

# Problems of intellectual property accounting in industrial enterprises in Russia

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**Abstract.** This paper analyzes important accounting and financial problems associated with identification, determination of the moment of recognition, proper assessment of intellectual properties that are part of intangible assets, determination of their useful life, as well as the search for relevant methods of their depreciation. According to the generalization of theoretical and their own practical experience, the authors propose the approaches to solve these problems, designed to increase the level of reporting reliability for stakeholders, as well as to ensure proper accounting and control of these objects in order to provide their safety and rational use at industrial enterprises.

## 1 Introduction

The organization of high-quality accounting of intellectual properties (IP) of an industrial enterprise provides the opportunity to protect the legal rights of an enterprise to the results of intellectual activity (RIA). It also predetermines a high level of competitiveness of an enterprise, as well as the prerequisites for its development. The results of intellectual activity received in the course of the performance of staff labor functions are subject to the risks of unauthorized access, use, theft, disclosure and destruction. The leveling of these risks is achieved by standardized work in the identification of positive RIA and the protection of the rights of a company by patenting (in cases

stipulated by law) or in the mode of production secret (know-how).

Non-recognition of the received RIA as an intellectual property in cases when a company has the right to get it in accordance with the law, leads to the increase in the above mentioned risks. A company reasonably has the right to accept IPs for accounting even in cases where the main costs of their creation have already been recognized in earlier periods. Accounting and financial support of the IP management system is designed to form objective information in accordance with the interests of various user groups. However, the presence of unresolved theoretical and methodological issues makes it difficult to get objective information. Some of these issues, as well as the solutions proposed by the authors, will be studied in this paper.

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## 2 Methods

The research was based on the study of the methods for manifestation of intangible assets and intellectual property assets in the financial reports of companies in comparison with the approaches set out in International Financial Reporting Standards, national standards of Russia, as well as special rules of law for the protection of intellectual property. The authors used the publications of leading researchers in the field of accounting and evaluation of intangible assets, regulatory reference materials, special literature, internal regulatory documents of enterprises, data of financial, managerial and statistical accounting and reporting, analytical and informational materials published in the Russian and foreign press and presented in the Internet as the information basis for the research. They also used their personal materials obtained as a result of direct study of the state of the problems of accounting of IPs at specific industrial enterprises in Russia.

## 3 Results and Discussion

The issues of the identification of intangible assets, their evaluation and proper reflection in the financial reports of companies, including industrial enterprises, are controversial in the scientific and special literature.

Solving the issue of protecting the positive results of intellectual activity (RIA) is one of the primary tasks of an industrial enterprise in terms of managing them. Positive RIA are subject to recognition as an IP and protection through the introduction of a trade secret regime (know-how) or through patenting.

The moment when the decision is made may not coincide with the moment when the cost capitalization starts for various reasons. This can be either an employee error or a later discovery of the RIA's usefulness to the enterprise. In any case, this is not a reason for refusing to

recognize a positive RIA as an IP object and reflect it as part of the integral assets, according to the accounting rules. The primary task is to protect the IP.

A number of scientific studies indicate the relevance of these issues for industrial enterprises in different countries. In the presented scheme of know-how management in manufacturing industries, N. D. A. Majid et al. emphasize the importance of identifying information that constitutes a know-how, determining the duration of the trade secret regime and the method of its protection [1]. These decisions aimed at IP protection affect the moment when a positive RIA is recognized as an IP object and, consequently, affect the recognition of an IP in accounting: its initial assessment, useful life, and disclosure of information in the financial statements.

The question of choosing an IP management strategy is no less relevant. The enterprise can protect the IP or share it with other enterprises. The scientific literature examines three main IP management strategies:

- a "defensive" strategy aimed at preventing the spread of knowledge and creating barriers to competition,
- a "collaborative" strategy aimed at collaborating with other organizations,
- an "improvised" strategy in which a firm protects its IP without a clear goal [2].

A number of researchers conclude that the most promising IP management strategy is a collaborative strategy: cross-licensing, patent pooling, etc. [2, 3]. The chosen IP management strategy may also have an impact on the recognition of IP in accounting. So, if an enterprise plans and sees real opportunities for the transfer of IP rights to IP use under a licensing agreement, then the royalty method can be chosen to estimate the initial cost of an IP recognized as part of the integral assets. On the other hand, if the company seeks to

protect the received RIA from other organizations as much as possible, or has no reason to believe that it will be in demand, then the use of another method will be required to estimate the initial value of the intangible assets, and the royalty method will not be applicable.

Thus, we observe that the recognition and initial valuation of intangible assets is ultimately influenced by factors that do not depend on the financial services of the enterprise, and to which, on the contrary, financial services need to adapt.

Another aspect of this issue is highlighted in the work of Z.-M. Zadorozhnyi, V. Yasyshena, who point to the problem of the unified approaches lack to the definition of the concept of “intangible asset” at accounting, financial, research and regulatory levels. According to their opinion, the difficulty of accounting of intangible assets is in the fact that by their nature they are diverse and include different objects. Due to the fact that today various intangible assets exist and continue to be created, as well as due to differences in economic, legal, accounting and valuation approaches to understanding of their essence, there is a significant gap between the accounting methodology of intangible assets and the modern needs of a market economy [4].

This is also true for Russian industrial enterprises, where work with intangible assets is carried out, as a rule, by several departments at once. Thus, the R&D department is engaged in the identification of positive RIAs and their formalization in the form of the object of intellectual

property. In their work, these divisions are guided by the requirements of the legislation in the field of intellectual property protection and do not operate with the concept of “intangible asset”. At the same time, the concept of “intangible asset” is used in a different context in another unit responsible for accounting of intangible assets - in the financial accounting department of an industrial enterprise. In the department responsible for tax accounting, a concept of “depreciable property” is used. However, pursuing different goals in their activities, these departments must coordinate their actions, since late recognition of RIA entails the need to recognize intangible assets and determine its value, which, in turn, may have tax consequences in order to calculate a reasonable tax burden.

It is necessary to note that in the practice of national enterprises, proper attention is not paid to the identification of IPs, which leads to their still low share in the structure of assets. In order to confirm this conclusion, the authors analyzed the financial reports of the 50 largest Russian companies in dynamics for 2015-2019, presented on the websites of Russian Statistic Service (for 2015-2018) and the Federal Tax Service (for 2019). The analysis results are presented in Table 1.

The results of the analysis of indicators in dynamics presented in Table 1 clearly indicate a stable trend of the increasing share of intangible assets in the total value of assets of Russian companies over a 5-year period.

**Table 1.** Results of the analysis of financial reports of the 50 largest companies in Russia

<b>Indicators</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>
Total assets, billion rubles	51,680	55,785	59,318	64,907	67,338
<i>Including in the field of industrial production</i>	<i>38,054</i>	<i>39,886</i>	<i>42,798</i>	<i>47,136</i>	<i>48,573</i>
The total value of intangible assets, billion rubles	110	127	152	224	249
<i>Including in the field of industrial production</i>	<i>51</i>	<i>62</i>	<i>75</i>	<i>99</i>	<i>103</i>
Share of intangible assets in total assets, %	0,21	0,23	0,26	0,34	0,37
<i>Including in the field of industrial production</i>	<i>0,13</i>	<i>0,16</i>	<i>0,18</i>	<i>0,21</i>	<i>0,21</i>

At the same time, even in TOP-50 companies that apply International Financial Reporting Standards due to state requirements (as the largest, socially significant organizations the shares of which are quoted on stock exchanges) and, therefore, having an idea of the existing approaches to the evaluation and accounting of intangible assets, do not aspire to make significant efforts to increase capitalization precisely at the expense of intangible assets. The share of intangible assets in the total amount of assets, although increased in 2015-2019 from 0.21 to 0.37%, but still it remains negligible. (For the largest organizations in the sphere of industrial production, the situation is even more critical: the share of intangible assets by the end of 2019 does not exceed 0.21%).

For example we compare: in the financial reports of the Siemens group at the end of the reporting period ended on September 30, 2019, the intangible asset value (excluding goodwill) was € 9,800 million, which was 6.5% of the total assets, equivalent to € 150.248 million.

At the same time, W. W. Choi et al., provide evidence that the financial market positively evaluates intangible assets disclosed in the financial statements. The results of the study confirm the requirement that intangible assets are reflected in the balance sheets of companies [5]. Disclosure of information about intangible assets in the financial statements has a positive effect on attracting additional financing from investors by enterprises [6]. The study of the role of industry factors and intangible assets in the activities of companies in Colombia also shows that intangible assets play an important role among the factors that determine the effectiveness of specific companies. Evidence supports the sustainability of intangible assets as drivers of competitive advantage in an evolving environment [7].

C. Eckstein's research shows that the problems associated with the measurement

and recognition of intangible assets are international [8]. The applicable accounting standards have a major impact on the recognition and measurement of intangible assets. T. Dinh et al., analyzing the accounting of intangible assets in Australia according to national standards and IFRS, conclude that the introduction of stricter accounting rules for Intangible assets in accordance with the IFRSs reduces the quality of the set of information for investors [9]. However, despite the fact that the question of the degree of application of International Financial Reporting Standards (IAS, IFRS) in terms of the identification of intangible assets is debatable, in our opinion, the direct application of IFRS in Russian industrial enterprises will currently bring positive results. This applies to the identification of intangible assets for the purposes of their capitalization in the company's statement of financial position, and their valuation, which is confirmed, among other things, by the empirical data provided in table 1. It should be noted that in the current Russian legislation there is a rule that allows the direct application of IFRS in the event that any issue is not described in RAS.

The specifics of the Russian industrial enterprises activities determine the composition and structure of intangible assets. A significant proportion of the intangible assets are positive RIAs recognized by IP, which are protected by a patent or the introduction of a trade secret (know-how) regime. For them, timely identification and reliable assessment of their value, at which they will be reflected in accounting and financial statements, is of great importance.

The issues of the valuation of intangible assets and, in particular, IP, have not lost their relevance for more than 40 years. Approaches to IP valuation are traditionally considered in the economic literature in the context of the net asset index impact. The first significant disputes

over the evaluation of intangible assets were triggered by a series of major acquisitions in the 1980s. The most notable deals, such as KKR/RJR Nabisco, Philip Morris/Kraft и Nestlé/Rowntree, were performed at prices that were five times higher than the book value of net assets calculated from the balance sheet. However, the results of such acquisitions did not always have positive consequences and in some cases a company was overvalued.

Nestlé Company paid £2.5 billion for the acquisition of Rowntree, which was significantly higher than the net asset value of the company and 2.5 times the capitalization of Rowntree before the takeover. As D. Hyde noted, Nestlé saw the promise of synergies in R&D, products, administration and sales, resulting in economies of scale. This is the example of the highly intelligent integration of two companies into a competitive business [10]. However, not all acquisitions were successful. For example, the “deal of the century” to acquire RJR Nabisco at a price significantly higher than the book value of net assets did not bring the expected profit for the New York company Kohlberg Kravis Roberts & Co. (KKR).

The concerns expressed in the financial environment regarding the reliable valuation of the value of the intangible assets, provided the need for serious research. On the one hand, the difficulty of determining the value of intangible assets is related to the uncertainty of their future benefits and useful life [11]. On the other hand, this is due to the conscious desire of

enterprises to manipulate the value of intangible assets and the cash flows generated by them. A number of studies confirm that the impact of IP transactions on the income tax burden is one of the factors influencing the decision on the place of registration of intellectual property rights in MNCs [12, 13].

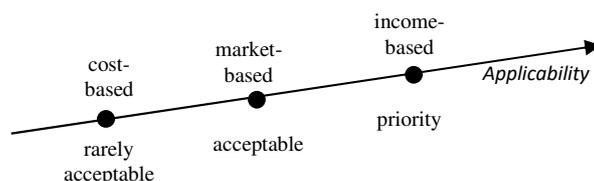
It is necessary to note that in the modern experience of Russian industrial enterprises, the method of accounting of IPs at historical cost, which consists of actual and documented expenses for the creation and (or) acquisition of assets, prevails. Among other aspects, this approach leads to an incorrect assessment of the value of the net assets of an industrial enterprise, which may turn out to be both unreasonably overestimated and underestimated.

The current IFRS provides accounting of the objects of intellectual property at fair value, which can be determined using one of the following approaches stipulated by International Valuation Standards:

- market-based;
- cost-based;
- income-based.

At the same time, intangible asset accounting at their fair value poses a serious problem for administrators and accounting professionals around the world [14].

Generalization of the performed research shows the following picture of the applicability of approaches to the assessment of the value of intellectual property (Figure 1).



**Figure 1.** Applicability of cost-based, market-based and income-based approaches to the determination of the fair value of intellectual property (compiled by the authors)

**The problem of the determination of the proper value of the intellectual property**

for the purposes of accounting and reflection in financial reports is not the

only one. Among other problems that the authors identified based on a practical study of the state of intangible asset accounting at a large industrial enterprise as a part of a research project (contract No. 29052018, June 27, 2018, concluded with Perm State National Research University), there were the following ones:

- **The problem of the determination of the moment of the beginning of capitalization of intangible assets** in financial report. Thus, according to the paragraph 52 of IFRS 38, in order to assess whether an intangible asset created independently by an organization meets the recognition criteria, the process of the creation of an asset should be divided into two stages: research stage and development stage. At the same time, if, within the framework of an internal project aimed at the creation of intangible assets, a company can not separate the research stage from the development stage, then a company takes into account the costs of such a project as if they were spent only at the research stage (p. 53, IFRS 38). Some RIA can be obtained already at the research stage. However, such a result can not be recognized as an intangible asset for accounting purposes, since at this stage not all criteria for the classification of the received RIA as intangible assets are fulfilled. Thus, for RIA received by a company during the research phase, the possibility of future economic benefits can not be estimated. In this regard, according to the paragraph 54 of IFRS 38, an intangible asset that is the result of research (or the implementation of the research stage within an internal project) can not be recognized. Research costs (or the research phase of an internal project) are recognized as an expense when they occur. RIA received by a company at the stage of development is recognized as intangible assets if it is possible to simultaneously demonstrate the conditions of paragraph 57 of IFRS 38;

- **the problem of the differentiation of capitalized costs that form the value of**

**the object of intellectual property itself**, reflected in the future as an intangible asset at fair value is non-capitalized R&D costs occurred in the current period on the one hand and other costs, but on the other hand the return of it will be carried out in future periods. Thus, the costs of positive RIA can be capitalized, while the costs incurred by a company at the research stage can not be capitalized, regardless of whether a positive result is obtained. For example, the costs associated with activities aimed at the production of new knowledge should not form the initial cost of intangible assets, even if new knowledge was produced at the research stage and a report on it was made. A derivative is **the problem of intellectual property accounting identified by a company as a result of inventory;**

- **the problem of the determination of the relevant useful life and the depreciation method.** Thus, the useful life of an IP as an independent inventory item according to the rules of financial accounting in Russia is determined when it is accepted for accounting as part of an intangible asset by a company independently or by expert means. Since the composition of intangible assets is diverse, it is advisable for a company to determine this period in a differentiated manner at the first stage. At the same time, taking into account the dynamism of market development, high rates of scientific and technological progress, the authors consider it possible to establish shorter useful life for intangible assets. Then, the current accounting procedure offers several methods to calculate the depreciation of intangible assets. During the choice of a method to calculate the depreciation for intellectual property, it is recommended to pre-group them by types (groups), for example, to allocate exclusive rights to utility models, exclusive rights to an invention, etc., which can be included in separate groups for the purpose of their own choice, relevant depreciation method etc.;

**- the problem of differences in approaches to the formation of the initial value of intellectual property for the purposes of financial and tax accounting.**

This problem is a consequence of the problem of the determination when the capitalization of costs begins. In the conditions when an industrial enterprise conducts research and development as a part of contracts with external customers, the costs associated with these works are charged to the cost of works specified by this contract. However, during the work for third-party customers, an enterprise can obtain a positive result of intellectual activity (RIA), which is not required under the terms of the contract, but is valuable to a company itself. In the experience of Russian industrial enterprises, such positive RIAs are usually called "side" ones. As a rule, they represent know-how (production secrets) and are protected by the introduction of a trade secret mode. However, often at the moment when a positive result of the so-called side RIA becomes obvious to an industrial enterprise itself, the costs of research and development within the framework of a contract with an external customer are already attributed to the cost of sales and can not be adjusted. At this point, the difference in the goals of the activities of different departments of an industrial enterprise is most clearly manifested. Thus, the R&D department seeks to recognize a positive RIA as intellectual property as soon as possible after the process of identification in order to protect the rights to it. With rare exceptions, this department is not interested in the evaluation of know-how. At the same time, they do not seek to recognize the result of intellectual activity as positive until sufficient evidence of its applicability is given. Thus, this department in some cases does not promptly report the need to capitalize costs.

The financial accounting department needs to determine the initial cost of intellectual

property for recognition as a part of intangible assets. However, it is no longer possible to determine the initial cost as the sum of the costs of the creation of an asset, since the moment when the capitalization of costs began was not determined in a timely manner. The omission of the start of capitalization of costs and the recognition of a positive RIA as intellectual property later leads to the need to determine the fair value of assets (sometimes even in 1-2 years after the result is obtained). As it is mentioned above, the income-based approach is very rarely applicable and it is considered the least reliable in global practice.

The application of market-based approach to the determination of the fair value of know-how, or other objects of intellectual property, is usually limited due to the lack of an active market and information about similar transactions. In the end, the most applicable method is discounted cash flows within the income-based approach to the determination of fair value. The application of this method causes a rather high cost of an intangible asset in financial accounting. The tax accounting department, on the contrary seeks to evaluate intellectual properties at the lowest cost, since, according to the rules of the Tax Code of the Russian Federation, such identified IPs are subject to recognition at market value, which is included in non-operating income in the period of asset recognition. Thus, the cost at which intellectual property will be recognized as depreciable property for tax accounting purposes directly affects the tax burden of an industrial enterprise. The tax accounting department faces a situation where, on the one hand, the market value of IPs is not determined due to the absence of an active market. On the other hand, it faces the situation when the only alternative approach is to determine the fair value using the income approach according to IFRS rules, the application of which leads to a significant increase in the tax burden enterprises.

The described situation is a “conflict of interest” within an industrial enterprise, which consists in the fact that one does not see a positive side RIA at the moment when it was necessary to start cost capitalization, and, accordingly, costs do not begin to be capitalized on time. As a result others face the need to determine the fair value of an intangible asset and still others must resolve the issue of the increase in the tax burden due to the unplanned recognition of the object of intellectual property in non-operating income at fair value.

However, just as a tax accounting department may search for any way to reduce the fair value of intellectual property to decrease the tax burden, so a financial accounting department may search for a way to increase the fair value by any means in order to form a picture of a more favorable financial position of a company in financial reports. The solution to this problem is to ensure the coordinated work of all departments of an industrial enterprise (departments of research and development, financial accounting and tax accounting).

In order to study and solve the above mentioned problems, the authors propose to turn to IFRS, requirements of national accounting standards and accumulated experience of Russian and international companies.

## Conclusion

Thus, the following trends in the study of the accounting issues of the objects of intellectual property can be determined:

- The direct application of IFRS in Russia provides wider opportunities for the timely recognition and reliable assessment of intellectual property assets as a part of intangible assets;
- The recognition of RIA results in the need to recognize intangible assets and determine its value, which in turn can significantly affect the tax burden of a

company;

- Having different goals, the specialists responsible for the preparation of reports may tend to overestimate the value of intangible assets, while the specialists responsible for calculation and payment of taxes tend to underestimate the value in order to achieve the desired parameters of taxation, thus regulating the tax burden. It is important to understand that the assessment of identified intangible assets at fair value is a mandatory process to provide reliable indicators of financial statements and, in particular, the indicator of net assets;

- The most applicable methods for the evaluation the object of intellectual property are the methods based on the calculation of the present value, implemented in the framework of the income-based approach;

- Among the problems of intangible asset accounting, the problems of the determination of the proper value of intellectual property should be highlighted as well as the determination of the moment of the beginning of capitalization of intangible assets, differentiation of capitalized costs that form the value of intellectual property itself and non-capitalized costs, determination of the relevant useful life and depreciation method, determination of the initial value of IPs for the purposes of financial and tax accounting, etc.

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