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APRAISAL FEATURES OF INTAGIBLE ASSETS CONTRIBUTION TO THE PERFORMANCE OF AN INTERNATIONAL COMPANY

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ОСОБЕННОСТИ ОЦЕНКИ ВКЛАДА НЕМАТЕРИАЛЬНЫХ АКТИВОВ В ПОКАЗАТЕЛИ ДЕЯТЕЛЬНОСТИ МЕЖДУНАРОДНОЙ КОМПАНИИ

The subject of this research are non recognized assets in the accounting (which is known as intellectual capital) which represent as a significant part of company assets contributing to company performance and value. The object of the study is the international auditing company KPMG. Based on this study we have evaluated the effect of the value of intangible assets on key performance indicators such as profit, reinvestment rate, invested capital and return on equity. The investigation has shown that the net effect of fair recognition of capital costs on intangible assets of the company for that they are significant competitive advantages is most evident in the estimates of return on equity and reinvestment rates.

INTELLECTUAL CAPITAL; INTAGIBLE ASSETS; HUMAN CAPITAL; COMPANY'S PERFORMANCE; COSTS CAPITALIZATION.

Предметом исследования в настоящей работе являются активы, не признаваемые в бухгалтерском учете (интеллектуальный капитал), но представляющие значительную часть общих активов и дающие значительный вклад в показатели деятельности и стоимость компании. Объектом исследования является международная консалтинговая и аудиторская фирма КПМГ. На основе результатов исследования проведена оценка влияния нематериальных активов на ключевые показатели деятельности компании – такие, как прибыль, ставка реинвестирования, рентабельность собственного капитала, инвестированный капитал. Исследование показало, что чистый эффект от правильного учета капитальных затрат на нематериальные активы компании, для которой они являются значимыми конкурентными преимуществами, наиболее сильно проявляется в оценках ставок реинвестирования и рентабельности капитала.

ИНТЕЛЛЕКТУАЛЬНЫЙ КАПИТАЛ; НЕМАТЕРИАЛЬНЫЕ АКТИВЫ; ЧЕЛОВЕЧЕСКИЙ КАПИТАЛ; ПОКАЗАТЕЛИ ДЕЯТЕЛЬНОСТИ КОМПАНИИ; КАПИТАЛИЗАЦИЯ ЗАТРАТ.

Introduction. Nowadays, assets based on knowledge determine the competitiveness and success of companies within all sectors of the economy. Knowledge, skills, employees' creative activities, computer hardware and software, an organizational structure, customer relationship, brands play a significant role in business life [1]. The relevance of this work is explained by the increasing role of intangible assets (intellectual capital) in the creation of the company's values.

The evaluation and measurement of such assets could become a real problem for investors. It is necessary to understand the peculiarities of their accounting and reporting as they may differ significantly from the standard approaches adopted in manufacturing companies.

The aim of the research is to study the contribution of intangible assets in company's performance.

The object of the study is the international auditing company KPMG.

The subject of the research are assets not recognized in the accounting (intellectual capital) represented as a significant part of company assets contributing to company value are

1. Interpretations of intangible assets (intellectual capital). The most popular point of view in relation to the definition of intangible assets is presented in the majority of works where terms «intangible assets» and «intellectual capital» have different meanings [2–7].

Authors cling to the notion [9] that intellectual capital (intangible assets) should be divided into two subgroups: recognized and non-recognized intangible assets in accounting. It is the most appropriate interpretation of intellectual capital. T.A. Garanina proposes to



use a «balance sheet approach» as the definition of intangible assets. The main idea is that «intangible assets» and «intellectual capital» mean the same things but from different perspectives. For instance, the term «intangible assets» is used taking into consideration the existence of assets and the term «intellectual capital» is used taking into consideration the source of asset value formation. While the revaluation of recognized and non-recognized in accounting intangible assets the revaluation surplus is not originally included in the Balance Sheet line «Intangible assets», so the organization increases assets by the size of the fundamental value of the identified intangible assets. And since assets are revalued by a certain amount, the liability balance should be increased by the same value.

It is proposed to reflect the revaluation of intangible assets in the balance sheet as the part of company's equity. «Intellectual Capital» represents the intangible component of the company's capital. This revaluation causes increase in the cost of capital and hence the value of the company for shareholders [9].

2. Composition and structure of intangible assets. For the diagnostics and subsequent measurements of the identifiable and unidentifiable in accordance with accounting and reporting standards of intangible assets of the company, it is important to understand the structure of intangible assets. This issue is controversial and there is no consensus among researchers how to determine the notion «intellectual capital» [10–13].

The approaches of different researchers to the issue of the intellectual capital structure are based on the classification of intangible assets developed by the International Federation of Accountants [14]. It proposes to determine three structural components within intellectual capital: human, organizational (structural) and capital of relations.

Human capital consists of knowledge, skills and employees' experience as well as the ability of a company to benefit from their knowledge, skills and experience.

Organizational (structural) capital is not reflected in the financial statements and involves everything in organization that remains with the firm even when employees leave. This is the most diverse part of the IC. This includes

intellectual property rights, information resources, working procedure, the management system of the company, etc., as well as the organization's ability to derive the economic benefits.

Capital of relations is the set of resources associated with the firm's external relations, i. e. relationships with customers, suppliers, partners, creditors and other stakeholders as well as the organization's ability to derive economic benefits from the resources associated with firm's external relations. This capital includes trademarks and service marks, brand names, a business reputation, the presence of insiders in partner organizations or clients, regular customers, repeat customer contracts and etc. [7].

3. Value and measurement of intangible assets. For the effective management of intangible assets it is important not only to define the concept and to analyze the structure of intellectual capital but it is also important to know how it could be assessed. The question of intellectual capital evaluation worries a lot of researchers and it is quite controversial. There are lots of models and methods to measure the value of intangible assets, but each of them can be attributed to one of four main approaches proposed by K. Sveiby.

- 1) Direct Intellectual Capital Methods – DIC;
- 2) Market Capitalization Methods – MCM;
- 3) Return on Assets Methods – ROA;
- 4) Scorecard Methods – SC.

One of the most illustrative assessment instruments defining the role of intangible assets in the company value is the market value of the companies for which intangible assets are the main factors of competitiveness in the market (pharmaceutical, consulting or technologic companies). Nowadays the number of companies where intangible assets represent the main factor of their value has been growing steadily [13]. However, organizations with intangible assets have their unique features.

One of them includes a specific representation of intangible assets in accounting in comparison with physical assets. Accounting is based on a clear distinction between capital and operating costs. Any expenses aimed to generate long-term economic benefits are capitalized, in other words they increase the value of company assets. Those expenses whose benefits are evident only in the current reporting period are charged to operating

expenses and thereby they reduce net income. This division can be observed in a manufacturing company as follows: money spent on the manufacturing equipment which will be operated for a few years are defined as capital expenditures; labor costs and the purchase of stocks are defined as current costs.

However, these principles do not work when a company has a large share of intangible assets. Pharmaceutical and technology companies make the most significant investments in research, research and development. Companies specializing in the production of consumer products invest into brand building. Consulting and auditing companies mostly spend their money on staff recruitment and training. In spite of the fact that these examples demonstrate that spent money is aimed to long-term benefits, they are classified as current expenses in accounting. It is explained by the fact that it is difficult to measure benefits from such investments in monetary terms. Consequently, the value of such assets and the net income of a company seem to be too low.

Thus, approved standards to calculate profits, capital expenditures, assets in accounting are applicable mostly to manufacturing companies where the proportion of intellectual capital is not as significant as, for example, in high-tech companies. Applying standard accounting methods to the latter results in the situation where the financial statement do not present a clear and true picture of the company's business and its value.

In order to adequately evaluate the company with a significant part of intangible assets, it is necessary to record capital expenditures correctly and recalculate the fundamental operating rates of their activities.

4. Solutions to the problems related to the valuation of the companies with intangible assets.

To determine the value of the company with a significant share of intangible assets it is necessary to reallocate current and capital expenditures and then make adjustments to the financial statements, namely in the Balance Sheet (Statement of Financial Position) and Income Statement (Profit and Loss Statement)

To solve this problem it is necessary to determine which of expenditure incurred should provide the future growth of the company, i. e. which costs should be capitalized. For example,

the results of scientific research are quite difficult to measure in monetary terms, therefore, as a rule, all development costs are written off as current expenses. As a result, assets caused by research and development are not reflected in the balance sheet as the assets of the organization that influence on the cost of capital and company profit. Within this approach the authors recognize R&D expenses as a capital expenditure regardless of how uncertain they may seem.

For companies that provide professional services (consulting, audits), capital costs are represented by different training courses as a qualified staff is the most important asset of the company.

We should be careful and cautious while charging such expenses to capital ones. An essential condition to reallocate operating expenses to capital costs is the assurance that the effect produced by such investments will be appreciable for several years.

The capitalization procedure of costs on the intangible assets formation can be described as follows:

- To identify the period when the effect from expenditures recognized as current will be appreciate;
- To assess the value of assets obtained as a result of expenses incurred. Then the given sum is added to the carrying value and is used in the calculation of a lot of coefficients and rates which are important for the company assessment;
- To calculate the operating profit including capitalization costs and reducing operating expenses that make the income lower.

Thus, our approach has the following features:

- a direct method to measure the components of intangible assets in monetary terms is applied;
- measurements can be made for each company regardless of the presence or absence of a quoted market price of its shares;
- received quantitative data can be easily checked and compared with those of other companies.

5. Valuation of KPMG's intangible assets.

We have chosen the international company KPMG providing audit, tax and consulting services as the object of our investigation. This choice is conditioned by the prevailing competitive advantage of a consulting company

is its intellectual capital, mainly knowledge and skills of employees. A high quality of services is achieved by significant competitive advantages, a vast experience, a stable highly-qualified staff, diversification, a successful application of proven techniques, providing IFRS services, a huge scale of the customer base, deep knowledge of the issues and possession of industrial enterprises, high corporate and information culture. In other words, KPMG is a typical example of a company with a high proportion of intangible assets.

To achieve the purposes of our investigation we have used the consolidated financial statements of the group of companies KPMG LLP Europe consisting of firms-members of KPMG network from 19 countries. [15] The estimation of some specific indicators that are necessary to analyze the role of intangible assets in the company's value was based on the extrapolation of data obtained from one firm member of KPMG network, namely the North-Western Regional Centre KPMG included in KPMG CIS (ZAO KPMG – a legal entity in Russia and CIS).

5.1. KPMG profile. KPMG is one of the largest professional services companies in the world and one of the Big Four auditors, along with Deloitte, Ernst & Young (EY) and PricewaterhouseCoopers (PwC). Its global headquarters are located in Amstelveen, the Netherlands. [1]

KPMG employs 152,000 people [3] and has three lines of services: audit, tax, and advisory. Its tax and advisory services are further divided into various service groups.

The trademarks of KPMG International are the KPMG logo and the slogan «cutting through complexity».

KPMG CIS is a part of KPMG Europe LLP – an international organization that provides professional services in audit, tax and financial advisory services which are designed to help national international clients in risk management and the successful implementation of activities in any economic environment. As of 2011, September the total number of staff in the KPMG CIS was approximately 3,400 employees. There are 18 offices of the company operating in CIS.

KPMG is a registered trademark of KPMG International and the name under which the

company generally known – members. The rights of member firms to use the name and the trademark were embodied in KPMG International agreements.

5.2. Correction of KPMG financial statements based on costs reapportionment. Applying the approach of real value of intangible assets reflection described in paragraph 3 to the company chosen, we consider recruiting and training employees costs to be capital expenses as highly qualified consultants are the main value of the company and provide benefit for years.

In some cases it is advisable to include some part of the costs on staff incentive and additional social packages into the capitalization. However, in our case, the data on such costs were not available.

For capitalization and assessment of the human capital it is necessary to:

- 1) Calculate recruiting and staff training costs;
- 2) Make an assumption how long the effect from incurred costs will be seen and calculate the capital invested in employees;
- 3) Calculate the correct book value of equity and make appropriate adjustments to financial statements.

Phase I. Within the approach to study the role of intangible assets in the formation of the company value we should to evaluate the part of the intellectual capital of the company KPMG capitalized, – namely, human capital – in monetary terms. To measure it we will use the method providing for the direct calculation of the original cost of the components of human capital, namely the company's cash spent on recruitment and training.

Cash invested in company KPMG's human capital development is determined according to the following formula:

$$HC = C_{rec} + C_{edu}, \quad (1)$$

where HC – human capital; C_{rec} – staff recruitment cost; C_{edu} – staff training costs.

The analysis of a personnel movement in the Northwest regional center ZAO KPMG has shown that the average turnover rate is 14%. This figure is within the norm we take into consideration the general industry trend of audit services and the specific character of the labor market. However, it means the constant necessity

for recruiting new staff and consequently it causes the significant costs to attract new employees.

In order to calculate the staff recruitment cost (C_{rec}) we have identified the components of this account cost and calculated them:

$$C_{rec} = 3\,826\,984 \text{ €}. \quad (2)$$

Please refer to Appendix 1 for a detailed calculation.

Auditing services are directly related to the qualifications of people who provide them. So KPMG take the question very seriously providing its employees with training and certification ACCA («Association of Chartered Certified Accountants») at the expense of the company. Getting this Certificate confirms the professional knowledge, skills and professional values in accounting. Learning is provided through passing professional exams (four exams per year of employment). The results of such examinations affect the annual evaluation of employees and their further promotion.

Similarly to recruitment cost calculation we have approximately measured the annual staff training cost:

$$C_{edu} = 57\,501\,815 \text{ €}.$$

Please see on the Appendix 2 for a detailed calculation.

Thus, having measured the main components of human capital of KPMG Company we can assess it in monetary terms:

$$HC = 3\,826\,984 + 57\,501\,815 = 61\,328\,799 \text{ €}$$

Phase II. In order to evaluate and capitalize intangible assets properly it is necessary to make an assumption how long effect of the costs incurred will last. This is called the amortization period for these intangible assets. Taking into consideration that employees leave KPMG after they have worked there for 3 years on average, the amortization period of selected assets will be equal to three years.

When the amortization period is determined the next step is to collect data on the costs to create human capital over the past years. It means years that compose the depreciation period of these costs. Thus, if the amortization period is 3 years, then we need to collect the

costs to create intangible assets for the previous 3 years. Making adjustment for inflation of the euro in 2012, 2011 and 2010, as well as changes in the number of employees in 2009 (a rising trend), we have calculated the approximate cost of human capital in 2009, 2010, 2011 and 2012. See the table in Appendix 3.

Table 3.1

Presents the costs for recruiting and training staff
(year -1 indicates a year ago; -2 – two years ago, etc.).

Year	HC cost	Unamortized portion		Depreciation for the year, thousands of euro
		%	thousands of euro	
Current	61 329	100.00	61 329	
-1	56 504	66.66	37 666	18 833
-2	51 367	33.33	17 121	17 121
-3	46 624	0.00	0	15 540
Total			116 115	51 493

To simplify the calculations we assume that for the amortization of intangible assets in KPMG a linear method is used. It means that each year a third part of original value of the assets is written off. As a result of our calculations the accumulated depreciation for 2013 will amount to 51.493 thousand euro. The amount of unamortized costs for the previous 3 years, which is equal to 164.331 thousands of euro, compiles the capital invested in intangible assets.

Phase III. The company's assets increase by the same amount of the capital invested in intangible assets calculated in the previous step. Consequently the book value of company's equity will increase too (the data are taken from the consolidated financial statements, KPMG LLP Europe [15]):

$$\begin{aligned} &\text{Corrected book value of equity} = \\ &= \text{Stated book value of equity} + \\ &+ \text{Capital invested in capitalized intangible assets} = \\ &= 459 \text{ million} + 116 \text{ million} = 575 \text{ million euros} \end{aligned}$$

Then it's necessary to correct the profit of the period that it could reflect recruitment and training of employees costs capitalized. Thus, firstly we restore the expenditure incurred, which were expensed as current expenses of the period and add them to profits. After that we should

deduct depreciation accrued from capitalized cost. So we could calculate corrected net income and operating profit:

$$\begin{aligned} \text{Corrected operating profit} &= \\ &= \text{Declared operating profit} + \\ &+ \text{Cost of intangible assets} - \\ &- \text{Amortization of intangible assets} = \\ &= 896 \text{ million} + 61 \text{ million} - 51 \text{ million euro} = \\ &= 906 \text{ million euros} \end{aligned}$$

$$\begin{aligned} \text{Corrected net income} &= \\ &= \text{Declared net profit} + \text{Costs for IA} - \\ &- \text{Amortization of intangible assets} = \\ &= 861 \text{ million} + 61 \text{ million rubles} - \\ &- 51 \text{ million rubles} = 871 \text{ million rubles.} \end{aligned}$$

The increase in corrected operating profit is observed in those companies where the capital invested in intangible assets increases every year.

5.3. Effect of intangible assets capitalization on the performance of KPMG. The company's index ROE has changed after making adjustments to the carrying amounts of capital and operating profit of the company (see Tab. 2).

Table 2

The return on equity

Index		Before IA capitalization	After IA Capitalized
Operating profit, EUR mln	[1]	891	906
Net profit, EUR mln	[2]	861	871
Equity, EUR mln	[3]	459	575
Return on equity, ROE	[4] = [2]/[3]	188 %	151 %
Return on equity before tax	[5] = [1]/[3]	194 %	158 %

In spite of being impressively high net profit ratios of KPMG (ROE is more than 100 %), however, they decreased significantly after adjustments to the balance sheet and the financial report.

The process of the capitalization to create intangible assets costs, whose effect will be evident in the future, consists of the correction of actual financial statements and in the

recalculation of basic indicators used while assessing the company's value, such as income, investment rate and profitability.

Let us consider changes in these figures in detail:

1) Profit. On conditions that costs on capitalized intangible assets are growing every year, we get profit larger than the original one if we add capitalized costs by deducting accumulated depreciation to the stated profit. For instance, in KPMG the expenditures on searching and training staff have increased over the last three years from 46 million euro to 61 million euro and the profit has increased by 10 million euro.

2) Reinvestment. The same scheme works in reinvestment. Having made adjustments to the financial statements the reinvestment rate usually increases.

3) Capital invested. The depreciated value (a historical cost of IA less accumulated depreciation) of intangible assets (an unamortized portion of creating intangible assets costs) is capitalized and thereby it increases the cost of equity and the total capital of the company. This effect of capital increase is enhanced with the increase in the depreciation period. Therefore, it is not so evident in consulting companies in comparison with e. g. pharmaceutical companies (where the term of the approval of new medical devices is approximately equal to 10 years).

4) Return on equity. As the capitalization of current expenditure causes changes in both profit and capital invested it is difficult to predict whether it will impact on the ROE. But if the company's ROE increases due to the capitalization of costs, we may come to the conclusion that the intangible assets, whose creation costs have been capitalized, bring more profit to the company in comparison with traditional investments.

Conclusion. The conception of intellectual capital includes not only recognized in the accounting intangible assets such as trademarks, patents, licenses, but also assets that directly determine the company's ability to exist in the market and get profits: an organizational structure, business processes, the qualifications and experience of the employees, customer loyalty, database vendors, etc.

Despite a fairly large number of scientific papers devoted to the studies of an influence degree of intellectual capital on company performance, the issues of transparency and reliability of company financial statements with a significant part of the intangible assets, as well as the problem of the reflection of the real value and success of the company, these problems still remain unresolved.

Based on this study we have evaluated the effect of the value of intangible assets on key performance indicators such as profit, reinvestment rate, invested capital and return on equity.

The investigation has shown that the net effect of fair recognition of capital costs on intangible assets of the company for that they are significant competitive advantages is mostly evident in estimating reinvestment rates and return on equity.

The methods of assessing the cost of human capital and adjustments to the company

performance, described in this paper, is of interest primarily for companies with high personnel costs, whose business is largely determined by a qualified staff. It refers to information technology, consulting, education and others.

The described advantages of the approach are to use the direct method of measuring the value of the components of intellectual capital in monetary terms for a particular company with further company performance which brings the opportunity, first of all, for investors to assess the company adequately.

Nowadays, however, the role of knowledge is continuously increasing in all sectors of the economy and it is reflected in the increasing costs of the company on staff training. We have shown in our study that these amounts being technically the costs are actually effective capital investments and no doubt the top managers of companies should take into consideration it while approving corporate budgets.

Appendix 1

Calculation of cost on recruitment

No.	Cost item	Clarification	Estimated Cost for a single country* or office **), rub.	Estimated Cost for the Group, rub.
[1]	[2]	[3]	[4]	[5] = [4]*143* or [5] = [4]*19**
1	Using the services of agents recruiting	Agency fee in the amount of 20 % of annual salary to hire staff	700 000	100 100 000*
2	Finders Fee	Remuneration for the employee which is a proposed candidate for the position		
3	Use of information resources, such as HH.ru, LinkedIn, etc.	Payment for access to databases of candidates and convenient search		
4	Carrying out first rounds	Payment of an electronic recourse to conduct online test	1 000 000	19 000 000**
5	Holding job fairs for students, graduates and young professionals; Career days; Competitive activities for students	Advertising: streamers, banners, printed products, publications; Gift branded products; rent, stands; catering staff, guests	2 000 000	38 000 000**
			Total rub.	157 100 000
			The average exchange rate for the euro for 2011-2013 according to the CBR	41.0506
			Total Euro	3 826 984

Calculation of cost on staff training

No.	Cost item	Clarification	The approximate cost of one exam, rub.	Estimated Cost for 1 person per year, rub.	Estimated cost of training employees for the year rub.
[1]	[2]	[3]	[4]	[5]=[4]*4	[6]=[5]*32300
1	The main course (Block course)	Payment 3-day workshop with a trainer, including access to electronic materials, the possibility of visiting the webinar exam preparation and work on the bugs Mock exam, writing Tests, Mock Exam	12 150	48 600	1 569 780 000
2	Tutorials and Online support (Classic package all papers)	Payment provided training programs; access to electronic knowledge base eBook Study System with power for self (Study Question Bank); two tests with answers; Intermediate test with answers; Mock exam with answers; Tips for the exam; Help tutor	1 400	5 600	180 880 000
3	Exam	Exam Payment opportunities to pass the exam	4 720	18 880	609 824 000
Total rub.					2 360 484 000
The average exchange rate for the euro for 2011-2013 according to the CBR					41.0506
Total Euro					57 501 815

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