
Progress and Innovation through Evaluation Intellectual Property

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Practical assessment of intellectual property is a complex and difficult issue because there are many factors that influence it, and apply the methodologies differ from one country to another, from one continent to another. Therefore, the responsibility of carrying out transactions these intangible assets is maximum, because they have social implications and / or political.

Classical methods of assessment of intellectual property are the same as those used for measuring intangible assets or intangible.

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Method for evaluating a complex asset companies enter the total value, in addition to items such as body size and value of intangible assets.

The accounting records of an enterprise, the intellectual property is included in intangible group assets, along with rights, relationships and other intangible grouped in Class 2 cost of fixed assets¹.

In industrial or commercial environment, can be identified over 100 intangible assets: • **technical competence** (documentation, studies,

¹ FAIGHENOV, M., *Evaluation of intellectual property - the economic and accounting issues*, INVENTION AND ECONOMICS, second year, no. 5 (17), May 1998, p. 11-15

licenses, patents, know-how and other objects of industrial property, copyright, computer programs, libraries, databases, quality assurance systems, qualification of personnel, etc.)²; • **commercial power** (promotion through advertising, for commercial, distribution, etc.); • **managerial competence** (quality, key managers, performance management, etc.); • **reputation** (the reputation of the company); • **site**; • **customers**; • **creditworthiness and solvency** to customers and banks; • **position to administrative and public bodies**.

Practical assessment of intellectual property is a complex and difficult issue because there are many factors that influence it, and apply the methodologies differ from one country to another, from one continent to another. Therefore, the responsibility of carrying out transactions these intangible assets is maximum, because they have social implications and / or political.

In essence, the valuation of intangible assets can be made by:

- evaluating a set of intangible elements as part of the company (Good Will);
- intangible assessment of a single element (or set) separately and independently.

Classical methods of assessment of intellectual property are the same as those used for measuring intangible assets or intangible, i.e. methods based on market comparisons, methods based on income, profits or turnover (cash flow method of the net; rate method fee) cost-based methods (legal analysis, technical analysis, business analysis, social analysis), methods based on the recovery period.

After completing an assessment for intellectual property, objects are advised to undertake a review of the correctness or susceptibility of this operation.

Intangible asset valuation approaches is made with the following groups of evaluation methods:

- future net income capitalization method;
- cost method;
- comparison method of market value;

² FAIGHENOV, M., *Criteria and assessment methods*, INVENTION AND ECONOMICS, second year, no. 6 (18), June 1998, p. 29-33

- other methods.

Evaluation is a complex process that is not confined to groups use evaluation methods. Evaluation should know the basic principles of each method of evaluation and experience of firms specializing in this type of evaluation.

Valuation of intangible assets can be done by considering a set of intangible elements as part of the company or by a single item assessing intangible asset separate from the company.

Intangible elements are numerous and can be identified in the industrial and / or commercial (Table 1) after different characteristics.

Once identified, intangible elements can be classified in various ways.

Table 1: Frequent presentation of intangibles in the assessment activity³

No.	Name of intangible assets	No.	Name of intangible assets	No.	Name of intangible assets
1	Advertising	40	Goodwill	79	Folders with
2	Agreements	41	Government Contracts	80	Awards
3	Airport gates and	42	Government programs	81	Procedure
4	Plant assessments	43	Government records	82	Portfolio
5	Awards and	44	Historical Documents	83	Product design
6	Customer-bank	45	HMO promotion list	84	Use of property
7	Projects	46	Expired insurance policies	85	Outstanding
8	Libraries	47	Insurance policies in force	86	Proprietary
9	Brands	48	Associations	87	Proprietary
10	RTV broadcasting	49	Know-How	88	Proprietary
11	Purchase	50	Laboratory notebooks	89	Patented
12	References	51	Landing rights	90	Publications

³ FAIGHENOV, M., *Criteria and assessment methods*, INVENTION AND ECONOMICS, second year, no. 6 (18), June 1998, p. 29-33

13	Chemical formulas	52	Leased Properties	91	Purchase orders
14	Claims	53	Interest in properties leased	92	Subject to
15	Software	54	Literary works	93	Reputation
16	Computerized	55	Issue bonuses and	94	Retail space
17	Contracts	56	Loan Portfolio	95	License
18	Cooperation	57	Location value	96	Charts and
19	Copyright	58	Contracts Management	97	Equity portfolios
20	Credit information	59	Database manual	98	Things in stakes
21	Contracts with	60	Manuscripts	99	Agreements
22	Lists of customers	61	Promotional and marketing	100	Legal rights
23	Customer relations	62	Masks and molds	101	Shares and bonds
24	Designs	63	Medical charts and files	102	Subscription lists
25	Development Rights	64	Rights to mineral resources	103	Supply contracts
26	Distribution	65	Musical composition	104	Technical and
27	Distribution Rights	66	Natural Resources	05	Technical
28	Drilling Rights	67	Newspaper Archives	106	Technology
29	Facility	68	Non-compete agreements	107	Technology-
30	Employment	69	Arrangements unabated	108	Pure plant
31	Technical	70	Open orders	109	Trade secrets
32	Rights on the	71	Options, warrants, grants,	110	Trained and
33	Patents radio	72	Ore deposits	11	Trademarks
34	Favorable financing	73	Patent applications	112	Training Manuals
35	Favorable leases	74	Patents-both product and	113	Non-proprietary
36	Aroma of food and	75	Models	114	Usage rights to
37	Arrangements by	76	Permits	115	Unfinished
38	Order by Francis	77	Contracts with individuals		
39	Business viability	78	Tenure rights		

Methods of evaluation of intangible assets

- **Net income capitalization method**, consists in determining the **economic net income**. This income may be such **cash flow achievable** during the remaining economic life of the intangible asset, the nature of net **fees** or **net profit**.
- **Cost method**

The method involves determining the cost of production in certain conditions and it estimates the value of the item usable on the principle of substitution, after relations:

$$C_{in} = C_r - (U_{zf} + U_{zteh})$$

where: C_{in} is the new replacement cost, C_r , the cost of reproduction; U_{zf} , functional wear and U_{zteh} , wear technology.

$$V = C_{in} - (D_f + U_{zec}) - U_{ztehr}$$

where: V is the value, D_f , physical deterioration, U_{zec} , economic depreciation, U_{ztehr} , functional and technological wear recoverable.

Replacement cost new established maximum price that a prudent investor will pay for an intangible. If existing intangible is less useful than an ideal replacement, appropriate adjustments will be made regarding:

- Physical damage;
- Wear functional
- Wear (gap) technology;
- Economic depreciation (the external account).

Shortcomings of a recoverable intangible occur when expected profits from their removal than replacement cost (as materials, labor and time).

The cost of reproduction is the cost (at current prices) by establishing a precise duplicate of intangibility that using the same materials, standards, projects and skills.

Replacement cost is the cost to create (at current prices) an intangible that has the same utility as that. It is normal that will be used modern manufacturing methods with modern designs to current standards and current qualifications. The difference between replacement cost and reproduction cost is no bad failures. Examples of intangible assessment of which lend themselves to cost-based methods: software, databases, technical documentation, technical libraries, chemical formulas, recipes, food, etc..

Remaining life is estimated by considering the following: • remaining legal life (until the end of protection); • remainder of contract (to rent, for example.); • Normal duration of some regulations; • life physical remaining

life; • remaining functional life; • the remaining life technology; • remaining economic life (when not generate profits); • analyze mortality similar items.

Because the value obtained to be credible, must consider specific aspects rigorous evaluation. Cost-based method is relatively accurate, but completely ignore the effect of these charges

Method comparable market value

The method consists in comparing the market value (fair market value, exchange value) of intangible assets of the same nature and similar.

The method involves a systematic framework based on analysis of transactions of intangible elements that are considered comparable if: • ability to generate profits; • served market intangible; • past and projected return on investment; • Life used and remaining life predictions; • Time transaction; • degree and foreseeable risk of fatigue (physical, functional, technological and economic); • special conditions of the transaction (special financing, non-competitive agreement, etc.). The method is best but needs a rich data base, current and verifiable, so very difficult to obtain. Meanwhile, most times, more transactions relating to intangible assets which usually accompanies a tangible asset, in this case, a certain intangible price separation becomes extremely difficult.

Depending on certain situations imposed by nature intangible three assessment methods may be used preferentially in Table 2.

Table 2: Relevance evaluation methods

Intangible assets	Primary	Secondary	Low
Patents and technology	Income	Market	Cost
Trademarks	Income	Market	Cost
Copyrights	Income	Market	Cost
Management software	Cost	Market	Income
Software product	Income	Market	Cost
Distribution	Cost	Income	Market
Franchise rights	Income	Market	Cost
Company Procedures and Practices	Cost	Income	Market

In the case of intellectual property objects placed under linear damping, the assessment can be done by a special method taking into

account tax savings, the results from the introduction of depreciation expense.

The value of intellectual property (V) is given by:

$$V = V_p + V_a,$$

where: V_p represents the present value of economic profit from the exploitation of the subject property, V_a , the present value of profits resulting from the tax savings associated with depreciation.

$$V_a = V_a = \frac{V_i}{dr} \cdot s \cdot a_n, \text{ where: } V_i, \text{ represents the full value of}$$

amortizable intellectual property, and business income tax rate, dr , life remaining; a_n , factor current value of a unit; n , the number of years of remaining life.

Assessing the costs and results of research development and innovation

Evaluation CDE projects (including projects of technological innovation) is mainly in the following cases: • merger between two companies; • Temporary association; • equity nature; • sale of a separate project by a potential customer; • determining the intrinsic value of a share; • privatization of enterprises.

If innovative enterprises where a large number of RDI projects, their evaluation is very important.

In most cases the privatized enterprises have not included the cost of privatization value of technological innovation projects and any other objects of intellectual property (asset).

In most cases, they are not recorded in the balance sheet intangible chapter or, if registered, their value was determined by the cost method of production and / or purchase.

Representative value of a project resulting from the CDI is the update / capitalization of future income stream generated by using the CDI project. Assessment and asset accounting default recording a CDI project, should be identified and clear tie between intangible asset (the project includes the concept of RDI) and Good-Will (goodwill).

IAS 38 - Intangible assets (approved by the IASC in September 1938) contains details on terms to be used to define their criteria and conditions, the assessment and recording projects in accounting, intangible category. IAS 38 (paragraph 42) states that "*not recognized any intangible asset arising from research (or research phase of a project created by the business).*"

Research expense (or the research phase of a project internally generated) should be included in costs when costs are incurred

International Accounting Standards IAS 9 (revised 1993) - R & D expenditure and IAS 38 - Intangible Assets, addresses the general concepts and scope of the two concepts, namely "*research / development phase of a project internally generated*".

The concept of research is part of the definition of "*basic research*" and expenditure are recorded in operating expenses.

The concept of development is limited to technological innovation and is the definition of "*application of research results or other knowledge to design and develop projects designed to produce new or substantially improved materials, processes, products, processes, systems or services before the commencement of commercial production or use*".

The scope of development activity include: • designing, building and testing prototypes and experimental models; • design, construction and operation of pilot facilities involved equipping activities; • Design, construction and materials testing for new or upgraded processes, products, systems or services.

There are also activities not falling within the scope of research or development activities within: • scientific and technological information services; • Quality control, routine tests and tests on products; • necessary repairs as a result of disruption occurred during production; • Feasibility studies; • administrative and legal papers relating to patents and licenses; • routine work to improve the quality of a product; • adoption of existing capacity at the customer's practical needs; • routine design tools, appliances, etc. models; • engineering design and execution of construction, the relocation of their equipment to the location redistribution; • developing norms, standards, quality manuals, procedures, technical notebooks etc.

Where, for an individual project for IDUs, it can make a distinction between research and development, IAS - 38 states with the assimilation of all research expenditure and therefore does not allow accounting of project results as assets body, but as operating expenses.

For a development project can be evaluated and its value to be incorporated in the net asset value, with market value of other asset categories, five criteria must be met: the project is strictly individual, economic and technical feasibility of the project to be assured, there is an interest in the use of project results, there is a potential market, availability of financial resources, human or material

Technological engineering project appraisal is made using three classical methods: based assets (or cost) based on income, based on market comparisons.

As evaluation of technological innovation processes is a complex activity, it requires close collaboration between assessors and engineers in implementing the project and/or design engineers who can ensure accuracy and reasonableness in realistic estimate, which help establish a realistic value.

Evaluation of R & D expenditure and innovation (RDI)

Evaluation of R & D spending and innovation (RDI) is only under certain conditions and in two distinct ways:

a) typical French approach

The evaluation is CDI projects before their completion and implementation. The main criteria for assessing the costs of R & D are:

- The payback period for the project and its implementation costs;
- The annual growth rate of turnover by implementing the project;
- Accessibility adaptability to new markets through products or services;
- Reduce costs and increase profit margin.

b) the typical American approach, that the audit costs of CDI.

The essence of this approach is the correct size of expenditure control and RDI, and thus to measure the costs of CDI normal size, normal size so it can be stated in the balance sheet.

With this approach, assessing the costs of R & D is focused on:

- reorientation of core competencies, total investment by reducing the size of the company through the restructuring of laboratories, eliminating duplicate activities are;
- resorting to external CDI, the cooperation and specialization
- CDI apparent productivity improvement through a rigorous selection of projects;
- shorter time to market of new products, integrating R & D in the enterprise process reengineering.

CDI's approach involves assessing the costs through several stages of analysis and measuring various economic effects.

If CDI projects, the valuation method is most relevant discount cash flow, so the update stream of cash flow and net residual value of Π .

Method of assessing the costs of R & D is identical to the specific economic calculations of a feasibility study.

Evaluation results of research development and innovation (RDI) of public funding should be made to include units executing their heritage.

Results of CDI, tangible and intangible, is focused on: forecasts, strategies, studies, designs, standards, regulations, software, technology and physical objects (prototypes, equipment, apparatus, facilities, etc.).

Heritage value of the results of RDI activities as physical objects, to be recorded in the accounts is determined based on the following links:

$$V_i = A_i \times (1-u) \times c,$$

where: V_i is the value on the assets, A_i coefficient updating value taking account of inflation, calculated on the period from the date of receipt of the physical object to his assessment. Update coefficient value will be determined according to data published in the Statistical Bulletin of Prices, published by the National Commission of Statistics, u , the degree of wear, determined on the basis of technical expertise, c , total costs of achieving physical object During development of the research theme.

The degree of physical and moral wear can be determined by the following situations:

- Physical wear and tear strength in the research process (mounting, dismounting, position, demonstration, testing);
- Natural wear caused on account of life fixed capital depreciation rules under the law;
- Obsolescence recorded following the publication of research results, the gap between the time the account was researched and to date has been applied;
- Registered obsolescence due to transfer fully the value of technical and technological information in the research.

Between stock value and book value are more significant differences that vary from one company to another. Thus, a medium sized company, failure to register accounts reached about 40% of its market value and a high-tech firm, over about 50%. In other words, **40-50% of the market value of listed companies, is the amount of unrecorded intangible assets on its balance sheet.**

Intellectual property includes intangible asset class whose property rights are⁴:

- patents, innovations, recipes, processes, projects, models, know-how;

⁴ STAN, V., S., *Methods for evaluation of patents*, INVENTORS AND ECONOMICS, second year, no. 10 October 1998, p. 34-36, 43-45.

- copyright;
- trademarks and product;
- franchise and licensing agreements;
- methods, programs, systems, procedures, companies, exploration studies, studies of forecasts, estimates, customer lists, technical information;
- software;
- other factors such as intellectual.

Evaluation of patents

Exploitation of industrial property right, including patent, is made in different ways, in certain times and in certain geographical areas.

Setting heritage of a company must take into account the number of patents it holds marketable enterprise portfolio.

In this connection should be a selection of tradable certificates inactive (those who were not traded through a license agreement) without chance of recovery.

Surrender the right to use a patent is made by a contract of license. License transactions are classified into two categories: entrepreneurs and licenses granted to third parties licensed to subsidiaries or branches of a company⁵.

Licensing agreements are the main source for obtaining revenue.

Establishment fee rate is several ways:

- method of comparing profitability (MCP)
- hybrid method of comparison with transactions (HMCT)
- profit sharing method (PSM);
- residual method (RM)
- analysis of DCF (Discounted Cash Flow Analysis).

The most important aspect of licensing is royalty payment site. It can be calculated as a percentage, applied to the overall price of output sold. Royalty payment site is regularly at intervals agreed in the license

⁵ RIVETT, K., G., KLINE, D., *Discovering New Value in Intellectual Property*, Harvard Business Review, January / February 2000, p. 54-64

agreement, usually each year⁶.

By law, for a period of time, the patent provides a monopoly inventor⁷. To be sold or exploited, patents must be assessed. Evaluation of a patent is applied to its sale, through a license agreement or to determine the contribution made to the profit and / or capital of a company. Assessment of patent law is a complex issue which is under evaluation methods of intellectual property. To evaluate a patent, first must be accurately identified subject invention, then it must be analyzed in terms of legal, economic, social and technical.

Identifying the object of the invention is required to determine its usefulness. There are patents inactive and without opportunity to be exploited by the holder, including the assignment / license⁸. In these circumstances, the value of those patents is zero. Sometimes, these patents have a negative value, the fees paid annually by the holder protection. There are patents considered active (used in production at the valuation date, but with a real chance of implementation).

Techno-economic analysis of patent involves examining several specific elements of the invention, including those, which contribute to the recovery of the invention. In the appraisal process itself, is an economic analysis to determine profitability and economic risk. Because the degree of relativity you have valuation methods patents, a patent application in practice requires a high-risk investment.

⁶ IANCU, Șt., *Licensing Guide. Guidelines for a contract assignment or license for the transmission rights on inventions*, PHARE Project (restructuring of science and technology in Romania. Module Six: Stimulating demand technology), Bucharest, 1996

⁷ CONSTANTINESCU, P., *Monopoly by patents of invention*, INVENTORS AND ECONOMICS, second year, no. 11 – 12, november - december, 1998, p. 111-112

⁸ STAN, V., S., *Methods for evaluation of patents*, INVENTORS AND ECONOMICS, second year, no. 10, October 22, 1998, p. 34-36, 43-45

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