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THE AUTOMATION MEANS OF CALCULATION OF THE NOMINAL VALUES
OF ANALYTICAL COEFFICIENTS SYSTEM
FOR THE FINANCIAL ANALYSIS BASED ON THE COGNITIVE MODELS

The means of automation of the calculation of nominal values of the financial-analytical coefficients for the vertical, horizontal and trend analysis provides the support of the financial analysis of the (credit) organization based on my cognitive modeling technology (www.vetrovan.spb.ru):

- 1) is executed by the principle of parallel architecture and the modular principle;
- 2) functions in the several main modes, which allow to form: the model of accounting (the mode of (re)formation of the plan of accounts of the accounting, the mode of (re)formation of the accounting balance of the (credit) organization), the parametrical cognitive models block based on the primary registers of accounting (the mode of configurating of the parameters of the cognitive models for the vertical, horizontal and trend financial analysis, the mode of administrating of the methods of analysis of the (credit) organization), to realize the financial analysis based on the cognitive models (the mode of the vertical, horizontal and trend financial analysis of the (credit) organization), to provide the authentication of users (the mode of registration in the system, the mode of (re)formation of the theor. and working plan of accounts of the accounting);
- 3) includes the several various levels of modern architecture: the interface level – the interfaces of the trainee, economist and auditor; the kernel of system – the procedure of primary initialization and processing of events, the adaptive representation of information processor (the procedure of control), the procedure of authentication, the procedure of control of the process of the financial analysis, the module of language support at the displaying of the elements of interface, the procedure of processing of the events, initiated by the user, the procedure of selection and analysis of data of the organization, the procedure of modification of the cognitive models for the vertical, horizontal and trend financial analysis, the procedure of administrating of the methods of analysis of the data, the procedure of checking of the correctness of data of the organization, the procedure of providing of the access to the data of database, the procedure of selecting and processing of the requests to the data bank, the procedure of checking of the integrity of data of the database, the procedure of archiving and backing up of the data of database;

the data bank – the database of active users of the system, the database with the parameters of the model of accounting of the (credit) organization, the database of the parametrical cognitive models block, the database of methods of the financial analysis of the (credit) organization, the database of a posteriori results of research of the (credit) organization; the backup storage of data – the database of inactive users, the backup database on the models of accounting of the (credit) organization, the backup database of the parametrical cognitive models block, the backup database of the methods of analysis and the archive with the results of last years.

The cognitive model of the financial condition of the organizational structure is presented by means of the calculus using the corteges on domains, contains three independent various portraits (PR_i) with the kinds of properties (KP_j), properties (Pr_k), the vectors of parameters (VP_l) and parameters (P_m) [not reflected].

PR₁ “The vertical analysis” = { $KP_1, KP_2, KP_3, KP_4, KP_5$ }.

KP_1 “The ratios of the elements of the accounting balance” = { Pr_1, Pr_2, Pr_3 }.

Pr_1 “The ratios of the aggregates and items of the active” = { VP_1 “The ratio of current and non-current assets”}.

Pr_2 “The ratios of aggregates and items of the passive of the accounting balance” = { VP_1 “The ratio of capital and reserves to the long-term liabilities”, VP_2 “The ratio of capital and reserves to the short-term liabilities”}.

Pr_3 “The ratios of aggregates and items, located in the active and passive” = { VP_1 “The ratio of capital and reserves to the short-term liabilities”}.

KP_2 “The ratios of the elements of the report about profits and loses” = { Pr_1 }.

Pr_1 “The ratios of the aggregates and items of the report about profits and loses” = { VP_1 “The ratio of profit to expenses”, VP_2 “The ratio of profit to incomes”, VP_3 “The ratio of profit to liabilities”, VP_4 “The ratio of profit to other incomes”}.

KP_3 “The aggregates of the (consolidated) report about the change of capital” = { Pr_1 }.

Pr_1 “The dynamics of capital” = { VP_1 “The increasing of capital”, VP_2 “The decreasing of capital”, VP_3 “The size of capital”, VP_4 “The size of net profit of the organization”}.

KP_4 “The aggregates of the report about the movement of monetary means” = { Pr_1 }.

Pr_1 “The income monetary flow” = { VP_1 “The amounts of receipts”, VP_2 “The amounts of deductions”, VP_3 “The amounts of residues”}.

KP_5 “The ratios of the elements of the appendix to the accounting balance” = { Pr_1 }.

Pr_1 “The ratios of aggregates and items of the active to the appendix to the accounting balance” = { VP_1 “The ratio of intangible assets”, VP_2 “The ratio of fixed assets”, VP_3 “The ratio of profitable investments into the tangible assets”, VP_4 “The ratio of expenses on SRW and ECW”, VP_5 “The ratio of aggregates and items of the financial investments”, VP_6 “The ratio of aggregates and items of the accounts receivable and payable”, VP_7 “The ratio of aggregates and items of the expenses on the taxable kinds of activity”}.

PR₂ “The horizontal financial analysis” = {KP₁, KP₂, KP₃, KP₄}.

KP₁ “The aggregates of the (consolidated) accounting balance” = {Pr₁, Pr₂}.

Pr₁ “The dynamics of active operations” = {VP₁ “The intangible assets”, VP₂ “The fixed assets”, VP₃ “The profitable investments into the tangible assets”, VP₄ “The financial investments”, VP₅ “The stocks”, VP₆ “VAT paid”, VP₇ “The accounts receivable”, VP₈ “The investments into the charter capital”, VP₉ “The monetary means in circulation”}.

Pr₂ “The dynamics of passive operations” = {VP₁ “The capital and reserves”, VP₂ “The undistributed profit of the organization”, VP₃ “The long-term liabilities”, VP₄ “The short-term liabilities”, VP₅ “The accounts payable”, VP₆ “The incomes of future periods”}.

KP₂ “The aggregates of the (consolidated) report about profits and losses” = {Pr₁}.

Pr₁ “The dynamics of profit (loss)” = {VP₁ “The revenue from sales (the gross income)”}.

KP₃ “The aggregates of the report about the movement of monetary means” = {Pr₁, Pr₂}.

Pr₁ “The input monetary flow” = {VP₁ “The amounts of receipts”}.

Pr₂ “The output monetary flow” = {VP₁ “The amounts of deductions and expenses”, VP₂ “The residue of monetary means on the settlement account”}.

BC₄ “The aggregates of the (consolidated) report about the change of capital” = {Pr₁}.

Pr₁ “The dynamics of change of the capital” = {VP₁ “The increasing of capital”, VP₂ “The decreasing of capital”, VP₃ “The dynamics of change of the charter capital”}.

PR₃ “The trend analysis based on the previously formed analytical coefficients system” = {KP₁, KP₂, KP₃}.

KP₁ “The investment attractiveness of the managing subject” = {Pr₁, Pr₂}.

Pr₁ “The property status” = {VP₁ “The estimation of property status”}.

Pr₂ “The liquidity” = {VP₁ “The liquidity of organization”, VP₂ “The liquidity of bank”}.

KP₂ “The financial stability of the managing subject” = {Pr₁, Pr₂}.

Pr₁ “The capital” = {VP₁ “The own capital and raised capital”}.

Pr₂ “The business activity of managing subject” = {VP₁ “The business activity”}.

KP₃ “The profitability of (credit) organization” = {Pr₁}.

Pr₁ “The income and profitability” = {VP₁ “The profit and profitability”, VP₂ “The profitability of sales”, VP₃ “The market activity”}.

CMT allows to realize the financial analysis of the (credit) organization as the managing subject of the economic system of the country in the creation, distribution and use of goods, works and services in the context of the single, serial and mass production.

The software for the tasks of automation is being developed. In the process of SRW I prepared: the personal scientific monography “The cognitive modeling technology for the financial analysis and audit of the organization” and the personal scientific trilogy from the three (RAS and GAAP / IAS) scientific-practical monographies “The calculation of the analytical coefficients system for the vertical, horizontal and trend financial analysis and audit based on the cognitive modeling technology”. The information-educational portal www.vetrovan.spb.ru was created. The procedure of preparation of my performance with scientific reports in “RA(N)S” is conducted.