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Value and Assessing Intellectual Property Rights

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INTRODUCTION

Intellectual Property Rights (IPRs) are important assets in the modern economy for wealth creation in industries. Owning and being able to use the IPRs can give a business an important edge over its competitors and contribute greatly to commercial success. Knowledge-based companies in the information technology and life sciences industries spend many hours on research and development of technology that are useful to their customers. The end products are intellectual property assets that could be sold to many companies and individuals. A large portion of the cost goes into R&D work while production and distribution costs are relatively lower. This is very different from the consumer electronics industry where the final products are home appliances - Television sets, for example. In the consumer electronics industry, the major cost factors are raw materials, production, warehouse and distribution.

In the past, large companies dominated industries by acquiring and managing extensive holding of natural resources and manufacturing facilities. There were high entry barriers because of the large amount of fixed asset investments that are not easily accomplished by new players entering the market. However, many of these companies that once dominated industries are finding themselves struggling for survival today. Up start companies are creating new products and services based not on large amount of cash investment and expensive facilities but on intellectual property resources.

VALUE OF INTELLECTUAL PROPERTY RIGHTS

Companies today are constantly facing challenges of technological advances such as the continued miniaturization of electronics and widespread wireless communications. As a result, companies need more advance technologies to stay ahead of the competition. Very often the technologies needed do not exist within a company and it will take a long time if the company decides to develop the technologies. The pace of change does not provide luxury of developing expertise in all the divergent technologies that a company needs.

In the Intellectual Property age, the new paradigm is the to move away from independence to interdependence. Companies trying to achieve technology independence by developing all the required technologies will find themselves struggling to keep up with changes. While companies that forge strategic alliances to leverage technologies owned by partners would have an interdependence model that is more likely to succeed. Sharing technology is a concept that some companies may find it difficult to accept. Access to vital resources has changed because the nature of most important resources is no longer embodied in fixed material assets. Gaining access to technology means cooperating with other companies, even competitors, in order to gain access to their knowledge-based resources. By leveraging on partner's and competitor's strengths, companies could broaden their market and reduce the time to market of new products and services.

A good example is the Handspring Personal Digital Assistance (PDA). Instead of developing its own Operating System (OS), Handspring licensed the OS from Palm, its main competitor. Palm is the leading PDA manufacturer with the largest market share while Handspring is a company started by a group of key personnel from Palm. By licensing the OS from Palm, Handspring is able to focus its R&D efforts and resources on developing the PDA and accessories to create a niche in the market.



Technology licensing is a high value business. There are many examples of licensing rights in the market. Wang Laboratories, for example, generates more than US\$60 million per year from licensing its patent on SIMM computer memory module. Texas Instrument has an IP portfolio that it uses to collect over US\$500 million annually in license fees alone. For IBM, the royalties obtained from licensing IPRs have reached the billion-dollar mark.

Converting Intellectual Property Rights into revenues, profits and value requires a framework of integrated complementary business assets. Complementary assets are required to convert IPRs into products. These assets are also needed to produce the product, package it, sell the product, distribute it, collect payment and implement many other business functions that are required for running a business. Companies that created IPRs and then license it to others also require complementary assets to exploit the licensed property.

Figure 1 below shows the composition of a typical business enterprise as comprised of working capital, tangible assets and intangible assets. It represents the collection of asset categories that all companies use to participate in an industry and generate profits.

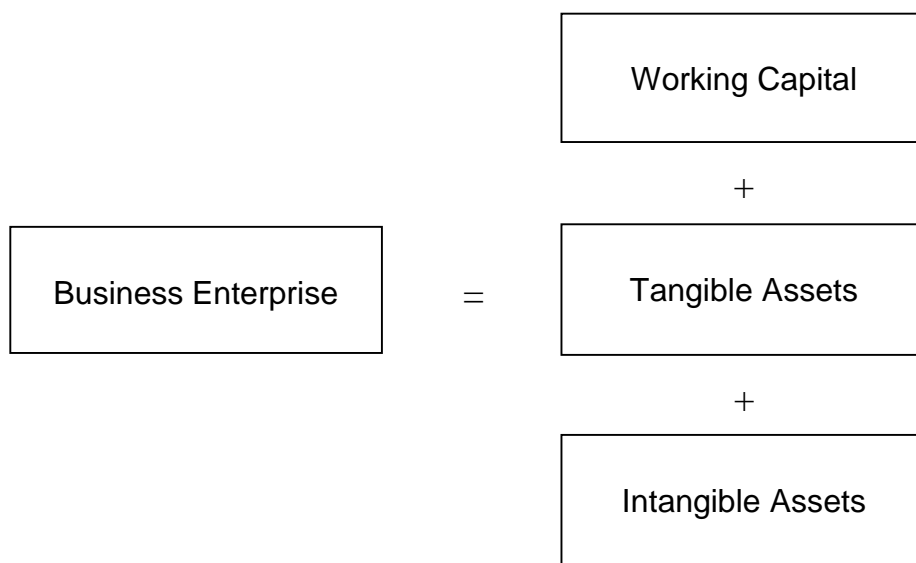


Figure 1: Composition of a Business Enterprise

Working capital is the net difference between the current assets and current liabilities of a company. Current assets are primarily composed of cash, account receivable and inventory. Current liabilities include account payable, accrued salary and other current liabilities.

Tangible assets include manufacturing facilities, warehouses, office equipment, office furnishing, etc. The amount of funds invested in this category can vary greatly for different companies, depending on the industry.

Intangible assets are the “soft” assets of a company. They often do not possess a physical embodiment but are nonetheless very valuable to the success of a business. Examples include – IPRs, contracts, franchises, relationships and goodwill.

All of the assets of the business enterprise contribute to the revenue and profit generating capability of the business. They are also underlying basis for the value of the business. The ability of a company to sustain earnings makes it a valuable investment. The relative value of IPRs can be determined by estimating the portion of value or earning contributed by specific IPRs.

ASSESSING THE VALUE OF IPRs

The value of IPRs is broadly dependent on two factors - (i) the rights relating to some products or services having commercial value that could produce an income stream and (ii) the rights of IP ownership that could be used to prevent others from generating that income stream.

There is no absolute formula for valuing Intellectual Property Rights. Every piece of IPR is considered to be unique and different factors are adopted in the valuation process. In some industries, rule of thumb could be used to decide royalty rates or a percentage of profits for licensing of technology. There are three modes of commercialization of Intellectual Property Rights:

(1) Non-exclusive licensing

Non-exclusive licensing provides the licensee the right to use the IPR. The licensor maintains the ownership of the IPR and the right to license to other interested party.

(2) Exclusive Licensing

Exclusive Licensing provides the licensee an exclusive right to use the IPR. The licensor maintains the ownership of the IPR but does not have the right to license to other party under the exclusivity agreed. Exclusivity could include – duration, geographical location and specified industry.

(3) Selling or Transfer of Ownership

Selling or transfer of IPR ownership is similar to selling a physical property. In many cases, transfer is also known as assignment. Once the ownership is transferred, the new owner would have the rights to decide how to use the IPR. The assignor no longer owns the IPR and hence could not use the IPR, unless in agreeing the transfer, the assignor has negotiated for a licence for his own use.

As a rule of thumb, the fees are in increasing order from non-exclusive licensing to exclusive licensing to transfer of ownership.

There are three approaches to valuing IPRs - Cost Approach, Income Approach and Market Approach. A combination of two or three of these approaches is normally used to develop a valuation model.

The Cost Approach

The cost approach measures the amount of money that is required to develop the Intellectual Property Right. If the IPR has been developed, determination of value using the cost approach is to obtain an estimated cost to reproduce a new replica of the IPR.

Cost is not the same as value. Unless economic benefits can be earned from ownership of the IPR, the value must be relatively low regardless of the amounts needed to develop the IPR. The assumption underlying this approach is that the cost to develop the IPR is commensurate with the economic value of the service that it can provide during its life. It is an inherent assumption with this approach that the economic benefits indeed exist and are of sufficient amount and duration to justify the developmental expenditures.

Elements of cost to be considered in valuing the IPR include:

1. Total manpower cost including salaries and benefits for scientists, engineers, administrative and support staff.
2. Overhead costs for utilities and research space.
3. Raw materials used in the development process.
4. Prototype construction and testing expenses.
5. Outside services for independent evaluation and certifications.
6. Pilot plant expenses.

The cost approach is the simplest and quickest method to determine the value of an IPR. However, many important factors that drive value are not directly reflected in the methodology. Some shortfalls of cost approach include:

1. The cost approach does not directly incorporate information about the amount of economic benefits that are associated with the IPR. These benefits are driven by demand for the product or service and the profits that can be generated.
2. Information about the trend of the economic benefits is missing from consideration. IPR providing economic benefits with an increasing growth rate can be far more valuable than that which displays a downward trend. The trend is effected by social attitudes, demographics and competitive forces but the cost approach cannot capture the effect on value.
3. The duration over which the economic benefits will be enjoyed is another element not directly considered that has a significant effect on value. The remaining economic life of the property is a vital component of the value of IPR.

4. The risk associated with receiving the expected economic benefits is not directly factored into the cost approach model. Where a high degree of risk makes realization of expectations speculative, a lower value corresponds.
5. The adjustments that are necessary to reflect the effects of obsolescence must be separately calculated and are often difficult to quantify.

Use of the cost approach as a means to estimate a range of value for IPR has much potential for error. One or both of the other valuation approaches should be used along with the cost approach as support for the indications of value provided by the market and income approaches.

The Income Approach

The fair market value of any asset can be expressed as the present value of the future streams of economic benefits that are derived from ownership of the IPR. Fundamental factors important to using the income approach are:

1. The amount of economic benefits to be expected from the ownership of the IPR.
2. The expected duration for the economic benefits to be derived from the IPR.
3. The types and amount of risks associated with receiving the anticipated benefits.

The future stream of economic benefits is often best measured by the amount of net cash flow to be derived from the IPR. This measure should take into consideration the costs of doing business as well as the additional capital investment that will be needed to sustain the cash flow. After discounting these future uses of gross cash flow, the net amount represents the economic benefits derived from ownership of the IPR. The amount of future net cash flow is not solely determined by management actions. Other factors could enhance or diminish the sustainable level of these benefits. The amount of cash flow that will be available on a sustained basis is affected by economic climate, profitability, competition and capital requirements.

The Market Approach

The market approach can determine the value of an IPR by considering the price paid for similar IPR as part of third party transactions. For Intellectual Property Rights, it is often difficult to implement this approach because information about third party transactions involving similar IPR is difficult to obtain. The exchange of IPR in the market place is typically completed as part of the exchange of an entire company or division. The market approach provides an indication of value by comparing the price at which similar IPR has exchanged between willing buyers and sellers.

Requirements for successful use of this approach include:

1. The existence of an active market involving comparable IPR.
2. Past transactions of comparable IPR.
3. Access to price information at which comparable IPR exchanged.

In resident real estate, comparability is quite easy. The neighborhood, floor area, number of rooms and quality of construction can all be compared to the indications of value established by past sales of other houses. For IPR, the comparison is not so straightforward. Many factors come into play. The key factors driving the IPR value are:

1. Industry
2. Market Share
3. Profits
4. New Technologies
5. Barriers to Entry
6. Growth Prospects
7. Legal Protection
8. Remaining Economic Life

Using a combination of the three approaches, we could develop a valuation model to assess the value of an IPR. In the following section, we shall look at a case study of assessing the value of a translation portal.

CASE STUDY: A TRANSLATION PORTAL

EWGate Pte Ltd (<http://www.EWGate.com>) is a technology business venture from Kent Ridge Digital Labs, Singapore; created with the vision of bridging communication and information gap between the East-West cyberspace. The company has a research team with more than 10 years of experience in developing cutting-edge machine translation technology. Following its initial operation, which targets the English-Chinese, and English-Malay cyberspace, EWGate Pte Ltd is fast expanding to take on the challenges of making other Asian languages intelligible to the rest of the cyber community.

EWGate Pte Ltd have partnered enterprises, Internet service providers, community portals and software developers to allow both English-speaking and non-English speaking communities to interact. Despite being a young company, its growing list of customers includes PacFusion of Pacific Internet, a NASDAQ listed ISP and ArcNet of NTT MSC, the Malaysia subsidiary of leading Japanese telecommunication company, NTT.

In March 2001, the company launched an English-Malay translation portal named ePedoman (<http://www.ePedoman.com>). The portal aims to provide wider access to Malay Internet users who do not read English. Through the **ePedoman** portal, which means **eGuide** in Malay, users could now read English articles in Malay on-the-fly through the real-time translation engine. Using the valuation approaches discussed earlier, let us now try to assess the value of this project.

Cost Approach:

The company had spent a lot of resources on the extensive research of machine translation. As the translation engine has been licensed to several commercial companies, the cost could be apportioned to a smaller amount for this project. However, it could still be a large amount as the research period is more than 10 year.

Income Approach:

The translation portal is not a commercial product with intention to generate profits. The project was sponsored by the Information Communications Authority of Singapore to encourage greater community participation in using Internet. The income for EWGate Pte Ltd would be a constant stream of licensing and maintenance revenue. The risk involved is relatively low.

Market Approach:

This is probably the only known English-Malay translation portal in the market. The portal provides a new exciting dimension to Internet users. It will take any potential competitor a reasonable long period of time to develop an equivalent translation engine. Therefore, the company could expect a premium for licensing of the IPRs.

With the considerations above, EWGate Pte Ltd decided on a licensing model with an annual licensing fee and a maintenance contract to constantly upgrade and update the translation portal.

Portal translates English into Malay

It promises instant translation of any English-language webpage and e-mail for Malay-language users. Malay text can also be translated to English

By **PAULA McCOY**

MALAY computer users who do not read English can now use a new portal that takes any English-language webpage and translates the text at the click of a mouse into Malay, and vice versa.

All they need to do is to input the web address of any English-language site, such as The Sunday Times and it will appear translated into Malay.

They can even set up e-mail accounts that will translate e-mail back and forth from English to Malay.

Malays who do not read and write English had been all but shut out of the Internet where the English language is dominant.

Even if they could locate the websites, they could not read the content.

The translation is 75 to 85 per cent accurate, said

Mr Idris Basok, business development manager with the technology firm EWGate, which developed the portal.

With e-mail, the translation depends on the accuracy of the user's grammar and vocabulary, he said.

"Even human translators can't be 100 per cent accurate," he said, adding that EWGate's staff would work to boost the accuracy level.

The web portal www.ePedoman.com is an initiative of the Malay Internet

Steering Committee.

"Pedoman" is Malay for "guide".

Mr Abdullah Tarmugi, Minister for Community Development and Sports and Minister-in-charge of Muslim Affairs, unveiled the portal yesterday in a ceremony at the Pan Pacific Hotel.

He said: "The portal offers exciting possibilities for people from all walks of life."

The ceremony was held to mark Malay Internet Week which will be on from tomorrow until April 1 and will feature events to generate awareness of an e-lifestyle among Malays.

Other events lined up during Malay Internet Week include a safe-surfing course for parents and e-filing classes.

Both of these courses will be conducted by Mercu Learning Point, a subsidiary of the Association of Muslim Professionals.

The courses will be held at Mercu Guthrie at 150 Changi Road.

COURSES: What's available

◆ **SAFE surfing for parents:** The course will provide tips for parents on how to monitor their children's Internet usage. Participants will learn how to monitor and track the sites visited and how to create barriers to websites.

There is a \$5 course fee for each participant.

◆ **E-filing:** The course will teach participants how to file their tax returns on the Internet. Targeted at blue-collar workers and those aged 40 years and above, it will be conducted every day from tomorrow until this Saturday.

Admission is free.

Those interested should contact Ms Zaleela at 346-0911 ext 49 or Ms Marlene at 346-8302. Registration for the safe-surfing course is also available online at www.amp.org.sg

Source: The Sunday Times, Singapore. March 25, 2001