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## Technology Transfer as Value Ratio Enlargement

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### **Abstract:**

*This article aims at exploitation of intangible property business potential in the Czech Republic. The purpose is to perform a description of increasing part of intellectual property and an approximation of a validation way and failures of conceptual value determination. The paper is focused on value factors of primer assets based on result of quantitative survey, which is embodying the highest appearance in micro, medium and small enterprises segment in the Czech Republic. To meet aim of this article we created simple model based on secondary quantitative research. In this model we compare several appraisals' forms focused on intangible assets.*

### **1. Introduction**

Along challenging process of economic development in emerging markets there are values of enterprises influenced by various factors. A good knowledge of a company value is necessary for the right investment decisions at the age of knowledge economy nowadays. A global market competition requires a detailed familiarity with creation of company values. A considerable distinction of shares of tangible and intangible assets in a property structure of companies has happened during the last decades. The intangible assets often prevails the tangible assets markedly. An ambiguous definition of intangible assets can cause problems with its monitoring and validation.

All valuation approaches, methods and techniques presented here does not merely describe but also interprets in the sense that not only does it incorporate all the elements of the intangible assets measurement models proposed so far, but it also necessarily provides a methodical classification based on their fundamental characteristic.

### **2. Data**

The main methodological problem encountered with the implementation examining in the Czech Republic is a lack of relevant, sufficient and appropriate valuation reports and expert witnesses. The data used in this paper represents expert witness and valuation reports of leading institutes of property valuation in the Czech Republic. Definitely we carried out primary as well as secondary exploratory results for our investigation.

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### **3. Methodology**

Due to little coverage of empirical data approximating issues of technology transfer and intangibles management, explorative research design seemed to be appropriate. Therefore, we have chosen firms fulfilling the conditions submission micro, medium and small enterprises (SME's). Our research started with in-depth expert interviews.

Here, our intention was to get first insights into the practice of intangibles exploitation.

The interview guide covered the following aspects:

- Specifics of intangible assets management
- Variety of using intangible assets
- Evaluation of contribution to intangibles revenues
- Typical problems of appraisal

The findings of this first stage confirmed increasing part of intangibles in value of SME's. Subsequently, the results of these interviews were enriched and eke out quantitative research findings. Obtained data of the informants were compared with appraisal report focused on intangible assets.

Parallel to this, an extensive literature analysis in addicted fields (e.g. valuation theory, International Valuation Standards, royalty rates, basic conceptions of law and property) was accomplished. Obtained information we merged the insights of the empirical explore effort with the results of the literature searching in order to develop some methodology framework of appraisal approaches, methods and techniques.

Every business enterprise comprises three basic elements: monetary assets, tangible assets and intangible assets (Smith and Parr, 2000, p. 55). There are the elements that comprise a business, and it also can be said that their aggregate equals the value of the business enterprise. For valuation purposes are intangible assets define as all the elements of business enterprise that exist in addition to monetary and tangible assets (Smith and Parr, 2000, p.15). They are the elements, after working capital and fixed assets, that makes the business work and often are the primary contributors to earning power of the enterprise. Their value is depends on the presence, or expectation of earnings.

### **4. The Role of Technology Transfer**

Technology transfer is the process of pursuance-applied applications for a results scientific and technical research and development (R & D). This action is systematic time bordered implementation of observations in order to product innovation, manufacturing, work-related service and experimental methods.

Conveniences for enterprises are above all:

- competitive advantages
- solutions of irresolvable questions
- graduate of business pressure inside development processes
- brand new point of view on investigation
- increase in cash assets

From among fundamental possibilities economics exploitations of intellectual property belongs business with legal protected intellectual property – industrial property.

## **5. Value of Intangibles**

A value in economy sense of word is taken as a relation between a particular subject and object assuming reasonable behavior. Four basic category of value become from these basic economic aspects: utility value, value in exchange, present value, price, cost and market.

### **Market value**

Market Value is defined for the purpose of IVS as follows:

Market Value is the estimated amount for which a property should exchange on the date of valuation between a willing buyer and a willing seller in an arm's-length transaction after proper marketing wherein the parties had each acted knowledgeably, prudently, and without compulsion (IVS, 2003).

### **Investment value of worth**

Investment value of worth is defined for the purpose of IVS AS follows:

The value of specific property has for specific use to a specific user and therefore non-market related. This value types focuses on the value that specific property contributes to entity of which it is a part, without regard to the property's highest and best use or the monetary amount that might be released upon its sale (IVS, 2003).

### **Objectified value**

Objectified value called conception of appraisers consists of following levels:

It takes into account generally known facts relevant to the date of the valuation, 2. An indefinite activity of generally known facts regarding the future, 3. Effects of subjective aspects (Marik 2003).

### **Border value**

The basic source is subjective value on the side of a particular seller and on the other side subjective value of a particular buyer vide infra. The border executes following functions: advisory function, decision function, argue function, communication function, tax function. It is not an appraised general price (Georgia-Pacific factors).

## **6. Intangibles extraction of distinguished firms**

Comparison research focused on book value and market business value performed by Arthur Andersen & Co compares 3500 companies along twenty years. In the 1978, the book value achieved 95 % of market value. By contrast, in the 1998 the book value was 28 % market value (Artur Andersen & Co, 1998).

## 6.1. Survey on Intangibles Exploitation by SME's in the Czech Republic

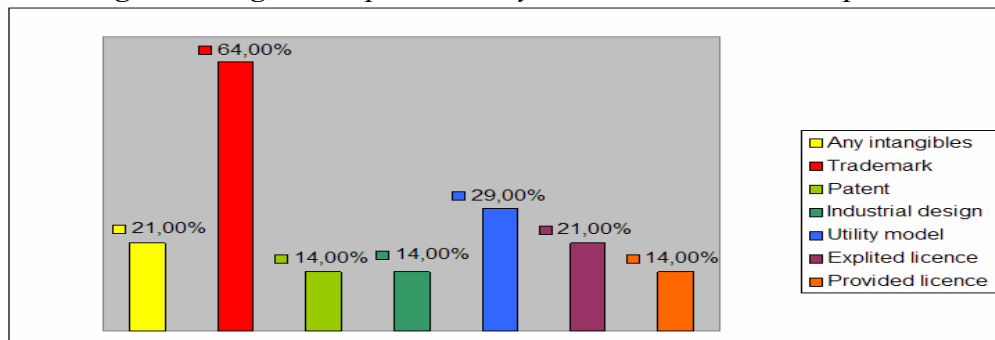
Micro, medium and small enterprises (SME's) were addressed in process of investigation. Contradiction of this topic is in growing ratio of SME's output to GDP, constant employment rate other macroeconomic indexes. SME's have sustained its share of all enterprises. As of 2002, SME's shares of all firms were 80%. As the overall economy has grown, SME's share of employment was 60%. During expansions SME's grows more rapidly than the rest of economy. However, the overall share remains the same throughout the business cycle. Therefore, share of GDP was 52 % and export oscillated at around 37 % of total Czech export. Summary sheet of MSEs exceed 800 000 enterprises in 2002.

To meet conceived of this article is basic survey of assorted Czech firms on the topic of intangible assets. Comparative basis for exploitation activity of intangibles is 100 % of all respondents (see Fig.1). Consequently particular subject own or using more than one of intangibles.

In a 2003 21% of respondents did not use intangible assets in their field of economic activity. On the basis of current data 64% MSEs owns trademark for goods and services. 29% firms using utility models for to develop strategy. Accordingly 14% enterprises protect products by patent and industrial design. 21% of MSEs are the owner of license on specific product and 14% of them provide licenses to others subjects. We verified in 57% cases copyright infringements (Bělohradská, 2004). In the terms of the intangibles exploitation phenomena doe's not unmistakable nexus between brand name, trademark and trade brand.

Respondents carried business in further fields: printing trade, software and hardware, construction works, construction products, consultant firm, food product, chemical products, soft goods, ceramics, publicity, petrochemicals and gas manufacture.

Fig. 1. Intangibles exploitation by SME's in the Czech Republic

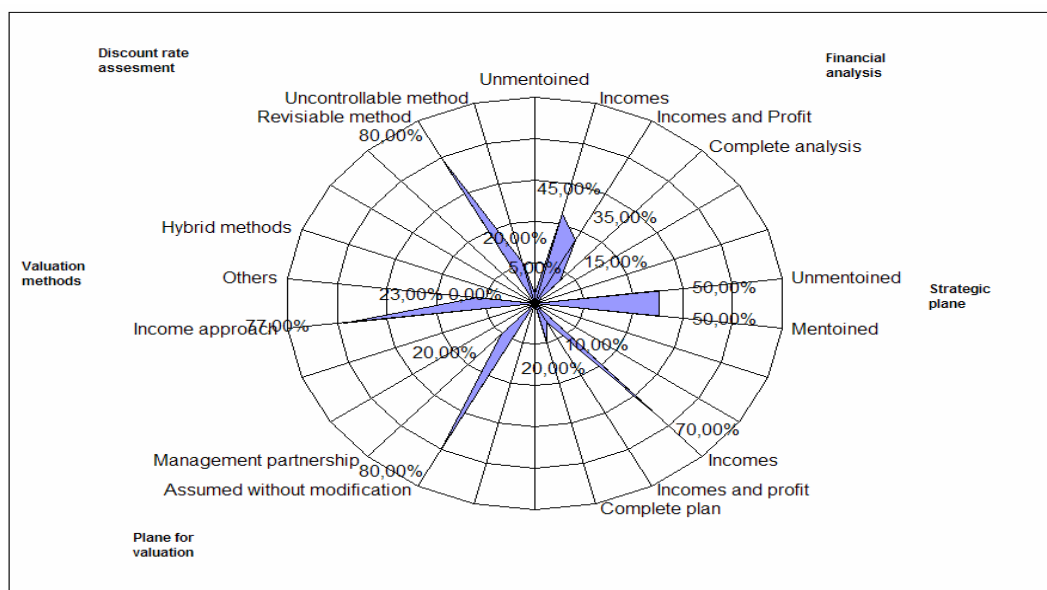


## 7. Surveyor's Report Analysis

Surveyor's report focused on intangibles and price negotiation analysis was performed in this stage. Available data was compared with generally accepted standards contained in IVS 2003 (International Valuation Standards). The analysis of reports helps to distinguish deficiencies in processes of intangible assets valuation. Surveyor's report focused on intangible property formed fundamental background papers.

In this study, we analyzed 30 surveyor's reports. Every segment (Fig. 2) pointed one of rudimental part of expert witness and its failures. Sufficient quality represents IVS 2003 standard. In comparative research, be good for 100 %. Individual fields express percent occurrence of others aspects.

Fig. 2. Surveyor's report analysis



### Financial analysis

In this way, 5 % of all formal appraisal reports focused on the intangible assets and intellectual property does not contain financial analysis. 45 % contain only incomes analysis, 35 % includes income and profit analysis and only 15 % includes completely detailed financial analyses.

### Strategic analysis

Only 50 % of appraisal report includes the most significant part for intangibles – strategic analysis.

### Quantifying financial plan

Financial plan is necessary for estimation present value of future earnings. 70 % of expert witnesses include only plane of future incomes. 10 % included plane of incomes and profit and only 20 % contain completely detailed financial plan.

### Using financial plane for valuation process

Bottom line for results based on income approach is modified financial plan for valuation purposes. 80 % of expert witness assumed financial plan without modification. Thereafter, 20 % of them contain financial plan modified by management partnership.

### Valuation method framework

The most important parts of estimation are methodology questions. 77 % valuation reports are based on income approach, income valuation methods and techniques. 23

% are based on costs and comparative valuation approaches. 0 % using presents alarming level of valuation methodology.

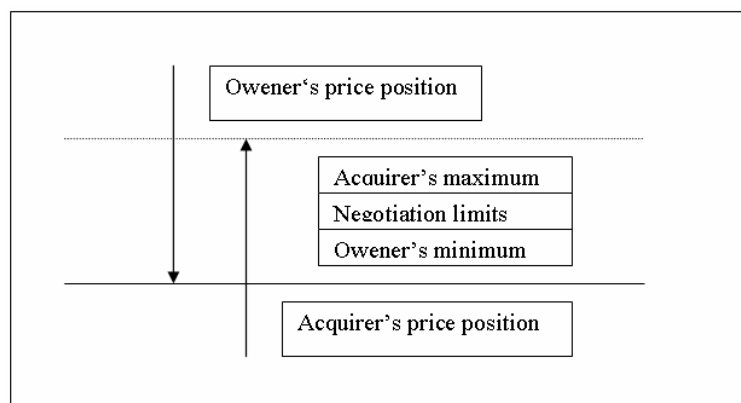
### Discount rate assessment

80 % of all reports contain discount rate determined using objective revisiable method. Only 20 % of all reports included incompletely determined discount rate necessary for valuation.

## 8. Functional Approach in Technology Transfer

Appraisal theory and practice are consistent in opinion that estimated subject does not have any objective value. There is several value categories vide supra. In the case of transfer price negotiation, exists functional approach as relatively new method. Further part aims at principles of functional approach in transfer negotiation practical used for the patent infringement cases by U.S. federal courts. The technical aspects of appraisals and negotiations whereby the borders values as basic elements of the functional approach are at the beginning in the Czech Republic nowadays.

*Fig. 3. Function approach scheme (Neil, 1997)*



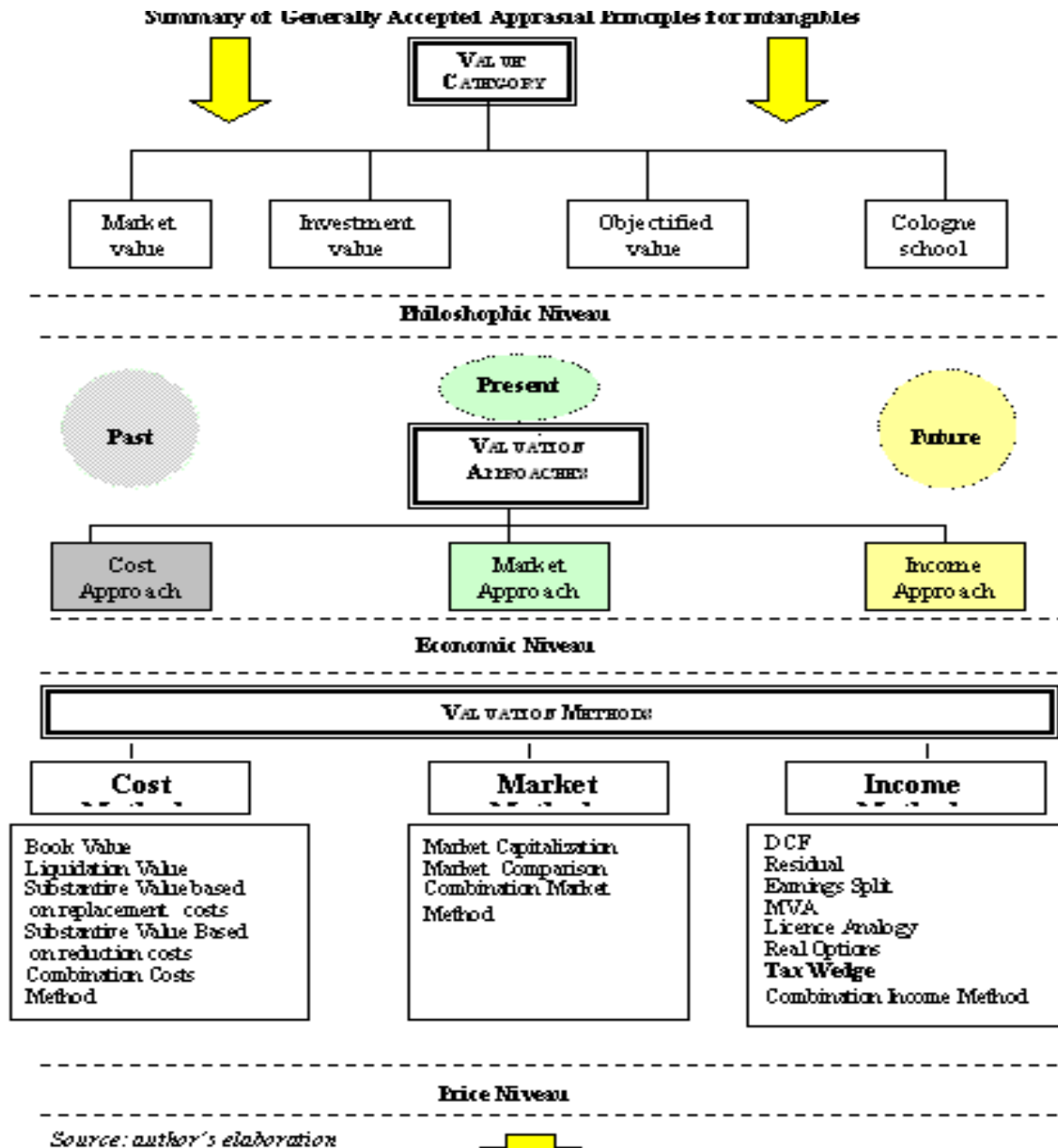
This concept is used in practice in the field of intangibles valuation and transfer price negotiation especially in the USA. A basic characteristic of this approach was founded in 80's. Two typical species of this approach are lost profits method and reasonable royalty used in the patent infringement cases by U.S. federal courts. Factors of reasonable allowances in patent litigation are Georgia-Pacific factors. A rudimental technique for border value calculation is traditional net present value.

## 9. Summary of General Appraisal Principles in Technology Transfer Negotiation

A general appraisal principle describes basic steps in appraisement and price negotiation in technology transfer in three rudimental niveaues. In the case of this paper we describe theoretical solution of fundamental approaches for valuation method. If presented appraisal model is used incorrectly without basic knowledge, the method does not help has therefore been underrated by the public. Using three

niveaux model valuation is being applied more effectively, but opportunity still remains.

Fig. 4: Fundamental Appraisal principles



## 10. Conclusion and Discussion

This paper aims to provide deeper understandings of the technology transfer price negotiations and intangibles exploitation in business performance in the Czech Republic. This examine investigates direction and causality between intangible assets ratio of usefulness (particularly trademarks) and business valuation procedures. Based on data from primary and secondary sources we showed comprehensive disclosure of intangible assets exploitation, verification and valuation in technology

transfer processes in the Czech Republic. A property potential is appraised by a financial equivalent. Valuation is the process of estimating value. Valuation approaches it's a way of estimating value that employs one or more specific valuation methods. Depending on the nature and purpose of the property, three generally valuation approaches may be applied.

Results presented in this given paper are based on four-stage analysis: appraisal reports analysis, SME's analysis, Trademark analyses, Survey of intangibles exploitation by SME's.

In the age of knowledge economics innovations and intellectual property forms majority of enterprise business potential. Right exploitation implicates growth potential hidden in intangibles. Technology transfer and his fair appraisalment create competitive advantages in the field of industrial property exploitation in an enterprises property portfolio. In fine we supply own model for value determination based on three niveaues for scientific discussion.

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