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PROBLEMS AND PROSPECTS OF REFLECTING GOODWILL IN ACCOUNTING SYSTEM AND FINANCIAL REPORTING

Abstract. Dynamic development of modern entities in information and knowledge economy is associated with the usage of intangible factors of functioning. It is components of intangible capacity that form information and intellectual resource of the enterprise, determine its competitive position in the market and are the key to efficient operations and the main factor in the formation of its value. However, many components of these informational and intellectual resources often cannot be clearly identified and objectively measured. For this reason, the existing accounting principles provided by almost all systems of standardization, do not imply the recognition and reflection in accounting and financial reporting of significant amount of information and intellectual assets, mainly internally generated.

These arguments largely explain the gap between the market and the book capitalization of modern companies, especially high-tech ones. For public companies whose stocks are quoted on equity markets, the value of unidentifiable intellectual assets (capital) can be set by assessing the value differences determined on the basis of market mechanisms. For other operating entities it is impossible to formalize the internally generated information and intellectual capacity in any way. This is achievable only in cases of merger, acquisition or takeover of a business (the so-called M&A agreements), when the difference between the market value of a business and its book value is taken by the buyer on its balance sheet in the form of goodwill. In fact, goodwill has appeared to be almost the only mechanism of recognizing the value of unidentified information and intellectual assets (capital) in enterprise's value formalized in public financial reporting. The need for public representation of internally generated information and intellectual capacity of companies determines the timeliness of the research related to modern developments in accounting.

Key words: goodwill, intellectual capital, financial reporting, approaches to assessing goodwill, methods of accounting for goodwill

1. Origin of goodwill and approaches to its recognition as an object of accounting

The first mention of goodwill as an economic category and an object of accounting and

reporting dates back to the sixteenth century. The original essence of the concept goodwill reflected investor's "good will" to pay for the target firm the sum that exceeded its book value [10]. Later scientists interpreted the category of goodwill much wider as business reputation, business assets, brand, image, corporate governance efficiency, etc. However, scientists could not produce a common approach to the goodwill reflection in accounting either in historical perspective or in the current period of accounting and economics development. In general, the diametrically opposed views of leading scientists on this concept can be traced – from full acceptance and recognition of goodwill in the form of intangible or a cognate specific asset that allows the company to generate excess profits (F. Piksley), or in the form of prepaid expenses related to staff training and improvement of personnel management, which will contribute to the formation of additional product (E. Schmalenbach), – to complete rejection of such an accounting object. For example, a well-known accounting scholar I. Sher considered goodwill as a way to disguising and distorting the balance sheet [7].

Analysis of current scientific research shows that there are different approaches to defining the essence of goodwill. Some of them propose to consider goodwill as a separate, valid internal characteristic of entity's capacity [3]. Consequently, researchers also argue about the economic meaning of the internally generated goodwill necessary to recognize it as an object of accounting. There even appeared scientific papers about the management of positive goodwill creation. In particular, in publication [5] it is proposed to single out ecological goodwill [8] etc. However, such diversity of approaches to the definition of the nature and importance (role) of goodwill in entities' operation and development deepens the problem of uncertainty not only in accounting of goodwill but also in accounting methodology as a whole.

After analyzing reports about the goodwill's first references in popular science articles or in judicial and legal documents [1–3, 7, 10], it can be concluded that initially goodwill as an individual object in accounting played the role of an investments regulative, as it reflected the surplus amount that the buying company paid over the value of identifiable tangible assets obtained during acquisition. However, given that the acquired investments are recorded on the balance sheet of the acquirer not as one item but as separate particular assets (fixed assets, inventories, funds, requirements etc.), the goodwill, after being recorded on the balance sheet, cannot be considered as a regulative of investments. This conclusion follows from the fact that a regulative cannot exist without the main object (such as depreciation cannot exist without fixed assets, allowance for doubtful debts without receivables, unpaid capital without registered capital etc.).

On the other hand, goodwill cannot be considered as a full-value asset. In the context of this research an asset is considered as a full-value asset if it not only meets the criteria of probability economic benefits and control by the entity, but also the criterion of possible separation from the entity and transfer (as a result of sale, exchange, capital contribution etc.) to other entities.

Really, goodwill cannot be separated, split off from the enterprise (business) to which it is intrinsic. It is impossible to sell it as an individual unit or subject it to any other business transaction that involves its transfer to another entity. Therefore, goodwill has no price, no fair value because it cannot be an object of purchase and sale. On this basis the internally generated goodwill (not related to M&A-agreements) cannot be considered as an individual economic object, and this leads to arguing the possibility of its recognition as an asset. Despite the fact that the concept of internally generated goodwill is present in some systems of standardization of accounting and financial reporting (e.g., GAAP SFAS 142 "Goodwill and Other Intangible Assets"), such systems don't contain any positive recommendations on the possibilities of the goodwill accounting, but rather point to the impossibility of its recognition.

The economic nature of goodwill is determined by the factors that cause it. Scientists and experts include to these factors the following:

- business reputation of the acquiree (target firm);

- brand, trademarks, patents of the acquired entity;
- customer base and customer loyalty to the brand or the company acquired;
- developed software, other technical and technological developments;
- management culture, business model and well-established business processes, personnel qualifications etc.

Distinguishing the factors of goodwill allows finding out its essence and nature. Such obvious factors form the capacity being additional to that of the identifiable assets of the company. But because of the impossibility of recognizing these factors as accounting objects their capacity is represented by goodwill. In many scientific works these factors of goodwill formation are referred to as its components (elements), that implies so-called "all-in-one-pot" approach to its recognition. This approach is quite simple and easy in application because it does not provide for clear identification with distinguishing value of particular components, but leads to assessing goodwill as a whole, according to the regulatory method, i.e. cost of business acquisition minus the acquired company book value.

The application of such an approach subsequently causes the problems with accounting the goodwill, when it is necessary to confirm whether it generates income or cash flow (and if so, then in what amount), or it is only a "ballast", "toxic assets" on the balance sheet of the combined business. Moreover, "all-in-one-pot" approach deprives of understanding the goodwill's economic matter. It is also completely irrelevant regarding the company's external stakeholders, since the methodology of its subsequent accounting for and representation in financial reporting cannot meet their information requests. "All-in-one-pot" method of recognition and accounting for goodwill actually causes the reflection of "cat in a poke" on the balance sheet, because the structure and purpose of goodwill's components are unknown to the most stakeholders of the company (Fig. 1).

To enhance the relevance of financial reporting indicators for external stakeholders and for the purposes of managing the company, the identification of types or components of goodwill is not only appropriate but absolutely necessary. To overcome existing problems American researchers Steven L. Henning, Barry L. Lewis, Wayne H. Shaw in the article "Valuation of the Components of Purchased

Goodwill” in Journal of Accounting Research [18] proposed to single out four components of goodwill:

1) the write-up of the target firm’s assets to fair market value, calculated as the difference between the fair market value of the target firm’s assets and their preacquisition book value;

2) the value of the target firm as a going concern, or stand-alone entity, calculated as the difference between the target’s preacquisition market value and the target’s fair market value of assets;

3) the market’s valuation of the synergistic value created by the acquisition, calculated as the combined cumulative abnormal return to the target and the acquirer;

4) any overvaluation of consideration and/or overpayment for the target [18, p. 375–376].

general, its efficiency and market position etc., and professional practice goodwill, peculiar to the entities that provide professional services – architects, doctors, accountants, auditors, lawyers [19].

In view of the above, the classification of goodwill can be done with the account of at least four criteria – goodwill origin, factors that cause it, its composition, and the subject–carrier of goodwill (Fig. 2).

2. Evolution of approaches to goodwill evaluation and accounting

The historical overview makes possible to identify different approaches and methods for evaluating the goodwill proposed by leading scientists, experts and professional accountancy organizations (Table 1).

Table 1

Basic approaches and methods of goodwill valuation

Name of approach to goodwill valuation	Essence of approach to goodwill valuation	Methods of valuation of goodwill within a specified approach
Residual (accounting) approach	Imply goodwill valuation as the difference between the value of business and the value of identifiable assets	Goodwill is calculated as the difference between the sum of cash paid, assets transferred or other consideration and the fair (book) value of the identifiable assets
“Excess” approach	Based on the assumption, that goodwill generates “excess” (additional) economic benefits for an entity	Goodwill is evaluated by measuring the amount of generated “excess” profits, returns, cash flows
Value approach	Based on a comparison of market and book or replacement value of entity	Valuation of goodwill as the difference between the market capitalization of the company and book, fair or replacement value of its assets
Empirical approach	Imply goodwill valuation by the calculation of special ratios, multipliers etc.	Valuation of goodwill by the calculation of activity ratios, earnings multiples etc.
Heuristic approach	Based on the application of heuristic methods	Expert surveys and other heuristic methods

Source: grouped and summarized by the authors on the basis of [1–4, 6, 7, 9, 10]

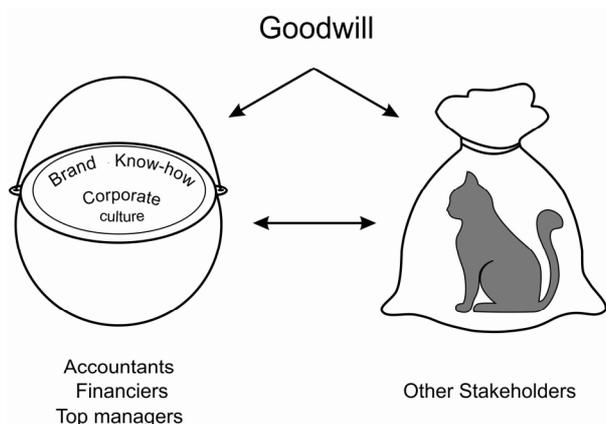


Fig. 1. Illustration of goodwill’s perception by the stakeholders in case of “all-in-one-pot” method of its recognition

The given above presentation of goodwill’s composition clearly reflects its distinction from intangible assets (since in accordance with some standardization systems of accounting and reporting, including GAAP SFAS 141 “Business Combinations”, the term intangible asset excludes goodwill), because besides intellectual objects, it can include the value measurement of the difference in assets evaluation or action of speculative mechanisms in the market.

Expert-analytical agencies in their own methods of business evaluation also take into account the existence of goodwill. A precondition for determining the value of goodwill thereby is a detailed analysis of its composition and origin. For example, evaluative and analytical tool “ValuAdder” provides for the segregation of institutional goodwill related to the operation of business in

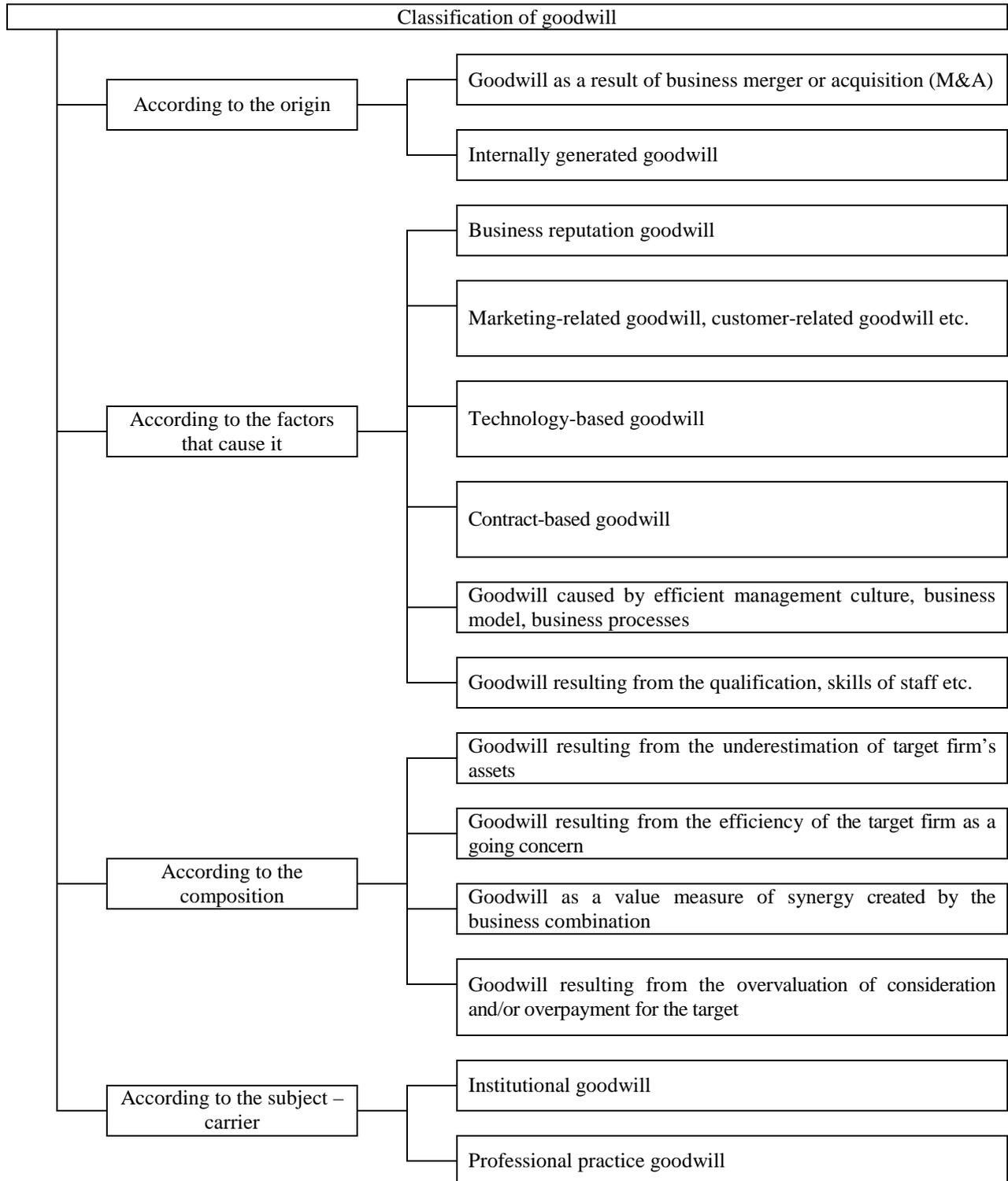


Fig. 2. Classification of goodwill

Source: grouped and summarized by the authors

Each of the listed in the Table 1 approaches and methods for evaluating goodwill has significant shortcomings. Imperative accounting methodology (IFRS, GAAP, National Accounting Regulations (Standards) etc.) actually implies the application of

only residual “all-in-one-pot” (or “in total”) approach, which disadvantages were mentioned above.

Excess approach requires to single out goodwill’s components that are able to generate excess economic benefits. Calculating the surplus of

the obtained economic benefit is based on its amount comparison with some standard values, but it is impossible to establish objective standards for economic benefits (income, return etc.) of market economy entities. And the proposals for calculating of excess economic benefit by its comparison with industry average indicators are, in our opinion, also baseless and mistaken. They do not take into account the existence of goodwill in other industry entities, or the excess is calculated without taking into consideration the average amount of goodwill in the industry, which is also unknown. The problem of excess approach application deepens even more if it is explored within not only the national but also the global economy.

The value approach to the evaluation of goodwill can be considered as a derivative of the “all-in-one-pot” approach. This approach can be applied to the companies whose value is determined by the market mechanism (market capitalization of companies whose shares are quoted on stock exchanges) or empirical evaluation methods. However, the market capitalization can be formed under the influence of speculative mechanisms, and subjectivity of company’s appraised value caused by the restrictions and conventionalities of evaluation methods and judgments of appraisers. Thus, it is rather difficult to achieve a high level of objectivity in determining the value of goodwill using value approach.

The validity of goodwill’s measurement by the empirical or heuristic approach, in our opinion, is even lower, because the methodology of these approaches is based largely on expert judgment regarding the direct or indirect dependence of goodwill on various quantitative or qualitative factors. In the absence of common approach to determination of economic essence of goodwill the practicability of judgments and indirect estimates application for the formal presentation of relevant information is questionable or even dangerous.

The unified formalization of goodwill is also absent in accounting methodology, therefore, three main approaches to its accounting are used:

- 1) goodwill’s immediate writing off after the acquisition of an entity (business);
- 2) capitalization as an intangible asset or other special asset with further amortization;
- 3) capitalization as an intangible asset or other special asset without further amortization, but with periodic impairment test [2].

Methods of assessment and accounting of goodwill if it is recognized depend on the way of accounting of business combinations. Accounting methodology provides two basic methods of accounting transactions on combining businesses (merger, acquisition) – the pooling of interest method and the acquisition method. Since the early 2000s the main international standardization systems of accounting and reporting (IFRS, GAAP) have offered to apply only the acquisition method for reflecting the business combination transactions in accounting. The key aspects of this method are identifying and determining the acquirer, acquiree, acquisition date, noncontrolling interest, and the reporting unit to which it will be assigned. In accordance with the acquisition method goodwill at the acquisition date is defined as the difference between the fair value of the compensation transferred, the amount of noncontrolling interests and the value of the identifiable assets acquired minus the liabilities assumed [4].

Recognized in accounting goodwill is subject to systematic tests for impairment with the application of the same residual approach as in recognition, but it is not subject to depreciation. At this, goodwill can only be written down (if the fair value of a reporting unit is less than its book value, including goodwill). The write up of goodwill isn’t allowed.

Goodwill is valued (revaluated) not directly as a separate object, but through the relation of fair value and book value of the company, which additionally confirms the lack of goodwill fair value.

On the basis of empirical studies of these components of goodwill Steven L. Henning, Barry L. Lewis, Wayne H. Shaw concluded that two components of goodwill are important for investors – the value of the target firm as a stand-alone entity (going-concern) and the synergistic value created by the acquisition (synergy). Given the fact that these two components aren’t cost-forming, they aren’t subject to amortization either. While the weight of the other two components of goodwill is mostly overstated, investors often write them off the balance sheet in the year of acquisition [18, P. 385–386].

The research done by Steven L. Henning, Barry L. Lewis, and Wayne H. Shaw confirms the expediency and necessity of goodwill’s classification by components. Indeed, firstly, the individual components of goodwill can be identified as assets provided there’s the possibility of their objective evaluation. In particular, certain intellectual marketing-related or technology-based objects of the acquired company,

which could not be recognized as intangible assets due to the principle of objectification, but can be identified, should be recognized as individual assets after the business acquisition. Such intangible assets can be considered not as self-created, but as acquired, though as part of integral business. And secondly, for individual components of goodwill it is easier to choose the appropriate methods of valuation. For example, marketing or technological components of goodwill can be measured by using the income approach, under which the function of the income indicator can be performed by alternative payments of royalties or franchise etc. In this case, the sum of recognized intangible assets' values should not exceed the amount of goodwill (Fig. 3).

The components that cannot be identified, separated from the business or assessed may be part of goodwill, so, accordingly, they cannot be considered as individual assets and further they are accounted for within goodwill. The part of goodwill induced by the underestimation of the identifiable assets acquired should be written off through revaluation.

In addition to objective factors of mainly intellectual nature the speculative market mechanisms also have an effect on the amount of goodwill, valued by "all-in-one-pot" approach that provoke its volatility. Through distortion of the entity's value these mechanisms also cause the distortion of the value of its goodwill.

3. The current state of the problem of goodwill representation in financial reporting and approaches to its solution

In the modern information and intellectual economy the problem of the goodwill recognition, assessment, and recording as well as its representation in the financial reporting is becoming increasingly relevant. Especially noticeable it becomes for high-tech companies, whose main resource as well as the manufactured product is intangible by essence.

The inability of recording and reporting of self-created intangible objects, that is, unrecognizing them as assets, significantly decreases the book value of such companies and leads to considerable gaps between the market and book value. Moreover, such value gaps can be significant in amount and can exceed the book value of such companies even by several times. These large value gaps can often be observed at high-tech startups' M&A agreements.

The results of the analysis of the largest M&A deals of technology sector showed significant

amounts of "overpayments" for acquired companies compared to their book value and, as a result, the recording of goodwill with quite high value on the balance sheets of the leading companies. However, the justification of the prices of certain transactions is difficult to understand. In particular, "WhatsApp" Messenger has been acquired by "Facebook" for \$20 billion. It is hardly believable that "WhatsApp" client capital will be able in the foreseeable future to accumulate additional net cash flow from advertising (the main income generating activity of "Facebook") or other activity of \$20 billion. Although "WhatsApp" client capital that covers several hundred million messenger users, is considerable, a significant share of the capital probably was already present in "Facebook" before the acquisition of "WhatsApp". The doubts about the objectivity of the transaction price are also caused by the terms of the agreement, since only \$4 billion from \$20 billion were paid in cash, and the rest – by the exchange of corporate rights.

The analysis of the M&A deals of leading technology companies, the comparison of their market and book value and the share of goodwill in them (Table 2) suggest that their managers began to use goodwill as an instrument of formal capitalization of intellectual capital, which could not be recognized and reflected on the balance sheets because of the objectification principle (self-created by the companies intangible assets cannot be recognized). The structure of goodwill in the notes to the annual financial statements is actually revealed through the elements of intellectual capital (Marketing-related (trade names), Technology-based, Customer-related, Contract-based) [11, 12, 17]. The "WhatsApp" takeover alone will enable "Facebook" to almost "align" its market and book capitalization.

The general trend of the number of M&A deals (more than 60 of Apple, more than 160 of Microsoft, more than 175 of Google, over 50 of Facebook) and their value [13–16] may indicate a further increase of goodwill share in their balance sheets. But won't this form a new "virtual bubble", taking into account the publicity lack of the reasonableness of such deals' prices?! Therefore, to prevent the tendencies of excessive companies' capitalization a principle similar to the principle of objectification should also be applied to goodwill: *recognized as a result of business combination transactions goodwill must be evaluated excluding the cost of transferred by the acquirer instruments of owner's equity as consideration in a business combination.*

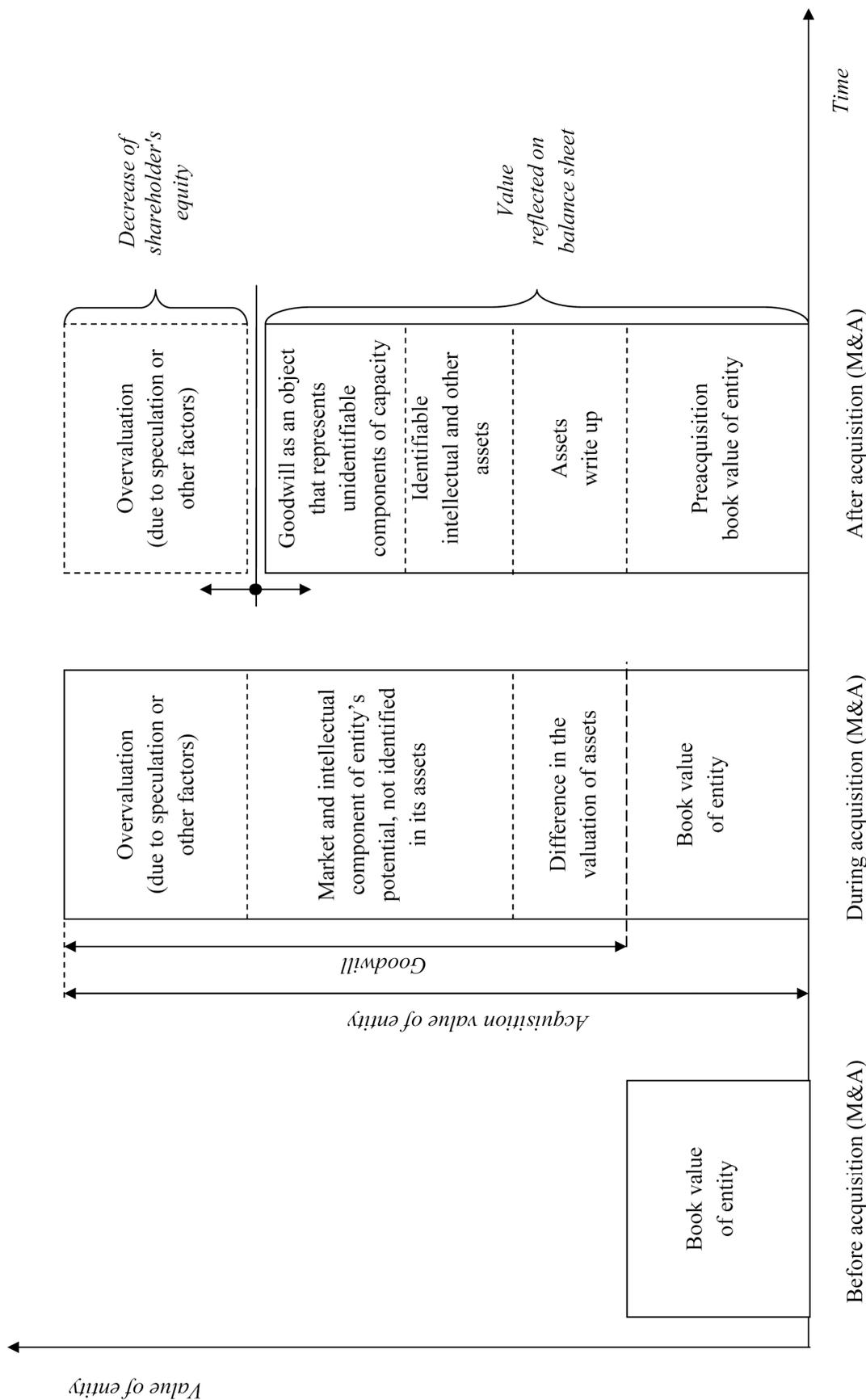


Fig. 3. Transformation of components of entity's value in the process of M&A agreement

Source: formed by the authors

Table 2
Market and book value of leading technology companies compared with goodwill relative share

Company	Total assets, USD Billion	Stockholders' equity, USD Billion	Market capitalization, USD Billion	Goodwill		
				Value, USD Billion	in % to the stockholders' equity	in % to the market capitalization
Apple	231,839	111,547	462,522	4,616	4	1
Microsoft	169,656	90,17	284,540	20,081	22	7
Google	125,781	98,815	~ 214	15,461	16	7
Facebook	24,188	21,238	49,067	2,612 ¹	12	5

Source: grouped and summarized by the author on the basis of [11, 12, 17]

The analysis of the available financial reporting of the largest companies in Ukraine² shows that only in the three out of ten companies' (holdings') consolidated balance sheets the value of goodwill acquired significant values (Table 3). However, unlike the reporting of investigated technology companies (Table 2), the structure of goodwill of Ukrainian economy leaders in the notes to the annual financial statements isn't disclosed (except DTEK Holdings B. V. in 2012), which makes difficult to analyze its essence. Historical analysis of the formation of these holdings and our own opinion on

¹ Excluding the acquisition of WhatsApp

² The sampling has covered the largest (top twenty) companies in accordance with magazine "Forbes. Ukraine" ranking that present their financial statements on the websites in free access

the industry and technological aspects of their activities allow to assume that their goodwill has been created as a result of acquisitions (privatization) of the companies whose balance sheets were significantly underestimated.

Table 3
Analysis of goodwill of the largest companies in Ukraine (as on 31.12.2014)

Company	Total assets, USD Billion	Stockholders' equity, USD Billion	Goodwill		
			Value, USD Billion	in % to the assets' value	in % to the stockholders' equity
Ltd. "Metinvest holding"	12556	6762	754	6	11
DTEK Holdings B. V. ³	9550	4086	570	6	14
PJSC "ArcelorMittal Kryviy Rih"	3240	2447	0	0	0
Kernel Holding S. A.	1919	1031	139	7	13
PJSC "Ukratnafta" ⁴	4072	2175	0	0	0
PJSC "Ferrexpo Poltava Mining"	579	285	0	0	0
PJSC "Myronivsky Hliboprodukt"	2477	1156	3	0,1	0,3
PJSC "Galnaftogas"	354	108	0	0	0
PJSC "Kyivstar" ⁴	1368	1087	0	0	0
PJSC "Donetsksteel"	577	74	0	0	0

Source: summarized by the author on the basis of companies' financial reporting

Conclusions and suggestions. Taking into account the real state of the current financial and economic relations, goodwill becomes the determining accounting object for the companies of information and intellectual economy. The existing methodology of this economic category accounting and its representation in reporting cannot meet the information demands of companies' stakeholders. "All-in-one-pot" method of goodwill recognition

³ As on 31.12.2012

⁴ As on 31.12.2013

accounts for the formation of “a pig in a poke” in the balance sheet, since the nature, structure and purpose of goodwill is unknown to most stakeholders of the companies. Therefore, in order to enhance the relevance of accounting information, it is appropriate to recommend the following improvements of goodwill accounting methodology and representation of the information about it in financial reporting:

1) the recognition of the acquired goodwill should imply its distribution not only by reporting (generating) units but also by components in terms of the factors that cause it. This will permit to recognize goodwill components that represent the intellectual capital of the acquired businesses as intangible assets. These intangible assets can be regarded not as self-created, but as acquired, though as part of the integral business. For intellectual components of goodwill it is easier to choose appropriate assessment methods. At the same time, the sum of recognized intangible assets should not exceed the value of goodwill. The residual value of goodwill would represent the rest of its components, the value of which should be tested for impairment;

2) the description of the composition and structure of goodwill should be included to the notes to the annual financial statements that, on the one hand, will help to raise the level of informativeness of financial reporting and, accordingly, to eliminate the effect of “a cat in a poke” regarding perception of goodwill by the companies’ stakeholders, and, on the other hand, to enhance justification of their economic capacity (especially information and intellectual component of it);

3) to prevent the tendencies of excessive companies’ capitalization recognized as a result of business combination transactions goodwill must be evaluated excluding the cost of transferred by the acquirer instruments of owner’s equity as consideration in a business combination. The mentioned methodological proposal aims to prevent the formation of a “virtual bubble” on the balance sheets of the companies, especially high-tech ones.

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CONTRADICTIONS OF THE NATIONAL LEGAL AND REGULATORY FRAMEWORK IN THE FIELD OF SOCIO-ECONOMIC DIAGNOSING IN CONDITIONS OF EUROPEAN INTEGRATION

Abstract. The article analyzes the national legal and regulatory framework in the field of socio-economic diagnosing of the major parameters and operation directions of the objects being diagnosed such as financial conditions, the threat of bankruptcy, solvency (credit status), and investment attractiveness. Based on the results obtained there are singled out, generalized and justified the key contradictions of national regulations governing principles of assessing the priority sectors of these objects operation. The importance of further development of the national legal and regulatory support of socio-economic diagnosing towards its unification in modern conditions of European integration is proved.

In terms of revitalization of European integration processes in Ukraine and globalization processes in the world the importance of socio-economic diagnosing at all levels of national and international economies is increasing. In fact, successful establishment and further development of relationships between domestic and foreign partners at different levels (state authorities, financial, credit and insurance institutions, rating agencies, securities market participants, investors, intermediaries, contractors, businesses) require accurate, representative and objective database obtained through target diagnosing. Recently stakeholders have been primarily interested in socio-economic diagnosing of such aspects of particular entities as financial conditions, threat of bankruptcy, solvency, investment attractiveness etc. Target diagnosing is based on various techniques developed by the legislative authorities of Ukraine that are still being used to form special methodological guidelines for evaluating priority operation areas of the diagnosed objects. Obviously, the methodological provisions reflected in the current national legal and regulatory framework should be standardized and unified for all users in both domestic and international environment to ensure exclusive regulation of key principles of socio-economic diagnosing and unified

interpretation of the diagnostic results. Unfortunately, at present in the national legal and regulatory framework there are many problems associated with discrepancies, inconsistencies and contradictions of certain diagnostic methods. Considering all the above, there arises the necessity to study current national legislation and regulatory materials to identify existing conflicts in the area of socio-economic diagnosing.

Key words: socio-economic diagnosing, European integration, legal and regulatory framework, contradictions, methods, indicator, criterion.

Review of literature. The results of studying different aspects of the national legal and regulatory framework in the field of socio-economic diagnosing and the suggestions for its improvement are reflected in the works of domestic scientists [1–4] and others. Typically, the authors reveal the problems of socio-economic diagnosing regulatory support only in certain operating areas of the object being diagnosed. Thus, today there are almost no developments, which would comprehensively reflect the key problem points in the national regulatory framework of socio-economic diagnosis in all priority areas of evaluation in conditions of European integration. In addition, the legislative bodies often make various changes and additions to certain documents regulating the basics of implementing diagnostic procedures. This, in turn, makes the previous research quickly lose its relevancy causing the necessity of permanent keeping the track and analyzing all the changes and innovations in the national legal and regulatory framework in the field of socio-economic diagnosing. Identification of principal contradictions in the legal and regulatory support of socio-economic

diagnosing and its consequent reformation in the modern period of active European integration of Ukraine has particular relevance. This will ensure not only solution of the existing problems at the national level but will also increase the international prestige of Ukraine and facilitate dynamic integration of Ukraine into European economic environment.

The purpose of the article. Taking into account the relevancy of the researched issues in modern conditions of Ukraine's European integration as well as the results of the literature analysis [1-4], the authors set as the purpose of the article the deep analysis of the valid national legal and regulatory acts that regulate principal fundamentals of socio-economic diagnosing along the priority evaluation directions and justification of the main contradictions in these acts.

Research materials. The European vector of the national economic development envisages deepening of cooperation between different domestic and foreign actors of micro-, mezzo- and macro-environment (government authorities, financial and credit institutions, investors, intermediaries, counter-agents, business structures). The foreign partner's decision to initiate cooperation with a domestic entity as well as the nature of further relationships with it are basically affected by the substantial information base obtained through the target diagnosing of different aspects of the entity's activities.

Thus, socio-economic diagnosing is forming information foundation for establishing, maintaining and expanding the relationships among different actors of micro-, mezzo-, and macro-environment at the national and international levels, first of all, in the context of revitalizing European integration processes in Ukraine. Unfortunately, in practice, there exist the situations when the results of simultaneous diagnosing of identical entities performed by different domestic and international stakeholders bring absolutely different, disproportionate results, different identification and interpretation of the entities conditions. This, in turn, substantially hinders the creation of efficient relationships between domestic and foreign partners.

Such a situation is caused by a number of factors, among them: non-compliance of the regulatory framework provisions concerning indicators and criteria as well as identification and interpretation support of socio-economic diagnosing;

unsubstantiated criteria of diagnostic indicators optimization with the account of the domestic economy realities; the variety of methods applied to diagnosing of identical objects (thus, only in the sphere of financial conditions diagnosing there are about two dozens of methods used in legal framework and about fifty methods described in educational and research literature) etc. The majority of regulatory documents present economically ungrounded and meaningless evaluation indicators, duplicating and reciprocal indicators, and unjustified criteria, ambiguous and subjective methods of diagnosis, outdated information provision. In the areas of socio-economic diagnosing regulated by the regulatory framework it is quite common to obtain inadequate data not reflecting and sometimes even distorting information about the real state of the object being diagnosed. Besides, in non-normalized spheres, the stakeholders performing diagnosis can manipulate the results through applying more favorable methods and criteria, and this again leads to distortion of the information picture.

During the history of independent Ukraine there was developed and ratified quite a number of legal and regulatory documents regulating the principles of socio-economic diagnostics of various micro-, mezzo-, and macro-environment objects functioning. The majority of legislation and regulatory materials deals with activities assessment of enterprises with different ownership forms. Thus, in modern conditions of Ukraine's active integration into the European economic environment it is required to pay special attention to the legal and regulatory documents related to diagnosing the priority operation areas of domestic economic entities. We mean that the financial conditions should be evaluated as the key parameter determining the enterprise efficiency, its solvency should be assessed as the basis for identifying the class of borrower, and, consequently, the possibility of its access to credit resources, the threat of bankruptcy is assessed with the aim to prevent and overcome the crisis situation, and the investment attractiveness is evaluated for determining the expediency of making investments etc. So, it is expedient to consider and analyze the basic domestic legal and regulatory documents presenting the appropriate methods for diagnosing the above presented operation areas of enterprises with the aim to identify the drawbacks and contradictions in

the sphere of socio-economic diagnosing. This will allow to form the universal base for unification and standardization of diagnostic methods, indicators and criteria. In the sphere of diagnosing the financial conditions and the threat of bankruptcy of economic entities the key regulatory documents are “Methodical recommendations concerning identification of the signs of the enterprise insolvency and the features of the actions signaling concealment of bankruptcy, false bankruptcy or incitement to bankruptcy” approved by the Order of the Ministry of Economy of Ukraine No.14 of January 19, 2006 (with amendments and additions), “The procedure of analyzing financial and economic conditions of economic entities of public enterprises and the enterprises in which the share of state ownership in the authorized capital exceeds fifty percent; and preparation of conclusions about the presence of the signs of false bankruptcy, incitement to bankruptcy, concealment of stable financial insolvency, unlawful actions in case of bankruptcy at the request of the court, public prosecutor’s office or any other authorized body” approved by the Ministry of Justice of Ukraine № 327/5 of February 26, 2013 (with amendments and additions), “Methods of profound analysis of financial and economic conditions of insolvent enterprises and organizations” approved by the Order of the Agency on Preventing Bankruptcy of Enterprises and Organizations № 81 of June 27, 1997, “Methodical recommendations on analysis of financial and economic conditions of enterprises and organizations” (The Letter of the State Tax Administration of Ukraine № 759/10/20-2117 of January 27, 1998 [5–8] and others. These are substantial documents reflecting concrete indicators and formulas for their calculation with the reference to information sources for obtaining data, and the appropriate normative criteria. But the key problem of applying the provisions of these documents in practice is related to the fact that all of them are characterized by the obsolete information support of the diagnosing that will not result in appropriate accounting reporting. Besides, the developed methods of diagnosing in some of the named documents are overloaded with indicators, some of them being interrelated, interdependent and reciprocal and this demonstrates the necessity of optimizing their quantity based on including only the most representative and simple, as to the necessity of their information support, calculations.

In particular, “Methodical recommendations concerning identification of the signs of the enterprise insolvency and the features of the actions signaling concealment of bankruptcy, false bankruptcy or incitement to bankruptcy” approved by the Order of the Ministry of Economy of Ukraine № 14 of January 19, 2006 (with amendments and additions) [7] are based on the analysis of about 50 absolute and relative indicators, and contain mostly economically insignificant indicators, the indicators that are identical as to the formula of their calculation but have different names, the indicators that are characterized by absolutely incomplete and ungrounded criteria base, shallow interpretation and identification pool that does not account all the operating areas of the diagnosed enterprise necessary for obtaining the adequate results but mainly concentrates on the evaluation of the entity’s profitability. Besides, these Methodical Recommendations form the basis for arbitration managers to manipulate the diagnosis results concerning the threat of the enterprise bankruptcy and allow them to adopt lobbied judgments because some indicators have no criteria value at all, while others have absolutely unsubstantiated criteria.

It is worth mentioning that in “The procedure of analyzing financial and economic conditions of economic entities of public enterprises and the enterprises in which the share of state ownership in the authorized capital exceeds fifty percent; and preparation of conclusions about the presence of the signs of false bankruptcy, incitement to bankruptcy, concealment of sustainable financial insolvency, unlawful actions in case of bankruptcy at the request of the court, public prosecutor’s office or any other authorized body” approved by the Ministry of Justice of Ukraine № 327/5 of February 26, 2013 (with amendments and additions) [8] there is no concrete indicators-criteria base for diagnosing financial and economic conditions of public enterprises that would be absolutely applicable to such economic entities given the specifics of their legal form.

There exist quite a number of problems in the sphere of diagnosing the solvency (credit status) of enterprises. Thus, in “Regulations on the procedure of formation and use of the reserves for reimbursement of possible losses on active banking operations by the banks of Ukraine” approved by the Resolution of the Management Board of the National Bank of Ukraine № 23 of January 25,

2012 (with amendments and additions) [9] there are presented different models for calculating the integral indicator of the debtor-legal entity depending upon the type of their business activity and the size that are based only on calculating the quantitative indicators and do not take into account the indicators that characterize credit support, the enterprise credit history, its responsibility. Such an approach fails to provide banks with the chance to adequately identify the class of the borrower as it ignores the individual characteristics of the previous, current and perspective activities of each particular enterprise in the credit sphere.

As to diagnosing the investment attractiveness, the key regulatory document in this sphere is "Methods of integral evaluation of investment attractiveness of enterprises and organizations" approved by the Order of the Agency on Preventing Bankruptcy of Enterprises and Organizations № 22 of February 23, 1998 [10]. The major drawbacks of the presented methods are: they are based on the accounting system that does not exist; they use more than 60 diagnostic indicators, it being inappropriate given their interdependence and content identity; they contain no recommendations on the interpretation of the results obtained.

All the above presented problems of contradictory character in the national legal and regulatory framework in the sphere of socio-economic diagnosing require immediate solutions at the national level on the basis of formation and improvement of unified methodical recommendations on elimination of the existing contradictions, economic incorrectness and inappropriateness concerning indicators-criteria and identification-interpretation support of socio-economic diagnosing.

Conclusions. On its way to European integration Ukraine unprecedentedly expands its cooperation with EU countries in different spheres, first of all, in the socio-economic sphere. The key priority in this situation is the development of unified objective and substantiated legal and regulatory framework to be used for socio-economic diagnosing by both national and international subjects at all levels of national and international economies to overcome various barriers and to ensure conflict-free relationships. Really, to guarantee the establishment of any cooperation it is necessary to develop single high-quality unified information base available to all its

users. Unfortunately, at present the valid national legal and regulatory framework in the sphere of socio-economic diagnosing is characterized by essential contradictions and inconsistencies, lack of uniformity and versatility in diagnosing identical entities. The national diagnostic methods are incomplete, ungrounded and not adjusted to international standards. All these drawbacks lead to obtaining inappropriate, non-correlating, and disparate results of diagnosing at national and international levels and this fact greatly hinders the efficiency of cooperation between national and international diagnosing subjects. The solution of these problems, elimination of any manipulations with the diagnosing results, obtaining comparable, complete and reliable results on the diagnosed entity operation can be possible on the basis of unification of regulatory-methodological, indicators-criteria, identification-interpretation support of socio-economic diagnosing at the national level. Thus, further research can deal with the development of methodical recommendations on socio-economic diagnosing at micro-, mezzo-, and macro-levels of national and international economies, being universal, uniform and harmonized with the international standards and being based on justified indicators-criteria and identification-interpretation support of the diagnosing process with the account of modern challenges of European integration processes in Ukraine.

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MOTIVATING PERSONNEL CREATIVE POTENTIAL

Abstract. This article discusses the motivational aspects of personnel creative potential in today's conditions, which is a driving force for innovation. Also the objective reasons that forced staff to develop creative potential of each company, in particular, the basic principles of formation of motivational policy for the development of creativity of staff are highlighted. The presented research shows the relationship between typology of staff work and the character of motivation, as well as determines the effectiveness of the enterprise staff creative potential motivation on the basis of various motivational tools.

The efficient processes of transformation will be successful only in case of the availability of creative potential of personnel able to produce innovative ideas, to support presence of the enterprise on the innovation market and to ensure its competitiveness through unconventional management solutions.

Creativity is a natural human characteristic, however, subject to certain circumstances; it is not always possible to utilize it as a driving power in innovative development of an enterprise. Because of the lack of proper motivational policy, creativity often remains just a personal condition, and there is only nominal development and use of its potential. Thus, a contradiction emerges between the objective need to implement the personal creative impulse and subjective obstacles to human development.

Key words: motivation, motivation policy, creative potential, creativity, innovativeness, stimulating.

Analysis of recent research and publications.

In the scientific community creativity of personnel is traditionally considered as a part of the social capital [2, 15] and an important factor of innovative development of an enterprise [6, 8, 11, 14]. In the context of combination of creativity and staff incentives, particular publications are considered noteworthy [1, 2, 7, 14]. Namely, Bashkus T.O. and Khyzhnyak M.O. explore staff creativity in relation to the values of organization, while describing the factors of creativity development. However, they review up-to-date staff incentives fragmentarily, just listing them. Scientific literature [3, 4] contains confirmations of the complexity of the motivation problem and research of motivational behavior, which is both contradictory and dynamic. The combination of the motivational func-

tion of management and development of intellectual potential of an enterprise, as well as creativity, are partially presented in author's monograph [4] and other publications [6, 7].

Despite wide presence of certain aspects of the problems outlined in the scientific community, there is yet no comprehensive study of the creative potential in the light of motivation of its development, taking into account current challenges.

Research objectives. The purpose of the article is to highlight the motivational aspects of creative potential of personnel under current conditions. To achieve this objective, the author uses such scientific methods as comparative analysis and synthesis, when elaborating the concept of "creative potential staff", analyzing scientific sources and studying academic views of the outlined problems, defining objective reasons which force enterprises to develop their staff creative potential.

Main statement. Creativity of each individual intensifies the innovation activities of the enterprise as a whole, and due to synergetic laws transforms into creative potential of personnel, which is capable of saturating the market with new ideas and increasing business activity of the company. This is true, and meets the requirements of the time, because innovations appear to be a competitive advantage, and creativity is a creative accomplishment of an individual, which affects the growth of the number of people who think in an unconventional way, and seek for self-actualization. Creative potential is seen as the person's ability to stay in the creative tone, capacity to realize his/her potential as a creative person in a professional environment, and gain business results from creativity. Regarding enterprises, the effectiveness of creative activity is mandatory, therefore the creative potential covers all stages of innovations and their implementation, i.e. achieving business results. The time lag is an important issue, concerning how fast the ideas are converted;

therefore, motivational levers have to be selected at each stage of the innovations life cycle.

Thus the following objective causes for developing the personnel creative potential at the enterprise need to be identified:

Firstly, it is an evolutionary requirement of time, which enhances innovation in all areas;

Secondly, it is progress, which essentially reflects the development of both the individual and the enterprise;

Thirdly, it is a new tool which increases the adaptive ability of enterprises and personnel;

Fourthly, it is a competitive advantage of a fundamentally different nature;

Fifthly, information and intellectual society is the result of creative activity, among all other factors, which accordingly stimulates creativity.

The information and intellectual society significantly changes the essence of work, adding creative nature to it. There appear new professions, which require creativity; new relationships between people and with factors of production; new organizational structures, management practices and more. Thus the creative process is no longer a separate episode but becomes widespread, while the use of modern information and computer technologies simplifies the implementation of innovative ideas and leads them to commercial effect.

So, the development of creativity cult is a managers' priority. They ought to effectively utilize the motivational mechanism, being mindful of the fact that motivation depends on the type of organizational culture, management style and managers' own views on leadership. For example, authoritarian management style does not stimulate the emergence of a creative leader. This type of management is bureaucratic in nature and involves strict observance of the rules, formalization of personnel's functions. If the distance of power is small as it usually is in the cultures of democratic type, such as market or innovative, then creative capacity of the manager increases. Attention is mostly focused on motivating ideas, imitativeness in the culture of achievements. In this type of culture motivation is not sporadic, but it is an effective policy of strengthening personnel within the organization.

The need to enhance the motivational policies regarding the development of creative potential is supported by the poor results of innovation activities, as the number of actively innovating enterprises constituted 16.8% of all enterprises in 2013; funding innovations in the industrial sector was 0.3% in 2013, in comparison

with 2,0 % in 2012. The volume of innovative production is constantly reduced: 42,386,7 million in 2011 and 35,891,6 million in 2013. The same situation is in the sphere of implementing new processes: 2510 in 2011 and 1576 in 2013, although in 2013 50,7 % of enterprises implemented new technological processes, compared to 43,6 % in 2012 [13, p. 300–302].

The basic principles of motivational policy formation for the development of staff creativity are identified as follows:

Firstly, the extension of the area of motivational development of the staff creative potential;

Secondly, the principle of incentives should be extended to cover the entire creative staff, not only management;

Thirdly, the value of motivators for activation of technical creativity of staff should increase;

Fourthly, the principles of flexibility, personalization, differentiation and productivity should be combined with the effectiveness of the innovation project;

Fifthly, the principle of consistency in the motivational mechanism should be adhered to, as even the slightest deviations from the declared principles of stimulation significantly reduce the authority and credibility of managers.

These principles of motivation have effect in different circumstances and conditions. It is important that personnel be aware of the interconnection between their fulfilling of duties and a system of rewards, then the stereotype of perception and understanding of behavior based on values of trust will function. It will affect the attitude to work, the responsibility for quality, and, ultimately, creative potential of each person.

Table 1 demonstrates the interdependence of types of work and the nature of motivation.

Table 1

The interdependence of types of work and nature of motivation

Types of managers' work	Predominant motivation
1. Engineering 2. Innovative and technological	Combination of collective and personal reward personal reward
3. Results (for example, production) 4. Innovative and experimental	personal reward personal reward
5 Functional (marketing, human resources, finances, supply)	personal reward, collective reward
6. Creative and innovative	Combination of collective and personal reward

Source: adaptation of [4]

The information presented in Table 1 reflects the general trend of increased attention to personal approaches to character motivation. A personal reward is a desirable kind of incentive mainly for all kinds of work and usually takes the form of bonuses, though it may be intangible. It should be noted that the present practice of encouraging creativity through financial incentives no longer brings the desired effect, as more people are deeper engaged in the world of art, so motivation should come from the nature of human desire of self-improvement, development, intellectual and spiritual enrichment.

“Collective remuneration is the result of certain collective success of the business unit, or it is offered due to project implementation. Stimulating effective cooperation between departments is also collective, especially when it involves execution of an important innovation project or participation in solving integrated problems” [4, p. 112]

Development of motivational policy based on outlined approaches and principles provides high performance of the enterprise. Table 2 shows the influence of motivation tools of personnel creative potential on the activity of enterprise.

Table 2

Effectiveness of motivation of personnel creative potential

Tools of motivation	Results of motivation of personnel creative potential
– developing skills of performing tasks with optimal amount of resources	– increasing business activity in general, growing social and economic performance indicators
– opportunity to combine third unordinary object with two common ones (Centaurus idea)	– improvement of technical and technological parameters of innovation products or services
– personification of authorship for target audience in long-term period	– realization of needs, self-actualization, self-identification, acknowledgement, strengthened self-motivation
– individual and emotional positioning in external communication	– efficiency through the feeling of being included into one family of personnel
– professional evaluation by competent experts and bodies (Certification centers, scientific and technical councils, specialized academic councils)	– permanent improvement of professional skills of personnel, forming positive corporate image
– formation of uniqueness by creating innovations (products, services, methods, technologies)	– creating new market conditions and generating new segments

Source: developed by the authors

Motivation is a universal mechanism of preparation for free activity, if an individual combines intelligence, creativity and results. Incentives are a subsystem of motivation which includes impulses leading to the respective activity. Thus, the objective of motivational policy is balance in motives and incentives within a single motivational space for all personnel united by the idea of quality, creative work.

Conclusions and prospects for further research. Successful innovation progress of national enterprises is merely dependent on their internal capacities. The creative potential of the staff reflects the state of internal resources and is an internal stimulator of innovation development, the key to the competitiveness of enterprises, a dynamic factor which accelerates the implementation of new experience in various areas of social and economic practice. In order to develop creative potential it is required to build adequate personnel motivation policy, which can be achieved by a combination of modern motives and incentives, increases self-esteem and develops personnel’s need to work on improving the competitive attractiveness of the enterprise.

Further research should be directed to the in-depth study of both theoretical and practical aspects, including the methodological use of psychological structure of creativity in the practice of management personnel; designing models that allow evaluating the motivation influence effectiveness on the development of personnel creative potential, methodical approaches to determining levels of creative potential and the factors influencing it.

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DEVELOPMENT METHODS OF CONFLICTS IDENTIFICATION AND EVALUATION

Abstract. It has been elaborated the method for quantitative evaluation of level and structure of the interpersonal management conflicts that prevail over the other conflicts in the machine-building enterprises functioning. According to the reasons of appearance investigated interpersonal management conflicts were divided into the following types: informational, behavioral, structural, conflicts of relationships and values. The method was developed due to the usage of conjoint analysis that allows to evaluate simultaneously both the structure of the conflict and its level according to the priorities system, which has increased the credibility of gained results. Calculated values have shown that the prevailing conflicts in the structure of machine-building enterprises management conflict are informational ones that are related to poor information support of companies' administrators. The behavioral and relationship conflicts are also rather significant. They have different appearance nature and require special methods for their solution.

Dynamics of the environment, complexity of organization and communication structures, increase of the competition level, uncertainty in a number of market spheres, growth of the negative crisis outcomes, struggle between countries for markets and resources, active political confrontation especially in the developing countries are causing the general increase of the number of conflicts and conflicts levels. All the stated above factors of conflicts lie beyond the limits of enterprises influence on them, which is why they require the constant monitoring and appropriate adjustment on the part of the organization. However, it is not less important to consider the subjective component of conflict appearance – lack of desire to see the mutual advantage of cooperation, possibility to avoid conflicts with minimal losses, confidence in the accuracy of one's objectives, principles and convictions, asymmetry and monocentricity of corporate culture, managers indifference towards the occurrence of conflict situations, which leads to irreversibility of negative effects and significant losses caused by conflicts activity.

Hereby the task for enterprises managers is to identify the potential conflict situations actively, sometimes to provoke their appearance in order to resolve the management problems, to evaluate their

level, to influence their course and to try to receive functional results.

Key words: interpersonal management conflicts, machine-building enterprise, conflict identification, conflict evaluation.

Analysis of recent studies and publications.

The problems of identification and quantitative evaluation of management conflicts in the enterprise functioning have been researched by both domestic and foreign scientists, including: A. J. Antsupov (2009), S. L. Boehm (1974), P. P. Gornostay (1997), S. Yerina (2002), H. Cornelius and C. Fair (1992), T. A. Polozova (2007), I. Sivchuk (2012), K. Smith (1993). All the methods of estimation process can be divided into usage of qualitative evaluation criteria and quantitative identification indicators and into determination of the conflicts level.

An interesting method of conflict identification that is called mapping was suggested by Australian scientists H. Cornelius and S. Fair (Cornelius and Fair, 1992: 250–268). The key point of this technique consists in the development of identifying map that contains the following elements: the parties of conflict management, their needs and concerns. According to the authors of this method such maps are very effective in preparation for ensuring negotiations and business contacts, negotiations that have no logical development, resources allocation, avoiding the tension inside the team and personnel risk (in particular staff turnover), implementation of innovations and changes etc.

S. I. Yerina has suggested diagnostic scale of management role conflicts. The approach designed by her makes it possible to identify and evaluate management conflict that arises in the work of lower level management (Yerina, 2002: P. 203–207).

Another method has been developed by Russian psychologist T. A. Polozova to study relationships between team members, in particular, to evaluate and identify interpersonal conflicts inside of certain administrative groups (Polozova,

2007). The method of A. Y. Antsupov “modular methods of interpersonal conflicts diagnosis” is similar to the previous one (Antsupov, 2009: 200–220). Except qualitative criteria I. I. Sivchuk has also proposed quantitative methods of conflicts identifying and measuring taking into consideration the corporate enterprise culture (Sivchuk, 2012].

Remaining parts of the problem. While evaluating the level of conflicts it is essential to identify the structure within the complex of all management conflicts. To do this, a certain system and dominant features of homogeneous management conflicts structure formation have to be chosen. From the standpoint of an effective conflict management system construction it is very important to identify the root causes of conflict appearance, which will give an opportunity to develop a set of measures aimed at avoiding or reducing the dysfunctional effects of conflicts activity. Therefore, it is rather important to choose the criterion that structures conflicts according

to their reasons and factors of appearance. Moreover, it is essential to elaborate specific quantitative indicators of conflicts structure detection and conflicts levels.

The purpose of the study. The research purpose is to develop the method of quantitative identification and evaluation of the interpersonal management conflicts structure and levels in the machine-building enterprises by using modern economically statistic tools.

Summary of the basic material. Before the development of conflicts identification and evaluation methods the structure of the conflicts should be determined. Thus, in relation to appearance reasons Lincoln suggests dividing all kinds of conflicts into informational, behavioral, structural, conflicts of relations and values.

To identify and evaluate conflicts it was proposed to apply the method of conjoint analysis. Sequence of conjoint analysis usage is shown in Figure 1.

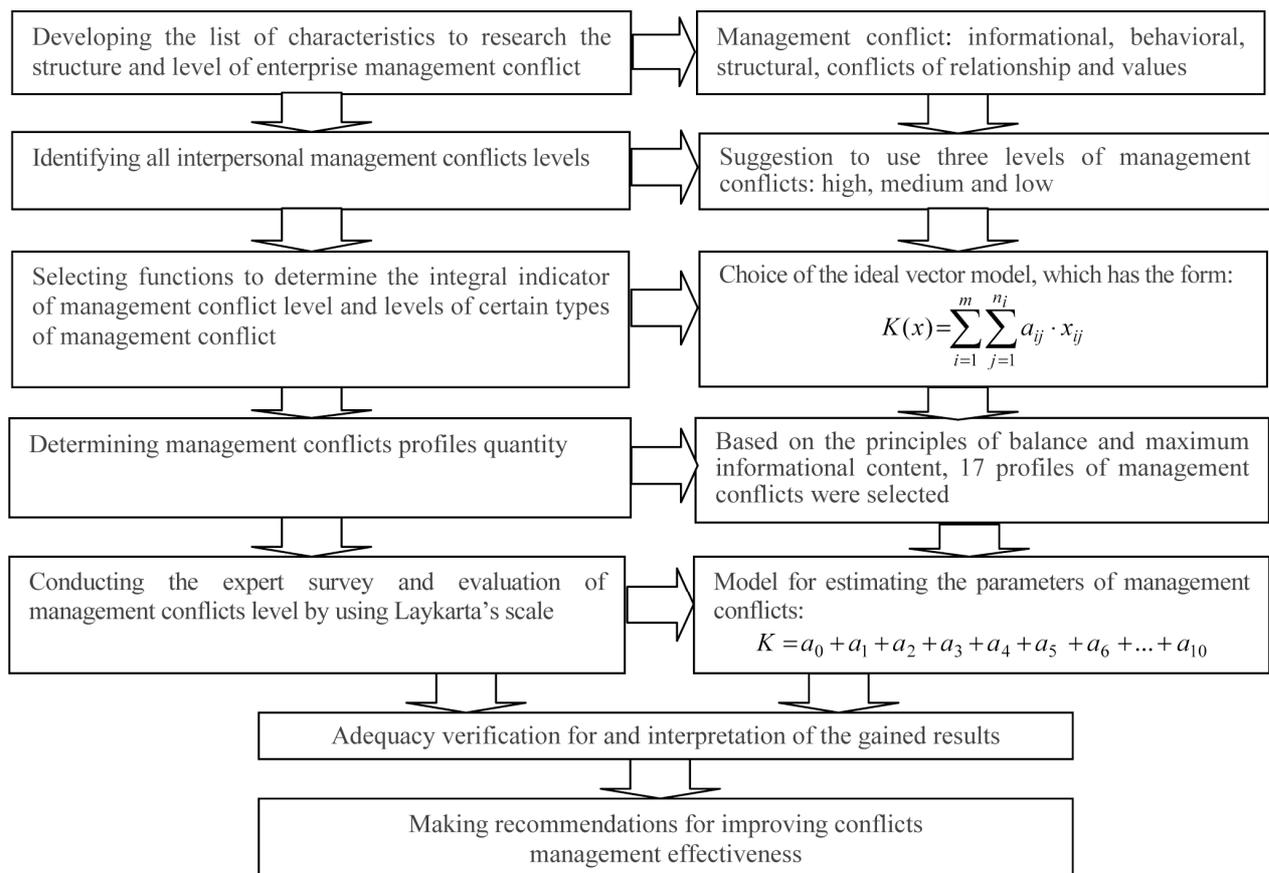


Fig. 1. The sequence of conjoint analysis application to evaluate the level of interpersonal management conflicts

Note: elaborated by authors

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Model for evaluation of the management conflict level and identification of its structure has the form (Malhotra, 2002):

$$K(x) = \sum_{i=1}^m \sum_{j=1}^{n_i} a_{ij} \cdot x_{ij}, \quad (1)$$

where $K(x)$ – integral evaluation of management conflict level at the enterprise; x_{ij} – evaluation of certain types of management conflict at the enterprise; a_{ij} – parameter of the independent variable that corresponds to the j -th level ($j \in \overline{1, n_i}$), i -th type of conflict; n – number of evaluation levels; m – number of management conflicts.

To receive the most adequate and credible results of the management conflict level evaluation all possible profiles combinations should be determined. In practice, however, the amount of all profiles is limited on the basis of detection of correlative connections between the profiles by using orthogonal method. In our research it is reasonable to evaluate 17 profiles that do not correlate with others; to be more specific, the correlation coefficient is minimal between the profiles (Table 1).

Based on the number of selected management conflicts and their levels, the formula for estimating the parameters will have the following form:

$$K = a_0 + a_1x_1 + \dots + a_{10}x_{10}, \quad (2)$$

where K – integral management conflict level indicator; $a_1 - a_{10}$ – variables, different management conflicts of enterprises.

Practically, we create a common multifactorial correlative-regressive model with fictitious variables that take the value of either 0 or 1. Calculation of equation parameters is carried out by using the method of the least squares, where the respondents evaluation is the dependent variable and formed combinations of management conflict are independent variables.

Therefore the calculated model for the joint venture “Sferos Electron” has the following form:

$$K_1 = 3,32312 + 2,03231x_1 + 0,89795x_2 - 0,5493x_3 - 0,801x_4 + 0,21768x_5 - 0,1496x_6 - 0,1564x_7 - 0,3027x_8 - 0,3486x_9 - 0,4132x_{10}. \quad (3)$$

Table1

An average value of interpersonal management conflicts profiles evaluation at the machine-building enterprises

The average level of conflicts at the enterprises		Profiles of interpersonal management conflicts									
		Informational		Behavioral		Relationship		Values		Structural	
JV “Sferos Elektron”	LLC “Robitnia”	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8	X_9	X_{10}
2	2,25	0	0	0	1	0	0	0	1	0	1
1,714286	2,375	0	0	1	0	0	1	0	1	0	1
2	3,375	0	0	0	1	1	0	0	1	0	1
3,142857	2,875	0	1	1	0	0	1	1	0	0	0
3,428571	2,875	0	1	0	1	1	0	1	0	0	0
2,714286	2,875	0	1	1	1	0	0	1	0	0	0
3,714286	3,5	1	0	0	1	1	0	1	0	1	0
4,571429	2,625	1	0	1	0	0	1	1	0	1	0
3,714286	3,5	1	0	0	1	0	0	1	0	1	0
2,571429	2,5	0	0	1	0	1	0	0	1	0	0
2	2,375	0	0	0	1	1	0	0	1	0	1
3	2,625	0	1	1	0	0	1	1	0	0	1
2,714286	2,25	0	1	0	1	0	1	1	0	1	0
4,142857	3,75	1	0	0	1	0	0	0	1	1	0
4,428571	2,75	1	0	1	0	0	0	0	1	0	0
3	2,875	0	0	1	0	1	0	1	0	0	0
3,142857	2	0	1	1	0	0	0	1	0	1	0

Note: generated on the basis of expert surveys

Furthermore, having considered the input data of LLC “Robitnia”, the conjoint analysis models parameters have been calculated for research of the interpersonal management conflicts structure and levels. The formula is the following:

$$K_2 = 2,48976 + 1,0536x_1 + 0,19196x_2 - 0,0138x_3 + 0,42215x_4 + 0,44828x_5 + 0,07998x_6 - 0,215x_7 - 0,3859x_8 - 0,389x_9 - 0,0354x_{10}. \quad (4)$$

The received regressive models contain only the values of 10 levels of different management

conflicts types. Therefore, we should find the values of the other 5 levels of management conflicts and identify the prevailing management conflicts in the structure of conflicts that arise in the machine-building enterprises functioning (Table 2).

Having applied the formulae for determining the fixed weight of management conflicts in the overall structure of interpersonal conflict at the machine-building enterprises, we have got the results presented in Table 3.

In order to interpret management conflict patterns at the machine-building enterprises the appropriate graphs have been formed (Fig. 2 and Fig. 3).

Table 2

Characteristics of interpersonal management conflicts levels and partial weight of these levels

Management conflicts	Levels	Partial weights	
		JV “Sferos Elektron”	LLC “Robitnia”
Informational conflicts	High	1,05556	0,638464
	Medium	-0,07879	-0,223236
	Low	-0,97676	-0,4152
Behavioral conflicts	High	-0,09914	-0,149958
	Medium	-0,35085	0,286056
	Low	0,45017	-0,136098
Relationship conflicts	High	0,195012	0,27219
	Medium	-0,172335	-0,096105
	Low	-0,022675	-0,17609
Values conflicts	High	-0,0034	-0,0147
	Medium	-0,14964	-0,18563
	Low	0,15306	0,20033
Structural conflicts	High	-0,09467	-0,24755
	Medium	-0,1593	0,10605
	Low	0,25397	0,14149

Note: calculated by authors

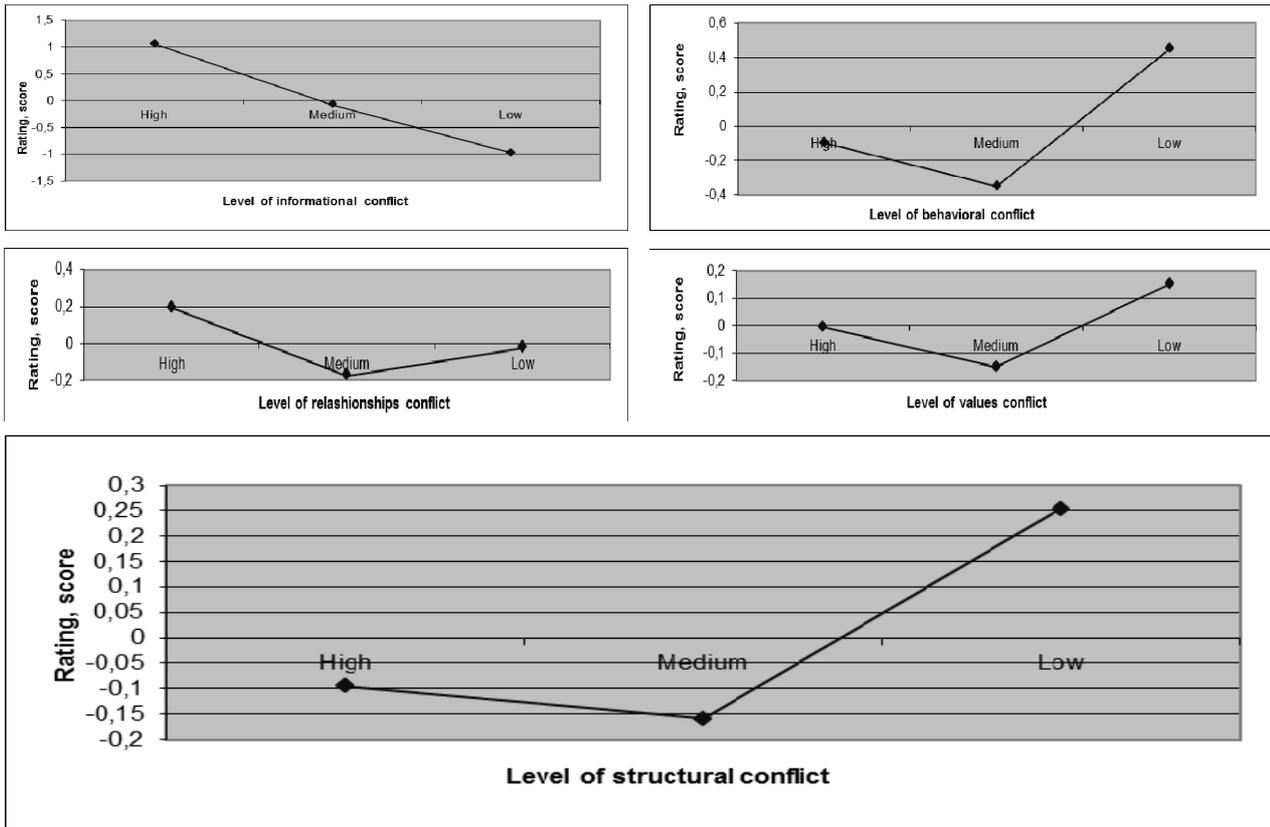
Table 3

Results of the fixed weight of management conflicts

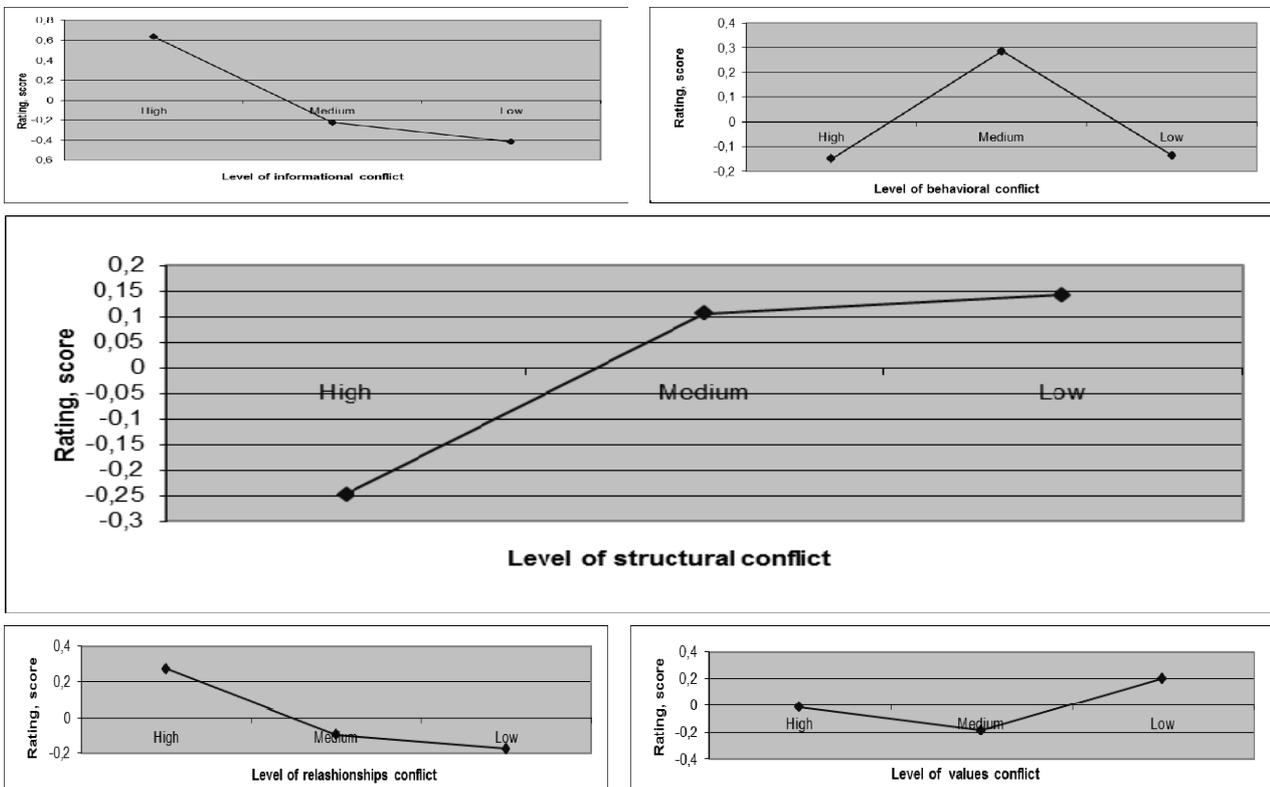
Management conflicts	Relative fixed weights of management conflicts		Interpretation of received results	
	JV “Sferos Elektron”	LLC “Robitnia”	JV “Sferos Elektron”	LLC “Robitnia”
Informational conflicts	1	1	The most significant conflict	The most significant conflict
Behavioral conflicts	0,28811	0,074964	The second place in terms of conflict significance	The third place in terms of conflict significance
Relationship conflicts	0,184899	0,093335	The third place in terms of conflict significance	The second place in terms of conflict significance
Values conflicts	0	0	The least significant conflict	The least significant conflict
Structural conflicts	0,063927	0,004613	The forth place in terms of conflict significance	The forth place in terms of conflict significance

Note: calculated by authors on the basis of conjoint analysis

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*Fig. 2. The structure and level of management conflicts in the functioning of JV "Sferos Electron"
Note: elaborated by authors using the conjoint analysis method*



*Fig. 3. The structure and level of management conflicts in the functioning of LLC "Robitnia"
Note: elaborated by authors*

Conclusions and prospects for further research. The structure of management conflicts in the functioning of machine-building companies is quite similar. The research has made it possible to detect that in the structure of management conflict the dominant ones are informational conflicts that are related to poor information support from the companies' administrators. Hereby the level of informational conflicts is rather significant. Experts draw attention especially to the unsatisfactory level of information support of management decision-making process, lack of information about changes in the environment, asymmetry of information in the various stakeholder groups. Therefore, the main recommendation for elimination of the conflict's dysfunctional consequences for the company is the necessity to direct resources at the improvement of communication channels and to take measures regarding the management decision-making process information support development.

For the functioning of the JV "Sferos Electron" behavioral management conflicts are rather essential. The main reasons for their occurrence at the investigated enterprise are dominance of private arrangements, nepotism, active influence of informal organizations that sometimes can prevail over rationality and efficiency in management decision-making. The settlement of such conflicts is possible by implementing definite standards of behavior and decision-making process and absolute adherence to those standards.

For the LLC "Robitnia" the second place in terms of significance in the structure of the enterprise management conflict is taken by relationships conflicts that display a high level of dynamism and, thus, bring turbulence and uncertainty into the activities of administrative management subsystem. According to the experts, the reason for the appearance and dominance of behavioral conflicts in the enterprises functioning is the lack of power balance in the relationships between the leaders.

As for the JV "Sferos Electron", the management conflict of relationships takes only the third place in terms of significance. Interestingly, the level of relationships conflict is as high as for the previous enterprise. Consequently, both companies should take measures to improve the relationships between managers by developing corporate unity programs.

In the third place in terms of dominance in the structure of general management conflict at the

"Robitnia" enterprise there are behavioral conflicts, while structural conflicts take the penultimate place. In addition, it was discovered that the level of all structural conflicts that occur in both mentioned above companies is quite low. Thus, the objective circumstances of conflicts appearance that cannot be changed are not significant in terms of conflicts occurrence. In the structure of the management conflict in the functioning of both companies the least important one is the conflict of values.

Further research should be focused on developing result-based methods that would help to reduce and avoid interpersonal management conflicts in the machine-building enterprises functioning.

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METHODICAL BASES OF FUNDAMENTAL WORKS ON ACCOUNTING BY L. PACHOLI AND JA. YMPYN: COMPARATIVE ASPECT

Abstract. There are analyzed the conceptual and methodical principles of accounting described in the fundamental accounting literature in general and there is made the direct comparison of methodical arsenals in works of L. Pacholi and Ja. Ympyn. The relationships between these works on accounting are defined and the the major provisions described in them are compared.

In any sphere of activity, there always exists the first (basic, fundamental) published work, which represents the scientific and applied nature of a certain subject area of knowledge. It is considered that in the sphere of accounting such work is the development related to the organization of accounting by L. Pacholi presented in his book "Treatise on Accounts and Records".

The book of L. Pacholi contained rather exhaustive description of all ways of accounting of all kinds of trade operations, which caused its impact on the results of scientific work of many authors in the sphere of accounting and bookkeeping. Almost all adherers to the compliance with the methodological principles and organization of accounting provided in the work of L. Pacholi, saw his main achievements in the detailed compilation of the accounting practice of that period, which he formulated in 17 basic rules of accounting. According to the research of C. Keil, Italian authors of works on bookkeeping to the middle of the 17th century were completely under the influence of L. Pacholi's works [1, p. 52], remaining on the position of personification. Thus, it is considered that contribution of these authors was generally connected with specification and development of separate provisions of L. Pacholi. In general, in the area of historical research into formation and development of accounting there are provided many arguments on the fact that at that time there were many research and development works on accounting, in which lots of valuable and independent provisions were formulated, in spite of the fact that they were based on the Treatise.

A Netherlandish scientist Ja. Ympyn became the most famous follower and distributor of L. Pacholi's ideas. His work published in Flemish and French in 1543, contained the basic ideas disclosed by L. Pacholi. Despite the relationship of the basic foundations of both works, researchers differently interpret their comparative aspects. This fact makes such component of

historical research as formation and development of the scientific principles of accounting relevant.

Key words: history of the accounting, development of the accounting, accounting literature.

Analysis of recent research and publications.

For a number of objective reasons and established approaches to performing thematic research in the subject area of formation of accounting as scientific and applied activity, scientists, who are conducting research of history of accounting on interrelation of the works considered in the article, are limited to the generalized comparison of methodical techniques in these research and development works. Thus, for example, F. Butynets considers "material of the treatise of Ja. Ympyn more systematized and updated" [2, p. 58]. O. Galagan, relying on research of K. Kheil, claims that "the work of Ja. Ympyn is a recomposed translation, and in some places a close translation of Pacholi's work" [3, p. 73]. Opposite to the given estimates, Ya. Sokolov makes a conclusion that "Ja. Ympyn significantly updated ideas of L. Pacholi" [4, p. 83]. These facts quite distinctly show the ambiguity of scientists' positions concerning the level of compilation of these works.

In general, despite the above-mentioned and some other scientific research works, in the theory of accounting now there are no ambiguous conclusions concerning relationship and the level of interrelations of content and methodical statements in the literary works of L. Pacholi and Ja. Ympyn, that is why the subject considered remains relevant.

The purposes of article are establishment of the conceptual orientation of the basic accounting literature in general and direct comparison of methodical arsenals in the research and development works of L. Pacholi and Ja. Ympyn, specification of connections between these accounting works and disclosure, in the comparative aspect, the basic provisions, which they cover.

Presentation of the main research material.

As in any field of people activities the transfer of bookkeeping to the higher level is connected with new developments in this sphere, or with development of already existing scientific and applied knowledge. In the Middle Ages the book of L. Pacholi "Treatise on Accounts and Records" had significant impact on the development of accounting, and its printed variant was published in 1494 in Venice, shortly after the invention of book printing by Gutenberg (1436). Almost in all research works on history of accounting L. Pacholi (1445–1515) is called the founder of double entry bookkeeping, attributing its "invention" and description to him. But the question whether he was really the inventor of double entry still remains debatable.

The debatability of such statements in research works on history of emergence of accounting as a scientific and applied discipline follows from the fact that L. Pacholi himself specified that in his work he would adhere to the existing Venetian method of accounting. Based on this, many scientists consider that L. Pacholi just described and systematized what was already known in bookkeeping practice at that time [1–3]. Besides, by emphasizing the use of Venetian method of accounting in his work, L. Pacholi indirectly pointed out that other methods of accounting were also used at that time. However, this fact fragmentally mentioned by him, doesn't give enough grounds to state that these methods were based on double-entry bookkeeping [5].

The works of Netherlandish scientist Ja. Ympyn present considerable interest for the researchers of the history of accounting. His first book was published in the Flemish language in 1543 in Antwerpen. In the same year, his work was published also in French. The importance of the Ja. Ympyn's work publication is also proved, for example, by the fact that in Russia the translation of this book under the title "the Key of Commerce" was published (1783) much earlier than the translation of L. Pacioli's Treatise was printed (1893).

Research and development work of Ja. Ympyn connected with double entry bookkeeping consists of theoretical and practical parts. The first part is representing a manual, which consists of 29 chap-

ters, the second part contains examples of Inventory, Journal, Double and Simple Registers.

As to the format of Ja. Ympyn's work, it is necessary to note that in 1547 the English translation of his Treatise was published but without the practical part of the book.

Generally, all three editions of the book contained the introduction, content of which revealed the necessity of obtaining scientific knowledge and art of bookkeeping, mastering practical maintenance of accounting books according Italian method. Besides this, according to the author's statement, the book was intended "to restore in memory what the outstanding scientists wrote about this method" [6, p. 138]. Besides, according to the author's statement, the book was intended for "recalling the facts about which the outstanding scientists wrote". Among such scientists he notes A. Tagliente and others, who published their works and distributed them in the Italian and German languages. The critical analysis of the content of these works stressed that "they wrote so shortly and darkly that only few people or even nobody obtained knowledge from this science, unless to study it being taught by the authors themselves or by the teachers teaching his science for certain payment" [6, p. 152]. In his opinion, the offered development works should have provided greater clearness both in the methodical plan and in the technology of conducting accounting records. Seeking to overcome these shortcomings, he noted: "for this reason I got acquainted in details with this science to extend it further" [6, p. 154].

Despite these facts, to form the content of his work Ja. Ympyn used the results of the work of J. Paulo – an Italian, who "worked for the distribution of this science more than any other scientist before, trying to allow people to acquire knowledge" [3, p. 74]. There is no information about the identity of the above-named Italian in the history of the accounting thought. According to K. Cale's research, "the mentioned J. Paulo could be a pupil of L. Pacholi, one of the sons of a rich merchant who stayed in the monasteries where the L. Pacholi was writing his works in Italian" [1, p. 36].

It is appropriate to allocate and systematize the basic provisions, analyzing the contents of the well-known works of L. Pacholi and the Flemish edition of research and development work of Ja. Ympyn (Table 1).

Table 1

Contents of the books by L. Pacholi and Ja. Ympyn [6, 7]

Contents of the book by L. Pacholi		Contents of the book by Ja. Ympyn	
1		2	
1	Things that are necessary to the good merchant and the method of keeping a ledger its journal, in venice and elsewhere	1	The contentes of this treatise, and to whom it shalbe proffitable, and what is requisite to a marchant.
2	First part of this treatise, which is called inventory – what inventory is, and how to make it.	2	How this present worke is deuided in two partes, and the firste is the inuentory, and what that is, and how to precede in thesame
3	Example of an inventory with all its formal requirements	3	Of the seconde parte of this treatise called disposicion or orderyng of the worke, and what boke are requisite, and how thei shal be called
4	Very useful admonition and good advice to the good merchant	4	The maner of the memoriall boke, and who maie write therein
5	Second principal part of this treatise named disposition – what is understood by it – what it consists of in business, and the three principal books of the merchant	5	How booke be lawfully aucthorised, and the order taken for reconyng boke in some places in italy, muche to be praised
6	Of the first book, which is called memoriale book	6	How to enter a parcell in the memoriall boke
7	Of the manner in which in many places mercantile books are authenticated, why and by whom	7	Of the diuersitee of bargainyng, whiche happen at the least nyne sondery waies
8	How entries should be made in the said memorandum book, and examples of the same	8	Of the seconde boke called the jornall, what thing it is, and how it ought to be kept
9	Of nine ways in which the merchant usually buys, and the goods which it is more or less necessary to buy on time	9	Of certain termes and woordes that shalbe vsed bothe in the jornall and greate boke
10	The second important mercantile book which is called journal, what it is, and now it should be kept in an orderly way	10	Of the third boke called in italy, el quadarno, and with us the great boke. And of the a. B. C. Belongyng to the said boke
11	The two expressions used in the journal, especially in venice, the one called “per”, and the other “a” and what is understood by them	11	How ye shall set oner the parcelles of your journal into the great boke and wherfore eche parcel once write in the journal, must be twice written in the greate boke
12	How the entry should be made into the journal by means of the debit and the credit, with many examples. The two other expressions used in the ledger, the one called “cash,” and the other “capital,” and what should be understood by them	12	How in the greate boke, the place muche or little shalbee leaft, of the disposicion of the parcelles, and how to remoue them
13	Third and last principal mercantile book called the ledger. How it is to be kept. Its alphabet (index), and how this can be kept single and double	13	How to remedy and amend parcelles euill written in the boke by negligence
14	How the entries should be transferred from the journal into the ledger and why, for each entry of the journal, you have to make two in the ledger; how entries in the journal should be cancelled. The two numbers of the pages of the ledger which are placed in the margin of each entry and why	14	Of the change of the yere, and how to geue accompte to the debtor, and to come to a rest
15	The way in which the cash and capital entries should be posted in The ledger in the debit and the credit. The date which at the top Of the page is written down according to the ancient use. Changing of the same. How to divide the space on the pages for small and large accounts as the business requires	15	How to kepe a reconyng of a retaylyngshop, that is to saie, to knowe what proffite com-meth thereby by sale made for ready money, loane or otherwise
16	How the entries relative to the merchandise op which one is possessed according to his inventory, or otherwise, should be made in the ledger both in the debit and the credit	16	Of another accompt vsed in the boke, whiche the italians call pro and damno that we call gaynes and losse
17	How to keep accounts with public offices, and why. The camera de L'impresti (municipal loan bank) in venice, which is managed by sestieri (districts)	17	How to kepe accompt of barteryng

1		2	
18	How you should keep your accounts with the office of the messetaria in venice. How to make entries pertaining thereto in the memorandum book, journal and ledger, and about loans	18	How to ordre and entre into the boke, the seuerall accomptes of a compaignie or parteners
19	How we should make the entries in our principal books of the payments that we have to make either by draft or through the bank	19	How to enter into your boke, wares shipped or sent into any countree, and charges of thesame
20	Entries for the well-known and peculiar mercantile customs of trading and partnership, etc. How they should be entered in the mercantile books. First : simple tradings, then complex tradings and examples of entries for them in the memorandum book, journal and ledger	20	Of exchange, and billes of exchange a goodly instruccion how thei should be entered into the bok
21	The other well-known entry called partnership. How it should be written in each book in the proper manner	21	The manor how to write in the boke, poundes, shelynges and pence
22	Regarding the entries of every kind of expense, as for instance household expenses, ordinary or extraordinary, mercantile expenses, wages of clerks and apprentices. How they should be entered in the books.	22	What ordre is to be kept with billes, evidences, actes, processes, instrumentes, protestacions, sentences, memories and letters missiues
23	In what manner the accounts of a store should be kept. Whether the store is under your care or under the care of other people. How the accounts should be entered in the authentic books of the owner separate from those of the store itself	23	What maner of boke are requisite to be had to avrite in suche thynges as is not mete to be written in the jornall, nor in the great boke
24	How you should keep in the journal and ledger. The accounts with the bank. What is understood by them. Bills op exchange – whether you deal with a bank or yourself are a banker. Receipts for drafts – what is understood by them and why they are made out in duplicate	24	How to close vp your boke when it is full, and to remoue the restes of parcelles from one place to another, and to knowe what proffite ye haue doen in all the tyme ye vsed thesame boke
25	Another account which is usually kept in the ledger, called income and expenses, for which often a separate book is used, and why	25	How to make the ballaunce of this boke and all other, and how to serch the fautes if the ballaunce agree not
26	How entries should be made in mercantile books relative to trips which you conduct yourself or you entrust to other people, and the two ledgers resulting there from	26	How to cary the parcelles of the old boke into the new, and where to write them while the balaunce is in making and till the parcelles be entered into the new boke, and how to intitile the newe boke
27	Another well-known account named profit and loss, or profit and deficit. How it should be kept in the ledger and why it is not kept in the journal as the other accounts	27	A certain instruccion how to kepe an accompt of diuerse affaires
28	How full accounts in the ledger should be carried forward and the place to which they must be transferred so that no crookedness can be practiced in the ledger	28	A declaracio of certain thynges whiche are specially to be noted
29	How to change the year in the ledger between two successive entries in case the books are not closed every year	29	The conclusion of the boke of informacion very necessary to be lerned if ye desire to kepe areconyng after the best maner, and what daungers and losses maie folowe by not kepyng a perflight boke
Contents of the book by L. Pacioli			
30	How an abstract or statement of an account should be made to a debtor who might request it, or for your employer in case you are manager or commissioner of the administration of his property		
31	How to take out one or more entries which by mistake you might have entered in a different place from the right one, which may happen through absentmindedness.		
32	How the balance of the ledger is made and how the accounts of an old ledger are transferred to a new one		
33	How the transactions which might occur while you balance your books should be recorded, and how in the old books no entry should be made or changed during that time, and reasons why		
34	How all the accounts of the old ledger should be closed and why. About the grand totals of the debits and credits, which is the preparation of the trial balance		
35	How and in what order papers should be kept, such as manuscripts, family letters, policies, processes, judgments and other instruments of writing and the record book of important letters		
36	Summary op the rules and ways for keeping a ledger		

It is possible to come to certain conclusions on the basis of the information of the comparative table.

First of all, we will note that chapter 2 of the Treatise of L. Pacholi describes inventory more from the technical point of view and a technique of its drawing up. For profound understanding of the sense of this technique, Ja. Ympyn is giving the main postulates of the book of the predecessor, defines the essence of the used conceptual framework "Thus now to procede to the firste parte of this worke called the Inuentory, whiche is properly as muche to saie as a discription of sondery goodes, substancially written & valued, making mencio of all the goodes debtors and countre debtors, to any person dewe of right" [6, p. 152]. Separately in the third and fourth parts L. Pacholi gives example of drawing up of the stock and forms instructions on its drawing up (similar examples are absent in the work of Ja. Ympyn). But in the related section Ja. Ympyn discloses the content of the second part of the Treatise called the disposition. Here instructions are provided about what books are to be kept and their names. This section according to the contents is similar the 5th part of the Treatise, however, from the methodical point of view it can be characterized as substantially more reasonable.

In the 5th part of the Treatise, L. Pacholi doesn't disclose and interpret in details the fragment from its title "...what is understood as disposition...", but explains the meaning of three books: Memorial, Journal and Main. In the content-similar presentation (section 3) Ja. Ympyn gives the term "disposition" as a mechanism, orders and execution of the current and future affairs of a merchant. Providing analytical information about books, Ja. Ympyn in details describes their formats, number of pages, indicates the need of attachments of the register-alphabet to them. In the 4th chapter of the work Ja. Ympyn describes Memorial, adhering to the position of L. Pacholi, stated in the 6th chapter of his Treatise.

The attention is deserved by the 7th chapter of Ja. Ympyn, which corresponds the 9th chapter of L. Pacholi's work. In it nine ways of purchasing goods are described: in cash, on credit, exchange for goods, partially in cash, the rest in exchange, partially in cash, the rest on credit, partially in exchange, partial credit, transmission, partial transmission, partially-credit, partially transmission, the rest in exchange. At this, the last ways of purchasing goods are presented by Ja. Ympyn in more details. In the eighth and tenth sections the approaches of both authors are similar as to the fact that the entries should be made in Journal:

primarily the entries are inventory articles, the records in which can be abbreviated using the terms "Rer" and "A" (debtor and creditor).

Section nine of the Ja. Ympyn's work being akin to the 11th chapter of L. Pacholi's work is devoted to the interpretation of the terms of the debtor ("Per") and lender ("A"). J. Impin explains them as follows: "So shall you by these two first wordes used by the Italians, that is to say, Par and A. Understande that this worde Par, be tokeneth the debtor. And this terme A. the creditor" [6, p. 155]. L. Pacholi interprets these expressions as: "'Per' indicates a debtor, one or more as the case may be, and 'A' indicates a creditor, one or more as the case may be" [7, p. 43].

Next Ja. Ympyn explains the concept of "Cassa" and "Capital", details of which L. Pacholi describes very briefly in the 12th chapter. Detailing the term "Cassa" Ja. Ympyn writes: "An then understanding that we meane by this worde Casse, the chest that kepeth the redy money, and by the worde Cassier he that kepeth the money, we maie procede in our worcke and saie. It is also requisite and very mete that all parcelles entred into the Journall at the charge of the Cassier, that is to saie of hym that kepeth the money, that thei be entred with his owne hande, or at the least that he subscribe and affirme that thei came to hys handes and keynge, for no man maie charge his Cassier but by his hand, as shal be shewed in the exemplary of the Journall" [6, p. 156].

Concerning Capital, he writes: "The other worde, the Italians call the Capital, that ist to saie, the Stocke or principall that the Marchant began withall, whiche came ether by bequest of his frendes or parentes, or by gift, or by mariage or els by Executorship as well of wares as money" [6, p. 156].

The information provided in the 10th, 11th and 12th chapters of Ja. Ympyn's work in its content coincides with the L. Pacholi's ideas outlined in the 13th, 14th and 15th chapters of his work and deals with the methods of keeping the Main, the Register to it, procedures of transferring articles from a Journal into the Main, records and the techniques of transferring them.

The 13th chapter of the Ja. Ympyn's work defines procedures for correcting faulty records in the books. In its content the statements are similar to those in the 31th chapter of L. Pacholi's work. In the fourteenth chapter Ja. Ympyn highlights the procedure of making changes in the general ledger in case it is not terminated every year. L. Pacholi writes about this in the 29th and 30th chapters.

In his research and development work (chapter 16) Ja. Ympyn writes about the account

“Profits and losses”. He doesn't justify the definition of this term, and only in the practical part of the Flemish and French editions he explains in detail the formations of this account using examples. In the 17th chapter Ja. Ympyn describes exchange operations, providing like L. Pacholi (in the 20th chapter), three ways of exchange: goods for goods; part goods, part money; the rest credit.

But for the above mentioned aspects of research and development work it is worth to note that the 19th chapter concerns sale of goods to other cities and rising expenses in this regard, and also deals with the household expenses. L. Pacholi writes about this in chapters 22–23 of his book. The difference in presenting information by these authors lies in the fact that Ja. Ympyn considers concrete expenses on goods by means of similar account, and indirect expenses he refers to the account “The maintenance of household”.

Conclusions. Research and development work of Ja. Ympyn, which was mainly based on the L. Pacholi's Treatise, still can be attributed to those which have deepened methodological developments of theoretical and applied content, brought an additional impulse in the development of the accounting thought, and as a result, in the practice of organizing and maintaining the bookkeeping. The main distinctions of the considered works concerned accounts, registers and interpretation of terminology.

The essential difference of these two works concerns closing the accounts. So, Ja. Ympyn suggested closing accounts by means of the account “Balance”, unlike L. Pacholi, who conducted closing accounts through the account “Capital”. The author offered a new way of closing accounts “Goods”: after carrying out inventory the author recommended to credit concrete analytical accounts and to debit synthetic account of the rest of “Goods”, to close this account by debiting the account of “Balance”.

In the part connected with bookkeeping, novelty can be provided through different approaches to the order of maintaining the Memorial. From the point of view of Ja. Ympyn, such bookkeeping process should include, besides the habitual facts of economic activity, being the subject of accounting, future facts as well (how many and what goods should be purchased) and reference information (where and how many sheets have been sent). In the work of Ja. Ympyn there are recommendations about maintaining accumulative sheets. For realization of control, Ja. Ympyn recommended maintaining the separate journal, in which to write down the minor

and other expenses during the month and to enter only the monthly summary into the Journal. It became the foundation of the operational accounting of commodity turnover.

In general it can be noted that in his work Ja. Ympyn was primarily trying to avoid direct copying of insufficiently defined terms and concepts, giving them specific content, but while maintaining the essence and spirit of the original work. Critical re-evaluation of L. Pacholi's ideas enabled Ja. Ympyn “to shed light” on some procedural issues that weren't clearly outlined in the Treatise. So, development and research work of Ja. Ympyn can be considered as having laid the fundamental basis for further works on the development of double-entry bookkeeping, allowed significantly enrich comments to the Treatise. In addition, in the Ja. Ympyn's work, as the barely noticeable thread, there appears the thought of moral aspects of economic activity and its accounting provision (“rules of trade affairs and the proper journalizing”), they being the factors, which are now called “social responsibility” and “correct formation of the formalized accounting information”.

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IMPROVEMENT OF ENTERPRISE ACTIVITIES BASED ON PROCESS MANAGEMENT

Abstract. Process management has been increasingly popular for several years now, yet most frequently it is limited to fragmentary actions, at times even to declarative activity. Few organizations have brought their management systems in conformity with the idea of process management; more frequently some particular actions within the range of process approach may be observed.

Specialization allows efficient realizations of tasks; however, it separates individual organizational unities and amounts to an incentive for internal competition, in the result of which employees are antagonizingly focused on their positions and not on the organization's business. Among numerous imperfections, or even pathologies caused by hierarchization within the organization, it is noteworthy to point at weak communication, isolation of structures, blurred responsibility for the final result. Development of coordinating, supervising and monitoring systems, which are essentially not related to generating added value is also typical in this regard. These systems, however, are crucial for neutralizing negative outcome of the organization's functioning within the system. (Rutka, 1996); (Borkowski, Siekański, 2004); (Deming, 2000). Therefore, Hammer and Champy proposed an alternative concept of managing organizations, Business Process Reengineering, which initiated the discussion about the effectiveness and efficiency of management. (M. Hammer, J. Champy 1993); (Womack, Jones, 2008); (Ohno, 2008).

Process management is used in the organization and aims at realizing given objectives. It may be meeting the key standard of ISO 9001 at the initial stage of implementing the QMS. However, the motivation is frequently more ambitious as it is related to achieving proper results.

The processes ought to be mapped, modeled and optimized with the use of a renowned international notation – most frequently BPMF. Finally, we should achieve a comprehensive map in accordance with proper process architecture. The architecture should be based on 4–5 levels with the use of flow charts in the form of VACD (Value Added Chain Diagram) and EPC (Event-driven Process Change). The analyzed research problem is related to conscious use of process management conception for realization of a wide range of improvement actions in management.

The leading management conception heavily relies on the functional orientation, in the range of which the predefined tasks are realized by executors on the

basis of superior's orders. Participants of an organization perceive the structures through the realized functions, e. g. supply, production, designing. For the organizational objectives defined in this manner specific structural solutions are created (sections, departments, cells, positions). (Grajewski, 2004); (Kunasz 2010).

Process management is still more popular in research than in practice. There are few examples of complex usage of mapping, modeling and process improvement methodologies; more frequent are partial examples of usage.

Despite the increasing popularity of the issues related to process management, or as may be named as a fashion in this regard, Taylorian organization is based on division of labor and specialization in the frames of functional areas (Rummler, Brache, 2000), (Grajewski, 2004) (Gregorczyk, Ogonek, 2007); (Kunasz, 2011); (Gabryelczyk, 2000). Numerous titles devoted to process approach were not able to find appropriate manner of expression, which is hardly possible to link uniquely with tradition, conservatism or historic organizational solutions. It is noteworthy to emphasize the risk which is recognized by managers during the implementation of process management conception, at least in its comprehensive, model form.

Process management is a conception, which, despite the significant depreciation of its original form (BPR), in some of its aspects plays a highly important role within numerous management conceptions, however, frequently only to some limited extent. The aim of the present paper is to present the key results of research concerning process optimization of IT services realized for the Polish National Police.

Key words: process, process management, process mapping, efficiency, quality management

1. The essence of process management.

It is difficult to explicitly answer the question of the essence of process management. It depends on the criteria which will be defined as fundamental in relation to this discussion. In the classical understanding a process is “a group of logically interconnected actions, which transform inputs into outputs, which process given resources and lead to meeting an objective”; other definitions treat the understanding of a process similarly, yet empha-

sizing some nuances. It is noteworthy to heed the key features of a process:

- it has a deliberate character and is linked to creating value added in the understanding of an organization;
- it is a system of sequences and not a set of actions which, despite the fact that they perhaps may be considered as crucial and necessary, they do not create a logical chain of events;
- it transforms inputs into outputs, i.e. in relation to each process we will be able to define the expected outcome of realizing the process as well as identify the basis for its realization.

Authors note numerous aspects of process management. In the frames of the present conception it is necessary to conduct mapping, modeling and optimization of processes. The key issue appears to be the process measurement which will allow organizational effectiveness and efficiency to be seen from the angle of realized processes (Grajewski 2007); (Bartkowiak, Koltwrman, Wójcik G., Wójcik K. 2001).

2. Key contentious issues in realization of process management. Literature analysis sees the conception of process management in a relatively coherent manner. Authors occasionally differ in:

- functional and process orientation in management;
- division of roles as opposed to positions and functions of employees;
- standardization;
- notations used in process description;
- methods and details of mapping;
- process architecture;
- implementation of process management;
- functionality and understanding of process management, it seemingly being the key issue.

These issues among many others are essential for understanding the essence of process management and its functionality when applied in an organization (Pacholski, Cempel, Pawlikowski 2009).

3. Process quality management in light of the ISO 9000 series norms. Process approach is one of the fundamental rules of quality management in accordance with ISO 9001 requirements. In chapter four of the abovementioned standard

requirements related to process management are presented. Thus, organizations are obliged to explore the theory and practices of process approach as well as to select solutions in accordance with the norms' requirements in this regard.

Practice proves that frequently taken actions in this area, however accepted by certification bodies, are merely a semblance of solutions defined in the theory of Business Process Management (Kunasz, 2011, p. 113–120).

Interest and popularity attached to process management becomes comprehensible in light of new requirements of the international norm. Unfortunately, practice frequently confirms that the interest often appears to be of limited range. The quality management conception focused on merely meeting the requirements of the standard defined in relevant parts of the norm should become outdated. At present the superior conception in reference to the system should be processes oriented towards creating value added for customers, i.e. towards the synergy of knowledge in various fields and of work done simultaneously in the whole enterprise and its surroundings (partners, clients, competition).

The fact that orientation towards processes is the basis for international quality management standards in practice means that it is not feasible to implement an effective quality management system in an organization without the analysis of the given organization as a system of all processes as well as without improvement in joining actions of different functional areas.

4. Process management methodology.

Independently of the moment of the decision about implementing the process management conception it is highly significant to accept a particular methodology both in relation to the process management conception itself and to its implementation (project management). Effectiveness in this regard will determine the effectiveness of the organization and the mechanism of continuous improvement. In the professional literature we may come across numerous descriptions of methodologies of the process management system implementation. Hence, it is possible to refer to the classical cycle of the organizational design, realized through stages (Grajewski, 2007):

- establishing and dividing the general objective of the organization;

- designing the division of labor and the organizational hierarchy (merging actions and tasks into organizational posts instead of cells and sections);
- designing the system of information interconnections between organizational objects;
- spatial designing of organizational elements in order to optimize the usage of space at work;
- formalizing the organization.

Project approach is inevitably dissimilar to the classical scheme, because of its different perception of an organization. In the professional literature we may come across numerous attempts to systematize the stages of the organizational design and process management implementation. For instance, differences in the process management approach refer to designing processes (prognostic or diagnostic), or the range of implementing the changes (evolutional and fundamental) (Kraśniak, 2004); (Kaferl, 2005); (Kunasz, 2010).

The popular methodology of process management implementation is related to four stages (identification, defining objectives, process design and process management) (Błoński, Kondracki, 2004); (Kafel, 2005):

- Identification of processes which take place in the organization is based on observing the style of work through defining: events which cause the process to begin, actions taken by individual members of the organization along with justification of a given action, decisive moments, resources, events which close the process.
- Defining the process objectives – the identified processes are analyzed in order to define their suitability in reference to their objectives; if it turns out that the process is not focused on the client, the objectives should be verified.
- Process design – at this stage it is checked if the course of processes allows attaining predefined objectives in the optimal way. If the need to introduce changes is identified, the necessary modifications take place.
- Process management embraces: management of objectives, effectiveness, and resources; management at the meeting of departments, knowledge management – these actions do not refer to the whole organization, but to each action in the process.

5. Process identification and classification.

Process identification (process mapping), i.e. the selection of key processes in an enterprise, is the first stage of process quality management. In the results of this stage the so-called contextual model is created. As at further stages it is obligatory to depict the correlation between processes, they frequently belong to two or more groups. (Bartkowiak, Koltwrman, Wójcik G., Wójcik K. 2001); (Grajewski 2007). The most popular; however, is the model which assumes two groups of processes, the processes being selected by the role they play in an organization and by their mutual correlation. Hence:

- Basic processes are the processes which result in a product or service directly related to the enterprise's activity. Generally, these processes create value added in the so-called value added chain. The following processes may be included in this group: market research, product design, product delivery, sales, marketing, customer service.
- Support processes are the processes designed to ensure an effective functioning of an enterprise and to enable the realization of basic processes. Support processes do not create value added for the customer in a direct manner. Among these processes the following may be included: strategic planning, human resources management, finances-accountancy, computer and logistic services.

Frequently the divisions differ as they are connected to the functionality of process mapping. For instance, emergency processes, cost and business centers. Process map in each case should combine both the knowledge in process mapping and the specificity of the organization itself.

Key processes identification constitutes the basis for developing process architecture of the management system. Process architecture may be seen as an arranged image of the structure of processes on account of the scale of the enterprise's activity. In relation to computer tools process architecture may include:

- cross-sectoral processes (megaprocesses);
- sectoral processes (main processes);
- basic processes (individual actions).

Creating the process architecture, thus, consists in gradual division of given key business

processes into smaller and more basic elements. In reference to the responsibility for the processes the so-called process owners are in the leading roles. Process owners coordinate the operational flow of actions in the frames of processes as well as manage the processes, i.e. set the goals and measures, analyze and improve processes (take and verify support and preventive actions).

6. Standardization in process management.

The expected result of process identification is general and detailed process maps (diagrams) which create the so-called process architecture. Creating maps which depict the flow and mutual correlation between processes is another significant element of implementing process management. Hence, it is worth considering the use of a renowned notation to illustrate processes, for example BPMN (Business Process Mapping Notation). This notation allows comparison of graphic presentations of processes which gains significance in the case of benchmark comparisons, both internal and external. The processes graphically depicted in such a manner allow verifying how undertaken actions are oriented towards internal and external customers and how they contribute to creating value added for the organization.

The described processes embrace a given sequence of actions which are directly interconnected (realization of one action allows moving to another). Thus, the following elements should be considered significant in relation to process description:

- functions separately realized;
- responsibility for realizing individual functions (e.g. position);
- input and output documents.

The documentation prepared in the frames of the quality management system should be process-oriented, which is in favor of a better reception of tasks assigned to employees. For instance, it is easier for a employee to refer to the process “Winning and servicing a client” rather than an element of the norm named “A review of requirements related to the product”. The quality management system documentation joins the real actions of the organization and solutions undertaken as a response to the norm’s requirements. The basis for the documentation preparation is processes, as opposed to the standard’s requirements. This conception is supported by the liberization of requirements

related to systematic documentation. Hence, each organization decides individually about the need to prepare relevant operational procedures.

Modern quality management systems require adequate documentation in relation to understanding and using the process management theory. Thus, new documents are created, for example, process cards or process book which are simply in the leading role in the area of identification of methods and criteria of process realization.

The process card may be the leading document, for the fact that if created for every process it may contain both the data characteristic of a given process and the data related to its planning, monitoring and development. An exemplary structure of a process card, based on the assumption that every process will aim at three types of objectives, may include:

- *basic* defined according to the definition of a process, understood as an intentional action (e.g. for the process Cards Management: assuring competent personnel for realization of professional tasks in the organization);
- *monitoring* defined as indicators whose values should be read as possible early warning signals (e.g. for the process Cards Management: production workers absence higher than 2 %);
- *improving* defined as objectives, whose attaining will be seen as the proper direction of process modeling and development (e.g. for the process Cards Management: decreasing the rotation of executive managers within the first year of recruitment to 0).

ISO 9001 norm has certain requirements for the quality management system documentation, in particular, in reference to the need to create documented procedures (ISO 9001). Furthermore, the intention of the requirements is the individualization of the systematic documentation in the aspects of personnel competence, process complexity and the organization’s specificity. Finally, the procedure is defined as the established way of proceeding with the action or process. In light of the abovementioned considerations, a procedure may have various forms.

7. Process parameterization. Effectiveness measurement is a significant feature of both process

approach and quality management systems in conformity with ISO 9001. Therefore, there is a need to parameterize processes (Grajewski, 2007, s. 79–87). In practice it is linked to the need to define:

- main quality features;
- result and leading measures;
- target values of measures.

Parameterization should be conducted for individual processes in the frames of the process map. Hence, objectives, measures, and target values are defined in the quality management practice, at least for the so-called megaprocesses. At the next stage objectives, measures, and target values for the basic processes are defined (sectors of lower level). Finally, these parameters are established for the lowest sectors – the operational level. As the result of these actions every employee is aware of objectives and tasks defined in the frames of a given process (Huang, Dismukes, Mousalam, Razzak, 2003); (Muchiri, Pintelon, 2008).

Conclusion. Although in both the literature on the subject and the practice numerous descriptions of process management may be found, there is no explicit opinion indicating that meeting the minimal requirements will allow application of process management in an organization. The thesis that a certified quality management system is an unequivocal piece of evidence for process management in the given organization appears not to be valid in practice. It may be even stated that there is no direct link between certified management systems and process management.

Professional process management is still a rare practice, yet it is difficult to find the reason for it. Most probably this situation is caused by the fact that process management is seen as a risky conception in comparison with the traditional hierarchical organization which creates a sense of stability and security.

Process improvement is realized through analysis of data related to the process, creating objectives and undertaking corrective actions. The result of process improvement may be not only quality improvement but also reduction of costs related to the process. We may assume that the product is as good as the process is.

In order to conduct a complex evaluation of process measurement The Balanced Scorecard may be used. It allows to observe relations between individual areas of an organization's functioning:

finance, clients, processes and resources, and, in particular, to define the influence of the processes on the first two of the already mentioned areas. Hoshin Kanri method may be equally useful and is related to building the management strategy.

Similarly, assuring the effective data acquisition and analysis is possible only in case of assuring computer support of process management. According to some authors, it is the essential condition of professional process management.

Business process models previously developed in the course of the project along with the measurement system are the basis for taking optimizing actions. In the frames of process improvement generally two methods may be used:

- process facilitation;
- process reengineering.

Process facilitation leads to the modification of the present state, as the result of which the effectiveness and efficiency of the process are increased. Facilitation is applied in order to rationalize the process in the range of a small area of activity or to introduce changes in the selected elements of the process.

Process reengineering leads to the radical change in the process realization which results in change of effectiveness. Hence, reengineering has a broader character and is frequently related to designing the course of the process from the beginning on the basis of the research assumptions and client's requirements. In conformity with the leading definition (M. Hammer, J. Champy 1993) reengineering is the fundamental rethinking and redesigning of processes in the enterprise, which leads to the crucial improvement – according to critical modern measures – of results, e.g. cost, service, speed.

Quality process management defines a new approach towards the quality management system. This approach is equivalent to the full conception of Total Quality Management. Constant process improvement, including the executive personnel and all employees at all levels of the enterprise's process orientation, leads to continuous improvement of quality of provided services and products. Eventually, it enables the correlation between the attention to quality along with customer satisfaction and the pragmatic approach to running an enterprise.

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MANAGEMENT ACCOUNTING OF HIGHER EDUCATION INSTITUTIONS: IMPLEMENTATION STAGES AND REALIZATION FEATURES

Abstract. In the article the essence and importance of management accounting in higher education were investigated. The main reasons for the need to actively search for effective methods of organization and management accounting and the peculiarities of its main components were defined. We described the sequence of actions on the implementation of management accounting in higher education and the organization of educational process in accordance with the new methods of decision-making. The functions of the main departments of higher educational institution and their powers under the new conditions of registration have been defined. The strengths and the implementation of management accounting system of principles that should guide the work of the University to the implementation of the educational process was easy and efficient were described. We carried out the analysis of the information and analytical support of accounting in higher education and identifies the advantages and disadvantages of the latter.

In the course of its core activities public institutions use the funds of state and local budgets and own revenues to purchase equipment, materials and other resources to ensure their continuous and effective work. Analysis and control over the formation and using of financial resources of budgetary institutions provides accounting system.

Reforming accounting of budgetary institutions has been going on for about 10 years, and are constantly significant changes that facilitate the work of the latter. Anchored by the Cabinet of Ministers of Ukraine from 16.01.07 № 34 "On approval of the Strategy of modernization of the accounting system in the public sector of Ukraine for 2007–2015. Directions and objectives are implemented according to plan to build a modern financial accounting subsystem subjects of accounting in the public sector in general and in particular budgetary institutions [1]. Considering the recent innovations in the public sector accounting we should pay more attention to the important accounting subsystem, such as management accounting. An importance of managerial accounting is due to the instability of the financial system of Ukraine and the characteristics of different kinds of budget institutions. To specify the aims and objectives of management accounting

and its implementation the subject to research will be universities, as a kind of latter. The aim of this study is to determine the characteristics of the organization of management accounting in public institutions, aimed at improving the quality of education needed for further development. The development of such information system may be based on the organization and development of management accounting, designed to provide the necessary objective and operational information all levels of government universities.

Key words: management accounting, the cost of educational services, financial and economic activities, documentation, inventory, management reporting.

Analysis of recent research and publications.

Researched on topical issues of management accounting. In budgetary institutions pay attention to such domestic scientists and practice as P. J. Atamas, R. T. Dzhoha, T. V. Kanyeva, Y. S. Rudchenko, S. V. Svirko, N. I. Sushko, I. T. Tkachenko, A. A. Chechulina and others. However, the domestic accounting in the public sector is not perfect and needs reform that leads urgency and points to the need for further research.

Presenting of the main material. Currently accounting in the public sector Ukraine needs improvement methodology and transition to common methodological principles of accounting and reporting, and the establishment of a unified organizational and informational support.

In reforming of accounting important methodological approach is to study management accounting in the financial and economic mechanism of budgetary institutions. There are two main reasons for the necessity of actively search for effective methods of organization and management accounting at the present stage of budget institutions:

- In large institutions budget management system is complicated, so without reliable information support, the system becomes unmanageable;

- The budget of agencies tens of million, including revenues and expenditures of the Special Fund reach two thirds. There is a need for information, not only in terms of budget classification codes, but also structural units (faculties, departments, research departments, hostels, laboratories, etc.) [3].

The ultimate goal of management accounting is to help management in achieving strategic goals of budgetary institutions.

Among the important national programs should be provided to ensure a high level of education. The solution to this massive problem generalized state guarantee for higher education that is legally main normative legal acts of Ukraine through expenditure obligations of the state in higher education (Constitution of Ukraine, the Law of Ukraine “On Education”, the Law of Ukraine “On Higher Education”).

Today, funds for higher education in Ukraine is compensated mainly from the state budget through the Ministry of Education and Ministry of industry of Ukraine. Statistical data of recent years confirm the lack of appropriations higher education institutions (HEIs) through the budget. However, there is significant differentiation of public spending on education per student in the regions of Ukraine.

In conditions of sharp reduction of budgetary appropriations universities are forced to attract other sources of income, as stipulated by regulations. In general, these sources of income in market conditions for universities allow them to adequately perform educational and scientific mission in society with a focus on strategy for its development. When combined income of the general fund and special schools can meet the growing demands of the education market and the labor market. Full participants in these markets is next to non-state universities (SHEI). The sharp reduction in appropriations SHEI and providing considerable autonomy in internal administration resulted in the need for the elaboration and implementation of a new management mechanism that enables them functioning as full subjects of market relations. This includes the formation of efficient information systems, use of data which enables universities are forced to justify management decisions both in the short and long term to proper positioning in the educational market and support their quality.

The role and importance of management accounting in the activities of universities aimed at improving the quality of education needed for further development on the one hand, and the lack of theoretical, methodological and practical developments concerning the organization of management accounting in higher education – on the other, confirm the relevance of the theme of the course work, identified its goals and objectives. On the basis of analysis of world and domestic trends diversify income high school the necessity of building a multi-subsystem management accounting with the peculiarities of the business of providing educational services.

The control system of universities under the new paradigm involves the formation of appropriate management information system, using data from which management decisions are grounded, and their main focus – improving the quality of education. This information is available in the functioning of management accounting as part of university management system. Consequently, management accounting is a set of coordinated actions on the formation of structural units, operational analysis and accounting data to make informed decisions and forecasting future performance.

For the implementation of management accounting as an integrated system should determine its methodology and accuracy of mapping for higher education. The method of management accounting in budgetary institutions and in universities in particular, including both traditional accounting of the budget items – documentation, inventory, assessment, calculation, accounts and double entry, reporting, and specific, which are components of controls as: planning organization, motivation, analysis and control.

Documentation serves primary element method managerial accounting, as well as accounting in general and in particular the management of each business operation must be documented. The Law of Ukraine “On Accounting and Financial Reporting in Ukraine” gives a clear explanation on the matter (Art. 9): the basis for the accounting of business operations are the primary documents that capture the facts of business operations [2]. Documenting business transactions within management accounting subsystem allows for continuous and continuous monitoring of all business processes that are the objects of this subsystem.

Inventory, as a means of identifying the actual state of objects is not only an instrument of control, but the way of registration of facts which, under different circumstances, were not taken into account during the initial registration of economic activity. When the inventory are available material resources that are on the balance and universities are forced are considered the responsibility of individual employees. Today more and more innovations are specific order of inventory and registration cards in budgetary institutions.

A characteristic feature of management accounting as part of accounting is that accounting of all objects are expressed with a single meter money. Evaluation is a way to measure the monetary value of the property in budget institutions and sources of its formation, within which natural and human figures transformed by means of prices, tariffs, salaries, etc. in monetary indicators. Correct evaluation directly affects the accuracy of accounting as a whole, and management in particular. In the process of managing budgetary institutions within the administrative account, the following approaches to the evaluation of economic facts: at cost, book value, replacement cost, fair value, as well as estimate and planned. As you know, in some cases, evaluation can be made only after the display of all expenses related to certain economic process: the actual cost of the finished product can be determined only after the accounting of all costs associated with the process of production. The cost of services provided, works manufactured products budgetary institutions determined using calculation – method of determining the amount of cost in monetary terms as for certain types of activities, processes, departments, and in general, the public institution per unit of product using aggregate cash-value methods of accounting. The aim is to ensure the calculation of monetary valuation grounds specified performance of budgetary institutions, ensuring profitability of the calculation of the provision of services, works, manufacturing of products as well as cost analysis, determining the economic efficiency of various organizational and technical measures planned formation (normative) calculations. The results of calculation formalized in calculation – form an internal document design. In budgetary institutions typically constitute (calculated) planned and actual costing. First calculate the planned consumption rate, the second – their actual level.

Accounts and double entry are in management accounting budgetary institutions respectively: how to group and summarize the information about costs, charges, expenses, revenues and results of operations and control them in the economic activity of these entities; identity mapping business operations twice in credit and debit one or more accounts.

Management Reporting is a system of inter-related and interdependent indicators of economic activity as the centers of responsibility, and in general budget entity for the period, providing the need for internal information management apparatus specified entities. Management reporting includes not only the actual data, but also interprets deviations from the objectives, plans and estimates.

Planning subsystem management accounting budgetary institutions is an ongoing cyclical process aimed at aligning capabilities to requirements of budget institutions state (as property) and socio-economic needs of society (as a set of users of public bodies). It is associated with a decision on the future objectives and uses methods of selecting alternative solutions which should focus both general and specific. Its effectiveness depends on the standards of validity and reliability analysis of the performance of budgetary institutions, which is based on the established and used in accordance with the objectives of management accounting information.

Company management is a function of the correctness empowerment of employees to reduce the time for making important decisions. If higher education is a key organization in the services it achieve positive results for the least effort and material resources is evident. Another important factor in the success and effectiveness of staff motivation is correct. Clearly, the first step to efficient operation is the proper incentives for workers.

Rationing in management accounting subsystem of budgetary institutions provides optimal calculation rules and standards to ensure efficient and effective use of all resources and institutions find ways most productive transformation costs in the cost, and then in the finished product. In budgetary institutions developed system of limitation based on a system of rules and regulations, serving first element of control over material costs.

Analysis in the subsystem of the administrative account is a structured process of research of economic phenomena at the level of structural units and institutions and assess their sensitivity to

changes in internal and external factors and management influence, which is associated with the other components of management accounting.

Control serves an important component of management accounting, which provides detection and removal of abnormalities that have arisen in the implementation of targets. The basis of the control subsystem management accounting is the principle of feedback, which is achieved due to the reliability, accuracy of information and the need for control and measuring activities.

Management accounting in budgetary institutions should be focused on detailed accounting of expenditures (costs) and intangible services costing different areas of the public sector. Now it is necessary to adapt existing methods of accounting and calculation methods directly to the calculation of intangible services. Also, there is a need to obtain information about income and expenses of separate departments to control, planning, evaluation, analysis of their operation.

In addition, for the purposes of both accounting and management accounting is necessary formation of accounting policy. On the basis of the accounting policies can create enough effective reporting system as a key element of management institution.

For efficiency and quality of the implementation of elements of management accounting Universities should, above all, concrete paint stages of its implementation and realization of the objectives in accounting policies specific university. During 2015 was introduced a lot of changes in accounting policies of budgetary institutions. However, these changes are not able to specifically affect the efficiency of accounting budgetary institutions. Improving inventory policy or procedure for changing the reimbursement of travel expenses is not possible to achieve efficiency of budgetary institutions. For this offer to determine the level of implementation of management accounting in the accounting system and universities:

1) Management accounting at the micro level – this analysis, monitoring and forecasting of individual subsystems (departments, dean, etc.);

2) Management Accounting at the macro level – is re6zultativ of accounting and forecasting future periods at higher educational institutions in general.

For the effective planning accounting work universities are forced to pay more attention to is micro level, that is the formation of management

accounting by responsibility centers. Centers particular responsibility of the institution may include planning and organization of individual departments, their divisions in terms of revenues and control costs.

In the system of accounting responsibility centers created primarily about cost activities subject grouping by type, cost centers and more. Under current legislation the administration to decide how to classify expenses, how much space to detail their appearance and how they link with centers of responsibility. The problem of the distribution of costs and revenues between the various units (responsibility centers) decide by establishing the relationship of costs and revenues specific to the work of those responsible. The tool for this is management accounting system, which aims to provide information and integrates the entire sequence of operations to management decisions – Planning and Forecasting [1, p. 573].

The smooth operation of the lower links in the organizational structure of the university will allow faster and more efficient to take concerted decisions and make decision-making more effective specific management. This is primarily held by domestic competition divisions, resulting in higher governing bodies can fully guided by the results, though these changes need to be an increase in expenses for maintenance personnel. The result of work done at the micro level will be clear, specific information on which will be planned work at the macro level.

For better performance of responsibility centers and their relationships should provide management's participation in development budgets, internal reporting forms in the process of scheduling document [2, p. 37].

Regarding the macro level, the management accounting in this area will include the adoption of basic and decisive steps based on the analysis of income and expenses and results of all levels of the organizational structure. Although the Center has become the foundation of responsibility in the development of strategic plans, but management has primary responsibility for decisions.

The need for the implementation of management accounting at the university confirmed changes in the conditions of SHEI. Significantly affect this relative freedom of decision-making, including the following items: an additional set of students (over state order); choosing partners and other

educational activities; pricing educational and other services; division of the special fund.

In terms of market management is greatly enhanced role calculation of educational services. The correct calculation of the cost of educational services significantly improves the quality and cost management procedures ensure the validity of the pricing of educational services. In this regard, the issue of improving calculation work in educational institutions should be given special attention.

It is clear that the state budget should lead to the university specifically defined objectives that are the essence of program-target method of budget funds. But universities can form a special fund from the proceeds of granting him paid educational services. Paid services institutions, it is mainly: study on a specific basis, the fee for participating in certificate programs for hostel accommodation among others. Estimates of such paid services should provide consumer needs and capabilities of these services, it is primarily students and the macroeconomic situation of the state and the region in particular. It is the task of management accounting, the implementation of which should be involved as micro and macro level.

Work in this direction should be structured as follows:

- At the macro level, collecting information on the number of students, faculty workload planning, determination of the need for materials (textbooks, stationery);
- At the macro level: analysis of tariffs for utilities, maintenance costs of planning premises, payroll administrative staff and teachers.

That is, there should be a clear scheme of micro and macro levels, resulting to be properly defined costing of services and achieved performance in providing education services. Management accounting institutions of higher education also depends on the software that affects the relationship butcher parts of the financial and accounting department.

Budget entities for accounting is used, in most cases, two informational-analytical program:

- 1) “Corporation Parus” – for educational institutions of Ukraine”;
- 2) 1C-Accounting.

These programs provide for maintenance of a purely accounting business operations and output of basic statistical data for analysis. Each program

has its advantages and disadvantages, but the main problem is the lack of a unified program that would, in addition to purely accounting would include maintenance and management also. This primarily includes detailed analysis and forecasting results of the organization for a specific period of time. However, to implement appropriate management accounting needs professionals knowledgeable not only in accounting but in practice areas such as strategic analysis, operational planning, forecasting, development of management decisions. This will make informed management decisions, to analyze the work to carry out and monitor proper use of tools based on the approved budget, detect illegal costs, improve the efficiency of accounting and financial and economic activities and institutions using budget funds as well as the special fund.

Such innovations will help assess needs and realistic possibilities of universities on a specific date, and with accurate results.

In addition, there is no single program accounting in budgetary institutions, as each organization has as it were convenient and easier to program, there are a number of reasons hampering the work of all budgetary institutions, including universities. This includes drawing up monthly, quarterly and annual reporting. It is clear that each of the results reported by the chief accountant for the work, and that generates all reports, summarizing these data. Too often, however, reports submitted to governing bodies, if the main routine, if university is for the Ministry of Education of Ukraine, contains a lot of information that is repeated, and this excessive waste of time. Besides reporting to the Ministry formed at the reporting date and as statistical reporting, which is made on the basis of accounting and analytical accounting. So we have a lot of analytical and accounting data on each balance sheet date and this accounting work is considered done. But this is not enough for effective work of the university. Thus, accounting, statistical and financial reporting is the basis for building management reporting, which is the analysis and forecasting of future periods university.

Conclusions. Thus, for the introduction of management accounting at the university we need to do the following steps:

- 1) To divide levels of the introduction and implementation of management accounting (macro and macro level);

2) Provide management accounting methodology in accounting policy higher education;

3) Develop a system of formation of management reporting automated program that is used at the university;

4) Identify the persons responsible for the collection, analysis results and the formation of management accounting.

Therefore, the results of the study it can be concluded that the implementation of management accounting provide budget accounting adapt to modern conditions of economic institutions and strengthening control over the efficient use of public funds.

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CAPITALIZATION OF THE INDUSTRIAL ENTERPRISE: SPECIFICS OF MODERN MANAGEMENT

Abstract. Based on the cyclical nature of company's capitalization, the paper proves that the productive capital is of high priority in achieving the strategic goal – the growth of company's value. The directions for the growth of company's own capital are determined, and the best of them are identified in terms of organizational constraints in the implementation by the company's owners and economic expediency. The sources of company's own financial resources for the increase of capitalization are analyzed, and the directions for providing company's capitalization in the real sector of the economy are offered.

Key words: capitalization, company's value, industrial production, own capital, real sector of economy.

The economic situation in the country is characterized by certain interdependence with the economic activities of economic entities: the increase in the size of companies provides the increase in the degree of their impact on the national economy and increases the resistance to fluctuations in the national economy. The increase in the production of companies is largely the result of using scientific approaches in their management and capitalization. Diverse aspects of value-oriented business management are reflected in the works of foreign scientists [1–8].

The strategy of the industrial company's capitalization should be developed, firstly, through the transformation of the company's productive capital that provides its real capitalization (Fig. 1). After manufacturing goods it is possible to organize the effective influence on the consumer through balanced communication strategies and strategies of positioning the enterprise-producer or its product on the market. This set of actions promotes a strong brand of the company and in this way provides the marketing capitalization. If the company's stock capital is divided into a certain number of shares, then after the company's brand recognition as a result of marketing capitalization, it is expedient to sell the shares to interested market participants – future shareholders, and thus achieve

the market capitalization. Increase in the value of capitalization provides a cyclical nature of the process “real capitalization – marketing capitalization – market capitalization”.

So, taking into account a cyclical nature of company's capitalization, the author proves that the productive capital is of high priority in achieving the strategic goal – the growth of company's value.

J. Bogutska expresses the opinion on the availability of direct correlation between the increase of company's capital and, as a result, the growth of company's market value [9, p. 180]. This statement contradicts to the author's position, according to which the increase of capital can contribute to the growth of company's value only under its effective use (real capitalization), further marketing capitalization and, ultimately, market capitalization. That is, only the effective organization of all the components of company's potential can allow forecasting the growth of its market value.

Strategically important and essential for providing a real capitalization is the management of company's tangible assets. In order to improve the forecasting of future movement of basic assets, O. Molyaka proposes to identify the main factors of impact on the amount of basic assets that are put into effect by using econometric modeling, as well as to find the strength of these factors [10]. The list of impact factors proposed by O. Molyaka consists of the volume of investments, the average number of employees and the total number of enterprises in Ukraine. We believe that to identify the impact of some factors on the productive capital formation in the industrial companies of the real sector of the economy in terms of their capitalization growth, it is necessary to identify purely production factors and find the directions and strength of their impact on the main indicator. In this case the forecasting will be more accurate. These factors include: investments in basic assets, the proportion of production workers in the total number of employees, the cost of finished products.

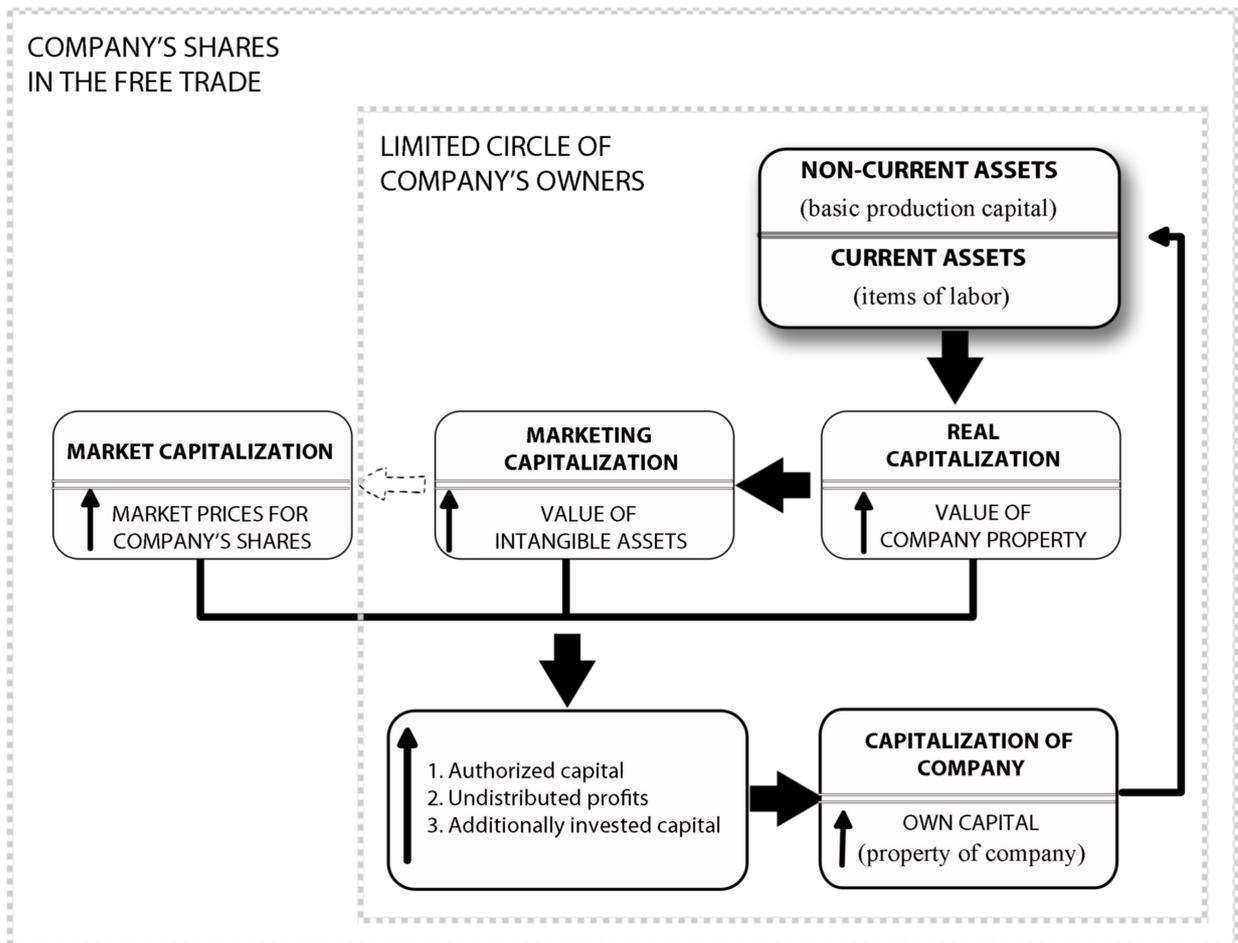


Fig. 1. Process of managing company's capitalization

Finished products of the company are a factor of the future volume of basic assets, but the managerial choice involves making decisions adequate to market requirements only. From this position, under consumer-oriented production the cost of finished products is the result of the market demand formed before. Therefore, it's quite reasonable to take the cost of finished products as one of the factors that determines the necessary amount of company's productive capital – its main basic assets.

The contribution of finished products to the creation of company's productive capital can be estimated by the amount of income from its main activities because it is the income that is the source of enterprise's own financial resources. Thus, we support the conclusion of N. Spasiv concerning the identification of the list of factors influencing the formation of company's basic capital, namely that the income from company's main activities is an objective factor in the formation of basic capital because of the expansion of its investment opportunities [11].

Carrying out economic and mathematical modeling of optimal volumes of basic capital reproduction and determining the list of impact factors, N. Spasiv identifies the volume of products manufactured by the means of labor at the age t [11, p. 163]. However, we believe that the differentiation of basic assets by the age of their operation is expedient only in the production of final products. The account of units of production equipment by the age of their operation proposed by N. Spasiv is very often impossible in actual production processes from the view of practical implementation because the latter involve the production of semi-finished goods or parts (components) of final products using certain units of equipment. Moreover, it is rather inexpedient taking into account a different contribution of technical units to the production cycle and therefore different intensity of work and, consequently, unequal degree of physical depreciation and the need for reproduction caused by it. In other words, concerning large companies of the real sector of the

economy the age structure of basic assets is not an important factor of company's future capitalization. Therefore, to forecast capitalization of large industrial companies (including those which are vertically integrated) the focus should be made on the value of basic production assets without taking into account their age structure.

N. Spasiv's opinion on the reproduction of basic capital only through the sale of available labor means and purchase of new ones is rather disputable [11, p. 164], because the current realities of the production process and limited financial resources of the company stipulate the reproduction of technical equipment through capital and current repairs. It should be noted that since the repair is episodic it could be made not by the company's repair service but by the third party outsourced.

In addition, one should clarify the phrase of N. Spasiv that "... the use of "outdated" technologies reduces the profitability of main activities" [11, p. 166]. Because this position does not meet the objective requirements of certain technological processes that use "classical" production technology, such as the production of wine and cognac, as well as the chemical or metallurgical production. At the same time, the replacement of outdated equipment with new modern one will really contribute to the reduction of working time due to reduced time for changeover and repair of equipment and, thus, to the growth of labor productivity on this basis.

Furthermore, the features of accounting company's own capital are such that the organization of production on the basis of outdated fixed assets sometimes calls for the additional valuation of non-current assets, which at the same time increases company's own capital as a result of the growth of its additional capital, namely of additionally valued capital, that is one of the directions for the growth of company's own capital. This gives grounds to believe that in such cases the conditions are created to expand the company's own sources for ensuring future capitalization.

Thus, we can distinguish the following directions for the growth of the company's own capital, which ensure its capitalization:

1. Increase in the size of the authorized capital through the contributions to company's authorized capital. However, modern owners of the company are reluctant to resort to such contributions, because they are more likely to

invest available financial resources in other areas of business to redistribute the risk. So, the increase of the authorized capital is possible at the expense of contributions from outside investors. However, as a rule, this variant is not supported by modern owners because of the necessity to redistribute the structure of ownership and, as a consequence, the structure of management between them. Moreover, the coming of the new owner causes organizational difficulties because of the need to re-register the enterprise. Besides, one can assert unattractive investment climate in Ukraine to predict whether foreign investors will come. Thus, we can conclude that the increase in the authorized capital is rather theoretical than practical means of increasing company's own capital.

2. Increase in the additional capital due to:

- the sale of shares issued at a price above nominal;
- additional evaluation of the company's assets;
- the value of non-current assets obtained free of charge from other persons.

Additional evaluation of assets increases only the paper value and does not increase a real financial coverage of company's assets, and because of this the additional evaluation of current assets cannot be considered as company's additional capital. As for the other two directions of the growth of the company's additional capital, it can be noted that under a limited range of financially stable and important market actors an accurate forecast of practical implementation of measures in these directions is not possible. Thus, we can conclude that the practical increase in company's own capital due to the growth of its additional capital is limited.

3. Increase in the amount of the reserve capital becomes possible in case of increasing deductions from the net profit and it can be used for the company's development, so it is a direct method of providing future capitalization of the company. Thus, there are all grounds to state that the new normative deductions from the net profit of the company should be increased in order to increase its reserve capital and expand company's own financial capabilities for providing its future capitalization.

4. Increase in undistributed profit is possible if company's dividend policy is revised, namely if the size of dividend payments is reduced, and the size of undistributed profit is increased in order to expand the

enterprise's own financial capabilities for providing the enterprise's growth strategy. However, the practical implementation of changes in the dividend policy aimed at reducing dividend payments often faces disagreement of current owners. Therefore, it can be concluded that the increase in enterprise's own capital due to the undistributed profit cannot always be realized in practice.

Having analyzed the trends of increasing the company's own capital in terms of ensuring its capitalization, one can summarize that, taking into account the organizational constraints imposed by the enterprise owners as well as economic expediency, the formation of the reserve capital and the undistributed profit in increased volumes as the result of changing the policy of distributing the company's net profit is the most probable.

Another serious problem that needs to be addressed, while ensuring the future capitalization of the company, is the identification of directions for investing capital. We believe that the increase of capital and volumes of finished products is the direction of high priority for the increase of company's assets. Under other equal conditions, the increase of basic assets of modern high technical level is the factor of production growth, which, in turn, leads to the increase in sales growth, expansion of company's market share and cyclically to the necessity of expanding the park of equipment, i.e., in this way the value of company's assets grows which gives grounds to talk about its capitalization.

To provide a real capitalization, one should pay special attention to such source of company's own financial resources as the depreciation fund. The value of depreciation charges depends on the initial value of company's basic assets, which the company is able to increase or decrease independently. The practice of selling industrial machines proves the possibility of using both variants of sale. If the company buys technological machines at a lowered price, in the future it will face the problem of the depreciation fund insufficiency that will make it impossible to carry out a full renovation of equipment. The owners of enterprises privatized in the 1990s experienced a similar scenario of their own production base development when the property was transferred to a new owner at the residual value without a cumulative depreciation fund. Thus, a low cost of production equipment eventually makes impossible to renew physically

and morally outdated equipment and reduces the technological potential of the company.

In the opposite case, if the company manages to increase the value of its production equipment through its additional evaluation as a result of completion, modernization, reconstruction or technical re-equipment, it faces the problem of increased prime cost of products that were manufactured using the given equipment complex, since the increase of equipment cost increases the amount of depreciation charges. The increase of prime cost inevitably causes the increase of the selling price which under other equal conditions reduces the volume of sales and worsens the company's image. Thus, we can conclude that any changes in the value of production equipment will eventually have a negative impact on future capitalization of the company because it does not strengthen its own financial base.

External economic conditions, in which market actors operate, specify the minimum size of company's capitalization. At the same time, it can be assumed that the external environment also determines the possibility of the highest level of capitalization. This conclusion is proved by the results of the research presented in the work of the Russian scholar E.P. Tavokin that deals with the nature crisis development in the market system. Treating the crisis as a "sharp, drastic change in anything, hard transition state, or special complications, under which the inadequacy of the means of achieving goals creates unexpected problems, hidden conflicts and disparities", E. Tavokin concludes that "in any market system the internal contradictions are inevitably accumulated to the level at which this organization begins to break, i.e., a crisis comes" [12, p. 141]. Supporting this position in solving the problem of company's capitalization, we can make the following observation: the increase in company's capitalization cannot be a continuous process and has its upper limit. This is due primarily to the fact that the constant increase in the value of company's capitalization is usually accompanied by the increase in its activities, the expansion of goods presented on the market, increase of company's market share and, ultimately, increased attention to the company itself from anti-monopoly authorities, competitors who lose their market positions, and entities capable of raider attacks on perspective enterprises. Therefore, there is a relationship

between the objectively maximum value of the company's capitalization and the level of competition on the market. So, it is necessary to identify this relationship and to describe it mathematically. We believe that the higher the level of competition on the market, the lower the maximum and appropriate level of company's capitalization is according to the criterion of company's safe operation on the market.

The importance of the capitalization of companies in the real sector of the economy proves their role in the structure of the national economy, namely the companies of basic industries provide the basis for functioning and developing enterprises of infrastructural sectors, such as transport, communications, trade, banking etc., i.e., the activation of the infrastructural sector begins, first of all, in the region where the company's main activities are concentrated. Then, this effect extends to the neighboring regions and covers the level of the whole country. For this reason, it is the expanded production in the real sector of the economy that the economic growth of the whole country depends on. Moreover, the social effect is achieved, which is manifested in the growth of incomes of the population due to the growth of the employees' wages in those companies that achieved the growth of their capitalization.

It can be argued that there is a relationship and interdependence between the level of market capitalization of the real sector's companies and the efficiency of production. Thus, the market capitalization is a result of the production efficiency. At the same time, the market capitalization is the basis for the company's financial stability and determines the effectiveness of its future production activities. Expanded production stimulates the development of resource markets and activates companies' activities at the stage of distribution of manufactured products. In addition, the capitalization of companies in the real sector of the economy and the following increase of production expand the demand for the products of related industries. The increase in production leads to higher taxes which form the revenue part of the state budget. So, one can assert that in the current crisis conditions observed in Ukraine's economy the recovery and development of companies of the real sector is of high priority.

To ensure the capitalization of companies of the real sector, the attention should be paid not only

to increasing the number of production factors of companies but to their quality and improvement of manufacturing processes at all stages of the production cycle. Therefore, we believe that the management of a company should be aimed, first of all, at:

- increasing the productive capital as the foundation for future growth of the company;
- promoting the sale of finished products to ensure the growth of sales revenue and profits;
- improving management of company's net profit division for the purpose of forming financial resources to increase the future growth;
- obligatory introducing innovation to create high-quality basis for the growth of company's capitalization.

Conclusions. Taking into account limited financial resources to ensure the capitalization of companies in the real sector of Ukraine's economy, we arrive at the conclusion that to recover Ukraine's economy under strengthened crisis in the economic and political spheres of society, the problem of providing a real capitalization of industrial companies is of high priority. So, the practical recommendations on improving the composition and structure of companies' productive capital mainly due to their internal capabilities are rather urgent today.

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METHODOLOGY OF CALCULATIONS OF LOGISTIC COSTS AND CHARGES FOR DELIVERY

Abstract. The development of Ukrainian economics observed in the last years and its orientation towards the integration into the world economics community, as well as large-scale introduction of market relations require the radical structural changes of economic potential of subjects of entrepreneurial activity and adequate policy directed towards the increase in the efficiency of their economic activity. The improvement of the management of material flows, flows of funds and information flows contains the considerable potential of growth of efficiency of enterprise activity as a result of application of new progressive methods and approaches. Among such approaches the main place is occupied by logistics which begins to develop dramatically in Ukraine.

The modern nature of market, target orientation of production and the distribution of products according to consumers' requests determine the necessity of searching extra possibilities for decreasing expenditures and product costs, as well as improving service levels for the enhancement of the efficiency of enterprise activity.

For domestic enterprises of different branches logistics costs make up the considerable part of general costs. Logistics costs are the expenditures created as the result of information flows, flows of funds and material flows. It is no exaggeration to say that logistics is a comprehensive process in business, since every movement, search or bargain is cost-based, without regard for logistic characteristics.

With the help of logistic calculations it is possible to 1) determine the expenditures on the purchase process, transportation, warehousing; 2) predict the budget of future periods; 3) compare and analyze the characteristics of logistics activity.

In the conditions of transient economics, that is, fierce competition, financial volatility and spread of the corrupt practices, the problem of the optimization of the enterprise expenditures arises. So, the reduction of logistics costs is the top-priority activity aimed at the stable operation of the enterprise.

The necessity of the appropriate response of management processes to changes in the functioning

conditions and improvement of delivery and marketing causes the stable interest of domestic manufacturers in the process of maintenance supply and production distribution as important constituents of enterprise activity. Taking into account the fact that the production program of the enterprise and, naturally, the results of its economic activity depends on the efficient organization of supply and marketing, we can state that the entire investigation of these processes is extremely urgent.

Key words: enterprise, method, logistic procurement charges, party of delivery, strategic decisions, export-import operations.

The analysis of recent investigations. Many Ukrainian and foreign scientists have devoted their works to the problem of calculating logistic costs. They are, for example, A. Gadzhynskiy, A. Kalchenko, O. Trydid, O. Oklander, A. Albe-kova, V. Petrova, R. Brealey and others. But the uncertainty of notions and methodologies of calculations still exists nowadays. This situation can be explained by the fact that logistics has been introduced into Ukrainian enterprises rather not long ago and there are no unified techniques for the calculations of basic logistic characteristics.

As A. Kalchenko states, the main tools of logistics are the rate of stock turnover, the turnover of commodities, general expenditures on maintenance supplies, per cent of complying with the order, logistics costs as a percent of general costs, the part of own transport facilities in the automobile park, the risks of stocks [1]. Also, in our opinion, the MOB problem ("make or buy") is very important. Having analyzed the activity of domestic and foreign enterprises, we can realize that the better logistics is developed, the more often entrepreneurs refuse the production of utilities and attachments [2].

Hence it follows that one of the core problems of the logistics development is the determination of the structure and methodologies

of the calculation of logistics costs. As it is known, business accountings do not contain the logistic items, because they are included into invoices and it makes the identification of logistics costs more difficult. So, the investigation and analysis of the experience of calculating logistic costs gained by Ukrainian and foreign enterprises is a first-rate and important task.

The aim of the article is the investigation of the methodology of calculating logistic and supply costs of the enterprise.

The subjects of investigation are theoretical and methodological questions of the optimization of stock control in the spheres of supply and marketing (distribution).

The modern theories of market economics, management, marketing and logistics, as well as scientific doctrines and theories of Ukrainian and foreign scholars have become the theoretical and methodological basis of the performed investigations.

Statement of investigations. Logistics is the management of the flow of goods between the point of origin and the point of consumption. It considers the chain of supply, consisting of the complex of services or “links”, each of them performing its functions, beginning from the manufacturer up to the consumer.

Developed logistics tends to control the whole supply chain. The core aspect of the situation is the fact, that logistics is the system of management of the supply chain and concerns different kinds of activity (links), providing services with value added.

Logistics is ruled by demand, and so prospective consumers of logistic services will determine the level of the development of this segment of economics in Ukraine. Expected increase in these services is based on two main factors: latent and new (future) demand. Latent demand is the existed demand which has not manifested itself yet because of the lack of optimal conditions for its development. The second factor is caused by absolutely new business launched by “new players”, which are coming to the market simultaneously with the general economic development. For the near-term and medium outlook the main source of generating and further increasing of the demand will be its latent component.

One of the main problems of the development of logistics in Ukraine is the fact that most

customers who need its services do not have enough knowledge about cost items they should take into account considering different supply chains, as well as alternative approaches which could reduce costs for logistic operations.

Most companies seldom count their warehousing costs, but they should be concerned about them, because the principal cost savings in the sphere of logistics of the higher level are accumulated due to the savings at the stage of inventory holdings. Besides, there is a great difference between the competence in this sphere international companies have and domestic companies whose competence and presence on the market is much lower [3].

Careful attention to logistics is caused by its capability to provide better efficiency of enterprise functioning. Logistics costs which are inseparably linked with functioning of the logistic system of the enterprise are formed in the different spheres, namely, supply, manufacturing and distribution. This makes the efficient management more difficult. So, at the enterprises the thorny problem of creating the informational support for the control of the logistics costs, that is, the methodology of accounting these costs, adapted to the National accounting standards of Ukraine as a basis for management decisions in the sphere of logistics [4] occurs.

For the majority of the industrial enterprises and wholesale and retail trade enterprises the logistic processes make up from 5% to 45% of sales volume depending on the kind of business, the geographical extent of its operation, the correlation between weighted estimator and price structure of the material resources and finished product. The part of logistics costs grows if the supply chain becomes more complex, if the system of purchase orders is changing, or the demands of the customers become stronger. But the most important feature of the logistics costs is the fact that they are not marked out in traditional accounting systems, but are treated as fixed charges, that is, are considered to be stable parts of invoices among other costs. So their correct identification, estimation and timely efficient management becomes much more difficult within the limits of total costs of the enterprise and control process as well [5].

Besides, the tendency for logistics costs to increase in comparison with the increase in income and prime costs, and providing the efficient

management in the conditions of intense competition causes the practical importance and urgency of the development of mechanisms of identification, analysis and estimation of logistics costs aimed at increasing the efficiency of the logistics system at the enterprise.

So, for the selection of the logistics costs it is necessary to consider them according to the classification features, what will give the opportunity either to structure logistics costs or to plan the necessary rolling stock and the structure of the costs for the future, take account, analyze, control and regulate their amount and level at the conditions of particular calculation, reveal the reserves of the optimization of logistics costs in the logistic chains, as well as provide the efficient management from a position of general efficiency of the industrial enterprise operation.

Practically every company in any sphere of activity needs a logistic department. It can perform different functions according to specialization.

Big companies usually realize logistic functions at the independent logistic department. It employs all necessary specialists competent in this field. It can include drivers, traffic controllers, ordinary specialists in logistics and top managers. Smaller organizations confined themselves to creating small departments or even assigning individual employees, that can perform the functions of specialists in logistics and are employed at the department close to logistics, namely, traffic department, warehouse etc. Sometimes the logistic department can provide the management of external relations or is concerned with customs clearance. The manager providing foreign economic activities is occupied with document circulation related to sale or delivery, arranges relations with transportation companies, suppliers, insurance companies, banks etc.

The logistic department cannot be considered an auxiliary section. This activity is essential for every company. There are certain enterprises providing services in this sphere. They organize logistic activities for other companies.

LEONI Wiring Systems UA (GmbH) is a subsidiary company of German enterprise Leoni AG which is an international manufacturer and supplier of wires, cables and cable systems for transport facilities on the world market. The customers of LEONI in Stryj (Ukraine) are the well-known car manufacturers of the world like Opel, Porsche, Volkswagen, Audi, Lamborghini and others.

The logistic department of the enterprise is subdivided into several sections.

MAWI – stock rotation section. The functions of accredited representatives of the enterprise are: control over wholesale inventories; material security; purchase orders and delivery of materials. For the improvement of enterprise operation the professionals of the German enterprise Leoni Kitzingen designed a FORS program in 1990. This system allows them to trace the movements of materials and finished products at all stages from delivery to shipment. The warehouse employees receive goods together with labels, which contain all necessary information including package, quantity, the supplier's number and assemblies and then record these data into the system.

Receiving inspection department check the conformity of materials, stamp and transfer to the warehouse PA. The materials are packed into containers KABA for convenience and saving the storage space and than transferred to warehouse KA intended for unpacked assemblies. At this warehouse every package with parts has its label developed by the system Kanban. Employees need the label Kanban for the improvement of the quality and time saving while performing their duties; it is valid for 8 hours. The supply of the assemblies is calculated for 5 days. At the case of downtime the supplier should inform the customer and indicate all possible costs occurring in this situation. The supplier is informed about the amount of indebtedness because of missing terms, quality and quantity of a given material. Every amount of indebtedness is registered in the quality department.

Costs of MAWI department: payment for materials, costs for damages paid by the LEONI employees (Stryj); reclamation costs; costs for downtime of assemblies; additional transportation costs occurring due to reclamations, damages and insufficient quantity of materials; reproductive costs on stationery. There are some downtime or reclamation costs (10 Euro per downtime hour). Additional transportation costs are associated with the order of urgent transportation services, for example, the most often used air transport and hand carry, or the service of delivery by hand. Differentiated costs mean the inappropriate quantity or description of goods in the documents as opposed to the really supplied materials. The differentiation of supply is recorded in the accounting department. The responsibility for the differentiated costs depends on the conditions of delivery.

LEONI operates on the basis of Incoterms (International commerce terms), that is:

EX Works (named place). Risk transfer: from the seller to the buyer when the goods are transferred at the disposal of the buyer. Export customs formalities: seller's responsibility. Import customs formalities: seller's responsibility.

FCA- Free Carrier (named place of delivery) Risk transfer: when the goods are transferred at the disposal of the carrier at the warehouse of the seller. Export customs formalities: seller's responsibility. Import customs formalities: buyer's responsibility.

DDP – Delivered Duty Paid (named place of destination)

Risk transfer: when the goods are transferred at the disposal of the buyer. Export customs formalities: seller's responsibility. Import customs formalities: seller's responsibility.

The department of export and import operations. Task: customs clearance and other customs formalities, transportation, accounting reports on primary products provided by a customer addressed to the customs and tax inspectorate.

There are necessary documents required from such establishments: phyto-quarantine inspectorate, ecological inspectorate, sanitary inspectorate, certification office.

The main problem of such a department arises with processing primary products of foreign origin on the territory of Ukraine, because the primary products provided by a customer are imported for a certain period of time and when it is over, the remains of these products should be given the customs clearance and value-added tax (VAT) should be paid.

Costs:

1. calculation and payment of the customs duty and VAT;
2. costs for cargo insurance;
3. vindictive damages for an invalid commodity code according to Ukrainian classification of commodities of foreign-economic activity;
4. transportation costs;
5. customs clearance of equipment, remains, waste products.

A **warehouse** is subdivided into a part for materials and assemblies and a part for finished products. For the part of input assemblies four slip roads are provided, which make unloading easier. Average unloading makes up 45-50 trucks a week.

Then the cargo is directed into an unpacking zone, and information about delivery is input into FORS system.

Warehouse costs: 1) mismatch between ordered and delivered quantity of materials. Underdelivery will cause the increase in new order costs, special additional transportation costs, additional costs related to downtime and failures in the production process, staff expenditures. Too large quantity of ordered material causes additional costs related to counting and storing assemblies. 2) costs caused by damaged package include timetable of storekeepers and the employees of the input inspection test department, where the quality of the cargo is checked; costs of sorting and creating pellets.

The solution of this problem depends on the conclusion given by the input inspection test department about the prospects of these assemblies: they can be directed to the production process or the supplier at improving quality, reducing price, having an influence on the closure of the enterprise. 4) payment for services of a person performing sampling audit.

Order department. All data concerning orders, that is, cost of transportation, cargo value, lease of means of transport, transportation tenders, direct import and export supplies, urgent import and export supplies are recorded in the FORS program.

Costs of import and export transportations are calculated for the following year according to the cost and quantity per vehicle:

$$Q_v \cdot C_o = C_o T, \quad (1)$$

where Q_v is a number of vehicles; C_o is the cost of vehicles; $C_o T$ are costs of transportation.

The calculation of packaging materials is performed in relation to metal containers, plastic containers or wooden pallets. Package costs: inventory costs. Leoni Wiring Systems and its parent company in Germany annually make an inventory of reusable packaging and, when the lack of this package occurs, Leoni Wiring Systems pays the additional costs according to the bills from the parent company.

$$R_{apc} = S_c + I_c, \quad (2)$$

where R_{apc} are rental annual package costs; S_c are statistical costs; I_c are inventory costs.

For the calculation of package rent costs per one truck the following correlation is used:

$$C_{pr} T = C_{pr} / Q_v, \quad (3)$$

where $C_{rp}T$ are costs for package renting per one truck; C_{pr} are costs for package renting; Q_v is a number of vehicles.

For calculating costs for package renting for the following year the following formula is used:

$$B = Q_v \cdot C_{pr}, \quad (4)$$

where B is a following year budget for package renting; Q_v is a number of vehicles; C_{pr} are costs for package renting.

Determination of logistic costs of “LEONI Wiring Systems”: Total logistic costs; Freight in; Collecting Costs; inbound costs; Express freight inbound; Recovery of freight in; Recovery of freight in; FREIGHT OUTWORDS; Outbound costs; Express freight outbound; Recovery of freight out; Packaging material; Customs Duty; Personnel Costs (Logistics Employees); Extra costs to be invoiced to oth. Entities; Produced NHs incl. sub contractor; Logistics Employees; Cost\hour; Total Sales; % – Anteil.

Logistics costs have their peculiarities comparing to the general costs of the enterprise, because they occur at practically all stages and operations of goods production and selling. It would hardly be denied, that nowadays their amount is dramatically growing, and the problem of managing them efficiently becomes more and more actual. Besides, it is very difficult to select them from the general costs of the enterprise and, naturally, analyze them, which is caused by the specific features of domestic accounting policy.

In accordance with the kind of activity, geographical situation, volume of enterprise activity and other characteristics, every industrial enterprise reckon some part of its costs towards so called “logistic costs”. Their amount can differentiate from 5 % to 45 % and can increase under the influence of internal and external factors.

Today there is no developed methodology which would allow selecting logistic costs. But those scientists who had investigated the problem made it possible to determine their specific weight in the structure of the general costs.

If it is commonly accepted that logistic system is a set of interconnected links, the characteristics for its estimation should be considered according to each of them. The integral indicator of reliability of the logistic system of the enterprise will be described as

$$L_{IN} = [A, B, C, D, E], \quad (5)$$

where A is supply; B stands for production; C is transportation; D is storage; E is marketing.

At the next stage a database is formed with the chosen indicators of estimation on the basis of principal accounting forms of the enterprise, namely, balance and financial account. The proposed methodology of reliability estimation is based on the analysis of the structure of logistics costs in relation to profit

For the estimation of the reliability of the logistic system of the enterprise it is necessary to carry out investigations for each of following groups of indicators

$$N\Lambda_{\mu} = \frac{\sqrt{\sum_{i=1}^n (S_i - S)^2}}{S}, \quad (6)$$

where S_i is the investigated indicator in the i -th period; S is the mean value of investigated indicators (for all enterprises chosen for the analysis), i is the period of investigation in years; m is the number of indicators for the estimation ($m = 1 \dots n$); I is a number of investigated enterprises.

The basis for the result obtained is the matrix of indicators (m) for each enterprise (i).

Taking into account mentioned above, we can assume that complex indicator of reliability of the logistic system of a given enterprise can be calculated by a formula:

$$L_K = 5 I_A \cdot I_B \cdot I_C \cdot I_D \cdot I_E, \quad (7)$$

Then, the next stage of calculating of the reliability of the logistic system of the enterprise assumes forming the integral indicator (for all enterprises)

$$L_{INS} = e R_{INS1} \cdot R_{INS2} \cdot \dots \cdot R_{INSn}, \quad (8)$$

where L_{INS} is complex indicator of reliability of the group of chosen enterprises; $R_{INS1} \cdot \dots \cdot R_{INS2} \cdot \dots \cdot R_{INSn}$ is the indicator of the reliability of each chosen enterprise.

The range of the complex indicator of the reliability level estimation according to the degree of risk is determined by the technique often used at the production enterprises, whose activity is connected with different risks.

So, this technique can be basic for the estimation of the reliability of the logistic system of the enterprise. Its main advantages are its complex character; high accuracy of the results of the investigation which enables us to trace how each element of a complex influences the level of reliability of the logistic system as a whole. This

can help us develop such a model of control, which will respond to changes and give information about possible alternative ways of management and be useful for the improvement of the logistic system of the enterprise.

As I. Antoniuk states, at the international level logistics is quite different comparing to the domestic one, because we can note not only changing delivery location [6]. The most important differences in this case are:

- as a rule, logistic flows at the stage of international cooperation are related to much bigger order volume than the order deliveries on the certain domestic market;
- international markets are more diverse.

While delivering primary products or assemblies from these markets, as well as delivering goods to them, we should consider more variants of delivery, estimate variants with more resellers, than in the case of “closing” logistic flows only on the certain domestic market.

The primary and the most important stage of monitoring the logistic costs of the enterprise operating on the external market is their identification and estimation. The identification and estimation should provide:

- exploring all theoretically recognized and practically confirmed components of logistic costs according to their classification;
- well-reasoned sequence of calculations of all components of logistic costs and determining their values;
- recording and analyzing semistructured components of the logistics costs; estimating the level of logistics costs of the enterprise [7].

So, on the basis of considered information it can be stated that logistic costs are versatile and cover almost all kinds of activity of the enterprise. That is why they are influenced by many different factors of domestic and foreign economic environment. This causes the necessity of strict control over logistic costs, because any change of a factor can provoke the increase or decrease of general logistic costs which, in its turn, will change the financial results of the logistic system operation. Therefore, logistic costs should be precisely structured, continuously controlled and analyzed for timely elimination of problems of managing enterprise costs.

Conclusions. Market environment requires timely application of the optimization methods for the efficient management of the enterprise activity. It is the most important thing for those enterprises which are losing their competitive ability on the market. The main direction for them should be the continuous adaptation and improvement of the modern methods for the best and the quickest creation of effective economic competitive ability regarding other business entities, as well as advantageous pricing policy for the range of goods and services addressed to their customers.

Regardless to the objectives posed by establishments or enterprises, they always compare two criteria of receipts and expenditures. If receipts imply some positive prospects for the enterprise, costs correct them depending on the impact of external and internal factors of the operational environment.

Today the task of optimization of total costs is still one of the most actual for the top managers of Ukrainian enterprises, especially for those working on the dynamically developing markets. Of course, any optimization of costs couldn't be executed without taking into account the factors which impact these costs. Thorough consideration of factors influencing logistic costs can stimulate making timely management decisions. On the basis of the considered information we can draw a conclusion that total logistic costs are affected by material flow all logistic activity and the most important factor is the time of movement of material flow of the logistic system and spatial arrangement of production enterprises, suppliers, consumers and manpower resources.

It should be mentioned that the optimization of enterprise costs can be realized in the conditions of decreasing or maintaining costs at the increase in the economic management efficiency, as well as decreasing costs at the stable management efficiency (applicable only for short time spans). For domestic enterprises the elimination of the unnecessary costs is undoubtedly one of the main economic problems which can be solved by the correct calculation, account, planning and analysis of the logistic costs, which in turn will allow effective regulation of total costs and more reliable planning of finance indicators of enterprise activity. That is why the correct identification and estimation of particularly logistic costs and timely and rational management in the frame of logistic

system and total costs of the enterprise is the most important because of the fierce competition on the modern world market.

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