CHAPTER 1

Intellectual Property and Corporate Value

In the last thirty years, intellectual property (IP) and intangible assets have become the dominant assets of major corporations. These assets are at the heart of competitive advantage. They are the foundation of new product categories and sometimes entirely new industries. They differentiate products, provide unique utility, and even permeate products and services with cachet. Often, they allow the manufacturer to obtain a premium price for an otherwise ordinary item. Other times, they provide the user with substantial cost savings.

Ocean Tomo is an integrated, intellectual capital merchant bank.[1] It conducted an analysis of the largest companies in the United States and found that patents, trademarks, copyrights, and other intangible assets have exploded as a percentage of the S&P 500's market value, from seventeen percent in 1975 to eighty percent in 2005 (see Exhibit 1.1). No longer do markets value companies based on balance sheet cash and fixed assets. Today, stock prices reflect the importance and value of all intangible assets, including patents, trademarks, copyrights, and trade secrets.

This is supported by a recent *Les Nouvelles* article, where the value of IP and intangible assets, as a percentage of corporate market value, is reported

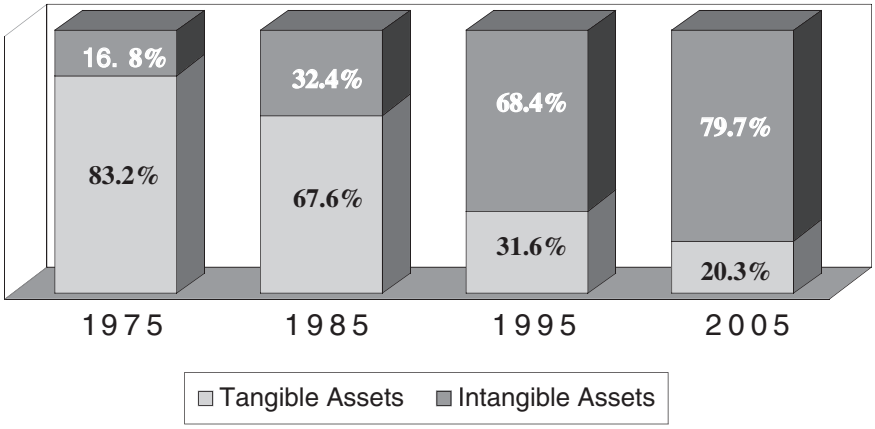


EXHIBIT 1.1 **S&P 500 Components**

as the exact same value shown by Standard and Poor's index.[2] The article shows that the dominance of intangibles is not solely associated with high technology companies, but rather holds true for a diverse selection of industries. For many industries, the dominance of IP is easy to understand. Healthcare, telecommunications, and consumer discretionary products would be expected to possess high amounts of technology or trademarks. Some industries, like utilities, would not be expected to have such intangible asset dominance, yet it turns out that all industries currently rely on a significant amount of IP and intangible assets (see Exhibit 1.2).[3]

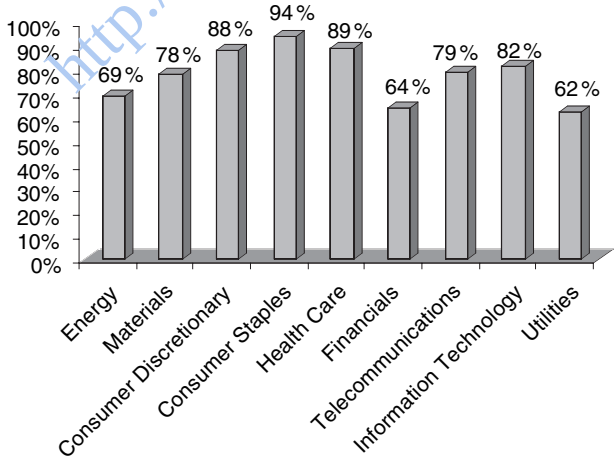


EXHIBIT 1.2 **Intangible Value as a % of Total Market Value for 2005**

Thirty years ago, the vast majority of a company's value was its monetary and tangible assets. These are the cash, inventories, accounts receivable, manufacturing facilities, warehouses, transportation systems, and office facilities of a company. Currently, these assets are almost an afterthought, replaced in importance by patented technology, trademarks, copyrights, and other intangible assets.

PATENTS

A patent for an invention is the grant of a property right to the inventor, issued by the United States Patent and Trademark Office (USPTO). Generally, the term of a new patent is twenty years from the date the application for the patent was filed in the United States or, in special cases, from the date an earlier related application was filed, subject to the payment of maintenance fees. U.S. patent grants are effective only within the United States, U.S. territories, and U.S. possessions. Under certain circumstances, patent term extensions or adjustments may be available.

The right conferred by the patent grant is, in the language of the statute and of the grant itself, "the right to exclude others from making, using, offering for sale, or selling" the invention in the United States, or "importing" the invention into the United States. What is granted is not the right to make, use, offer for sale, sell, or import, but the right to exclude others. Once a patent is issued, the patentee must enforce the patent without the aid of the USPTO.

There are three types of patents:

1. *Utility patents* may be granted to anyone who invents or discovers any new and useful process, machine, article of manufacture, composition of matter, or any new and useful improvement thereof.
2. *Design patents* may be granted to anyone who invents a new, original, and ornamental design for an article of manufacture.
3. *Plant patents* may be granted to anyone who invents or discovers, and asexually reproduces, any distinct and new variety of plant.

As more products incorporate many diverse technologies, there will continue to be more opportunities to enjoy the economic benefits of licensing. There will also be more need for licensing, so that the companies pursuing commercialization of technology will be able to enjoy freedom to

operate, without the threat of infringement litigation. Consider, as an example, the ubiquitous personal digital assistant (PDA). The diverse proprietary technologies incorporated into PDAs includes inventions associated with

- Liquid crystal displays
- Operating software
- Applications software
- Keyboard and other input devices
- Wireless communications, such as Bluetooth®
- Modems
- Microprocessors
- Digital photography

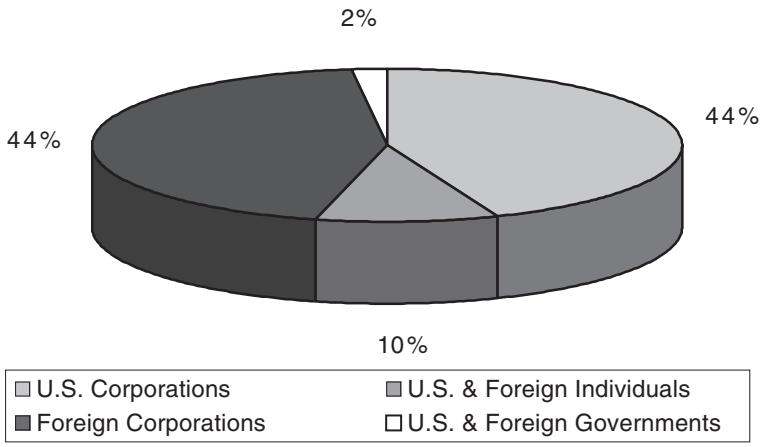
Few companies possess all of the diverse technologies incorporated into today's products, so licensing technology is becoming fundamental to product creation.

Patent Trends

In 1974, the number of utility patents granted was 76,278. By 2004, the number of patents granted more than doubled, to 164,293. Corporations were granted the vast majority of patents in 2004; foreign and domestic corporations received eighty-eight percent of the total number of patents granted. Interestingly, forty-four percent of patents are owned by U.S. corporations and forty-four percent are owned by foreign companies. Foreign and U.S. individuals combined received ten percent of all patents, with the remainder going to U.S. and foreign governments. The 2004 distribution of patent ownership has remained largely unchanged for the past ten years (see Exhibit 1.3).

Who Owns the Most Patents?

Most patents are owned by U.S. and Japanese companies. The top ten foreign owners of U.S. patents are Japan, Germany, the United Kingdom, France, Canada, Switzerland, Taiwan, Italy, Sweden, and South Korea.



Source: United States Patent & Trademark Office.

EXHIBIT 1.3 **2004 Patent Owner Distribution.**

Listed below are the top twenty corporate patent owners. The number of patents they own counts all patents granted to these companies between January 1, 1969 and December 31, 2004.

Company	*Number of Patents*
IBM	42,591
General Electric	31,293
Canon Kabushiki Kaisha	28,202
Hitachi	26,369
Toshiba	22,888
NEC	17,626
Eastman Kodak	19,780
Matsushita Electric Industrial	19,611
Mitsubishi Denki Kabushiki Kaisha	18,985
Sony	17,604
Motorola	17,541
Siemens AG	17,095
US Philips	16,229
AT&T	16,130

Company	*Number of Patents*
E. I. DuPont De Nemours	15,385
Fujitsu	15,176
Fuji Photo Film	15,044
Xerox	14,743
Bayer AG	13,930
US Navy	13,408

Source: U.S. Patent and Trademark Office

Technology Classifications

Between January 1977 and December 2004, over 3.1 million patents were granted. At this writing, the total number of patents granted for all time was nearing 7 million.

The USPTO classifies patents by technology category. Technology classifications for which patenting is most active are shown in Exhibit 1.4.

Drug inventions clearly dominate. This is not surprising. Huge investments are required to invent and perfect medical therapies. Even larger amounts of profit are available from these successful inventions. Consequently, patent protection is of critical importance.

Further review of the most active technology classifications clearly reflects the state of our experience with commercial and consumer products. As an example, computer and digital products are part of every aspect of our lives. Not surprisingly, semiconductors and active solid-state devices are technology classifications that appear in the top five of the most active list.

Exhibit 1.4 counts all patent documents, including utility, design, plant, and reissue patents, as well as statutory invention registrations and defensive publications.

History of U.S. Patent Applications

Are patent applications an indicator of business confidence? The next graph shows the number of patent applications, by year, since 1850. By focusing on valleys in the graph, we can generally show that during times of turmoil patent applications drop. Listed below are some of the most shattering events in modern history. In all cases they correspond to substantial reduction in

EXHIBIT 1.4 U.S. PATENT TECHNOLOGY CLASSIFICATION

	Total
Drug, Bio-Affecting	108,492
Stock Material or Miscellaneous	52,004
Semiconductor Device Manufacturing	45,752
Chemistry: Molecular and Microbiology	44,041
Active Solid-State Devices	38,152
Measuring and Testing	35,325
Radiation Imagery Chemistry	31,923
Internal-Combustion Engines	31,712
Radiant Energy	27,964
Electrical Connectors	27,898
Furnishings	26,447
Metal Working	26,135
Liquid Purification or Separation	26,059
Optical: Systems and Elements	26,010
Surgery	25,217
Electricity: Measuring and Testing	24,596
Electricity: Electrical Systems	23,603
Surgery	23,157
Communications: Electrical	22,782
Static Information Storage and Retrieval	22,676
Land Vehicles	22,521
Multiplex Communications	22,360
Plastic and Nonmetallic Article Shaping or Treating: Processes	21,718
Adhesive Bonding and Misc. Chemical Manufacture	21,610
Recording, Communication, or Information Retrieval Equip.	21,557
Synthetic Resins or Natural Rubbers	21,238
Television	21,140
Computer Graphics Processing and Selective Visual Display	20,498
Electric Heating	20,250

Source: United States Patent & Trademark Office.

the number of patent applications. It appears that patent applications are an indicator of confidence in the future (see Exhibit 1.5).

1860's—Civil War

1893—Depression

1898—War with Spain

1915—World War I

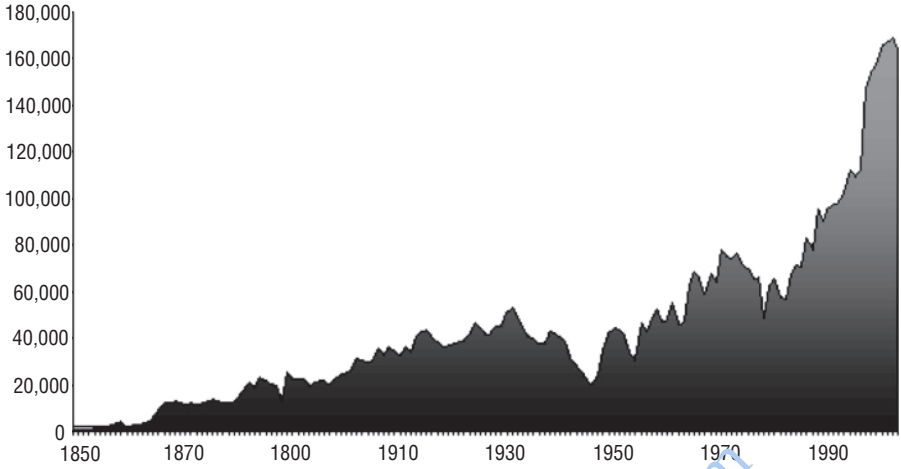


EXHIBIT 1.5 **U.S. Patent Applications 1850–2004**

1920—Prohibition
1930's—Great Depression
1940's—World War II
1950—Korean War
1968—Vietnam War at its Height
1970's—Oil Embargo
1990—Gulf War

TRADEMARKS

A trademark is a word, name, symbol, or device used in trade with goods, to indicate the source of the goods, and to distinguish them from the goods of others. A servicemark is the same as a trademark, except that it identifies and distinguishes the source of a service rather than a product. The terms "trademark" and "mark" are commonly used to refer to both trademarks and servicemarks.

Trademark rights may be used to prevent others from using a confusingly similar mark, but not to prevent others from making the same goods, or from selling the same goods or services, under a clearly different mark. Trademarks used in interstate or foreign commerce may be registered with the USPTO.

Between 2001 and 2005, over one million trademark applications were filed, at the general rate of over 200,000 annually.

Trademark Applications 2001–2005

2001	232,939
2002	207,287
2003	218,596
2004	244,848
2005	265,506
Total	**1,169,176**

Source: U.S. Patent and Trademark Office.

In 2005, U.S. companies filed for 262,506 trademarks. States comprising the top ten number of filings are listed below. These ten states accounted for over sixty percent of the applications.

Trademarks Applications for 2005 Top Ten State Filers

California	56,167
New York	28,164
Florida	17,285
Texas	13,609
Illinois	11,782
New Jersey	10,227
Ohio	7,510
Massachusetts	7,491
Pennsylvania	7,376
Georgia	6,700
Total	**166,311**

Source: U.S. Patent and Trademark Office.

Also in 2005, nearly sixty-one thousand trademark applications (twenty-three percent of the total) were filed by business entities of over one hundred sixty foreign countries. The ten countries with the largest number of filers accounted for over seventy percent of the foreign applications:

Trademark Applications for 2005
Top Ten Foreign Nation Filers

Germany	8,146
Canada	7,730
United Kingdom	6,273
Japan	4,824
France	4,555
Switzerland	3,346
Italy	2,894
Australia	2,204
Netherlands	1,725
Mexico	1,403
Total	**43,100**

A measure of the importance placed on trademarks is indicated by the amount of annual spending invested to support brands. *Advertising Age* presents annual data showing amounts spent by the top one hundred advertisers. In 2004, the amount spent was over $98 billion. General Motors spent more than any other company, at $3.997 billion. Procter and Gamble took second place, spending $3.920 billion. The top twenty-five ad spenders are presented in Exhibit 1.6.

The top one hundred leading advertisers supported five hundred sixty-nine brands, with $10 million or more of measured media in 2004. Procter and Gamble supported the most brands, with forty-five. The top twenty-five U.S. mega-brands are listed in Exhibit 1.7.

Johnson and Johnson supported the second largest number of mega-brands, with twenty-six. The undisputed king of media was the Verizon Communications brand, with $1.51 billion in spending. This amount was the largest spent on a single brand.

COPYRIGHTS

A copyright is a form of protection provided to authors of "original works of authorship," including literary, dramatic, musical, artistic, and certain other intellectual works, both published and unpublished. The 1976 Copyright Act generally gives the owner of a copyright the exclusive right to reproduce the copyrighted work, to prepare derivative works,

EXHIBIT 1.6 TOP 25 U.S. ADVERTISERS

From 100 Leading National Advertisers (AA, June 27, 2005). Table ranks marketers by their 2004 U.S. spending, the sum of measured media from TNS Media Intelligence and unmeasured estimates by *Ad Age* that include promotion and direct marketing, etc. Dollars are in millions. *SBC acquired AT&T Corp. in late 2005 and changed the SBC moniker to AT&T. The next edition of this Special Report will be published June 26, 2006.

Rank	Marketer	U.S. Ad Spending	% Change
1	General Motors Corp.	$3,997	6.3
2	Procter & Gamble Co.	3,920	17.0
3	Time Warner	3,283	6.8
4	Pfizer	2,957	10.3
5	SBC Communications*	2,687	3.4
6	DaimlerChrysler	2,462	3.2
7	Ford Motor Co.	2,458	11.4
8	Walt Disney Co.	2,242	10.1
9	Verizon Communications	2,197	31.4
10	Johnson & Johnson	2,176	10.9
11	GlaxoSmithKline	1,828	17.0
12	Sears Holdings Corp.	1,823	-10.9
13	Toyota Motor Corp.	1,821	11.1
14	General Electric Co.	1,819	5.5
15	Sony Corp.	1,665	-7.8
16	Nissan Motor Co.	1,540	17.6
17	Altria Group	1,399	1.0
18	McDonald's Corp.	1,389	1.4
19	L'Oreal	1,341	6.1
20	Unilever	1,319	-1.3
21	Novartis	1,285	34.2
22	PepsiCo	1,262	4.3
23	Home Depot	1,256	22.6
24	Merck & Co.	1,250	11.2
25	U.S. Government	1,229	9.4

Reprinted with permission from the "Top 25 U.S. Advertisers," 2006 Fact Book—4th Annual Guide to Advertising Marketing issue of *Advertising Age,* Copyright, Crain Communications Inc., 2006.

to distribute copies or phonographic records, and to perform or display the work publicly.

The copyright protects the form of expression, rather than the subject matter of the work. For example, a description of a machine could be copyrighted, but this would only prevent others from copying the description; it would not prevent others from writing a description of their own,

EXHIBIT 1.7 TOP 25 U.S. MEGABRANDS

From Megabrands (AA, July 18, 2005). Basic data from TNS Media Intelligence. Measured media totals are AA estimates in millions for calendar 2004. *Cingular absorbed AT&T Wireless in 2005 eliminating the AT&T Wireless megabrand. The next edition of this Special Report will be published July 17, 2006.

Rank	Megabrand	U.S. Ad Spending	% Change
1	Verizon	$1,505.9	27.5
2	Ford	948.0	10.9
3	Nissan	901.0	15.2
4	Chevrolet	895.2	29.1
5	Spring	857.4	9.7
6	Cingular*	833.7	34.6
7	Toyota	792.7	5.3
8	Dodge	707.6	22.6
9	Dell Computers	625.0	26.1
10	McDonald's	614.0	-1.0
11	AT&T Wireless*	591.2	-23.4
12	Wal-Mart	578.4	21.3
13	Honda	565.1	16.4
14	Sears	560.9	-13.5
15	Citibank	549.7	117.7
16	Chrysler	540.9	4.7
17	Hewlett-Packard	530.6	23.2
18	Macy's	530.5	-3.7
19	Target stores	523.2	10.7
20	Home Depot	518.3	-5.5
21	GM corporate	508.8	35.0
22	T-Mobile	440.5	26.0
23	J.C. Penney	430.4	0.5
24	American Express	395.6	5.4
25	Best Buy	387.6	13.4

or from making and using the machine. The Copyright Office of the Library of Congress registers copyrights.

The Library of Congress is the nation's oldest federal cultural institution, and serves as the research arm of Congress. It is also the largest library in the world, with more than 130 million items, on approximately 530 miles of bookshelves. The collections include more than 29 million books and other

printed materials, 2.7 million recordings, 12 million photographs, 4.8 million maps, and 58 million manuscripts.[4]

TRADE SECRETS

Under the Restatement of Torts, §757 (1939), "a trade secret may consist of any formula, pattern, device, or compilation of information which is used in one's business, and which gives him an opportunity to obtain an advantage over competitors who do not know or use it. It may be a formula for a chemical compound, a process of manufacturing, treating or preserving material, a pattern for a machine, or other device, or a list of customers."

Trade secrets are defined under the Uniform Trade Secrets Act as "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 easily 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 circumstances to maintain its secrecy."

"The Illinois Trade Secrets Act, §765 ILCS 1065/1 et seq. (West 1993), provides that trade secrets are 'information, including but not limited to, technical or non-technical data, a formula, pattern, compilation, program, device, method, technique, drawing, process, financial data, or list of actual or potential customers or suppliers, that: (a) is sufficiently secret to derive economic value, actual or potential, from not being generally known to other persons who can obtain economic value from its disclosure or use; and (b) is the subject of efforts that are reasonable under the circumstances to maintain its secrecy or confidentiality.'

"The New Restatement of the Law Third, Unfair Competition defines a trade secret in Section 39 as follows: '§39. Definition of Trade Secret. A trade secret is any information that can be used in the operation of a business or other enterprise and that is sufficiently valuable and secret to afford an actual or potential economic advantage over others.'

"In addition, it is well established that 'a trade secret can exist in a combination of characteristics and components, each process, design and operation of which, in unique combination, affords a competitive advantage

and is a protectable secret.' Also, 'a trade secret need not be essentially new, novel, or unique; . . . The idea need not be complicated; it may be intrinsically simple and nevertheless qualify as a secret, unless it is common knowledge and, therefore, within the public domain.'"[5]

Evaluating Trade Secrets

Important factors a business owner should consider, in determining whether information owned and used by his/her business is a trade secret, include:

1. the extent to which the information is known outside the owner's business;
2. the extent to which it is known by those involved in the owner's business;
3. measures taken to guard the secrecy of the information;
4. the value of the information to the owner or to his/her competitors;
5. the information; and
6. the ease or difficulty with which the information could be properly acquired or duplicated by others.

The principal idea to remember is that a protectable trade secret may not be "within the realm of general skills and knowledge" in one's field of business, and may not be "readily duplicated without involving considerable time, effort or expense."

Upon examining these factors in comparison to the confidential business information of the company, it may be prudent to conduct an intellectual property audit to identify the protectable business information and assess the value to the company of that information, i.e. the value of the trade secrets.

The number of trade secrets is impossible to count. As long as they remain secret, their number will remain unknown. The respect for trade secrets, however, is well demonstrated by a recent attempt to steal a secret formula from the Coca-Cola Company.

Coke and Pepsi are often perceived as bitter enemies, but when PepsiCo received a letter offering Coca-Cola trade secrets, it went straight to its corporate rival. Six weeks later, three people were scheduled to appear in federal court to face charges of stealing confidential information, including a

sample of a new drink, from Coca-Cola to sell to PepsiCo. "Competition can sometimes be fierce, but it also must be fair and legal," Pepsi spokesman Dave DeCecco said. "We're pleased the authorities and the FBI have identified the people responsible for this."[6]

The suspects arrested, the day the $1.5 million transaction was to occur, include a Coca-Cola executive's administrative assistant, who is accused of rifling through corporate files and stuffing documents, and a new Coca-Cola product, into a personal bag. Atlanta-based Coca-Cola thanked PepsiCo for its assistance.[7]