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(71) Applicant: **UNISYS CORPORATION** [US/US]; Unisys Way, MS/S1-108, Blue Bell, PA 19424-0001 (US).

(72) Inventors: **IVATURI, Ravi Shankar**; 419, 8th B Main, 4th Cross, HRBR Layout 1st Block, Kalyan Nagar PO, Bangalore, -560043 (IN). **BORCHATE, Dnyaneshwar, Pandurang**; F501, Viola apartment, Pune Bangalore express highway, Near Cipla Foundation, Warje, Malwadi, Pune 411052 (IN).

(74) Agent: **GOEPEL, James**; Unisys Corporation, Unisys Way, MS/S1-108, Blue Bell, PA 19424-0001 (US).

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(54) Title: PORTFOLIO ASSESSMENT FRAMEWORK

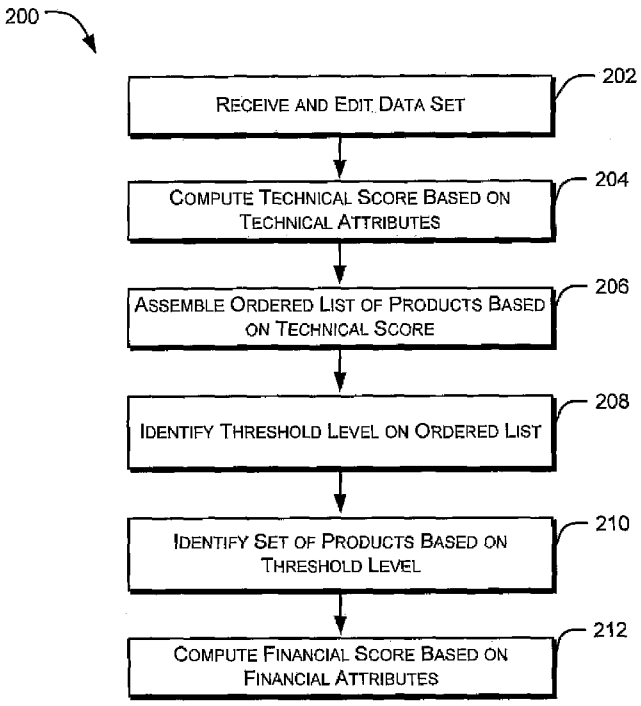


FIG. 2

(57) Abstract: A computer-implemented method for identifying products suitable for right-sourcing. The method includes receiving a data set related to a number of products. The data set includes technical and financial attributes related to each product. Further, the method includes computing a technical score for each product by employing the technical attributes related to that product. Based on the technical score, products are assembled in an ordered list, and a set of products is identified from the ordered list based on a threshold level. The method also includes computing a financial score for each product from the identified set of products by employing the financial attributes associated with that product. The financial score establishes suitability of products for right-sourcing.

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PORTFOLIO ASSESSMENT FRAMEWORK

BACKGROUND

[0001] This application deals generally with the field of right-sourcing, and more particularly to product assessment to establish suitability of products for engineering them at a right global location.

[0002] To maintain a competitive edge in the global market, more and more domestic companies are taking advantage of less costly resources, particularly if a company is located in a high-cost location. These companies seek, and find, locations providing a high-quality work force as well as access to transportation in markets, both domestically and around the world. A number of terms have been coined to describe these activities, but perhaps the most accurate is "right-sourcing," which calls for identifying the best source and location for manufacturing a product or performing a service. Unlike the earlier term "outsourcing" with its unstated assumption that cost savings can only be achieved outside one's own company, and even outside one's own country, right-sourcing can result in performing activities within one's own company and country, as well as around the world. The term "right-sourcing" also suggests the analysis required for a rational business decision. Simply picking up a business process and moving it, whether to another department or to another part of the world, demands careful attention to inputs, outputs, processes and interrelationships. A rush to seek lower costs can easily wind up increasing those costs, unless the issue is studied carefully.

[0003] Unfortunately, analyzing the proper sourcing for a product or service is often an extremely laborious and time-consuming task. Also, unless that review is performed in an objective, cost-effective, and timely manner, there is little likelihood that the analyst will attain the desired business value. Currently, no structured decision-making model is available to facilitate to make this business decision. Specifically, no structured approach exists to compute potential savings related to relocation of business activities to a new location.

[0004] Accordingly, there exists a need for a structured approach and methodology for evaluating products and services to identify a suitable location for producing the products or services.

SUMMARY

[0005] The present disclosure provides a computer-implemented method for identifying products suitable for right-sourcing. The method includes receiving a data set related to a number of products. The data set includes technical and financial attributes related to each product. Further, the method includes computing a technical score for each product by employing the technical attributes related to that product. Based on the technical score, products are assembled in an ordered list, and a set of products is identified from the ordered list based on a threshold level. The method also includes computing a financial score for each product from the identified set of products by employing the financial attributes associated with that product. The financial score establishes suitability of products for right-sourcing.

[0006] The disclosure also provides a system for identifying products suitable for right-sourcing. The system includes a product inventory, and a processing module operatively coupled to the product inventory. The product inventory includes a number of products, and a data set related to the products. The data set includes technical and financial attributes related to each product from the number of products. The processing module includes a technical analysis module to compute a technical score for each product by employing the technical attributes related to that product. Based on the technical score, the technical analysis module assembles the products in an ordered list and identifies a set of products from the ordered list based on a threshold level. The processing module also includes a financial analysis module to compute a financial score for each product from the set of products identified by the technical analysis module by employing the financial attributes related to that product. The financial score establishes suitability of products for right-sourcing.

BRIEF DESCRIPTION OF THE DRAWINGS

[0007] The drawing figures described below set out and illustrate a number of exemplary embodiments of the disclosure. Throughout the drawings, like reference numerals refer to identical or functionally similar elements. The drawings are illustrative in nature and are not drawn to scale.

[0008] **FIG. 1** is an embodiment of a system for identifying products suitable for right-sourcing.

[0009] **FIG. 2** is a flowchart of an embodiment of a method of the disclosure.

[0010] **FIG. 3** is an exemplary questionnaire to perform a technical analysis on products.

[0011] **FIG. 4** is a table illustrating scores assigned to answers associated with the questionnaire, shown in FIG. 3.

[0012] **FIG. 5** is a graph depicting output of a technical analysis.

[0013] **FIG. 6** is a graph illustrating output of a financial analysis.

[0014] **FIG. 7** is a graphical chart representing costs and savings associated with transitioning a product from one location to another.

DETAILED DESCRIPTION

[0015] The following detailed description is made with reference to the figures. Exemplary embodiments are described to illustrate the subject matter of the disclosure, not to limit its scope, which is defined by the appended claims.

Overview

[0016] In general, the present disclosure describes a computer-implemented method for identifying a suitable location to manufacture a product or provide a service. As used in this disclosure, the term "right-sourced products" means products that are sourced to a suitable global location for development. The decision whether to relocate a product or service to a new global location is often based upon achieving a lower production cost, making better use of available resources, focusing energy on the core competencies of a

particular business, or making more efficient use of labor, capital, and information technology.

[0017] Further, the method described in this disclosure is generally applicable to a variety of products or services such as DMSII, ALGOL, and the like. The method is capable of identifying products from a set of products, based upon a structured approach, to compute the profitability associated with right-sourcing a particular product. The potential right-sourcing products are determined using a structured framework of their associated technical and financial attributes. Accordingly, the method of the present disclosure provides a comprehensive and efficient decision-making technique to determine whether a particular product should most profitably be sourced at a new global location or handled at an existing location.

Exemplary embodiments

[0018] FIG. 1 illustrates an embodiment 100 of a portfolio assessment system 101 for identifying a suitable geographical location to manufacture products. In general, the system 101 gathers and analyzes comprehensive data associated with a product. It will be understood that the data involved in a right-sourcing analysis includes both technical and financial data. On the technical side, the analysis requires information about the nature of a product or service, its requirements for raw materials or other inputs, and any special requirements, such as a clean-room manufacturing environment. Financial data will include not only information about the product or service, but also information related to the proposed environment, such as prevailing labor costs, transportation costs, and tax rates. As will be shown below, the system 101 takes into account both sorts of data.

[0019] The system 101 operates within a computer system (not illustrated), which can be of any type suitable to the scale of the analysis task, as can be understood by those in the art. The most common implementation of the system 101 will likely be on a desktop or laptop microcomputer, working either in a standalone or client-server environment. The decisions underlying these factors are outside the scope of the present disclosure and well within the skill of those in the art. In general, both the local environment and the specific operating requirements will relate to the scope of the analysis task.

[0020] The system 101 includes a processing module 102 coupled to a memory 104. The processing module 102 can include one or more devices, such as microprocessors, microcomputers, or data processing devices. Among other capabilities, the processing module 102 fetches and executes computer readable instructions stored in the memory 104. The memory 104 can include any computer-readable medium known in the art, including, for example, volatile memory such as random access memory, or non-volatile memory such as flash memory. The memory 104 also includes programs 106 and data 108. The programs 106 include modules such as a technical analysis module 110, and a financial analysis module 112 for performing technical analysis, and financial analysis, respectively. The output of the financial analysis module 112 is provided to a reporting module 114 which process the input and generates reports.

[0021] It should be further noted that the modules discussed below can be implemented in a number of different techniques. In one approach, the functional requirements set out here can be implemented in a set of newly-written modules, produced in a common programming environment, such as C#. Alternatively, financial and technical analysis packages, such as that produced by SAS Corp., can be adapted to perform this analysis. Furthermore, these modules can be embodied in a standalone system, designed to run on an independent microcomputer, or using a client-server architecture operating on a networked computer. These and other similar decisions are within the ability of those in the art, and such decisions can be taken based on the disclosure set out here.

[0022] The data 108 includes a product inventory 116 containing a set of products 118. These products may also include services, but for convenience the set of items under consideration will be referred to as "products 118". Examples of the content of such products 118 might be the items manufactured by a hardware-oriented company or the services performed by a financial services institution. Depending primarily on scope, the product inventory 116 may be retained on a database, such as Microsoft Office Access ™, for small systems or enterprise-sized databases such as those offered by Oracle Corp. at the larger end. Smaller inventories may be retained on systems such as a Microsoft Office Excel ™ workbook, or other suitable repository. In an embodiment of the present disclosure, a set of products may be eliminated from the product inventory 116, based on a set of basic elimination parameters related to relevancy of the products associated with right-sourcing.

Specific examples of the basic elimination parameters are set out in connection with FIG. 2 and an example.

[0023] Along with the products 118, the product inventory 116 also includes a data set 120 containing technical attributes 122 and financial attributes 124 related to each product from the products 118. The technical attributes 122 refer to technical parameters associated with manufacturability of a product that may facilitate the decision of right-sourcing. In a technical hardware environment, the technical attributes 122 may include data items such as annual work flow, product ownership, and similar characteristics. The financial attributes 124 relate to business related parameters associated with production cost of a product that facilitate the decision of right-sourcing. The financial attributes 124 may include both direct cost factors, such as material and labor costs, indirect cost factors, such as general and specific overhead charges, and the ultimate cost of such as taxes. In a right-sourcing environment, it is required to tap into local knowledge about specific factors, such as labor and tax issues.

[0024] The technical and the financial analysis may result in reports, such as reports 126, produced by the reporting module 114, including recommendations or conclusions rendering a means to evaluate the right-sourcing process. The reports 126 can include pictorially represented graphs, block diagrams, or data based reports. Graphs generally refer to charts or diagrams depicting relationship between two or more variables used, for instance, in visualizing scientific data. The system 101 employs Microsoft Office Excel™ to create graphs, however it will be evident that the graphs may be generated utilizing any other software known in the art such as Lotus notes™, Microsoft Office Access™ or any other web based tools.

[0025] The technical analysis module 110 stored in the memory 104 is configured to compute a technical score for each product from the products 118 by employing technical attributes 122 related to that product. Generally, the technical analysis module 110 employs an analytical model or any other suitable model that takes as input one or more attributes from the technical attributes 122 and outputs a technical score. The process of computing the technical scores is explained in detail in connection with FIG. 2. The financial analysis module 112 utilizes a mathematical model or any other suitable model for computing a financial score for each product. The process of computing the financial scores is explained

in detail in connection with FIG. 2. The combination of the technical score and the financial score provides an indication of the most suitable location for manufacturing a product.

[0026] FIG. 2 illustrates an embodiment of a computer-implemented method 200 for identifying suitable manufacturing location for products or services. The method 200 may be implemented on the system 101 described in connection with FIG. 1, or any other embodiment of the present disclosure.

[0027] The method 200 starts at step 202, where the product inventory 116 (shown in FIG. 1) containing the products 118 receives the data set 120 containing the technical and financial attributes 122 and 124 related to the products 118. Here, the method 200 gathers all relevant attributes affecting the right-sourcing process. A large corporation or organization may include hundreds or thousands of products that may be considered for relocation to a new suitable global location.

[0028] To deal with such situations, the method 200 also edits the incoming data set 120 to eliminate unneeded items from the product inventory 116, based on the set of basic elimination parameters. The basic elimination parameters are basically the obverse of factors that indicate relevance of a particular product, such as low volume, non-strategic business position, or inactive status. Various other specific basic elimination parameters will be set out below in connection with an example. Each product from the product inventory 116 is checked against the basic elimination parameters to edit the product inventory 116, with the goal of trimming the product inventory 116 to a manageable size.

[0029] At step 204, the technical analysis module 110 employs an analytical model to compute a technical score based on each product's technical attributes 122. The analysis is implemented by a questionnaire addressing the technical attributes 122. Questions and answers are assigned weights and ranks, and based on the answers selected for all the questions, a technical score is generated for a product. At step 206, the technical analysis module 110 assembles the products 118 in an ordered list based on their technical scores. The products 118 may be assembled in an ascending order or a descending order of the technical scores. The analytical model is explained in detail in connection with an example set out below.

[0030] The technical analysis module 110 is also configured to determine a threshold level on the ordered list, at step 208, based on the maximum technical score and the minimum

positive technical score in the ordered list. To compute the threshold level, a mean technical score is calculated using a mathematical equation, (maximum score – minimum score) /2. The products with technical scores above the threshold level are shortlisted for further analysis such as for financial analysis, at step 210. In an embodiment of the present disclosure, the step of short listing products for financial analysis includes generating graphs, reports, or any other suitable visual representation. The process of assembling the ordered list, and identification of the products suitable for financial analysis is also explained in connection with an example set out below.

[0031] At step 212, the financial analysis module 112 employs a mathematical model to compute a financial score of the products identified at step 210 based on each product's financial attributes 124. Specific examples of the financial attributes 124 will be set out below in connection with an example. During the financial analysis various direct and indirect costs related to right-sourcing of a product are calculated. The financial score provides an indication of the savings associated with manufacturing a product at a particular location. In general, the mathematical model employed by the financial analysis module 112 applies suitable mathematical formulae on one or more financial attributes 124 to generate the financial score. The financial analysis module 112 also calculates a transition cost and a steady state cost for determining suitability of developing the products 118 at a new global location. The process of financial analysis is explained in detail in connection with an example set out below. It will be understood that the technical and financial scores may be calculated using any other suitable model. For example, certain automated techniques may be used to calculate the technical and financial scores.

[0032] In an alternative embodiment of the present disclosure, the technical score and the financial score may be computed independently for a product, and both the scores may then render the decision of developing the product at a suitable global location.

[0033] The financial score calculated during the transition state provides an indication of suitability of developing a product at a particular global location. Accordingly, the financial analysis module 112 generates a final list of products from the products 118 that may be right-sourced to a particular global location. In an embodiment of the present disclosure, the financial score may be savings associated with relocating a particular product to a new destination. Higher the value of the savings associated with a product greater is the

probability of developing the product at a new destination. In another embodiment, the step of calculating the financial score includes generating graphs, reports, or any other visual representation for identifying the products suitable for developing at a new global location.

[0034] To illustrate the present disclosure, the following example follows an application of the method set out in the present disclosure. The method discussed in this example may be applicable on any product or service that may be right-sourced to a new destination for development. Here, multiple products are identified and collated in a Microsoft Office Excel™ workbook. The products, however, may be stored in other suitable software repository known in the art.

[0035] Before performing an analysis on the products, a set of products are eliminated based on a set of basic elimination criteria indicating relevance of the products 118. In general, products having low work flow volume and products not in the primary line of business are eliminated along with inactive products or products that are cancelled before shipping. It will be evident to those skilled in the art that though the present example illustrates a specific set of basic elimination parameters, however, other basic elimination parameters may be utilized to identify the potential candidates for right-sourcing.

[0036] The identified candidate products with associated technical and financial attributes, such as the technical attributes 122 and the financial attributes 124 are stored in Microsoft Office Excel ™ or other suitable repository containing the candidate products, thereby forming an inventory, such as the product inventory 116.

[0037] As discussed in connection with FIGS. 1 and 2, an analytical model computes a technical score for each product within the product inventory. For example, the analytical model may include a questionnaire for assigning a score to each technical attribute associated with a product. The technical attributes may include data items such as annual work flow, product ownership, skill availability, hardware dependencies, and so on. The technical attributes may also include other data items, such as product category (database, hardware, and networking), current stakeholders and their contact details, current support / development environment, current support type, and current support ceasing date known in the art. An exemplary questionnaire 300 is set out in FIG. 3.

[0038] As depicted in FIG. 3, the questionnaire 300 includes multiple choice questions. Each option is associated with a score and upon clicking an option associated with

a question, an associated technical attribute is assigned a score. In an embodiment of the disclosure, the scores associated with each option are illustrated in a table 400 in FIG. 4.

[0039] To compute the overall technical score to a product, the scores assigned to individual technical attributes are added. Each question and associated answers may be assigned different weights or ranks, based on their relevancy. Further, as depicted in FIG. 4, each of the technical attributes is associated with a best score, which represents the likelihood of developing a product at a new destination. To provide a better analysis of the technical scores, the analytical model may generate a graph, such as a graph 500 as depicted in FIG. 5, representing the technical score for the candidate products. In an embodiment of the present disclosure, a solid line 502 represents a threshold value, which determines suitability for right-sourcing. Products attaining technical score above this threshold value may be considered for further analysis. Alternatively, the technical analysis module 110 may generate any other suitable visual representation of the technical scores.

[0040] Based on the technical scores, the analytical model generates an ordered list of the products. Based on the maximum technical score and the minimum technical score of the products in the ordered list, a threshold value is computed. In general, the threshold value is the mean value of the maximum technical score and the minimum positive technical score. Subsequently, the candidate products are categorized into three categories based on the threshold value. Category-1 includes products having technical scores between the threshold value and the maximum technical score, and Category-2 includes products with technical score between the threshold value and the minimum positive technical score. The category-1 and category-2 products are considered suitable for financial analysis. Category-3 constitutes products having negative technical scores and is not considered for further analysis.

[0041] Subsequently, a financial analysis is performed on the category-1 and category-2 products to identify their suitability for development at the new destination. A financial analysis module, such as the financial analysis module 112, computes a financial score for each category-1 and category-2 products using the financial attributes related to these product. The financial analysis module utilizes suitable mathematical formulae to calculate cost related to each of the financial attributes. In general, the financial analysis module computes the resource cost, travel cost, and infrastructure cost associated with developing each product at the new destination. The resource cost may include costs involved

in hiring, training labor, and monthly wages; and travel cost may include airfares, visa fees, health insurance cost, and other travelling costs known to those skilled in the art.

[0042] Apart from the resource cost and the travel cost, the infrastructure cost also plays an essential role while transitioning from one location to another. The infrastructure cost may include hardware cost, software cost, contingency/ training cost, broadband/ internet monthly billing, telephone charges, and broadband/ internet connection cost, among others. These costs are calculated on a monthly, quarterly, or yearly basis to provide a better insight of the right-sourcing process. Moreover, the costs may be computed for a number of years to identify the profits associated with right-sourcing process in future. Specifically, the mathematical model computes the resource cost by calculating cost incurred in hiring and training labor both at the new destination and the existing location.

[0043] In an embodiment of the present disclosure, the resource cost, both at the existing location and the new destination, may be calculated before transition state, during transition state, and during steady state. Costs before the transition state may be calculated using the Equation 1:

Resource Cost at the existing location =
Number of resources * Resource cost per hour at the existing location * 1780 (1)

[0044] An organization will generally set a minimum standard number of hours that a resource should book against a project in a year. Approximately 1780 hours is in the range of generally employed figures, and that value will be used here. In an embodiment of the present disclosure, various costs during the transition state may be calculated using the Equations 2-6:

Resource cost at the existing location =
Number of resources * Resource cost per hour at the existing location * Transition period (2)

Resource cost at the new destination =
Number of resources * Resource cost per hour at the new destination * Transition period (3)

Training cost = Travel cost + Training cost at the new destination (4)

Travel Cost = Airfare cost + Visa cost +Insurance cost + per day cost * number of days travel planned (5)

Infrastructure Cost = Hardware Cost + Software Cost (6)

[0045] The transition period may be a month, a quarter, or a year. In an embodiment of the present disclosure, cost during the steady state may be calculated using the Equation 7:

Resource Cost at the new destination =
Number of resources * Resource cost per hour at new destination * 1780 (7)

[0046] The mathematical model then adds the calculated resource cost at both the existing location and the new destination, the travel cost, and the infrastructure cost during the transition state to compute a transition cost. Equation 8 is set out below for calculating the transition cost

Transition Cost =
Resource Cost (at the existing location and the new destination) + Training Cost + Travel Cost + Infrastructure cost (8)

[0047] The transition cost enables the computation of the total cost involved in developing a product at the new destination on monthly, quarterly, or yearly basis. The financial module 112 utilizes the total cost to calculate a financial score, such associated savings, profits, and even-break score. The associated savings aids in identification of suitability of a product for production at the new destination. In general, the transition cost is added to the existing location resource cost to generate the total cost, as shown in Equation 9:

Total Cost = Resource Cost (existing location) + Transition Cost (9)

[0048] The financial analysis module 112 performs the above mentioned process for each product of the category-1 and category-2 products. To provide a better analysis of the financial scores, the financial analysis module 112 may generate a graph, such as a graph 600 as depicted in FIG. 6, representing the financial score for the candidate products. The graph 600 includes a solid line 602 to separate the finances incurred during the hiring and training phases, and the steady-state phase. Alternatively, the financial analysis module 112 may generate other visual representation to indicate the mentioned costs. Further, various costs, such as resource cost at the existing location and the new destination, transition cost, and

travel cost, and gain may be represented using a bar graph 700, as shown in FIG. 7. The bar graph 700 may enable assessment of cost and saving trends.

[0049] Based on the financial scores, the financial analysis module generates a final list of the products that are suitable for development at the new destination. The products having a positive saving value may be considered for development at the new destination. Higher the value of the savings associated with a product greater is the probability of development of the product at the new destination. This final list may be represented as a report recommending products potentially suitable for development at the new destination. In an organization, the managements may utilize these excel based or visual reports to select the products for transitioning and thereby developing at the new destination.

[0050] Those in the art will understand that the steps set out in the discussion above may be combined or altered in specific adaptations of the disclosure. The illustrated steps are set out to explain the embodiment shown, and it should be anticipated that ongoing technological development will change the manner in which particular functions are performed. These depictions do not limit the scope of the disclosure, which is determined solely by reference to the appended claims.

Conclusion

[0051] The present disclosure provides a portfolio assessment system, such as the system 101, and a computer-implemented method, such as the method 200, for identifying products suitable for right-sourcing embodying the following advantages. The system and method provides a structured approach to compute savings involved in right-sourcing of a particular product. Accordingly, the system and the method aids in an efficient decision making of whether to source a particular product to a new global location or to keep it in the existing location. In addition, the system and the method provide a time efficient assessment technique.

[0052] The specification sets out a number of specific exemplary embodiments, but persons of skill in the art will understand that variations in these embodiments will naturally occur in the course of embodying the subject matter of the disclosure in specific implementations and environments. For example, any other suitable analysis modules implementing suitable program logic may be utilized instead of the disclosed technical and

financial analysis modules. It will further be understood that such variations, and others as well, fall within the scope of the disclosure. Neither those possible variations nor the specific examples set above are set out to limit the scope of the disclosure. Rather, the scope of claimed disclosure is defined solely by the claims set out below.

CLAIMS

What is claimed is:

1. A computer-implemented method for identifying products suitable for right-sourcing, the method comprising:
   receiving a data set related to a plurality of products, the data set including technical and financial attributes related to each product;
   computing a technical score for each product, employing the technical attributes related to that product;
   assembling an ordered list of the products, based on the technical score of the products;
   identifying a set of products from the ordered list based on a threshold level; and
   computing a financial score for each product from the identified set of products, employing the financial attributes related to that product, wherein the financial score establishes suitability of products for right-sourcing.

2. The computer-implemented method of claim 1, wherein the technical attributes include at least one factor related to manufacturability of the products.

3. The computer-implemented method of claim 1, wherein the financial attributes include at least one factor related to production cost of the products.

4. The computer-implemented method of claim 1, further comprising a step of analyzing the set of products for potential elimination from the set, employing a set of basic elimination parameters.

5. The computer-implemented method of claim 4, wherein the basic elimination parameters include at least one factor related to relevancy of the products associated with right-sourcing.

6. The computer-implemented method of claim 1, wherein the step of identifying the set of products includes generating graphs and reports.

7. The computer-implemented method of claim 1, wherein the step of computing the financial score includes generating graphs and reports for identifying the products suitable for right-sourcing.

8. A system for identifying products suitable for right-sourcing, the system comprising:
a product inventory including:
a plurality of products; and
a data set related to the plurality of products, the data set including technical and financial attributes related to each product from the plurality of products;
a processing module operatively coupled to the product inventory, wherein the processing module includes:
a technical analysis module configured to:
compute a technical score for each product, employing the technical attributes related to that product;
assemble an ordered list of the products, based on the technical scores of the products; and
identify a set of products from the ordered list based on a threshold level, the threshold level identifying products suitable for financial analysis; and
a financial analysis module configured to compute a financial score for each product from the set of products identified by the technical analysis module, employing the financial attributes related to that product, the financial score establishing suitability of products for right-sourcing.

9. The system of claim 8, wherein the technical attributes include at least one factor related to manufacturability of the products.

10. The system of claim 8, wherein the financial attributes include at least one factor related to production cost of the products.

11. The system of claim 8, wherein the processing module is further configured to analyze the set of products for potential elimination from the set, employing a set of basic elimination parameters.

12. The system of claim 11, wherein the basic elimination parameters include at least one factor related to relevancy of the products associated with right-sourcing.

13. The system of claim 8 further comprising a reporting module, wherein the reporting module is configured to generate graphs and reports.

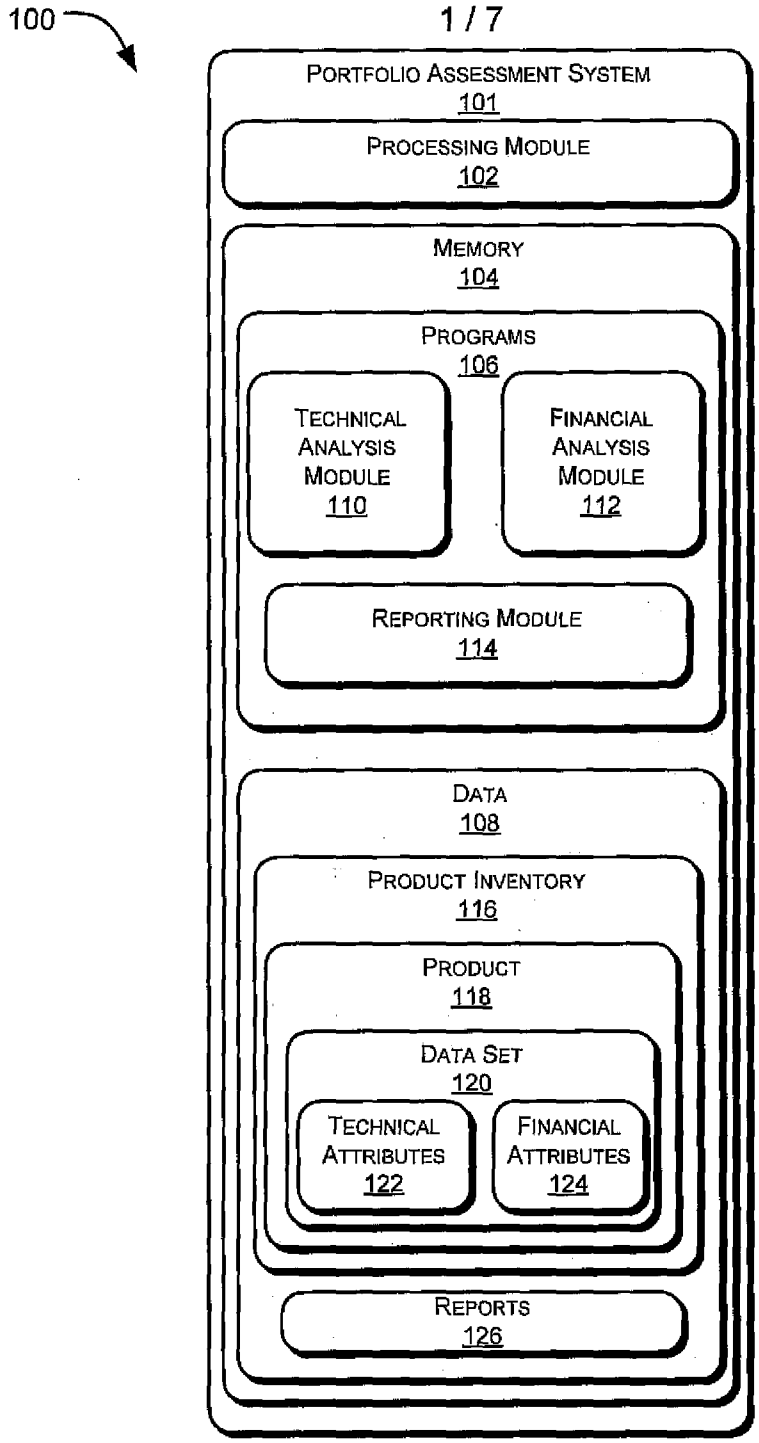

100
PORTFOLIO ASSESSMENT SYSTEM
101
PROCESSING MODULE
102
MEMORY
104
PROGRAMS
106
TECHNICAL ANALYSIS MODULE
110
FINANCIAL ANALYSIS MODULE
112
REPORTING MODULE
114
DATA
108
PRODUCT INVENTORY
116
PRODUCT
118
DATA SET
120
TECHNICAL ATTRIBUTES
122
FINANCIAL ATTRIBUTES
124
REPORTS
126

FIG. 1

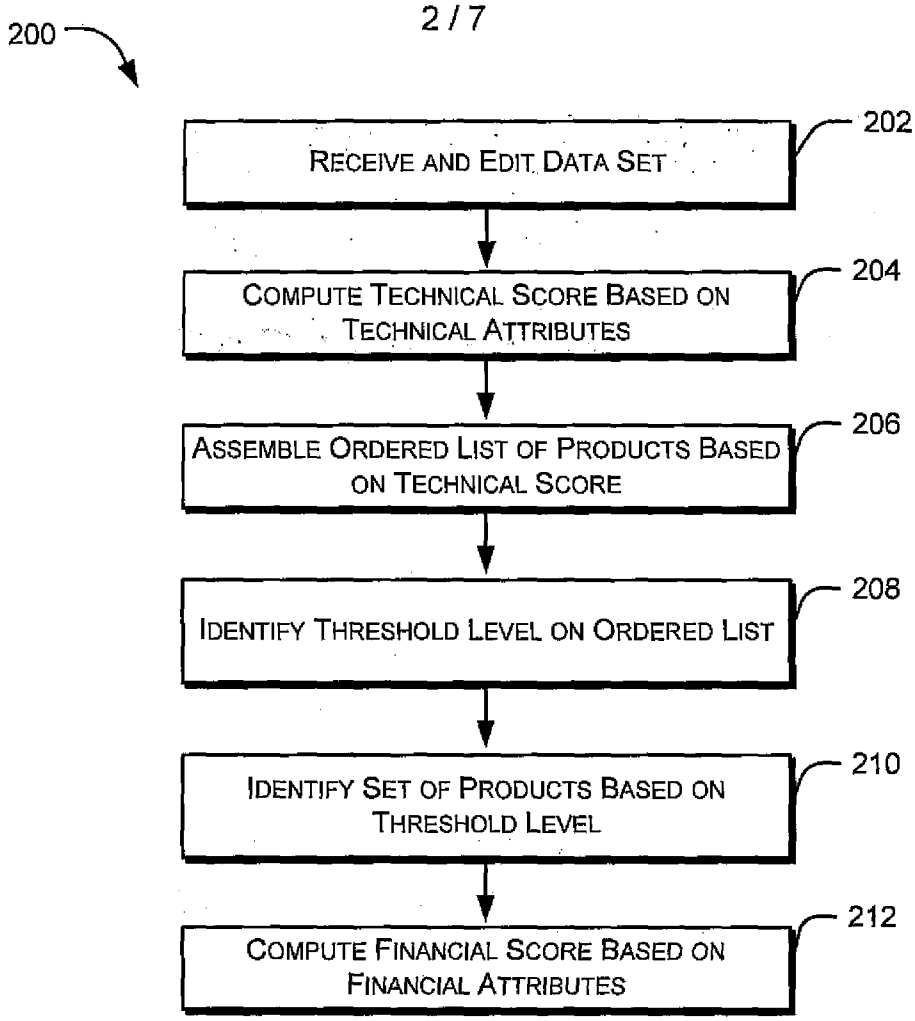

200
RECEIVE AND EDIT DATA SET
202
COMPUTE TECHNICAL SCORE BASED ON TECHNICAL ATTRIBUTES
204
ASSEMBLE ORDERED LIST OF PRODUCTS BASED ON TECHNICAL SCORE
206
IDENTIFY THRESHOLD LEVEL ON ORDERED LIST
208
IDENTIFY SET OF PRODUCTS BASED ON THRESHOLD LEVEL
210
COMPUTE FINANCIAL SCORE BASED ON FINANCIAL ATTRIBUTES
212

FIG. 2

300

ID #	Description	Options
1	Work flow for year: (a) High workflow – more than 20 UCF'S (b) Medium work flow – more than 10 but less than 20 UCF's (c) Low work flow – less than 10 UCF's (d) Not rated – no data available for rating	○ ○ ○ ○
2	Product ownership: (a) Owned – owned and maintained by Unisys (b) Maintained– owned by third party but maintained by Unisys (c) Third party – owned and maintained by third party	○ ○ ○
3	Decommission: (a) After 2012 – Currently supported and will be supported after 2012 (b) Before 2012 – Currently supported but support will cease after 2012 (c) Before 2008 – Neither supported nor enhanced	○ ○ ○
4	Product complexity: (a) Low – Complex product architecture, multiple technologies involved, legacy technology (b) Medium – Average complexity (c) High (d) Very high (e) Not rated – no data available	○ ○ ○ ○
5	Skill availability with GTCI: (a) High – easy to get (b) Medium – average (c) Low – difficult to get (d) Not rated – no data available	○ ○ ○ ○
6	Product source line of code: (a) Low – less than 50000 (b) Medium – more than 5000 but less than 500000 (c) High – more than 500000 (d) Not rated – no data available	○ ○ ○ ○
7	Architecture and technical documentation: (a) Available (b) Partly available (c) Not available (d) Not rated – no data available	○ ○ ○ ○
8	Current resource base: (a) High – more than 5 resources (b) Medium – more than 1 resource but less than or equal to 5 resources (c) Low – less than or equal to 1 resource (d) Not rated – no data available	○ ○ ○ ○
9	Customer using this product: (a) High (b) Medium (c) Low (d) Not rated – no data available	○ ○ ○ ○
10	Hardware dependencies: (a) High (b) Average (c) Low (d) Not rated – no data available	○ ○ ○ ○
11	Need 24x7 support: (a) Yes (b) No (c) Not rated – no data available	○ ○ ○
12	Major feature – design changes planned (a) Yes (b) No (c) Not rated – no data available	○ ○ ○

FIG. 3

400

Description	a	b	c	d	e	Best score
Work flow for year	12.00	6.00	3.00	6.00		12.00
Product ownership	12.00	6.00	-3.00			12.00
Decommission	12.00	6.00	3.00			12.00
Product complexity	12.00	6.00	3.00	-3.00	6.00	12.00
Skill availability with GTCI	10.00	5.00	2.50	5.00		10.00
Product source line of code	7.00	3.50	1.75	3.50		7.00
Architecture & technical documentation	5.00	2.50	1.25	2.50		5.00
Current resource base	10.00	5.00	2.50	5.00		10.00
Customer using this product	5.00	2.50	1.25	2.50		5.00
Hardware dependencies	-5.00	-2.50	5.00	0.00		5.00
Need 24x7 support	5.00	2.50	0.00			5.00
Major feature-design changes planned	5.00	2.50	0.00			5.00
Total Score						100.00

FIG. 4

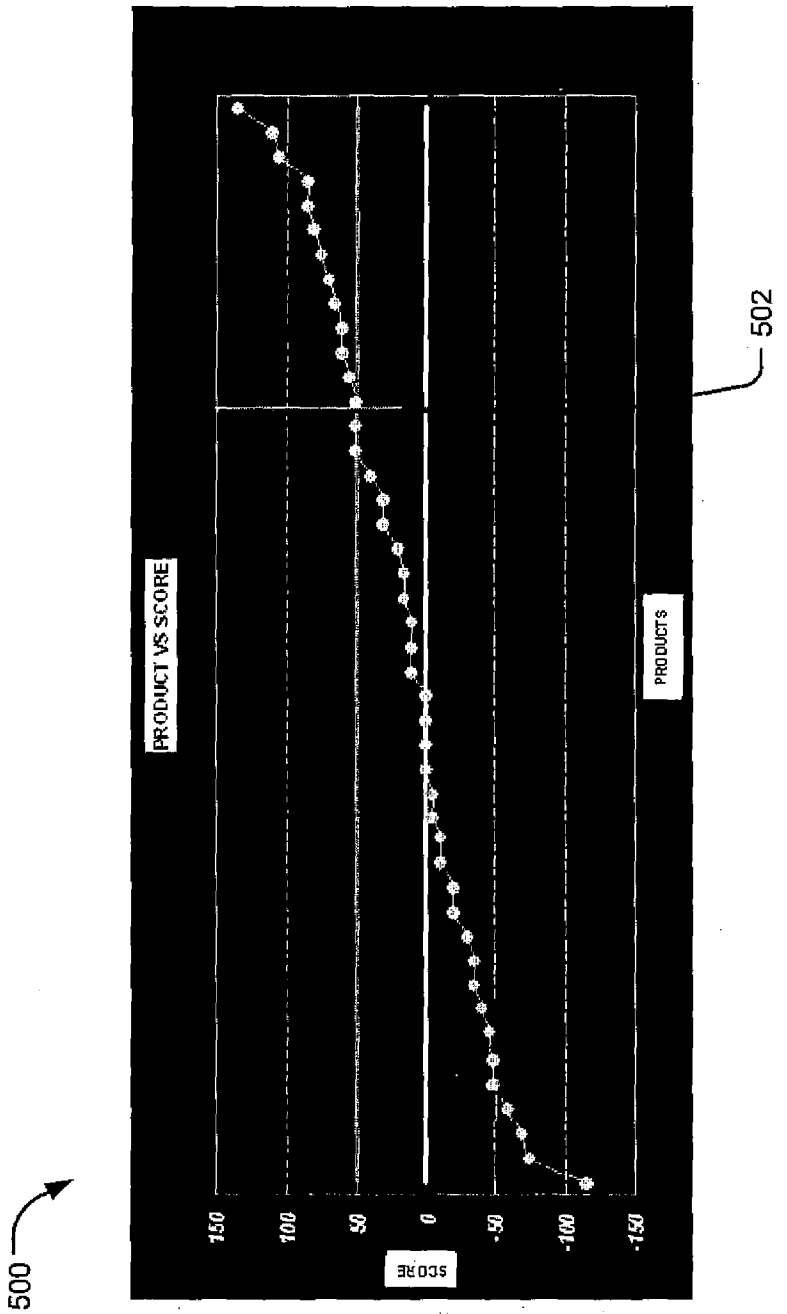
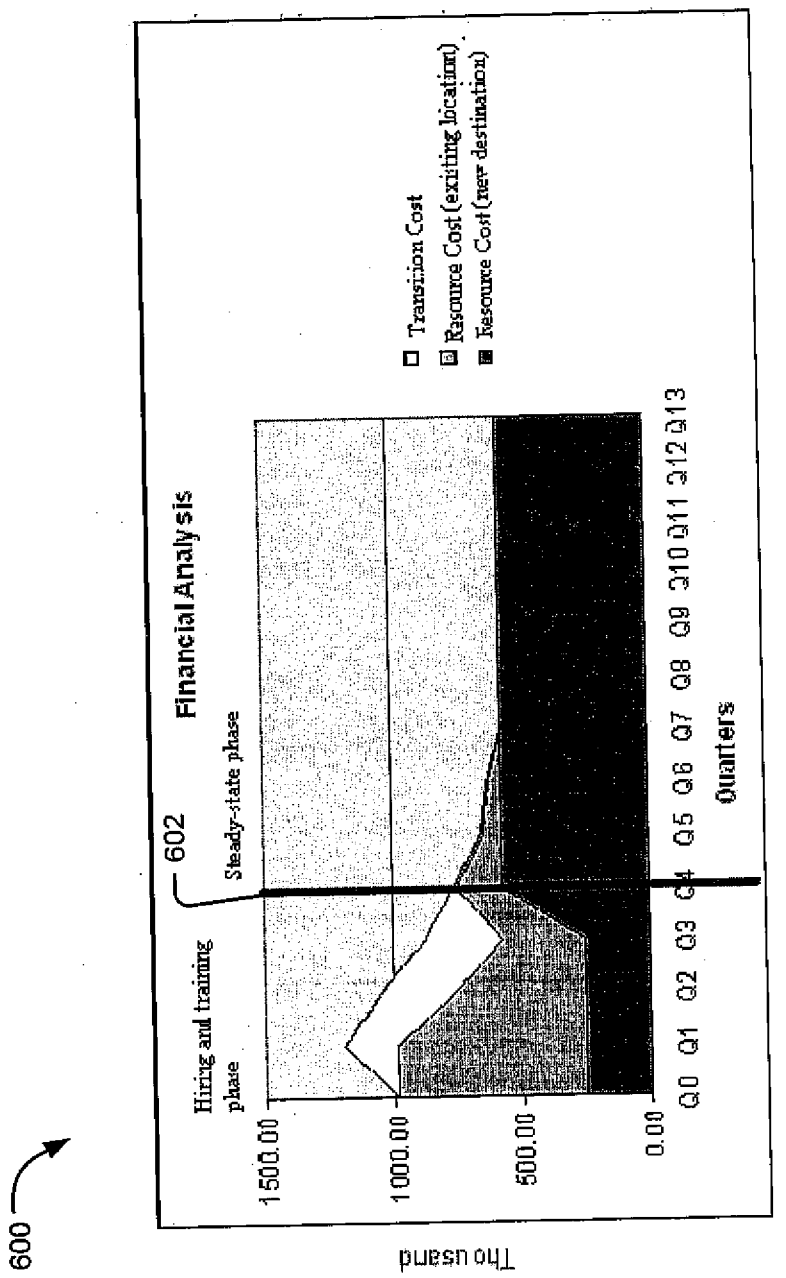

500
502
PRODUCT VS SCORE
PRODUCTS
SCORE
150
100
50
0
-50
-100
-150

FIG. 5



Note - Above graph and data are scaled for USD 1000.00

FIG. 6

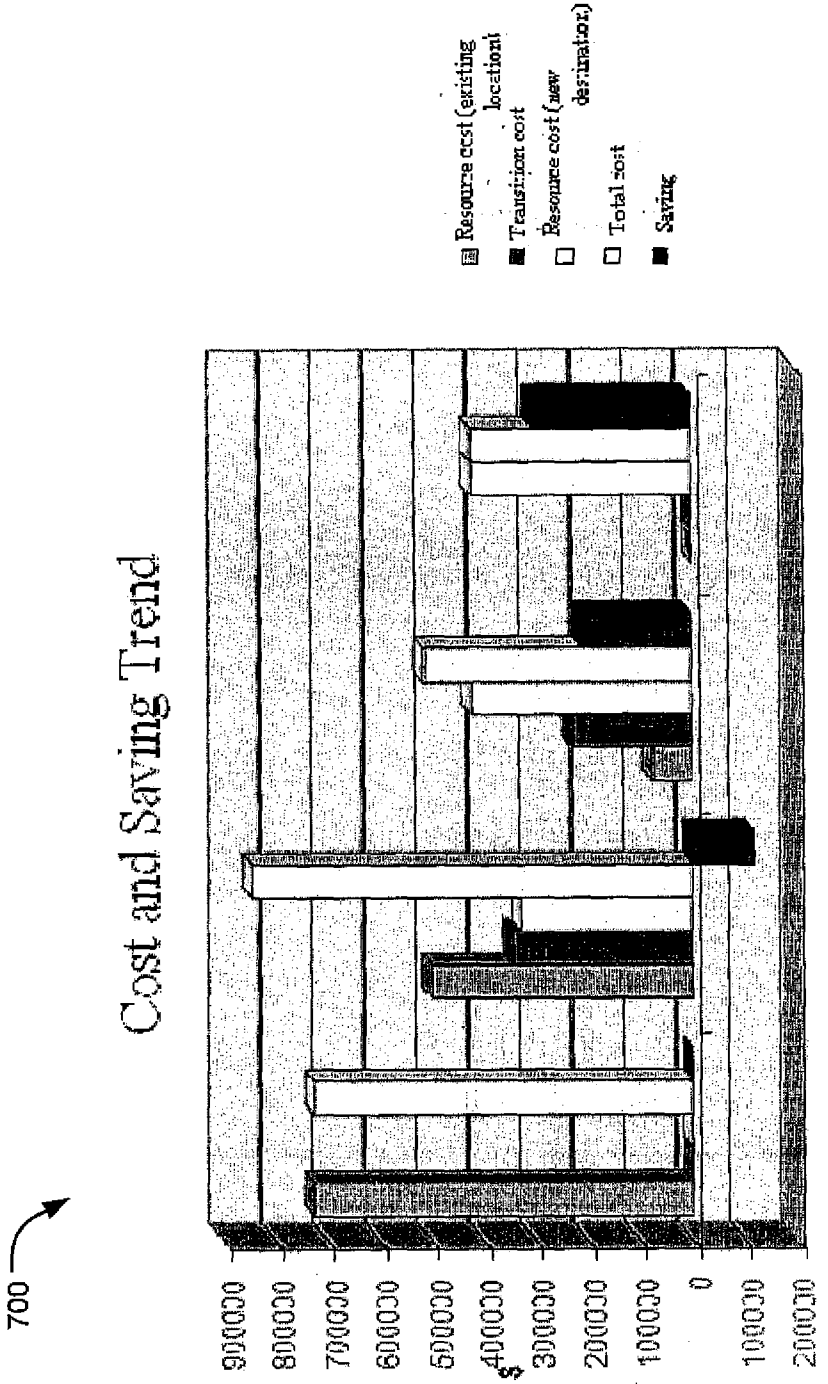

700
Cost and Saving Trend
Resource cost (existing location)
Transition cost
Resource cost (new destination)
Total cost
Saving
900000
800000
700000
600000
500000
400000
300000
200000
100000
0
100000
200000
Years
1

FIG. 7

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2010/027167

A. CLASSIFICATION OF SUBJECT MATTER

G06Q 10/00(2006.01)i, G06Q 50/00(2006.01)i

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

G06Q 10/00; G06F 17/60

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models
Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords:(location, area, place, zone, position), (product, goods, item, merchant, inventory), (cost, financial, money, assessment), (recommend, search, query, find, customize), (availability, manufacture, technique, facility)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y	US 2005-0222883 A1 (WILLIAM GOLDBERG et al.) 06 October 2005 See abstract, claim 1, paragraphs 42-44,51 and figures 2-4,8.	1-3,6-10,13 4,5,11,12
Y	US 2008-0300960 A1 (WILLIAMS GARY A.) 04 December 2008 See abstract, claim 1, paragraphs 28-32 and figures 1,2.	4,5,11,12
A	KR 10-2006-0091133 A (JUNG, CHEE YOUNG) 18 August 2006 See abstract, page 3 and figures 1-7.	1-13
A	US 2007-0043634 A1 (HENA BAR et al.) 22 February 2007 See abstract, paragraphs 42-46 and figures 1,3,4.	1-13

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents,such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
25 FEBRUARY 2011 (25.02.2011)	**28 FEBRUARY 2011 (28.02.2011)**

Name and mailing address of the ISA/KR

Korean Intellectual Property Office
Government Complex-Daejeon, 139 Seonsa-ro, Seo-gu, Daejeon 302-701, Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

Lim, Young Gug

Telephone No. 82-42-481-5643

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2010/027167

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2005-0222883 A1	06.10.2005	CN 1677413 A JP 2005-293559 A	05.10.2005 20.10.2005
US 2008-0300960 A1	04.12.2008	None	
KR 10-2006-0091133 A	18.08.2006	None	
US 2007-0043634 A1	22.02.2007	None	