

Strategic Alliances and Licensing the Transmission of Knowledge

SERGIO SPERANZA*



In today's world and in business, knowledge and its transmission have become the key to social and economic development. Knowledge has become a way to understand and use the forces of nature; to design artifacts and, more generally, goods and products; to conceive, create and organize factories; and, in a wider sense, to understand and to know our environment.

But only in the last 50 years has knowledge become the leading tool to succeed in our society and to gain social status. It is true and not excessive to say that our society has reached a stage in which knowledge, more than any other factor, has become the main key to social and economic development, to competitiveness, to military strength and, generally, to success.

THE DIFFERENCE BETWEEN INFORMATION AND KNOWLEDGE

Before examining the reasons why the transmission of knowledge has such an important role in contemporary society, it is important to distinguish between the meaning of knowledge and that of information, although it happens often that they are used synonymously. Information is the removal of uncertainty and can be considered a mathematical and statistical concept. Knowledge is less quantifiable than information. It can be embodied in products or services;

it can be contained in individual people; or, intangibly, it can be conveyed by books.

KNOWLEDGE: THE DIFFERENCE AND THE BORDER BETWEEN SUCCESS AND FAILURE

Experts say that, in the new millennium, knowledge, intended as a strategic business asset, will make the difference between success and failure. To understand the truth and accuracy of this statement, it is enough to consider the increasing quantity of money channeled into the transmission of knowledge in the European and, especially, in the U.S. market in the last two decades. In fact:

- In 1980, approximately \$3 billion in revenue from U.S. patents was attributed to licensing, litigation and settlements.

- In 1997, the amount of money connected with the different ways of transmission of technologies soared to a staggering \$100 billion.

Recent events have confirmed the importance of knowledge as a strategic business asset.

On May 7, 1999, in the United Kingdom, Her Majesty's (HM) Treasury announced a restructuring of the U.K.'s reserve holdings to achieve a better balance in the portfolio by increasing the proportion held in currency. It is intended that 125 tons of gold (3 percent of the total reserve) will be offered for sale in a series of five auctions in the financial year 1999/2000, conducted by the Bank of England on HM Treasury's behalf. The first of these auctions took place on July 6, 1999.

The reasons for this operation are easily understandable.

- On the one hand, it is impossible to interpret this decision as

evidence of official disenchantment with gold as a reserve asset.

- On the other hand, if gold always has been considered an important defensive asset in the long term, forward-looking governments are aware of the fact that gold is no more, in contemporary society, the *only* reserve asset.

A new currency, the Euro, was born. Its value does not rely on the weight of gold but on new and different assets that progressively have increased in importance and that in the new millennium will be prominent: software, information and, generally speaking, knowledge.

Therefore, the decision to sell gold and hold official U.K. reserves overwhelmingly in foreign currencies is a sign and further evidence that knowledge — the same as gold and/or petrol — has become one of the most important assets of our society.

THE STRATEGIC ALLIANCES

One of the most common ways of transmitting knowledge is through alliances between companies. Many companies have begun organizing joint ventures and other forms of alliances as a strategic weapon to promote the acquisition, development and exchange of technology, including intellectual, commercial and technical information, comprising technological management of products.

Advantages of Strategic Alliances

Indeed, strategic alliances may represent an effective means for facing the increasing costs and

* Sergio Speranza is a lawyer with Studio Legale Grande Stevens, Pedersoli, Italy.

risks of technological innovation by allowing partners to share knowledge and resources through joint development and active technological exchange. These alliances may enable an organization to monitor, on a world scale, the evolution of technology and to avoid linking and using technologies that later may prove to be obsolete or ineffective.

A company also can use alliances as alternative sources of technology to reduce its dependence on knowledge (patents, "know-how" and "show-how") or suppliers (or to compensate for their absence) and to ensure continuous access to the leading know-how.

Furthermore, strategic alliances may be preferred when a company cannot obtain or rely on its own resources and capabilities in order to exploit its technology on a multinational or global scale.

Disadvantages of Strategic Alliances

Despite their potential benefits, joining strategic alliances may present important problems that probably are not material in licensing agreements. In fact, when a company is an alliance partner, by definition it agrees to relinquish some control over its activities and technological resources. The reason for this relies on the following:

- Major strategic alliances involve products or markets that are the "core" (or primary) activities of the business of the partners of the alliance.

- Each alliance usually links companies that are current and/or potential competitors.

- Consequently, a company involved in a strategic alliance may find itself dependant on partners for key elements of its activities and could risk unwillingly releasing technological information to companies that, in absence of the alliance, would be competitors.

LICENSING

Besides alliances between companies, the most common method for the transmission of knowledge

is licensing. Both states and private companies have understood the importance of licensing.

FORWARD-LOOKING COUNTRIES

The new World Trade Organization (formerly GATT) requires member countries to establish clearly defined legal bases of intellectual property in their own countries so that indigenous industries can thrive and, at the same time, attract foreign investment.

Both developed and developing countries, understanding the importance of having knowledge and protecting it, have started reviewing their patent and trademark laws.

Developing Countries

Brazil recently started granting patents for pharmaceuticals. Soon after, international pharmaceutical companies began investing hundreds of millions of dollars to open plants in Brazil. The reason is that patents provide the holder with the strongest form of protection.

Many countries with limited resources have realized that, despite a lack of natural resources, it is possible for a country to base its development on knowledge, both acquired from abroad and developed indigenously.

It has happened, for instance, in Korea, where a new patent and a new trademark law have been introduced and a specific patent court has been founded in order to update the Korean market to the foreign market.

It has happened in South Africa, which can be defined as a forward-seeing country. In fact, some years ago after the end of Apartheid and the election of President Mandela as Head-of-State, South Africa recorded the arrival or return of many foreign investors. Newly arriving companies (having previously decided not to come because of Apartheid) included Nike, McDonalds and many others. In this context, the most interesting development has been the stipulation, by some of the aid donors, to

link their funds to licensing ventures. Due to the change of the political situation, many foreign governments promised aid packages to South Africa, and the country jumped to the third-highest position for U.S. aid funding. What is important, however, is that many of the packages are specific in that they encourage licensing and with it the transfer of technology.

Another example of a country that, although it cannot be considered a developing country, understood the economic importance of having a system that encourages the transmission of technology and knowledge was the Soviet Union and, after its dissolution, Russia.

Before the Soviet Union ceased to exist, the national economy had deteriorated with alarming speed. The Gorbachev government, acknowledging the Soviet Union's alienation from the global economy, understood the necessity to renew patent and licensing laws to conform with those of the Western countries and to appear more attractive to potential inventors.

Therefore, two laws were introduced in the early 1990s. The first one was by the Soviet Union on February 1, 1991; the second was by Russia on December 25, 1992. Prior to July 1, 1991, a Soviet inventor's main source of protection was the Inventor Certificate. Under the terms of the Inventor Certificate, the invention was viewed as being the property of the state, and any organ of the state, apart from the inventor, was entitled to the utilization of the invention. Of course, under the letter of the law, the inventor was in theory able to obtain a patent instead of the certificate, but, in reality, only 13 patents were granted to national Soviet citizens. (Of those, one was granted to a circus acrobat who invented a method of moving a bicycle around a circular wall.)

With the first law, two remarkable innovations were introduced:

- For the first time, a domestic patent was treated as a patent that could be bought, sold and licensed by the inventor, and

- The Inventor Certificate was removed.

The second law not only recognized inventions as patentable subject matter but, unlike the previous laws, made designs and utility models patentable, too.

Developed Countries

Among the Western countries that have updated their patent and trademark law system, it can be useful to remember the case of Germany. On October 3, 1990, a new country was created in Europe, combining East and West and forming one Germany.

The Unification Treaty, dated August 31, 1990, abolished all the East German laws and stated that all the laws of the Federal Republic of Germany were to be extended to the territory of East Germany within the date of December 31, 1992, with one exception: the intellectual property and licensing laws. In fact, the whole body of laws ruling patents and trademarks applied after October 3, 1990, in the whole of Germany. This exception to the general rule is evidence that the new-born country understood the importance of having a modern system of patent and trademark laws.

FORWARD-LOOKING PRIVATE INDUSTRIES

Not only the countries but also the private, forward-thinking industries have realized that the key to success in the new millennium is licensing, and, more generally, the control and transmission of technology.

Companies are aware that patents not only store technical information but also contain a myriad of strategic business information. Evidence of the importance of the possession of knowledge is that most of the U.S. high-tech companies, realizing that more than 75 percent of the information contained in the U.S. patent is not available from any other source, are buying the Patent & Trademark Office's entire catalog of high-tech patents. From this information, with the appropriate software analysis systems and methodology,

it can be determined which companies are making cutting-edge work, which countries are leaders in particular technologies, and many other types of information that can be cross-functionally analyzed and transformed into knowledge for making critical long- and short-term business decisions.

Definitely, most of the major companies, especially in high-tech productions, have become aware of the importance of the value, both economic and strategic, of intellectual property.

However, it is important to emphasize that, up until now, corporations have not sufficiently valued their intellectual assets and their value, or, more exactly, have not seen them in the same light as their other assets. Only recently have most of the major companies understood the importance of intellectual property and have started correctly valuing it, realizing that intellectual property, in many cases, can be worth much more than tangible goods.

A Foreign Case

The Standard Oil Company (better known as Sohio) is an example of a company that found success through a correct valuation of its own intellectual property and an adequate licensing policy and strategy.

This company was a relatively small regional refiner and marketer of petroleum products, operating in Ohio with only one refinery and some horse-drawn tank wagons. In the middle of the 1950s, Sohio embarked on a research project that allowed it to invent a new catalytic process for the production of acrylonitrile. Three years later, Sohio established a plant for the production of acrylonitrile using its catalytic process.

When Sohio announced its intention to enter the merchant market, acrylonitrile was being sold for 28.5 cents per pound. Before the plant began production, however, the price was reduced by Sohio's potential competitors to 14.5 cents per pound, a price lower than the production cost of Sohio's competitors. Only Sohio's process

could produce acrylonitrile at a low-enough price to make a profit.

At this point, Sohio's management faced a difficult strategic choice:

- Try to dominate the business by building its own plants to satisfy the demand for acrylonitrile in the United States and in the world and invest all possible plants abroad, or

- License the catalytic process.

It was decided that licensing was the preferred alternative for the following reasons:

- Sohio was afraid that one of the chemical "giants" could develop a competitive, non-infringing alternative process.

- Sohio realized that the potential demand for acrylonitrile in the United States and throughout the world simply was too large for any one company, and especially for a small one like Sohio.

Therefore, Sohio decided to embark on a licensing program. The licensing operation realized by Sohio is one of the most typical examples of a profitable transfer of knowledge. Sohio succeeded because it transferred not only the patent but everything that surrounded it: the know-how and the show-how.

Thus, the reason why Sohio was successful for such a long time was that it produced and licensed a package of technology that included not only protected intellectual property (i.e., patents and secrets) but also engineering design information, plant operation manuals and technical service.

Some Italian Cases

In the last decade, the Fiat Group has been the protagonist of many licensing operations and, generally, of transmission of technology.

The Licensing Operation of Fiat-Magneti Marelli/Bosch

In the mid 1990s, The Fiat Group designed and initially developed, with contributions from Magneti Marelli, Elasis and the Fiat Research Centre, a new project of diesel engines on common rail lines, known as "Unijet," a completely new system designed for diesel

engines with direct injection, which is capable of achieving a similar level of performance and refinement for cars with diesel engines as for cars with petrol engines.

In 1991, the system went into pre-industrial production. That phase ended in 1994 when Fiat Auto decided to choose a manufacturing partner with outstanding competence in diesel engine injection systems — R. Bosch — and consequently handed over to this partner the project for the final stages of development and industrial production.

The Fiat experts of Fiat Research Centre were aware that the engine project they were developing could be the diesel engine of the new generation and that it could be a profitable business both to use these engines for their own vehicles and to sell the patent and/or the final product to the competitors. Evidently, the problem was that competitors would have difficulty buying from a direct competitor like Fiat. Therefore, there was a risk that Fiat only could take advantage of its invention by producing the engines directly and not by selling the project and/or patents.

With this, Fiat would have lost a part of the business. That is why Fiat decided to sell its project to Bosch, which, not being a direct competitor to Fiat or to other vehicle producers, was able to sell to everyone.

Therefore, Fiat Group transferred the property — consisting of an electronic control system and of an injection system — and the marketing rights to the German company R. Bosch, which took over the final stages of development work as well as the production phase.

Finally, Bosch started selling these two parts (the electronic control system and the injection system) to individual car producers, among which was Fiat itself, which uses these parts for the production of the famous JTD diesel engines.

The Co-operation of Fiat/Peugeot-Citroën

Another case of the transfer of knowledge that involved the Fiat Group by the way of a

strategic alliance is the co-operation between Fiat and Peugeot-Citroën, which started in the 1970s and still continues now.

This venture started in 1978 with the signature of the first co-operation agreement between PSA Peugeot-Citroën and Fiat for the joint design and manufacture of a utility vehicle. The two groups created a joint venture, Sevel SpA, in which Fiat has a 50 percent share, and Automobiles Peugeot and Automobiles Citroën each have a 25-percent share. As a consequence of this agreement, Fiat, Peugeot and Citroën started the production of some vehicles, such as Fiat Ducato, the Citroën Jumper and the Peugeot Boxer in the Val di Sangro plant near Pescara in Italy.

There are various benefits of such a co-operation by way of a joint venture realized through the creation of a new company. First, it is important to emphasize the difference between a co-operation realized through a joint venture as opposed to a merger. In fact, it may be said that, in a merger, a duplication of identical parts takes place — a duplication of the same products, of the same productive structures, of management and consequently of conflict between them. As a result, it is necessary to eliminate all duplications.

On the contrary, this problem does not happen in a joint venture. Fiat, on the one hand, and Peugeot and Citroën on the other, have shared their costs and particularly their knowledge and resources within joint development and technological exchange activities.

CARE IN PATENT LICENSING AND STRATEGIC ALLIANCES

Before concluding, I would like to stress the necessity for the entrepreneur to carefully examine the laws and guidelines of the country chosen for the business venture. To avoid unexpected risks, it is important for every entrepreneur to consider the great differences — between the provisions of the law and the real situations — that exist in some countries, especially in the

developing ones such as Korea, Brazil or Turkey. Despite laws that, for example, treat patents as normal items that can be sold and/or bought, administrative provisions very often force entrepreneurs to respect strict bureaucratic formalities. This is why every careful entrepreneur, before starting any operation aimed at achieving a patent license or a strategic alliance, should first contact someone experienced in the matter in the appropriate foreign country.

An example can best explain the risks that an entrepreneur may have to face when investing in developing countries. The republic of Kazakhstan, since becoming independent from Russia, has developed a body of modern laws and has attracted many foreign investors. Despite the provisions of these laws, however, the first entrepreneurs discovered at their own expense that any foreign investor wanting to operate in Kazakhstan has to obtain the status of “official investor” by the state committee for investments and that the “price to pay” to receive such acknowledgement can reduce and/or eliminate the profit of the venture.

CONCLUSION

Regardless of how technology is transferred, it is evident that, in the new millennium, knowledge will make the difference between a company's survival and its failure in a global economy and that knowledge-based organization will use patents as one of the strategic business assets for success.

Therefore, it doesn't seem completely off-base to imagine “patent wars” and the “battle to own the world's technologies.” And, where nations once fought for the control of trade routes and raw materials, they now fight for the exclusive right to ideas, innovations and inventions, considering that the possession and control of knowledge is the key to success for high-tech companies.