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It's All in Your Head
The Promise of Intellectual Property

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In today's knowledge-based global economy, intellectual assets often supersede physical assets as the basis of corporate value. Increasingly, companies build their competitive advantage upon a foundation of intellectual assets, and shareholder value has become a direct reflection of the ability to leverage and extract value from the intellectual asset portfolio. Biotechnology, pharmaceutical, and high-technology companies list among the industries particularly focused on the development, protection, and capitalization of such assets.

Intellectual property assets evolve from ideas, innovations, compilations, and presentations of information, designs, brands, and product/service imaging in which corporations invest intellectual capital, or license from others, to develop and build their businesses and to deliver shareholder value. Common forms of intellectual property include utility patents, design patents, copyrights, trademarks, trade secrets, trade dress, and know-how (see "Common Forms of Property Rights," below).

Intellectual Property Trends

Foreign corporations are leading the charge on filing patent applications. Worldwide, these applications doubled from 1985 to 1994 (fig. 1). Although still estimates, the data for 1995-1997 project that the number of applications will almost double again by the end of 1997. The number of patents granted to U.S. data processing, computer, and communications companies more than doubled from 1991 through 1997 (fig. 2) and averaged a compound growth rate of more than 12 percent.

High-technology firms have demonstrated tremendous growth in patents granted and this industry will continue to drive growth in the near future. Investment in research and development is critical to the success of the high-tech industry. Figure 3 exhibits the R&D spending as a percentage of sales for selected high-tech companies. Although the industry R&D spending averages approximately 3 percent of sales, Microsoft, for example, spends more than 14 percent of sales on R&D.

How does the market value the high-tech industry's investment in intellectual property? A comparison of the sales and market capitalization for three high-tech companies and the Big Three automakers shows that, although sales of the Big Three dwarf those of IBM, Intel, and Microsoft by 2.4 times, the market capitalization of the high-tech companies is 2.3 times larger than that of the automakers. As for the value that the financial markets place on the high-tech industryís investment in intellectual property, it is noteworthy that worldwide, technology stocks have outperformed their industrial counterparts since the early part of this decade. In fact, in many cases, technology stocks have out-performed industrial stocks by 100 percent.

Texas in the Intellectual Property Arena

Each stateís contribution to the number of patents and the useful life of those patents was determined through an analysis of 633 companies with headquarters in the United States and representing ten industries. Of those companies, the largest 100, in terms of remaining useful patent life, were selected and evaluated based on sales, research and development, and net income before extraordinary items.

Not surprisingly, the companies with the most patents in their portfolio also have the longest remaining useful patent lives. (Although this may seem intuitive, it is possible that companies once dominant in the intellectual property field with a large number of patents in their portfolios could have patents with little or no life left.) One conclusion that can be drawn from the correlation between the number of patents and remaining useful patent life is that companies investing in R&D do so on a consistent basis.[1]

The following four figures examine the significance of patents in the surveyed companies in the top ranking states. Figure 4 compares the pool of patents and the remaining useful life of those patents by state. The figure shows the contribution of each state to the number of patents and the total useful life of those patents on a percentage basis. Texas ranks second only to California with 12.8 percent of the patents and 12.2 percent of the useful life of the patents of companies surveyed. Figure 5 suggests that there is a connection between intellectual property and sales. Although Michigan appears to be an anomaly, due to the three major auto manufacturers, California and Texas follow in second and third place, based on percentage of sales.

Figures 6 and 7 demonstrate, respectively, the relationships between patent life and the surveyed companiesí R&D investments and net incomes. Although it is not possible to link R&D spending over the past five years directly to the useful patent life as of 1997 for the companies surveyed, figure 6 indicates that leading companies continue to invest actively in R&D. This research and development will, in turn, generate future patents and other intellectual property rights.

Conclusion

Intellectual property is quickly becoming the most coveted asset for many companies. As the competitive advantage hinges more and more on intellectual assets, companies will be faced with the challenge of developing and/or acquiring, protecting, managing, and exploiting these important assets.

Note

1. Companies can also create a significant stream of revenue through licensing. By 1993, royalty revenue for U.S. companies had exceeded $60 billion and is estimated to reach $100 billion by 1997. Licensing is an excellent way for companies to leverage the value of fully used intellectual property, recoup research and development spending and create shareholder value.

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Common Forms of Intellectual Property Rights

Utility patents generally apply to mechanical, electrical, or chemical inventions, which encompass processes, machines, articles of manufacture, or compositions and improvements of matter.

Design patents apply to the aesthetic or ornamental appearance of products.

Copyrights are granted for any original works of authorship fixed in any tangible form of expression.

A *trademark* can be a word, symbol, or device, or combination thereof, that distinguishes an entityís products or services.

Trade secrets encompass information, including a formula, pattern, compilation, program, device, method, technique, or process that 1) derives independent economic value, actual or potential, from not being generally known to, and not being

readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use, and 2) is the subject of efforts that are reasonable under the circumstances to maintain its secrecy.

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