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# Business Valuation Model Based on the Analysis of Business Value Drivers

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*In scientific literature value is referred to as the most complete and exact indicator of business condition that reflects changes in internal and external environment of an enterprise. In a dynamic environment where risk and uncertainty are inevitable attributes of the process of the enterprise's business forecast, due to the change of various drivers, business value may fluctuate in a rather wide range. On one hand, risk and uncertainty prompt to think in terms of future scenarios and to anticipate the full range of value dimensions. On the other hand, the fluctuation of business value within a wide range predetermines the problematic aspect of rendering the final conclusion on business value. Since business value changes with the change of influencing drivers, the analysis of drivers that have impact on business value becomes urgent. Based on such an analysis it would be possible to calculate the most probable dimension of business value.*

*In scientific literature focusing on the issues of business valuation the aspect of the analysis of business value drivers is discussed very fragmentally. Though researchers emphasise the importance of determining the impact of value drivers that influence the dimension of business value, there is no unified approach to the classification and investigation of these value drivers. The linear classifications of influencing business value drivers presented in the works of authors who explore the issues of business valuation are inconsistent and insufficient for the evaluation of business value drivers. Given a linear presentation of drivers it is difficult to see the inter-relations of the influencing business value drivers and business value or to measure quantitatively the impact of change of business value drivers on business value. Having proved the limitation of linear classifications of influencing business value drivers, a classification of business value drivers was formed by grouping the drivers that have impact on business value in levels one to five. This classification is based on the decomposition of business value established by the method of discounted cash flows. Such a graded presentation of drivers enables to have an insight to the inter-relations of business value drivers and business value and to evaluate the impact of each driver change not only on the change of the business value but also on the change of a higher level driver.*

*The analysis of scientific literature shows that references to the application of methods in establishing the impact of drivers on business value are very limited. It is not enough to lean upon the results of the sensitivity analysis, which is presented in scientific literature as the most widely used in determining the impact of drivers on business value, because it only enables to evaluate the impact of one driver change (increase/decrease) on business value, leaving aside possible change of other drivers. Since in a factual situation the change is usually present in more than one driver, there occurs a need to apply those methods of factorial analysis which would enable a complex evaluation of the impact of change of many drivers on the change of business value.*

*By discovering the limitation of references to the methods that may be used for value drivers investigation as well as the complexity of these methods' selection and application, the authors of this article propose for the establishment of the impact of business value drivers on business value to adapt the integral method of economic factorial analysis, which allowed to wholly evaluate the impact of different level drivers on business value.*

*Theoretical and empirical researches resulted in the creation of a business valuation model based on the analysis of business value drivers, which incorporates the classification of business value drivers and the establishment of their impact on value into the process of business valuation, and enables to provide the final result of business valuation – a dimension of business value.*

Keywords: *business valuation, value drivers, factorial analysis.*

## Introduction

Value, which has attracted the interest of many researchers and economists, in scientific literature is treated as the best valuation indicator of enterprise's performance results, integrating the drivers reflecting enterprise's internal situation as well as its external environment.

The analysis of works by C. A. Magni, S. Malagoli, G. Mastroleo (2006), A. Black, P.Wright, J. Davies (2001), M. Mallinson, N. French (2000), A. Rappaport (1998), R. C. Scarlet (1997), R. Mills, C. Print (1995), J. Ruhl, S.Cowen (1990), B. Balachandran, N. Nagarajan, A. Rappaport (1986), A. B. Abel (1983) revealed the importance of value drivers analysis in accepting decisions related to value maximisation as one of the most important goals in enterprise activity, and showed diversity of approaches to influencing value drivers and their classification. In addition, it pointed out the limitation of methodical references to the methods of establishing the impact of drivers on value. All the more as when analysing the issue of the analysis of value drivers the authors (Akalu, 2002; Schor, 2000; Copeland, Coller, Murin, 1999 and others) emphasise that the aspect of establishing the impact of value drivers on business value is complex, little investigated and demands more detailed research.

The performed analysis of scientific literature focusing on the issues of business valuation proved that the question of drivers that have impact on value is discussed very narrowly. Having analysed the works of Sh.P.Pratt (1989), A. Damodaran (2002), V.Ghosal, P. Loungani (2000), A. Griaznova, M. Fedotova (1998) and others it was noticed that there is no unambiguous approach to the classification of drivers that have impact on business value. Commonly, linear classifications of business value drivers are introduced that cover very different drivers. Though authors (Damodaran, 2002; Pratt, 1998; Valdaicev, 2001) emphasise the importance of the analysis of influencing value drivers for business valuation because the variation of business value depends on the possible change of drivers, this aspect receives very little attention.

The issue of the establishment and investigation of value drivers in the works of Lithuanian authors is discussed very fragmentally. Specific aspects of value drivers were discussed by D. Ulys (2001, 2004), G. Jagelavičius (1998, 1999, 2001), D.Burkšaitienė (2000), Š. Leitonienė (2003). The aspects of evaluating the factors of macro environment and industry environment are explored in the thesis of S.Eiva (2000) analysing the valuation of large companies.

The analysis of theoretical and practical aspects of analysis of value drivers enables to assume that in scientific literature the presented methodology of business valuation lacks deeper researches that would systematise the influencing value drivers and establish their impact on value. This predetermines the need to build a business valuation model, which would incorporate the analysis of business value drivers into the process of business valuation and would enable to provide the most probable dimension of business value.

**The research problem.** Though scientific literature emphasises the need of evaluating the drivers the change of which may influence the fluctuation of business value dimension, researchers fail to provide a mechanism for incorporating the analysis of business drivers into business valuation. There is a lack of an adaptive model, which would incorporate the classification of business value drivers and the evaluation of the impact on business value into the proves of business valuation and which would enable to determine the most probable business value dimension.

**The purpose of the article is** to build a business valuation model based on the analysis of business value drivers, which would incorporate the classification of business value drivers and the determination of their impact on business value into the process of business valuation, and would enable to provide the most probable business value dimension.

**Research tasks:**

1. To analyse methodological aspects of the analysis of influencing drivers of business value by disclosing dominating approaches to the definition of value drivers, by systematising classification of influencing value drivers presented in scientific literature on business valuation, and by discussing the methods of establishing the impact of drivers on business value.
2. To build a business valuation model based on the analysis of business value drivers enabling to determine the most probable dimension of business value.

**The novelty of the article** is creation of a business valuation model based on the analysis of business value drivers.

**The object of the research** is the analysis of value drivers in the aspect of business valuation.

**The methods of research** are systematic and comparative analysis of scientific literature, diagrammatical, the integral method of economic factorial analysis.

## The Conception of Value Drivers, their Classification

For the process of business valuation, it is very important to determine the drivers influencing business value since those drivers can either increase or reduce this value depending upon the tendencies of their changes.

The aspects of determination and classification of value drivers are most frequently related to the analysis method of shareholder value and the concept of value based management. Literature presents a wide range of descriptions of "value driver". A. Rappaport (1998), T. Copeland, T. Koller, J. Murrin (1999), R. C. Scarlet (1997) describe value driver as any variable influencing enterprise's value. J.Woodcock (1992) defines value drivers as all internal and external drivers, which may enable the creation/destruction of the enterprise in question. Literature, analysing the issues of shareholder value, does not present a uniform approach to the number of value drivers. J. Ruhl, S. Cowen (1990) point out five drivers, A. Rappaport (1998), R. Mills, C. Print (1995), R. C. Scarlet (1997), A. Black, P.Wright, J. Davies (2001) – seven, namely: an increase of sale, a margin of activity profit, a tax rate, a working capital, expenses of capital, costs of capital, and a period of competitive advantage. In addition to the mentioned drivers, R.Turner (1998) presents the eighth driver – return on capital. Scientific literature (Rappaport, 1998; Tully, 1993; Kaplan, Norton, 1996; Scarlet, 1997; Shor, 2000; Black, Wright, Davies, 2001) presents classifications of drivers and analytical models of relationship between value drivers and common goals of an enterprise but they are related to the methods of shareholder value analysis, the founder of which is considered to be A. Rappaport (1998), and to the concept of value based management. The approach of value based management integrates the processes of value measuring and control, which are directed to the creation of a long-tern shareholder value (Ittner, Larcker, 2001) by concentrating common efforts on the essential drivers of value (Copeland, Koller, Murrin, 1999). When analysing literature, it can be observed that majority of authors investigate value drivers in the aspect of their impact on the increase of value, however more interesting are the drivers that might negatively affect value (Groenendaal, 1998).

In the models of relationship between value drivers and enterprise's goals, presented in literature, value drivers are divided into certain groups. A. Rappaport (1998), who was the first to present the model of relationship between value drivers and common goals of an enterprise, emphasising the importance of value drivers within a general enterprise management system, divided value

drivers into three groups: operational, investment and financial. R. C. Scarlet (1997) has somewhat corrected A. Rappaport's model and classified value drivers into four categories: intangible, operational, investment and financial. R. S. Kaplan, D. P. Norton (1996) divide value drivers into the following groups: financial, purchasers, internal, and innovations. C.D.Ittner, D.F.Larcker (2001) presents the following categories of value drivers: financial, purchasers, employees, operational, quality, alliances, supply, environment, innovations, and society. Concept of models presented by various authors is similar but differences are noticeable when presenting value components, value drivers and management decisions. Many authors, although in various aspects, had analyzed models of relation between value drivers and the main enterprise goals. A. Damodaran (2002) has presented one of alternative models, named as value creation model. Author shows in this model how idle money flow, capital cost and expected growth period influence enterprise's value creation. Author names idle money flow, capital cost and expected growth period as the main value drivers. From business valuation point of view this model might be treated as model of value estimation by discounted cash flow method as this model reflects process of business value estimation. Besides, this model validates one of the essential financial theory principles, that value might be understood as current value of future business cash flow. Oneness of A. Damodaran model is that this model involves financial aspects but presumptions of value creation in the enterprise might be analyzed on the basis of this model.

Scientific literature which analyzes business valuation problems provides various approaches on factors that have influence on business value. O.Tcheremnich (2000) suggests to divide the drivers influencing value into internal (concerning a particular enterprise) and external (concerning the external environment of an enterprise); quantitative (that can be measured in figures) and qualitative (that can't be measured in figures); financial (given in monetary expression) and non-financial (not having financial expression). A. G. Griaznova, M. A. Fedotova (1998), F. B. Ripol-Saragosi (2001) classify the information, used in valuation processes, into external information, characterising the conditions of enterprise's functioning within a region, a branch and, in general, in economics, and internal information, characterising the enterprise in question. In majority of written sources, analysing the issues of business valuation, the authors just enumerate the drivers influencing value but do not classify them. The drivers of very diverse and different (of unequal importance) level of hierarchy (degree of particularity, i.e. the impact on the components of business value) are presented. Authors also have very diverse and different attitudes towards the drivers influencing business value. Some authors (Pratt, 1989; Griaznova, Fedotova, 1998) give a more detailed list of drivers having impact on value, distinguishing not only quantitative but also qualitative drivers that might predetermine a final decision about value. According to Sh. P. Pratt (1989), the analysis of qualitative drivers as well as the determination of their impact on value require highest skills of a valuer, which form up during many years of practical and research work. A. Damodaran (1998) points out only several drivers influencing value. Some authors (Pratt, 1989; Damodaran, 1998) look upon value drivers as the components of business value (the constituents of the discounted cash flow formula). In addition, no emphasis is laid on the character of drivers' influence on value, which may be either direct or indirect. Relative indicators (e.g. turnover of capital, margin of gross profit etc.) are called drivers. Taking into account value influencing drivers, mentioned by the authors analysing business valuation issues, we miss a uniform approach towards these drivers as well as their classification.

Variety of approaches on value drivers' number and classification was estimated after accomplishment of comparative and system analysis of scientific literature researching business valuation problems. Provided linear classification of business value drivers is incoherent. Besides linear drivers presentation does not suitably reflect relations between business value and business value drivers. It demonstrates that one approach on business value drivers does not exist.

It was determined that business valuation methodology lacks deeper research while systematizing drivers influencing business value and estimating their influence on business value. Therefore conceptual scheme of classifying business value drivers is presented (Fig. 1). Approach used in theory of business valuation and based on business value estimation by discounted cash flow is expanded and replenished with determination of factors influencing business value. Created scheme is based on business value, estimated by discounted cash flow method, decomposition into drivers influencing business value. First level drivers are discounted free cash flows (DLPS), which estimate the current value of free cash flows in a forecasted period, and the continuing value (TV). The establishment of second level drivers (free cash flows (LPS) and discount rate (DN)) is based on the decomposition of discounted free cash flows. Since structurally free cash flows are expressed by estimating the amount of net profit (GP), depreciation (N) and investments (I), the latter are considered as third level drivers that influence free cash flows. The discount rate drivers are established taking into account the sources of company capital financing, i.e. debt and equity. It enables to call the costs of debt (SKK) and the costs of equity (NKK) as the third level (discount rate) drivers. Fourth level (net profit) drivers include sales (PA), cost of goods sold and performed works (PS), operating expenditure (S) income (P) and profit tax (M), which are defined according to the principle of net profit calculation used in accounting. The fourth level drivers (costs of debt and costs of equity) are established taking into consideration that these costs are determined by the rate of debt return (SKP) and equity return (NKP) and the structural distribution of these financial sources, i.e. a part of each of them in the overall amount of financial sources ($W_{SK}$, $W_{NK}$). The decomposition of sales points out fifth level (sales) drivers, which include the quantity (pieces) of manufactured products (Q), cost of goods sold and performed works per unit ($S_V$) and sales margin (in Lt) (PM). When establishing the fifth level (rate of equity return) drivers the structural model of calculating the equity costs was taken into

consideration. Referring to the performed comparative analysis of risk-return models, the costs of equity are calculated by summing up risk-free interest rate (NP) and risk premiums as the factors of macro-, industry- and internal environment (MRP, ŠRP, VRP).

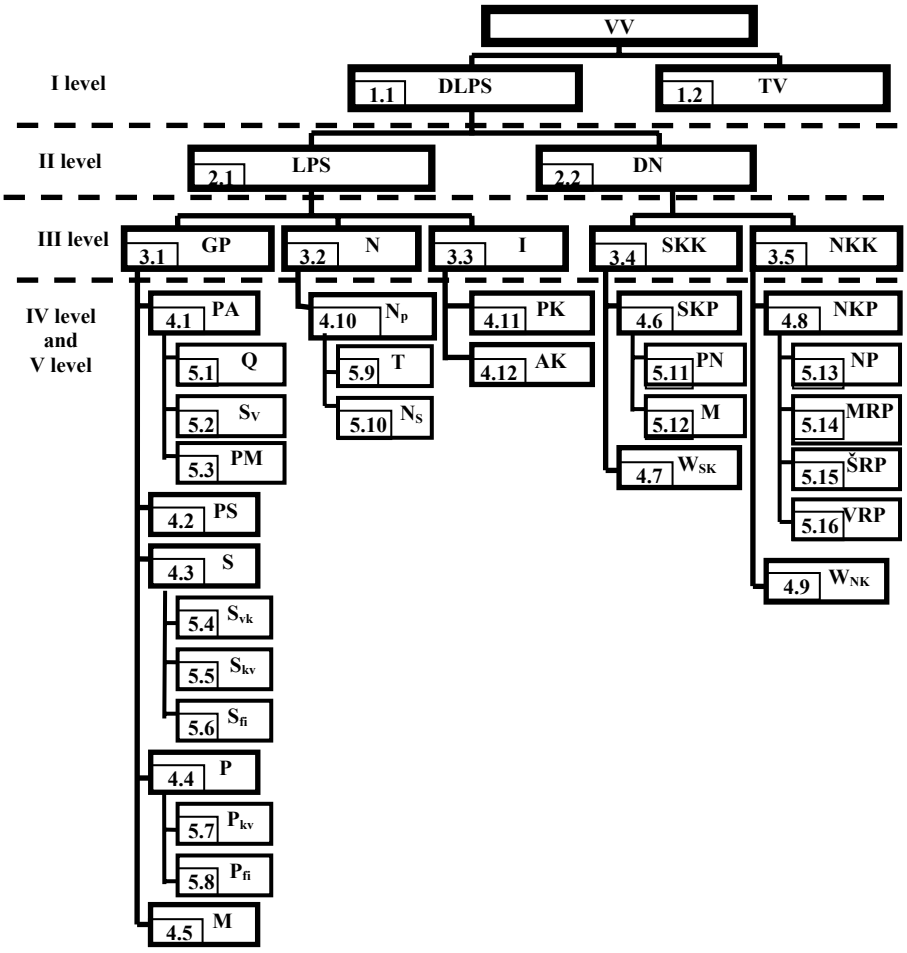


**Figure.1** A scheme of business value drivers classification

Based on the constructed classification of business value drivers (from first to fifth level) it is possible to make the classifications of lower level drivers (depending on the necessity) and to evaluate their impact on business value.

## Instrumentation for Business Value Drivers analysis

Although complication of determining factors that have influence on value is emphasized in scientific literature, it is accented that valuation of such factors' influence on business value is even more complicated.

According to M. M. Akalu (2002), who researched the impact of separate drivers on free cash flows within different industries, there are very few samples of the technology of value drivers' analysis. The researches performed are related to the concept of value based management, i.e. a managerial concept. In addition, most frequently was researched the impact of general drivers on value, which, according to T. Copeland, T. Coller, D. Murin (1999), lack concrete character. When analysing written sources, from the methods point of view it can be observed that references to the methods of determining the impact of drivers on value are very scarce. In literature, analysing the issues of value based management, the first stage of researching value drivers is considered the decomposition of value drivers into smaller variables. L.Schor (2000) calls such decomposition the "mapping" of value drivers. Literature gives very few samples of value drivers' decomposition. This is related to the circumstance that the "mapping" of value drivers is a very complicated, time - and money - consuming process, requiring much information difficult to obtain. Authors (Schor, 2000; Walters, 1997) call the next stage of drivers' research the sensitivity analysis of value drivers. Its aim is to show how will the change of drivers influencing value reflect itself in business value. Such type of analysis allows determining the most important assumptions and potential areas of forecast whereon it's worth while concentrating the efforts of value creation (Cotter, Henley, Pelham, 1997). The sensitivity analysis is based on financial calculations aimed at valuing the impact of singled out drivers on value. The very principle of sensitivity analysis is widely applied in investment decision-making when it is determined how will change the net present value depending on the fixed amount of cost changes where other dimensions remain unchanged. When performing the sensitivity analysis every variable is changed by a certain per cent above or below expected basic level while preserving other dimensions invariable. Moreover, authors (Akalu, 2002; Schor, 2000;

Copeland, Coller, Murin, 1999) recognise that the issue of the analysis of value drivers is little discussed.

It was observed after analyzing aspects of business value drivers that generalization of methods of business drivers' analysis is missing in scientific literature. Widely discussed method in value based management concept is analysis of value drivers' sensitivity, when influence of one driver's change (increase/decrease) on business value is estimated, does not always fit as this method does not provide for estimation of complex drivers' influence on business value. This allows alleging that business valuation methodology presented in scientific literature lacks of deeper research while systematizing drivers influencing business value and estimating their influence on business value.

By discovering the limitation of references to the methods that may be used for value drivers investigation as well as the complexity of these methods' selection and application, the authors of this article propose for the investigation of value drivers to adapt the integral method of economical factorial analysis. The main distinguishing feature of the integral method is its preciseness and homogeneity. A significant specificity of this method is that factorial system may consist of a various number of elements. The form of inter-relation of these elements may also be diverse. If compared with other ways of determined factorial analysis, the integral method is distinguished by its universality. Apart from that, drivers' impact on the indicator in question is fully evaluated. Therefore, when using the integral method, any subjective assumptions about drivers' impact on the indicator in question is avoided.

Taking into account the specificity of the integral method that is applied in value drivers analysis, some drivers in calculations are expressed in coefficients (coefficient of continuing value, coefficient of discount rate, coefficient of deprecation and etc.). The use of coefficients is based on the need to apply multiplied expressions in calculations, what enables to perform the analysis of business value drivers by using the integral method. First, the impact of lower level drivers on higher level drivers is established. For this purpose, referring to the derived mathematical expressions of drivers, matrixes of post-integral formulas are created enabling to create formulas for the calculation of drivers' impact. Calculations are based on basic calculation formulas given in scientific literature (Bakanov, Sheremet, 1997; Liubushin, Leshtcheva, Djakova, 2000) that simplify the application of the integral method.

Since the lower level drivers have influence not only on the higher level drivers but also on business value, an algorithm for value drivers analysis (see Fig. 2) was formed to provide formulas for the calculation of the impact of different level drivers on business value.

It is worth mentioning that all required calculations are carried out by using Excel program package. It provides a possibility, when changing primary data, to establish not only the value of the estimated business, but also the impact of drivers on the change of this value.

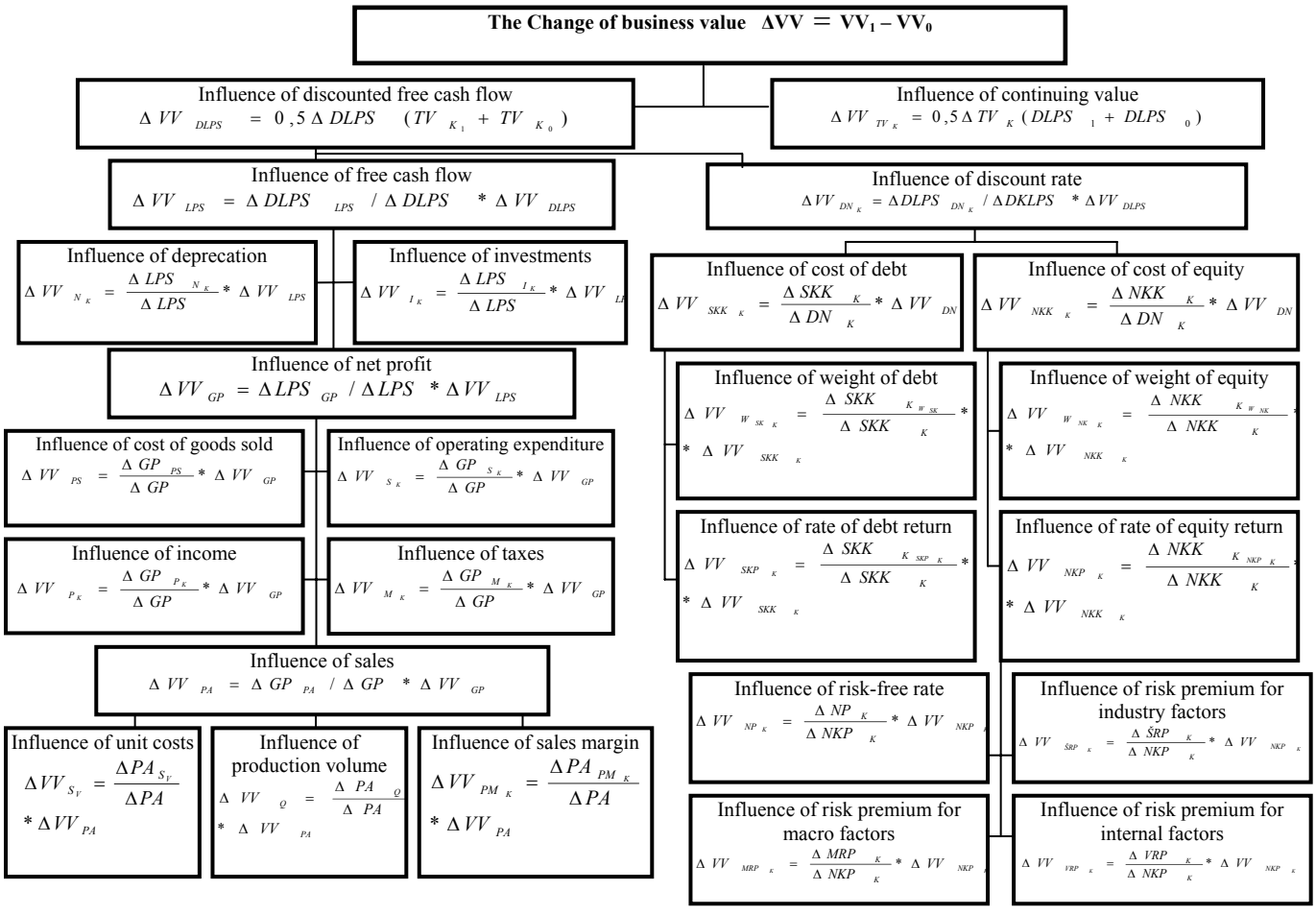


**Figure. 2.** The algorithm for value drivers analysis

## The Structure of a Business Valuation Model Based on the Analysis of Business Value Drivers

Referring to the classification of business value drivers and the instrumentation for business value drivers analysis, a business valuation model based on the analysis of business value drivers is built (see Fig. 3) encompassing the analysis of internal and external information of the evaluated object, the establishment of business value by the method of discounted cash flows, the classification and analysis of the drivers that have impact on value, and enabling to establish the most probable dimension of business value. Structurally, the model is built out of the following basic elements: 1) identification of the evaluated object, 2) classification of business value drivers, 3) analysis of business value drivers, and 4) determination of the most probable dimension of business value.

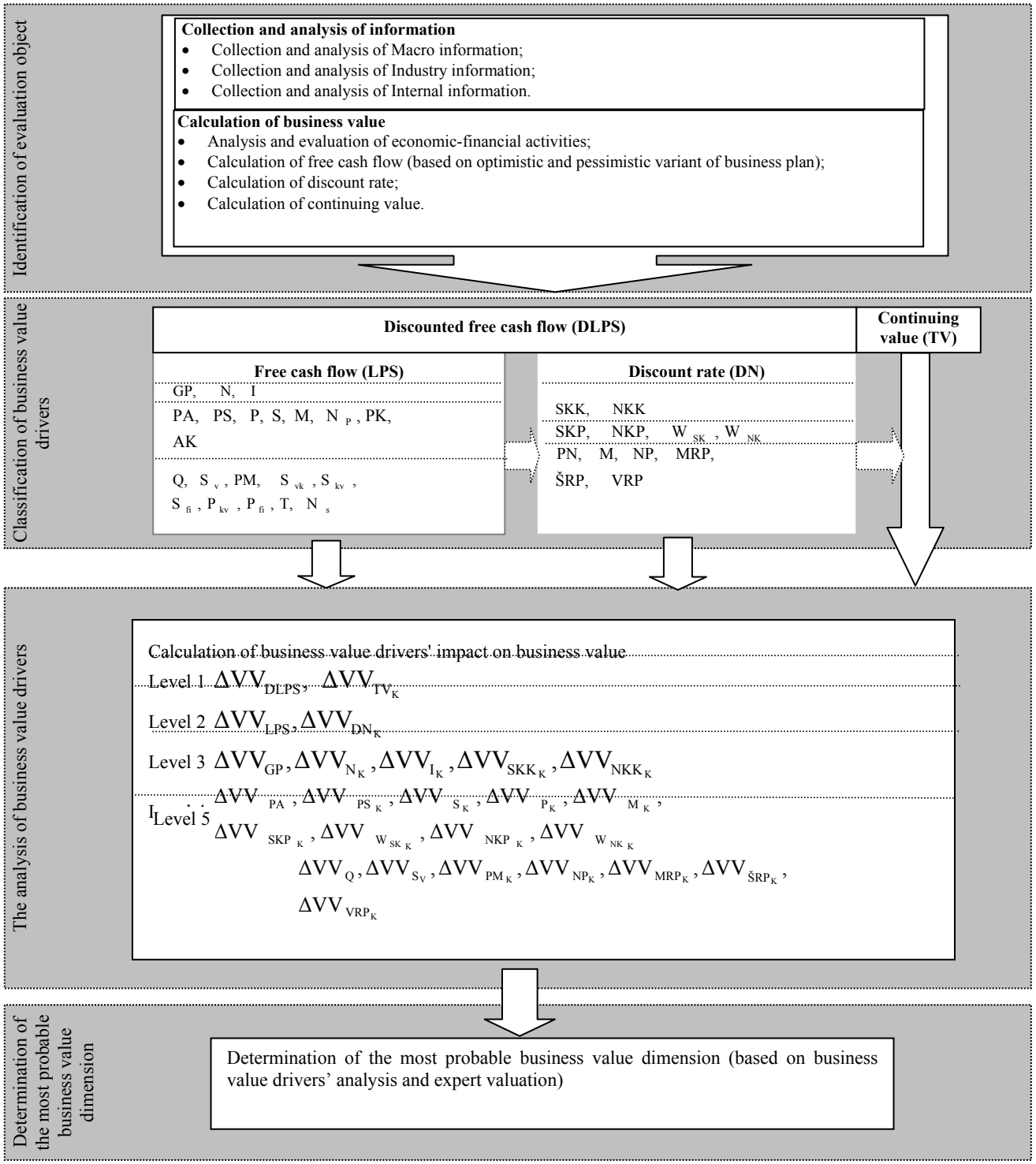


**Figure 3.** The structure of a business valuation model based on the analysis of business value drivers

When evaluating business by the method of discounted cash flows it is necessary to accumulate and analyse rather wide information. This information consists of the information on macro-, industry- and internal environment. After accumulating and analysing the said information, business value is established. The establishment of business value comprises the investigation and estimation of economical and financial activity based on the analysis of retrospective and perspective information. Another very important aspect is risk evaluation, which is performed by seeking to substantiate discount rate. Since this step of the first stage includes the establishment of business value, the calculation of free cash flows and discount rate is necessary. Free cash flows are defined based on the information provided in the company's business plan anticipating an optimistic and a pessimistic variant of business development. The discount rate determination is based on risk estimation.

The classification of business value drivers is based on the decomposition of business value established by the method of discounted cash flows. Drivers are classified into levels. The model comprises the drivers of level 1 to 5, but depending on the depth of a research further division into lower level drivers is possible.

The analysis of value drivers also consists of the determination of the impact of drivers on the change of business value. The impact of drivers is determined by using the integral method of factorial analysis allowing to quantitatively estimate the impact of drivers on the analysed rate. For this purpose matrixes of post-integral formulas of different level drivers that have influence on value are created; these matrixes enable to prepare formulas to determine the impact of drivers on a higher level driver. In addition, formulas to calculate the impact of value drivers on business value are created.

The final (most probable) dimension of business value is determined based on the results of the analysis of business value drivers and expert valuation.

A business valuation model based on the analysis of value drivers might be used in both business valuation practice and enterprise activity. It might be used for the following purposes:

- to optimize capital structure;
- to valuate factors determining risk;
- to make decisions on risk management;
- to valuate influence of qualitative factors on business value;
- to model various situations of business continuity;
- to make decisions on business value maximization, i.e. to implement management based on value.

## Conclusions

1. The analysis of scientific literature focusing on the issues of business valuation proved that regardless the declared significance of establishing influencing business value drivers, there is no unified opinion towards the classification of these drivers and the estimation of their impact on business value. The performed theoretical investigations enable to affirm the following:
   - The introduced linear classifications of influencing business value drivers are inconsistent and insufficient to evaluate the drivers that have impact on business value. Given a linear presentation of drivers is it difficult to see the inter-relations of the influencing business value drivers and business value or to measure quantitatively the impact of change of business value drivers on business value.
   - Methodological references to the methods of establishing the impact of drivers on business value are very limited. The sensitivity analysis, which is presented in scientific literature as the most widely used in determining the impact of drivers on business value, does not allow to evaluate wholly the impact of change of the majority of drivers on business value.
2. Taking into consideration the number of approaches to influencing business value drivers, the variety of classifications of drivers constructed in a linear mode and the lack of references to the methods of establishing the impact of drivers on business value, a graded classification of value drivers was formed by grouping the business value drivers into levels one to five. The classification of value drivers is subject to the decomposition of business value established by the method of discounted cash flows, because all the drivers that have impact on business value are reflected in the rates of free cash flows and the discount rate. The classification of drivers by employing the principle of decomposition combines the drivers into a system that reflects the inter-relations of different level drivers and business value. To establish the impact of drivers on business value an integral method of economical factorial analysis was applied, which enables to evaluate wholly the impact of different level drivers on business value and on a higher level driver.
3. Having stated that the methodology of business valuation presented in scientific literature lacks deeper researches in systematising the drivers that have influence on business value and in establishing their impact on business value, and leaning upon the performed theoretical investigations a business valuation model based on the analysis of business values drivers was constructed. Structurally, the model comprises the identification of the object under valuation (selection and analysis of information about the evaluated object and determination of business value), the classification of business value drivers (based on the decomposition of business value, which is established by the method of discounted cash flows, and drivers of level one to five), the analysis of business value drivers (by employing the integral method of factorial analysis to establish the impact of drivers on business value), and the determination of the final dimension of business value (determination of the most probable dimension of business value based on the results of the analysis of business value drivers and expert valuation). The model provides an opportunity of not only establishing the business

value, but also modelling various situations of business continuation conditioned by the changing factors of external and internal environment of the enterprise.

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**Verslo vertės veiksnių analize pagrįstas verslo vertinimo modelis**


Santrauka

Vertė mokslinėje literatūroje vadinama tiksliausiu verslo būklės indikatoriumi, atspindinčiu įmonės vidinėje ir išorinėje aplinkoje vykstančius pokyčius. Kadangi verslo vertinimas paprastai siejamas su planuojančios tęsti savo verslą įmonės vertės nustatymu, iškyla poreikis skaičiavimuose naudoti prognozuojamus duomenis. Dinamiškoje aplinkoje, kuomet rizika ir neapibrėžtumas tampa neišvengiamais įmonės veiklos prognozavimo proceso atributais, dėl įvairių veiksnių kitimo, verslo vertė gali svyruoti gana plačiai. Viena vertus, rizika ir neapibrėžtumas skatina mąstyti būsimų scenarijų kategorijomis ir numatyti visą vertės reikšmių diapazoną. Kita vertus, verslo vertės platus svyravimas sąlygoja galutinės išvados apie verslo vertę pateikimo problemiškumą. Kadangi verslo vertė kinta keičiantis jai įtakos turintiems veiksniams, tampa aktuali verslo vertei įtakos turinčių veiksnių analizė, kuria remiantis būtų galima nustatyti labiausiai tikėtiną verslo vertės dydį.

Nors mokslinėje literatūroje pabrėžiamas veiksnių, kurių pasikeitimas gali lemti verslo vertės dydžio svyravimą, įvertinimo būtinumas, mokslininkai nepateikia verslo veiksnių analizės inkorporavimo į verslo vertinimą mechanizmo. Pasigendama adaptyvaus modelio, kuriame, į verslo vertinimo procesą inkorporuojant verslo vertės veiksnių klasifikavimą ir įtakos verslo vertei įvertinimą, būtų galima nustatyti labiausiai tikėtiną verslo vertės dydį.

Tikslas – sudaryti verslo vertės veiksnių analize pagrįstą verslo vertinimo modelį, kuris į verslo vertinimo procesą inkorporuotų verslo vertės veiksnių klasifikavimą, jų įtakos verslo vertei nustatymą ir įgalintų pateikti labiausiai tikėtiną verslo vertės dydį.

Mokslinėje literatūroje, nagrinėjančioje verslo vertinimo klausimus, verslo vertės veiksnių analizės aspektas paliečiamas labai fragmentiškai. Nors mokslininkai pabrėžia vertės veiksnių, lemiančių verslo vertės dydį, įtakos vertei nustatymo svarbą, nėra suformuotos vienos nuomonės dėl šių veiksnių klasifikavimo ir analizės. Autorių, nagrinėjančių verslo vertinimo klausimus, darbuose pateikiamos linijinės verslo vertę lemiančių veiksnių klasifikacijos yra nenuoseklios ir nepakankamai įvertina verslo vertės veiksnius. Esant linijiniam veiksnių pateikimui, sudėtinga įžvelgti verslo vertę lemiančių veiksnių ir verslo vertės sąryšius bei kiekybiškai išmatuoti vertės veiksnių pasikeitimo įtaką verslo vertei. Įprastiniu linijiniu būdu sudarytų verslo vertei įtakos turinčių veiksnių klasifikacijų ribotumą, straipsnyje sudaryta verslo vertės veiksnių klasifikacija, išskiriant pirmo-penkto lygio verslo vertei įtakos turinčius veiksnius. Ji remiasi verslo vertės, nustatomos diskontuotų pinigų srautų metodu, dekompozicija. Pirmo lygio veiksniais yra diskontuoti laisvieji pinigų srautai (DLPS), įvertinantys prognozuojamo laikotarpio laisvųjų pinigų srautų esamąją vertę, ir tęstinė vertė (TV). Antrojo lygio veiksnių (laisvieji pinigų srautai (LPS) ir diskonto norma (DN)) nustatymas remiasi diskontuotų laisvųjų pinigų srautų dekompozicija. Kadangi struktūriškai laisvieji pinigų srautai išreiškiami įvertinus grynojo pelno (GP), nusidėvėjimo (N) ir investicijų (I) dydį, pastarieji įvardijami trečiojo lygio laisvuosius pinigų srautus lemiančiais veiksniais. Diskonto normos veiksniai nustatomi atsižvelgus į įmonės kapitalo finansavimo šaltinius – skolintą kapitalą ir nuosavą kapitalą. Tai leidžia skolinto kapitalo kaštus (SKK) ir nuosavo kapitalo kaštus (NKK) vadinti trečiojo lygio (diskonto normos) veiksniais. Ketvirtojo lygio (grynojo pelno) veiksniais yra pardavimų apimtis (PA), produkcijos savikaina (PS), sąnaudos (S), pajamos (P), pelno mokestis (M), kurie nustatyti laikantis buhalterinėje atskaitomybėje naudojamo grynojo pelno apskaičiavimo principo. Ketvirtojo lygio (skolinto kapitalo kaštų ir nuosavo kapitalo kaštų) veiksniai nustatyti atsižvelgiant į tai, kad šiuos kaštus lemia skolinto ir nuosavo kapitalo pelno norma (SKP, NKP) bei šių finansavimo šaltinių struktūrinis pasiskirstymas, t.y. kiekvieno iš jų dalis bendrame finansavimo šaltinių dydyje ($W_{SK}$, $W_{NK}$). Atliekant pardavimų apimties dekompoziciją, išskiriami penktojo lygio (pardavimų apimties) veiksniai, kuriais yra gaminamos produkcijos kiekis (vnt.) (Q), vieneto

savikaina (SV) bei pardavimų marža (Lt) (PM). Nustatant penktojo lygio (nuosavo kapitalo pelno normos) veiksnius atsižvelgta į modelio, kuris naudojamas nuosavo kapitalo kaštams apskaičiuoti, struktūrą. Nuosavo kapitalo kaštai apskaičiuojami sumuojant nerizikingą palūkanų normą (NP) ir rizikos priedus už makroaplinkos, šakos aplinkos ir vidinės aplinkos veiksnius (MRP, ŠRP, VRP). Toks pakopinis veiksnių pateikimas leidžia įžvelgti verslo vertės veiksnių ir verslo vertės sąryšius bei įvertinti kiekvieno veiksnio pasikeitimo įtaką ne tik verslo vertės, bet ir aukštesnio lygio veiksnio pokyčiui. Remiantis sudaryta verslo vertės veiksnių klasifikacija (nuo pirmo iki penkto lygio) ir jų įtakos verslo vertei nustatymo algoritmu, galima sudaryti žemesnių lygių veiksnių (priklausomai nuo poreikio) klasifikacijas ir įvertinti jų įtaką verslo vertei.

Mokslinės literatūros analizė rodo, kad nuorodos į vertės veiksnių įtakos verslo vertei nustatymo metodus yra labai ribotos. Nepakanka remtis jautrumo analizės, kuri mokslinėje literatūroje pateikiama kaip dažniausiai naudojama nustatant veiksnių įtaką verslo vertei, rezultatais, nes ji leidžia įvertinti vieno veiksnio pasikeitimo (didėjimo/mažėjimo) įtaką verslo vertei, nevertinant kitų veiksnių galimo kitimo. Kadangi realioje situacijoje paprastai kinta ne vienas, o keletas veiksnių, iškyla poreikis taikyti tuos faktorinės analizės metodus, kurie leistų kompleksiškai įvertinti daugelio veiksnių pasikeitimo įtaką verslo vertės pokyčiui. Straipsnyje siūloma verslo vertės veiksnių įtaką verslo vertei nustatyti, pritaikius ekonominės faktorinės analizės integralinį metodą. Pagrindinis integralinio metodo išskirtinis bruožas yra jo tikslumas ir vienareikšmiškumas. Reikšmingas šio metodo ypatumas tas, kad faktorinę sistemą gali sudaryti įvairus elementų skaičius. Taip pat šių elementų tarpusavio ryšio forma gali būti įvairi. Palyginti su kitais determinuotos faktorinės analizės būdais, integralinis metodas pasižymi universalumu. Be to, išsamiai įvertinama veiksnių įtaka analizuojamam rodikliui. Todėl, naudojant integralinį metodą, išvengiama bet kokių subjektyvių prielaidų apie veiksnių įtaką analizuojamam rodikliui. Atsižvelgiant į integralinio metodo, kuris taikomas vertės veiksnių analizei, naudojimo specifiką, kai kurie veiksniai skaičiavimuose išreiškiami koeficientais (tęstinės vertės koeficientas, diskonto normos koeficientas, nusidėvėjimo koeficientas ir t.t.).

Koeficientų naudojimas paremtas poreikiu skaičiavimuose taikyti multiplikatyvias išraiškas, o tai suteikia galimybę veiksnių analizę atlikti integraliniu metodu. Pirmiausia nustatoma žemesnio lygio veiksnių įtaka aukštesnio lygio veiksniams.

Atliekant skaičiavimus remiamasi mokslinėje literatūroje pateiktomis bazinėmis skaičiavimo formulėmis, supaprastinančiomis integralinio metodo taikymą. Kadangi žemesnio lygio veiksniai, turi įtakos ne tik aukštesnio lygio veiksniams, bet ir verslo vertei, sudarytas vertės veiksnių analizės algoritmas, kuriame pateiktos įvairių lygių vertės veiksnių įtakos verslo vertei apskaičiavimo formulės.

Atsižvelgiant į verslo vertės veiksnių klasifikaciją ir remiantis verslo vertės veiksnių analizės instrumentarijumi sukurtas verslo vertės veiksnių analize pagrįstas verslo vertinimo modelis. Modelio esminė idėja yra ta, kad galutinio verslo vertės dydžio nustatymui, į verslo vertinimą diskontuotų pinigų srautų metodu, inkorporuojamas verslo vertės veiksnių klasifikavimas, išskiriant pirmo-penkto lygio veiksnius, ir jų įtakos verslo vertei nustatymas.

Struktūriškai modelis apima vertinamo objekto identifikavimą (informacijos apie vertinamą objektą surinkimas ir analizė bei verslo vertės nustatymas), verslo vertės veiksnių klasifikavimą (remiantis verslo vertės, nustatomos diskontuotų pinigų srautų metodu, dekompozicija, išskiriami pirmo-penkto lygio veiksniai), verslo vertės veiksnių analizę (panaudojant faktorinės analizės integralinį metodą nustatoma veiksnių įtaka verslo vertei), galutinio verslo vertės dydžio nustatymą (labiausiai tikėtino verslo vertės dydžio nustatymas, paremtas verslo vertės veiksnių analizės rezultatais ir ekspertų vertinimu). Modelis suteikia galimybę ne tik nustatyti verslo vertę, bet ir modeliuoti įvairias verslo tęstinumo situacijas, sąlygojamas įmonės išorinės ir vidinės aplinkos veiksnių pasikeitimų.

Modelis gali būti taikomas tiek verslo vertinimo, tiek verte pagrįsto valdymo praktikoje, nes: (1) su nedideliais koregavimais gali būti pritaikytas įvairių objektų verslo vertei įtakos turinčių veiksnių analizei; (2) remiantis verslo vertės veiksnių analizės rezultatais galima nustatyti labiausiai tikėtiną verslo vertės dydį; (3) suteikia galimybę verslo vertinimo rezultatus panaudoti vertės maksimizavimo sprendimų priėmimui.

Raktažodžiai: *verslo vertinimas, vertės veiksniai, faktorinė analizė*

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