) Receiving at one or more processors a data set of social, environmental and governance related impact indicators to debt investments corresponding to a plurality of sectors of target beneficiaries wherein the target beneficiaries may include but are not limited to micro, small and medium enterprises (MSMEs), base of the pyramid population and wherein the impact indicators may include but are not limited to the associated UN SDGs, such as no poverty, zero hunger, gender equality, climate action, life on land, decent work and economic growth;

(ii) Identifying and mapping, via one or more processors, a key set of impact indicators for use in providing an impact score, each factor including a defined respective set of categories, and each factor and each category including a respective initial weightage which are determined by publicly available national sociodemographic benchmarks; wherein the plurality of factors received are at least one from the data related to key set of impact indicators, SDGs and target beneficiaries;

(iii) generating via one or more processors, an impact score by-

-receiving a set of rules for generating an impact score by using the plurality of factors and the categories, and using the respective weightage of the plurality of factors and the categories, the rule including a set of scores for combined weightage of the factors and categories;

– training, via one or more processors, a Machine-learning model to predict an impact score utilizing the set of rules wherein the said machine-learning model is constructed to perform sensitivity analysis and factor prioritization and run a set of rules wherein the set of rules may be provided by Machine Learning techniques including but

not limited to decision trees and random forests as well as neural networks and / or a combination thereof;

- identifying factors and categories within the dataset received in step (i) that are significant to predicting impact and thereby determining weights for each factor and each category through multinomial regression with the trained Machine-Learning model; and

– determining weights for a given factor and a given category to stratify between high and low levels of impact with the trained Machine-Learning model thereby providing a more accurate reflection of disparities between the plurality of factors in a particular region; and

- inferring via one or more processors, a respective optimized impact score for the combined weightage of the factors and categories; wherein the impact score is calculated by the trained Machine Learning model by taking into account the respective weightage of the said factors; and

(iv) Storing the optimized Impact score and/or displaying the optimized Impact score.

2. The method as claimed in claim 1 wherein the plurality of factors, the categories, and their respective initial weightage are stored in a non-transitory storage medium and the rules for generating an impact score are stored in a non-transitory storage medium.

3. The method as claimed in 1 wherein the method provides a consolidated impact summary of the indicator metrics captured for each loan.

4. The method as claimed in claim 1 wherein the method may further include the steps of:

(v) retrieving via one or more processors the stored inferred respective optimized weightings for the plurality of factors, and for each category;

(vi) receiving from a user terminal, inputs relating to each factor of the plurality of factors, and to the categories;

(vii) generating via one or more processors an impact score and a recommendation relating to the impact score with the trained machine Learning Model wherein the impact score is calculated by the trained machine learning model by taking into account the respective optimized weightage of the factors and for each category; and

(viii) transmitting the impact score and analytics to the user terminal, to provide automated impact reporting.

5. The method as claimed in claims 1 and 3 wherein the plurality of factors may include but are not limited to income level, gender, area of residence, employment practices, gender equality, access to basic goods and services.

6. The method as claimed in claim 1 and 4 wherein the plurality of categories for the plurality of factors may include but are not limited to ownership of business by gender, Employee diversification by gender, Wage equality to measure fair compensation, Education levels, Age demographics, Implementation of environmental management system, Purpose of loan with further analysis e.g. if used for education purposes, Loan size, Interest Rate, Income, how many end beneficiaries are female, access to essential products and services such as healthcare, education and food, access to financing, Recipient breakdown by gender, Income level, Number of dependents on income and loan proceeds, Whether they live in a rural versus urban setting.

7. The method as claimed in claim 1 wherein the beneficiary impact sector may include but are not limited to debt investments within the impact sector of MSMEs and low-income and unbanked individuals.

8. The method as claimed in claim 4 wherein the user terminal is a smartphone, a tablet computer, a mobile device, a laptop computer, a desktop computer, a wearable computing device or other known type of computing device or a smart TV, or a voice control interface device. Communication with the user terminal may be wireless (e.g., cellular, Wi-Fi, Bluetooth) or by a wired connection.

9. The method as claimed in claims 1 and 4 wherein the machine learning model is structured to dynamically set thresholds for the impact indicators based on the data set is trained on and identifies other indicators from the data set that are instrumental to predicting impact.

10. The method as claimed in claim 1 wherein the method may be utilized by sectors such as Asset managers, Banks (lending), Core banking/loan management system providers, ESG/risk scoring providers, Financial analytics providers, Fintech lenders, MFIs and NBFCs and other suitable sectors.

11. The method as claimed in claim 1 wherein the method eliminates the need of a human expert making recommendations

12. The method as claimed in claim 1 and 3 wherein low impact scores indicate that a given loan is not generating significant impact, medium impact scores indicate that the given loan is generating an average impact and high impact scores indicate that the given loan is generating high levels of impact.

13. A computer system for providing an impact analysis to measure the contribution of financing/investment/loan towards creating impact, comprising:

(i) Receiving from a user terminal, a data set of social, environmental and governance related impact indicators to debt investments corresponding to a plurality of sectors of target beneficiaries wherein the target beneficiaries may include but not limited to micro, small and medium enterprises (MSMEs), base of the pyramid population and wherein the impact indicators may include but not limited to the associated UN SDGs such as no poverty, zero hunger, gender equality, climate action, life on land, decent work and economic growth etc.

(ii) Identifying and mapping a key set of impact indicators for use in providing an impact score, each factor including a defined respective set of categories

and each factor and each category including a respective initial weightage which are determined by publicly available national sociodemographic benchmarks; wherein the plurality of factors received are at least one from the financial data related to key set of impact indicators, SDGs and target beneficiaries;

(iii) Generating an impact score by-

- receiving a set of rules for generating an impact score using the plurality of factors and the categories, and using the respective weightage of the plurality of factors and the categories, the rule including a set of scores for combined weightage of the factors and categories

- training, via one or more processors, a Machine-Learning Model to predict an impact score utilizing the set of rules wherein the said machine learning model is constructed to perform sensitivity analysis and factor prioritization and run a set of rules wherein the set of rules may be provided by Machine Learning techniques including but are not limited to decision trees, random forests as well as neural networks or a combination thereof;

- identifying factors and categories within the dataset received in step (i) that are significant to predicting impact and thereby determining weights for each factor and each category through multinomial regression with the trained Machine learning model;

- determining weights for a given factor and a given category to stratify between high and low levels of impact with the trained Machine-Learning model thereby providing a more accurate reflection of disparities between the plurality of factors in a particular region; and

– inferring via one or more processors a respective optimized impact score for the combined weightage of the factors and categories; wherein the impact score is calculated by taking into account the respective weightage of the said factors.

(iv) Storing the optimized impact score and/or displaying the optimized Impact score.

14. The system as claimed in claim 13 wherein the processor is further configured to perform operations comprising:

(v) retrieving via one or more processors the stored inferred respective optimized weightings for the plurality of factors, and for each category;

(vi) receiving from a user terminal, inputs relating to each factor of the plurality of factors, and to the categories;

(vii) generating via one or more processors an impact score and a recommendation relating to the Impact score with the trained Machine Learning Model wherein the impact score is calculated by the trained Machine Learning model by taking into account the respective optimized weightage of the factors and for each category, and

(viii) transmitting the impact score and analytics to the user terminal, to provide automated impact reporting.