

## **Valuation of Intellectual Property Assets**

### **The Influence of Innovation Activities on Enterprises**

Financial results obtained from innovations are a direct indication of the success of a business. However, in recent years, financial indicators and corporate balance sheets have begun to be supplemented by the concepts of intellectual assets and intellectual capital, and even personnel balance sheets. Intellectual capital is part of an enterprise's intangible assets. Its quantum may be estimated as the difference between the enterprise's market value or acquisition price and its book value.

A key component of the intellectual capital is the so-called organisational capital. Among others, it includes:

- Intellectual property rights, such as patents and trademarks
- Corporate culture
- Trade secrets
- Information systems

Intellectual capital also includes human assets, such as know-how, teamwork skills and values. Intellectual capital may be measured using indices such as:

- The ability to introduce new research results or products from them
- Number and quality of patents and other IPR
- Number and quality of academic results
- Value added per person
- Quantity and quality of contacts and networks

The intellectual capital of an enterprise and the different types of intellectual property rights often combine to add value to the product at the commercialisation phase. Industrial products are often protected by multiple patents and have a registered trademark. In addition, the product may incorporate design characteristics, know-how that cannot be legally protected, trade secrets, and the like. All of these add value. These factors may be classified on technical, commercial and other bases. Among other things, the technical classification includes patents, new product technologies and manufacturing methods, research results, evaluation skills and testing. Commercial classification includes the enterprise's name and trademarks, copyrights, as well as marketing strategies and advertising know-how. Other factors include, among others, management know-how, information technology, databases, training, customer relations, networks, quality assurance, pricing skills, and security procedures.

Intellectual capital and its subset, intellectual property rights, often form the basis for corporate development, growth and international expansion. This applies to all intellectual property rights, but especially to patents and trademarks. A strong patent and a good trademark play a central role in

both domestic and international trade. Trading of intellectual property rights has grown strongly worldwide and income flows received from licensed technology, trademarks and computer programs add impressively to companies' bottom lines and market values.

Additionally, with strong intellectual capital, the company can continuously produce new ideas and can be at the forefront of new innovative products.

### **Evaluation Criteria for Inventions**

The success of an innovation may result from

- Technical advantages and/or
- Commercial advantages.

These advantages may result from

- Novelty and inventiveness
- Level of technology and technical features
- Operational characteristics
- Markets and business potential.

Competitive advantages can also be attained, if the innovative product is hard to

- Build
- Buy
- Copy
- Substitute

A good idea, invention or innovation and related products may be recognized in advance by the following earmarks, which usually are the main evaluation criteria of an invention to be developed and eventually financed.

- The product is market driven; it is in demand.
- The product is inventive, novel, and patentable.
- The product is significant to the business and to employment.
- The product is functional, capable of being produced and economical.
- The product has a suitable level of technology.
- The product can be launched quickly.
- There is personal or organizational commitment behind the development project and the product.
- Investors are interested in the venture, its management and quality.

One part in the evaluation is related to IPR. Good help in the evaluation comes from the patent databases, which are a vast source of information for inventors and businesses. It is possible to find the latest technology in their fields and also information not to infringe on competitors' patents. Some of the patent information is not free of charge. Aside from databases available in most Patent offices, a considerable amount of patent information is available on the Internet.

A business plan should be made already in an early phase and it must be updated during the development of the project. It is good to remember that the quality of inventions is essential, when considering the success possibilities and potential of inventions. The financiers often assess in the first phase the invention's characteristics and the inventor's personal chances of turning an idea into a product for the market. The way in which the idea is presented is also very important. In the second phase the quality factors of the innovative company and its management have the priority in evaluation and after these comes the invention and the product. Only well evaluated and potential success inventions will get more public or private funding or investments later on.

### **Various Perspectives on Value of IPR**

The main objective with any invention after patenting is to develop it into a marketable product and an economic success. Computing the value of an invention, and the related patent, is very difficult, especially in advance of marketing, although there are several methods for the calculations or estimates. A patent alone only produces expenses, as does developing an invention into a marketable product. The value of an invention and the attendant technical and commercial risks change greatly as product development and commercialization progress. This value frequently goes up, but only a fraction of inventions made in the world turn out to be breakthrough innovations. In many cases, the inventor's expectations for the success of his or her invention come crashing down if a patent is not granted, the product does not function as expected, costs get too high, the product does not sell, or a competitor enters the market with a better new product.

The value of intellectual property rights varies when viewed from different perspectives. These include:

- The inventor's perspective
- The inventing enterprise's perspective
- Licensee's perspective
- Social and perhaps global economic perspectives.

Some objectives related to the value of an invention or intellectual property rights and their exploitation are convergent, while others diverge. These objectives may be

- Economic in nature, such as financial gain, growth, profitability, stability and other rewards
- Social in nature, such as social esteem, prestige, power, respect, reputation, international expansion and social welfare.
- For the society such as economic activity, entrepreneurship, employment, tax revenue, international competitiveness and general public welfare.

Evaluation of the commercial potential of an invention entails several parts and stages, such as:

- Marketability, market potential and competitiveness.
- Novelty, inventiveness, patentability.
- Level of technology involved.
- Manufacturing viability.
- Operational issues.
- Business potential and environment.

The following presentation focuses on some methods for calculating the value of intellectual property rights, assuming that the above evaluations have been favourable.

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The need for computing the value of an invention or a patent typically arises in the context of commercialisation of an invention, especially through licensing. This valuation is also needed, for example, to arrive at a purchase price for a corporation. Intellectual property rights may also be used as collateral for a loan or as consideration for equity in a company. Valuation also becomes necessary if the inventing employee is to be compensated for the invention, or in legal disputes and bankruptcies.

The commercial value of an invention should be calculated several times during the product development process as inputs needed for the computation become clearer. The commercial value of a patent alone is often limited, but its commercial significance is amplified by product development, the product itself, and the intellectual investment of people behind the project, as well as corporate financial investment.

The emphasis of product development and investment analyses and business plans is not on the value of the patent itself but rather on the operating, financial and scheduling plans for the development project and on preparing for future business. Thus, the invention and patent, in a manner of speaking, open the door for new business activity.

The economic value and pricing of intellectual property rights can be arrived at and computed on many different bases. Some of the methods used include:

1. Cost Approach, which determines sunk and expected patenting and product development expenses and adds the desired profit.
2. Return on Investment Approach, which utilizes a required rate of return in evaluating existing or planned investments. More and more companies consider research, patent and product development expenses to be investments and expect them to produce a return consistent with corporate strategy over a reasonable period of time.
3. Substitute Product Approach, which compares the new product to an existing substitute or product to be replaced by the new product.
4. Various Market Based Approaches, which employ, for instance, market research methods to determine the competitive environment, pricing and likely demand for the product and thereby help define limits for patent, development, production and marketing costs or for pricing.
5. Bidding and Auction Approaches, which are designed to elicit the highest possible price.

Aside from manufacturing a product in-house, an enterprise may derive additional benefits from licensing the product abroad, sublicensing or barter. Good products also add possibilities to company's image and trademarks. In any case, even when computations are performed only after the development process, total product revenues should exceed total investments and expenses for the venture to be an economic success.

However, computations are only one tool for corporate management when it makes strategic decisions. These decisions also need to be supported by the answers to three practical questions:

1. Does the new, patentable invention, trademark or computer program differ from the company's current products or services in a manner that warrants investment and will it contribute incremental sales and profits?
2. Could someone else use the idea and be willing to pay for it, for instance through a licensing arrangement?
3. Who are the customers who are prepared to pay for this innovative product and through what chain of distribution can they be reached?

If sufficient facts are unearthed during the analysis and evaluation phase, making up or down judgements about the product is easy. Frequently, however, many uncertainties permeate valuation and exploitation analyses in the early stages of product development. Decisions to develop products, therefore, contain technical and economic risks. Minimizing these risks is an essential part of development and commercialisation.

### **Beneficiaries from Innovation Activities**

Different groups or parties can benefit from the innovation. These include the following:

1. A private inventor or researcher, if he starts a successful business or concludes a good license agreement. However, in many cases, the development costs of an invention are in reality higher than the revenues received.
2. An employee inventor in an enterprise or in a corporation gets usually a flat fee for a patented invention plus possibly a bonus for a successful innovation based on the sales of the product. In addition, he normally has his basic salary.
3. The corporation and its shareholders benefit from new innovative products based on the sales and also often benefit when the share prices of the corporation rise.
4. Other companies who co-operate with inventors or with the innovative corporation. These include, for instance, patent agents, lawyers, bookkeepers, companies in communications or transportation and other manufacturing companies which use the innovative product, and / or also wholesale and retail sellers.
5. Government and municipalities who receive tax revenues from inventors and innovative corporations and also receive fees, for instance, from patenting or customs.
6. Consumers, who receive direct or indirect profit or are otherwise happy with the new innovations, such as mobile phones or medicines.

## **Experiences of Innovation Activities**

The experiences of advisory and support services for inventors from many countries have been positive: these services include the exploitation of intellectual property rights and the provision of funding for the first stages of the invention process, i.e. the initial evaluation costs, patenting and product development, and further on, promoting the possibilities for commercialization. In many countries these services have been brought close to the customer. The role of the regional network and its function is to screen the ideas with the best potential from the large number of proposals submitted and to assist in developing these into significant innovations. Often the innovation activities have increased in all of the three main groups of innovators: in business enterprises, in universities and among private persons.

The positive activities and atmosphere towards innovations and entrepreneurship have had many important influences such as

- Children and students in universities are more interested in sciences and mathematics
- Universities and companies are active with their innovation and patenting strategies and policies
- The government has valid technology and innovation policy
- Innovative companies allocate more human efforts and financial resources to research and development activities
- Amounts of patent applications, new products and innovative enterprises have grown
- Many innovative companies seem to be more profitable than others
- With success of innovative companies, different interest groups get profit or revenues, like taxes to government and municipalities, dividends to shareholders, business opportunities to subcontractors and service companies, more employment and good products to customers
- New technologies support a renewing society.

## **Conclusions**

Finally, perhaps the most significant competitive tool now is timing: you have to hit the market at the right time and with the right products. Due to advanced communications services and extensive international cooperation, gathering and effectively utilizing information is more important now than ever before.