

The licence and patent of Invention Valuating

Hana Scholleova¹

Abstract The successful enterprise development is conditioned on innovations in the areas of products, technologies and production process. Companies in the Czech Republic do innovations, but this activity measured by international indices seems to be very low. The small ratio of patents and licenses appears as a negative factor of Czech economics. One of the reasons why the companies do not make patents is difficult and rather expensive patent procedure. Companies often give reasons for troubles in the area of determining real value of the patents. This may cause the effort for making methodology for such purpose.

Keywords - Innovation. Licence. Patent. Invention Valuating.

I. INTRODUCTION

Research and development (technological innovation, R&D) is the main innovation source. Innovation is more than just idea, it is an implementation, realization of an idea.

If an action is of accidental or one-shot character, we could not talk about the innovation, since the innovation has sustainable character.

Innovation is not a marginal industry dynamism event but on the contrary the central one.

II. INNOVATIONS AND INNOVATIVE BEHAVIOUR

A. Innovations

Innovation is a renewal and an enlargement of products and services spectrum and accompanying markets, a creation of new production methods, a delivery and a distribution, a management changes implementation, work organisation and working conditions and qualification of labour force organisation.

There are many myths, concerning innovations, which are not true. Garry Hammel from London Business School lists these ones as the main:

- Innovations come from great ideas
- Innovations are related to new products creation
- Innovation solution is not learnable but it is a result of creativity
- Innovations are a matter of specialists from research and development section
- Innovations are risky
- Innovations are expensive

- Success of the innovation is proportional to the volume of research and development innovations
- Innovations are the result of concurrence of circumstance

As we already know, innovations can be also of low size, they diffuse through whole entrepreneurial environment, they cannot be related only to R&D sections, although they are risky, they signify better yield, hence an apparent expensiveness could not be assessed separately from revenues. Thus the children and fools are the only one, who can believe in luck and concurrence of circumstance and it is also obvious, that the success from expended means will not grow up by itselfs.

Nevertheless the myths repeat again and again and they are claimed mainly by firms that do not innovate.

B. Innovations impetus

Primary innovative activities come from much impetus; the basic are:

- Requirement of external customers (new markets, segments, market share growth)
- Requirement of stakeholders – relation to surroundings
- Requirement of internal customers – intradepartmental processes
- Requirements of entrepreneurial firm
 - Seller - buyer
 - Market pull – a competition – an endeavour to do good things
 - Technical pull – a productivity, an efficiency – a necessity to do good things (procedural and product innovations and interrelationship)
- Dominant element of the innovation process draws the other... it is usually a product.

C. Innovative activity in Czech Republic

Innovative activity in each country could be evaluated in different ways, the Czech Republic declares these strong and weak points of usage of its innovation potential:

- Strong points
 - Traditional innovation potential
 - Increasing number of small and medium-sized enterprises
 - Government subsidies to small and medium-sized enterprises
 - Intangible industrial rights protection

¹ Hana Scholleova is with the Faculty of Business Administration, Department of Business Economy, University of Economics, Prague, W. Churchillla 4, Czech Republic

Innovation Enterprise Association
Decentralization of public service

• Weaknesses

Very low number of patented applications
Insufficient creativity and enterprise education
Little volume of start-up financing
Insufficient application research
Bad connection of research and entrepreneurial sphere

Innovation activity can be measured (fig. 1) by the SII is shown on the vertical axis. Relative to EU growth performance of the SII is shown on the horizontal axis.

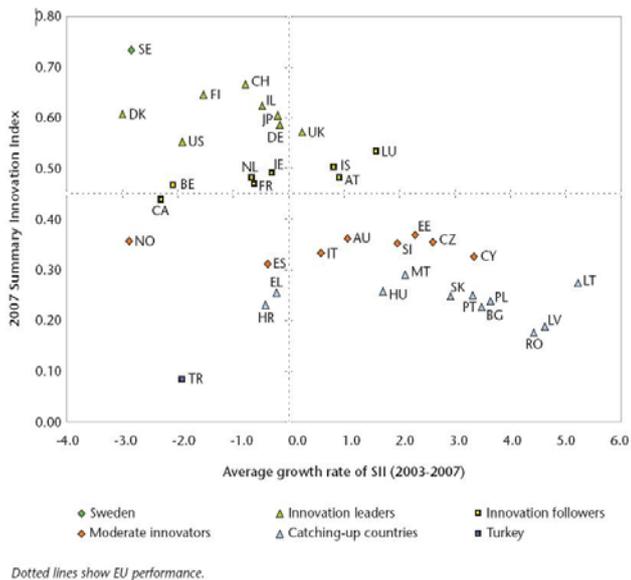


Fig. 1: Convergence in innovation performance – EU countries

This creates four quadrants: countries above both the average EU trend and the average EU SII are forging ahead from the EU, countries below the average SII but with an above average trend performance are catching up, countries with a below average SII and a below average trend are falling behind, and countries with an above average SII and a below average trend maintain their lead but are growing at a slower rate.

We will, therefore, focus on the weakness of the Czech Republic.

D. Patent protection

What are the causes of low number of patented applications?

There are the most frequent mentioned reasons:

- Lack of quality research results suitable for patenting.
- Low consciousness of researches and whole institutions and their management about the purpose of intellectual property protection.
- Lack of knowledge of research institutions and companies about patent protection and low capacity of specialized sections particularly in small and medium-sized enterprises.

- Lack of specialists in searching and assessing commercial potential of R&D results and specialists in assessing new technologies.
- Poor manager knowledge and capabilities of managers in academic institutions causing ineffective intellectual property economy (e.g. decision on allocation or unallocation of funds for patent application and maintenance, dealing about licence contract etc.).
- Financial demandingness of patent procedure and high maintenance costs of the patent, mainly at foreign patent office.
- Absence of Community Patent, which could and should significantly better productivity of intellectual property protection procedure in EU.

There is, however, one huge problem, which permeates through all reasons as a guideline. That problem is low connection between basic research and research in general, barriers of its commercialization. Besides mental barriers in research and development subjects („it is our invention and we will not sell it to anybody“) and barriers of managers („it is expensive and who knows, what the result will be“), there are many bureaucratic barriers also.

There are many small companies in the Czech Republic, which innovate and develop products at the level of world patents, but it is simpler for these firms to produce without patent protection and risk stealing the idea than passing the patent process, which is highly demanding for the administrative and financial area and which is extremely time-consuming. They would risk especially in so-called „quick business“ the fact, that the product would obsolesce before its patenting.

According to the total innovation index, which is calculated from four basic groups of indicators (human resources, knowledge creation, transfer and usage of knowledge and innovations – financing, outputs and markets) uniformly in all EU countries, the Czech Republic is one of the countries going badly. If we scrutinize particular groups of indicators, we can find out, that the key reason causing this fact are poor conditions in knowledge creation area which is measured in four of the six features by means of number of applied patents in various fields.

The patent owner has to bear the expenses concerning not only the patenting but also the maintenance of patent. That is the reason why the owner patents only if he intends to trade with the patent, thus only if there are potential acquirers (or the group of acquirers), who are willing to pay fees under licence contract for saving research and development costs. Moreover, for these firms it is easier to reach certain market with their product then.

Licence transactions is not a simple process, finally there is an encounter of demand and supply and fixing the prices. Before the final realization there are negotiations effected by various view of parties concerned on the value of invention.

E. Methods of invention value assessment

If there should be a price compromise between the owner and the interested person, it is necessary that both of them had at least approximately determined their price position, it means:

- The owner would set the minimum price he is willing to start the price negotiation with,
- The interested person would set the maximum price willing to pay.

When we want to financially evaluate an invention (or any tangible or intangible property in fact) we can use three ways of valuation. Each of them defines value otherwise, thus asks different questions (see tab. 1.)

TABLE 1
INVENTION VALUATION APPROACHES

Question	Valuation approach
How much funds will be expended?	Cost approach
How much net incomes it will bring in?	Discounted cash flows
How much does it cost to buy/sell similar invention?	Comparative approach

These approaches can be framed on the basis of questions above mentioned, also due to the fact, that they inquire factors of invention valuation and the questions concerning costs as well as revenues and comparison.

Cost methods are based on the idea, that the value of valuated intangible asset is dependent on the level of costs needed to its creation. We distinguish two basic cost methods according to possibility of finding out costs:

- Method based on transformation of historical costs.
- Method based on reproduction price.

Knowledge of historical costs and their conversion in actual values by means of an inflation coefficient (which can be found in statistic yearbooks) is the principle of the first method. This method should take into account a gradual technical solution obsolescence over time, it means value loss and the fact, that total costs of R&D concerns not only the valuated technical solution, because there are always unsuccessful options as well. Method based on reproduction price stems from estimation of acquisition costs of similar good at present, so it is usable in cases, when no real data are available.

Revenue methods take into account an economic yield, a lifetime of realized advantage and a risk extension concerning intangible asset. They are generally thought to be optimal. Law No. 151/1997 about property evaluation and property rights evaluation resulting from intangible industrial rights, labelling rights and others recommends using these methods.

Sum of revenue methods can be classified into options based on:

- Licence analogy

- Increase in the revenues or profit rate
- Assumed yield (profit) loss
- Residual revenue methods

Future licence fee costing is suitable for the future economic potential of patent rights assessment by virtue of future licence fee adjustment (derived from future revenues) by the technical, legal and commercial joint venture factor.

Discounted cash flow method– DCF belongs to methods based on increase in the revenues. DCF is based upon future income increase (or future expenditure savings) concerning evaluated subject. It is necessary to discount these cash flows because of the money value change over time.

Assumed yield (profit) loss is suffered by the owner of the intangible asset usage right in the situation, when the expiration of rights occurs for some reason. When we reckon this loss we are able to assume the profit from the existence of right. This revenue method is used for trade mark evaluation.

Residual revenue method is used if it is necessary to evaluate all intangible assets. The procedure is quite simple. We reach the result by costing the difference between total yield from entrepreneurship and tangible property yield.

Comparative methods stem from comparison of valuated asset and similar assets that are marketable and analyze these business transaction. Fundamental conditions are:

- The existence of market, where similar goods are marketable,
- The existence of sufficient number of the realized transactions with these goods,
- The existence of detailed information about these transactions.

F. Value as a real option

The owner of a licence has the right but not the obligation to use the licence and by virtue of it produce output which can yield a profit. The owner is not obligated to use the licence if the licence proves inexpedient.

It is obvious, that classical yield approach does not include neither the right to abandonment of a licence, which was defined above, nor the possibility of licence using (when the situation on the market is favourable) for more extensive production and thereby gain greater yield than it was originally anticipated.

Real option is an analogy to financial option, with one substantial difference. Not the financial assets but the real, corporate assets in this case intangible property represented by the licence, serve as an underlying asset.

Real corporate rights can be valuated by methodology which is analogical to financial option valuation and there is no problem, in the case we know real option parameters, to calculate the value.

Licence value is not a denial of traditional methods, it is just their expansion.

Since the option technology is the „superstructure“ of a yield approach, it is evident that basically all the dubiousnesses concerning the yield approach application to invention transfer to the option technology, though these

problems take a quite different form there. Especially there is one arising question: how to manage with a calculation of such an original asset as an invention.

Specific questions, related directly to option technology application, are:

- It is necessary to define carefully, which options are included in invention and what is the situation like.
- The question of option procedure demandingness.

General problem, concerning inventions as well, is computer demandingness of the option technology. This idea is exaggerated and nowadays it is more a prejudice and myth than real demandingness.

On the graph on Figure 2 we can see the way how negotiation about price proceeds.

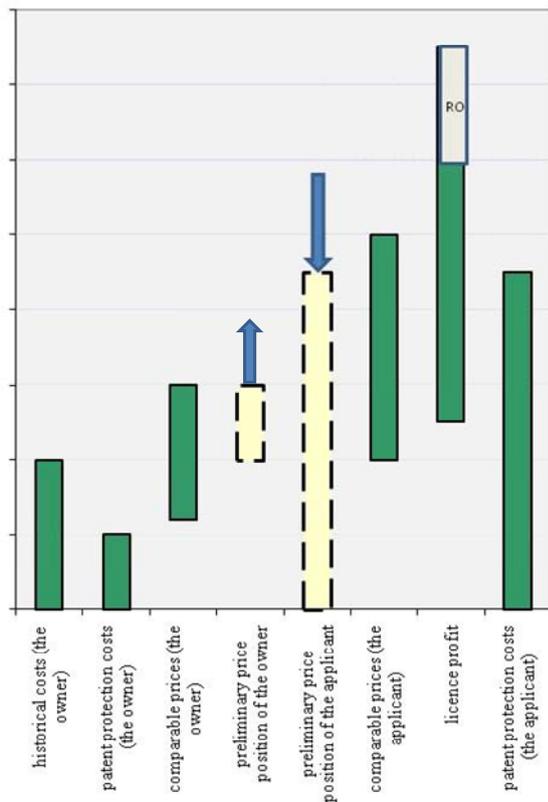


Fig. 2: Pricing – owner and applicant position

IV. CONCLUSION

For determination of the licence value we can use real option methodology, which creates more accurate idea about the licence value and enables better usage of bargaining area between the owner and the acquirer. Thus it is possible to enhance a volume of successfully traded licences in the market and support companies to patent their intellectual property. Generally the innovation atmosphere could be better, but its substance and sense is more extensive.

REFERENCES

- [1] Scholleova, H.(2007), Flexibility Value. C. H. Beck, Prague, Czech republic, 2007. ISBN 978-80-7179-735-7.
- [2] Kislíngeroava, E.: Innovation of tools of organizations economics and management. C. H. Beck, Prague, Czech Republic, 2008. ISBN 978-80-7179-882-8.
- [3] Svačina, Kubiček: The industrial rights, licence, valuation. Technologicke centrum AV CR, Czech Republic, 2006. ISBN 80-86794-19-9.
- [4] National Innovationn Strategy, material from Czech government, 2004.
- [5] The Lisbon Review, an assesment of policies and reforms in Europe, 2004.
- [6] European Innovation Scoreboard 2007, Luxembourg, Office for official Publications of the European Communities, 2008. ISBN 978-92-79-07319-9.
- [7] www.mpo.cz
- [8] www.businessinfo.cz
- [9] www.weforum.org
- [10] www.proinno-europe.eu
- [11] www.eurostat.com