

ROLE OF THE INTELLECTUAL PROPERTY SYSTEM IN DEVELOPMENT AND MARKETING OF NEW PRODUCTS

Guriqbal Singh Jaiya
Deputy Director, Small and Medium-Sized Enterprises Division
World Intellectual Property Organization
Geneva, Switzerland

Introduction

1. For most enterprises, big or small, a core concern is how to remain ahead of their competitors. They may do so by introducing a radically new product¹, but that is a rarity. Often all it takes is to make a small improvement to the quality of existing products as compared with those of the competitors. The next challenge is to successfully manage the production, distribution and marketing so as to maintain consistent quality while mass producing it for its timely availability to customers in the marketplace. Another challenge to be met is in communicating the message of consistent high quality to the consumers or users for that alone would enable the enterprise to develop long-term customer loyalty. To make new or improved products, maintain consistent quality and communicate effectively with the consumers, forward-looking enterprises invariably rely on new and/or original knowledge. Such useful knowledge is created in-house by its own employees or obtained from others, sometimes free but generally on payment of a fee, or by entering into various types of contractual business relationships such as outsourcing, sub-contracting, licensing, partnerships, collaborations, joint ventures and strategic alliances.

2. This new or original knowledge was considered for a long time as an ‘icing on the cake’. In the present times, for an ever increasing number of knowledge-intensive industries, such as those in the information and communication technology, biotechnology, robotics, nanotechnology, microelectronics, software, new materials, the ‘icing has replaced the cake’. In other words, knowledge assets of a high-tech enterprise often represent over 90 % of its market capitalization. Even in the ‘brick and mortar’ or traditional sectors of industry and business the knowledge content is increasingly providing the competitive edge. This is also reflected in a growing proportion of their market capitalization, often beyond the 50% mark, having been derived from their intangible assets or intellectual capital.

3. The intellectual capital of a company is often divided into four categories: 1) human capital, 2) customer (relational) capital, 3) intellectual property, and 4) infrastructure assets². These are not watertight compartments. In this presentation the focus is on intellectual property assets which are protected by the modern system of intellectual property rights (IPRs). In fact, the IPRs system helps an owner of useful new or original knowledge to define, identify, record, measure or value, and manage successfully such knowledge assets for business purposes. But for the legal edifice of the modern system of intellectual property rights (IPRs) such a knowledge or intangible asset would not have the basic characteristics of

¹ Any product has a component of goods and a component of services. So, any product can be positioned on the goods/services continuum. Goods may refer to a component/part, sub-assembly, final item or machine.

² ‘Infrastructure assets’ refer to management philosophy, corporate culture, management processes, information systems, networking systems, financial relations and the like.

property which enable its owner to use it as a resource in production, distribution, and marketing; insure it for various purposes; and increasingly use it to raise finance for business purposes from banks, venture capitalists, etc.

Outline of the Legal System for Protecting Intellectual Property Assets

4. The term IPRs refers to legal rights available in relation to such innovative or creative output of the human mind provided the necessary legal conditions or requirements are fulfilled. Once created/published, granted or registered, as the case may be, these rights are generally limited to the national boundary of the country or region concerned. The main types of intellectual property rights are:

- Utility Models and Patents (for inventions);
- Trademarks;
- Industrial Designs;
- Geographical Indications;
- Valuable Undisclosed Information or Trade Secrets; and
- Copyright and Related or Neighboring Rights.

5. In addition, there are other categories of IPRs such as layout designs or topographies of integrated circuits, breeder's rights for new varieties of plants and rights concerning non-original databases.

6. Most of these legal rights are codified in specific provisions of the national legislation concerned. Further, in most countries the acquisition of some of these IPRs requires an application to be filed, in the prescribed manner, before an office set up by the national government which registers or grants the respective right. In the Republic of Croatia the relevant office is the State Intellectual Property Office (SIPO), which has a useful web site in Croatian at <http://www.dziv.hr/>. For a worldwide overview of the intellectual property system visit the web site of the World Intellectual Property Organization at <http://www.wipo.int>.

7. In its session held on June 30, 1999, the Croatian Parliament enacted or modified six laws in the field of intellectual property, which were published in the official gazette No. 78, of July 23, 1999 of the Republic of Croatia. These were the laws on patents, trademarks, industrial designs, geographical indications of products and services, layout designs of integrated circuits, and copyright.

Role of Intellectual Property Assets in Strategic Business Management

8. In today's knowledge-driven business environment the competitive edge of successful industries or businesses, big or small, is increasingly based on strategic business management of their intangible and intellectual assets. To remain ahead of competitors, an enterprise has to create in-house or buy new intangible and intellectual assets to successfully launch market-driven new products and prevent free riding on its success by unscrupulous competitors. The demand for a new or better product is driven by actual or potential customer needs, response of competitors, quality pressures, and investor or shareholder expectations. A new product may target an old market, which requires new product development, or a new market, which may require product diversification through transformation or adaptation of the existing product to the needs of the new market.

9. By using the IPRs system, each of the following six key elements for success of a new product in the marketplace should be leveraged to build market exclusivity, business partnerships, strategic relationships and customer loyalty:

- (1) The new product solves a problem or performs a function in a new or better manner than competing or substitute products.
- (2) The perceived value of the new product by the customer supports the retail-selling price.
- (3) The new product is mass-produced/replicated, delivered, maintained and serviced in a cost efficient and environment-friendly manner. This may involve in-house automation, including Computer Aided Design (CAD) and Computer Aided Manufacturing (CAM), and e-collaboration in design, manufacturing, delivery, maintenance, after sales service and/or repairs.
- (4) Appropriate and attractive packaging and labeling designs are developed.
- (5) The new product is properly branded and positioned. Further, it receives adequate promotional and advertising support.
- (6) The new product is readily available to customers. This may require addressing issues of maintenance, after-sales service, repairs and ready availability of components and spare parts, if any, that may be needed.

10. A new product may be launched by the inventor who conceived it or by an entrepreneur. In either case the new product would be finally introduced into the market by an enterprise or through the collaboration, partnership or strategic alliance of enterprises where each enterprise in the network adds value at one or more points between the initial conception of a new product idea and its evolution through various stages to the final delivery of a new product to the user or consumer. This value addition at every step of the evolution of an idea or concept till its final delivery to a user or customer is essentially the result of new or original creative or innovative intangible or intellectual assets provided by the participants in the value chain. These participants include investors, R&D centers, design firms, prototype or technology testing and evaluation centers, suppliers of raw materials and parts, distributors (wholesalers, dealers, and retailers), advisors and consultants, and of course the final users or consumers who provide valuable feedback.

11. Converting an original or new idea, concept or design to a desired product available in the marketplace requires a) time, b) funds (own or borrowed), c) creative and innovative effort (own, of employees and of external collaborators, partners, advisors and consultants), d) persistence and e) focused management of the entire process from idea to market.

Life Cycle of a New Product

12. In the life cycle of a product it passes through a number of stages. After an initial screening exercise the idea or concept is translated into a design or blueprint. Thereafter, further laboratory work may be required to refine the concept or design, keeping in mind the product definition in terms of what the new product must do for the customer, how it would be sold, at what price, with what performance parameters, quality requirements and timing. On this basis a set of technical product specifications are finalized in objective and measurable terms; next, the project milestones are fixed and the resources required for timely delivery deployed. Thereafter, a prototype of the product is developed and compared with the product specifications; this may be done in-house or with the help of an outside agency.

Next, the technical and commercial feasibility of the product is determined with the view to clearly understand the competitive advantages that might accrue to the enterprise by developing and introducing the new product in the market. Sometimes, timely introduction of a new product in the market may require an enterprise to license or cross-license patented technology and associated know how from other enterprises, universities, research and development centers, etc. These entities may be domestic or foreign. The technical and commercial information contained in patent documents is a very useful source for identifying such sources of patented technology and associated know how.

Sources of Competitive Advantage of a New Product

13. Another way of presenting the six points in paragraph 9 is to list, as follows, the key factors that may provide competitive advantage to a new product:

- Profitability: Manufacturing costs versus proposed retail price;
- Availability and suppliers of raw materials and other inputs;
- Potential size of market (domestic, international); market research;
- Function; competing products/substitutes; competitor response;
- Modularity (reuse of components);
- Engineering and production assessment: fit with existing equipment or new manufacturing technology or processes needed;
- Distribution channel; existing or new;
- Ease of use;
- Ease of repair;
- Ease of recycling (environmental concerns);
- Compliance with safety regulations and other standards;
- Appearance (visual appeal) of the product;
- Durability and reliability; etc.

One or a combination of intellectual property rights (IPRs) invariably plays a crucial role in safeguarding the above-named sources of competitive advantage.

Partnerships

14. A major decision to be taken while launching a new product is as to whether the inventor, entrepreneur, or enterprise should work alone or in partnership with others. The partnership may be in idea generation, designing, research and development, prototyping, actual commercial production, distribution, and/or marketing. Various forms of partnerships include outsourcing, sub-contracting, licensing, franchising, joint development, strategic alliances, etc. Intellectual property rights play a key role in determining the nature of collaboration and sharing of ultimate profits in all types of partnerships as knowledge creation and sharing is the primary reason for the partnerships. Of course, in some cases the inventor, entrepreneur, or enterprise may wish to sell the idea at some stage, during its evolution and development from an idea into a new product, to someone else. To do this sale or assignment one or intellectual property rights will have to be partially or fully transferred.

Production Phase

15. In the production phase, there may be improvements to the production process, which are protected as trade secrets. Some improvements may qualify for a process patent. This requires timely filing of a patent application with SIPO in the form prescribed under the Croatian Patent Law. If the incremental or breakthrough innovations embodied in the final product satisfy the requirements of patentability then one or more product patent applications would have to be filled at the appropriate time.

16. Generally, patents protect ideas or concepts that can be practically implemented. For example, patents can protect mechanical, electrical, electronic, chemical, agricultural and biotechnological processes and products (including microorganisms), and in some countries may extend to computer software and other living organisms such as plants and animals.

A company should note that many inventions arising in the workplace are either overlooked or pursued independently by the employee-inventor. An adequate IP policy and review process with an IP consultant, patent agent or attorney can prevent a company's valuable technology from being wasted. The web site of the State Intellectual Property Office (SIPO) of the Republic of Croatia also has an alphabetical list of patent agents registered by SIPO.

17. Depending on the expected length of the life cycle of a new product and other strategic business considerations an enterprise has to decide whether a patentable innovation has to be patented or kept as a trade secret.

Commercialization and Marketing of a New Product

18. For commercializing and marketing a new product, a marketing strategy is developed and implemented, based on the unique selling proposition of the new product so as to establish its unique identity, positive reputation/image and brand which distinguishes the new product from other competing or substitute products made by the same or other enterprises.

19. The marketing strategy may be implemented with or without the assistance of an outside agency or consultant. Even when done in-house some assistance of outside consultants may be needed, for e.g., in development of appropriately targeted advertising material with an appropriate brand name/trademark which may be advertised in various media including on the web site of the enterprise. The marketing strategy will determine whether the product will be launched only in the Croatian market and abroad simultaneously or soon thereafter. In either situation the timely creation and registration of a new brand name or trademark is a prerequisite for preventing conflicts with identical or deceptively similar trademarks in the Croatian or export markets. If a new product has a distinctive visual appearance, which is new or original, then a design registration application may also have to be filed in SIPO and in national or regional IP offices in the countries of export interest.

Product Maturity and Obsolescence

20. Every new product sooner or later, reaches maturity after which it is unable to increase its market share. In a dynamic and highly competitive market environment, sooner or later, a new product may become obsolete. This should be expected to happen if a product begins to lose market share to competing, substitute or other new products. Therefore, even before a new product has peaked in the market place a farsighted enterprise would keep an eye on the evolving needs of the customers so as to make further changes to the existing product line or in parallel devote time, energy and resources to develop a new range of products based on *ad hoc* feedback from customers, systematic market research, competitive intelligence, and

technology mapping of competitors by using technical and commercial information contained in patent documents. A portfolio of new products should be judiciously managed by following a good management process aided by an appropriate management tool such as those provided by Stage-Gate Company.

21. With the best of efforts almost 50% of new product launches fail to meet the financial and other targets set initially. Some new products are bound to fail, others produce average profits, and only a few capture the imagination of the users/customers so as to produce very substantial profits; this is also the normal experience of most investors such as 'business angels' and venture capitalists even after they very carefully select business plans of inventors, entrepreneurs, etc for funding of start-up companies seeking to develop and market new products.

Importance of Technical and Commercial Information Contained in Patent Documents

22. The importance of the technical and commercial information in a patent document is very high at the beginning when it helps to stimulate generation of new ideas, avoid certain types of efforts, or in the evaluation of the novelty of a new idea or concept with reference to the 'prior art' worldwide. It also helps in ascertaining the trends in evolution of a particular technology and in mapping the technological trajectory of direct competitors and possible new competitors from other sectors of the economy. Finally, patent information is useful in licensing in or licensing out of complementary technology or associated know how. Of course, a lot of very useful free practical information of direct commercial or industrial relevance can also be obtained by a proper search of patent documents, as over 90% of information in patent documents is likely to be not protected by a patent in Croatia.

Some IPR-related Best Practices for New Product Success

23. By following some basic rules an enterprise is be able to prevent valuable innovations from remaining unused or underutilized, or from being misused, lost or stolen:

- Put in place a good information security policy and program so as to ensure that new ideas and innovations are kept confidential, so that, wherever possible, other suitable protection (in the form of patents, registered trade marks and designs) is secured, and the remaining trade secrets are protected as long as they remain commercially valuable.
- Prohibit publication of any new ideas, concepts or designs until at least a formal application for grant or registration of a patent, trademark or industrial design has been made or better still till after formal protection has been secured;
- Ensure that all employees understand their confidentiality obligations and are bound to the company by appropriate non-disclosure and non-compete agreements;
- At the earliest possible stage of the new product development cycle (preferably prior to commercialization) ensure that new ideas and innovations, trademarks and industrial designs are adequately protected in Croatia and abroad.
- Ensure that any modifications, improvements and/or developments of new ideas and innovations are monitored, reviewed and, if necessary, further protected (the original protection may not cover improvements).
- Before using services of outside advisors, consultants, designers, etc., ensure that the contractual agreement clearly provides that (1) the company will own any innovative output that such people/firms provide, and (2) they shall be responsible for keeping the

confidentiality of all secrets revealed to them in the course of their work for the company. By merely having paid for their work it cannot be assumed that all intellectual property rights automatically belong to the hiring company. In some cases a company may have to agree to share IP rights but all this should be negotiated and agreed formally in a written and duly executed agreements prior to commencement of work by an outside individual or company. This applies even to the web site designer and/or external web site host of a company's web site. As a web site server contains a lot of trade secrets, a company should take due steps to protect these by including appropriate clauses in its agreement with the web site hosting company.

- Systematically scan the external environment in various ways, including by reviewing relevant patent documents. This is facilitated if services of national and/or international patent and trade mark searching agencies or competitive intelligence agencies is/are used to monitor whether someone is imitating, slavishly copying or infringing upon a company's valuable ideas, trade marks, industrial design, copyright or using its patented process or trade secrets. Surveillance over key former employees who leave to work for a competitor or set up competing business may become necessary if timely action is to be initiated to prevent major damage to the future health of a company.
- Conduct proper and regular intellectual property audits. Begin by ensuring that all deadlines are respected for timely filing of applications for seeking registration or grant, and for timely payment of renewal or maintenance fees for such intellectual property assets nationally and abroad. Next, systematically store all present and past agreements with employees, and with all your external collaborators and partners such as sub-contractors, designers, advisors, consultants, etc.
- Make sure that all concerned fully understand and provide for the anticipated costs associated with protecting, and managing intellectual property assets, including those for putting in place an information security policy and program, conducting IP audits, insurance of IP assets, and if possible for the cost of monitoring and surveillance. These costs are essential for reaping the full reward of IP assets.
- Make the intellectual property policy and strategy an integral part of the business policy and strategy of an enterprise. Manage the IP assets of an enterprise with a clear focus on wealth creation by using these assets in-house or by selling, licensing, franchising the IP assets or by leveraging these assets to raise finance or to enter into strategic alliances with others. This may require specialized advice from one or more types of intellectual property specialists, including the patent agents listed on the web site of SIPO.
- Address IP issues in the business plan for new product development in an existing company or for starting a new enterprise.

24. For more information on various practical aspects of intellectual property of interest to business and industry, please visit the web site of the Small and Medium-Sized Enterprises Division of the World Intellectual Property Organization at <http://www.wipo.int/sme>; also please consider subscribing to the free monthly e-mail update service on the SME web site for more useful and current information and developments. For information on IP in the Republic of Croatia please visit the web site of SIPO at <http://www.dziv.hr/>.

(End of document)