

**PROTECTING INTELLECTUAL CAPITAL IN STARTUPS:
A GUIDE FOR THE ENTREPRENEURIAL ATTORNEY
IN THE NEW ECONOMY**

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I. THE SETTING

Sun Microsystems’ original founder and CEO, Vinod Khosla, notes that “the entrepreneur is the one who dares to dream the dreams and is foolish enough to try and make them come true.”¹ He should know. As a senior partner with the legendary venture capital firm Kleiner Perkins Caufield & Byers,² Mr. Khosla works

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1. Interview by ChannelNewsAsia.com with Vinod Khosla, Partner, Kleiner Perkins Caulfield & Byers (Oct. 19, 2001), at http://cna.mediacorpnews.com/analysis_prog/incon/incon_kholsa2.htm.

2. *Id.* at http://cna.mediacorpnews.com/analysis_prog/incon/incon_kholsa1.htm.

with many entrepreneurs and startups in the Internet and high-tech sector.³ The dreams he refers to are the embryonic version of what intellectual property attorneys are paid to protect once they mature into ideas that can or already do generate revenue.

These ideas, whether they are writings, computer code, business process diagrams or employee training methods, are intellectual property.⁴ Even though the ideas are intangible, they are among the most important assets that any successful company possesses.⁵ And while this concept is hardly revolutionary, it is still relatively new. Most people are accustomed to thinking of businesses in terms of their tangible assets, such as their factories, machinery, vehicles, computers, and others.⁶

Attorneys working with the intellectual property of New Economy companies have an even tougher task than their Old Economy (i.e., “bricks-and-mortar”) colleagues. The additional challenge arises because the ideas comprising the value-backbone in these companies exist in the perilous age of the Internet. There are three distinct factors that render protecting the intangible assets of the New Economy company more complicated than the traditional tangible assets of the Old Economy.⁷ The first factor is the infrastructural setting of the Internet,⁸ the second factor is the current depressed state of the private equity investment market,⁹ and third is the fact that present accounting systems do little to

3. This is cumulatively referred to as either “New Economy,” “high-tech,” or “dot-com.”

4. BLACK’S LAW DICTIONARY 813 (7th ed. 1999) (defining intellectual property as “[a] category of intangible rights protecting commercially valuable products of the human intellect”).

5. DEBORAH E. BOUCHOUX, PROTECTING YOUR COMPANY’S INTELLECTUAL PROPERTY: A PRACTICAL GUIDE TO TRADEMARKS, COPYRIGHTS, PATENTS & TRADE SECRETS viii (2001) (“At least one expert has predicted that the intangible assets of a typical company (namely, its trademarks, copyrights, patents, and trade secrets) will soon represent 80 percent of its value.”).

6. *Id.* at 1 (“Until the 1990s, nearly all business owners could readily point to their company’s valuable assets . . . [which] usually consisted of real estate, . . . or durable goods, such as trucks, manufacturing facilities, or equipment.”).

7. New Economy companies are not the only ones with intangible assets. Brick-and-Mortar companies can also possess intangible assets. The characteristics inherent in the effort to protect them are no less problematic.

8. *See generally* EDWARD F. O’CONNOR, A PRIMER ON INTELLECTUAL PROPERTY LAW AND PATENT LITIGATION: UNDERSTANDING AND DEFENDING YOUR CLIENT’S PATENTS, TRADEMARKS AND COPYRIGHTS 151 (A.B.A. 1997) (with regard to copyrighted materials on the Internet, “anyone who publishes anything on the Internet and expects to have his or her copyrights honored is hopelessly naïve.”).

9. This article was written in August 2001.

properly acknowledge these assets;¹⁰ that is, it is extremely rare to find balance-sheet entries for these assets.¹¹ The intellectual property attorney is required to protect something that can be easily pirated, is increasingly difficult to raise money for, and is rarely identified in corporate financial records.

Even if you regard the Internet as being nothing more than a phone line with a big ego, one fact is indisputable: the Internet has created an unprecedented operational environment where the transmission of intellectual property across millions of computers throughout the world can occur in a matter of seconds. Consequently, it is much easier for anyone with Internet access to make illegal copies of software code, books (e-books), articles, music, drawings, and anything else that can be digitized.¹² It is also possible to attribute the frenzied operational pace of this intellectual-property-unfriendly environment to market realities where time-to-market, competition, cost, speed of customer acquisition, and the pressure to quickly generate working capital are now determinants of survival. In the New Economy, Darwinian evolutionary principles are not merely interesting theories debated over a cappuccino; they are very real and painful. Any company that cannot efficiently execute its entry into the market has its sorry fate sealed, notwithstanding the brilliant caliber of its intellectual property.

Further complicating the work of the intellectual property attorney is the current, relatively depressed state of the capital market and the entrenchment of private equity. The nauseating disappointment from dot-com performance is contributing to cynical and relatively cautious investor behavior that makes raising sufficient capital, which is critical for the creation of intellectual property, an impressive feat.

Out of 557 technology-based companies whose shares were

10. See generally GORDON V. SMITH & RUSSELL L. PARR, VALUATION OF INTELLECTUAL PROPERTY AND INTANGIBLE ASSETS 79-92 (John Wiley & Sons 3d ed. 2000) (discussing accounting principles relating to valuation).

11. *Id.* at 88 (“These standards are so narrow that few, if any, intangible assets or elements of intellectual property are ever reflected on a balance sheet.”).

12. DIANE M. ZORICH, INTRODUCTION TO MANAGING DIGITAL ASSETS: OPTIONS FOR CULTURAL AND EDUCATIONAL ORGANIZATIONS, 23 (1999) (“Perhaps the most threatening aspect of electronic networks is their potential for making the copying of intellectual property easier, cheaper, and faster The concern is over unauthorized reproductions that can cause creators to lose control of the use and quality of their work, as well as lose potential revenue from sale, licensing, or rental of their work.”).

offered to the public through initial public offerings (“IPOs”) in 1999 and 2000, only seventeen percent still trade above their IPO price.¹³ This number suggests enormous losses for investors, thereby clarifying the reason for current investor weariness. Further illustrating this sentiment is the great dot-com carnage, which has so far claimed 592 companies and vaporized billions in venture capital investments.¹⁴

And yet, despite the violent market gyrations, intellectual property in the digital age is the only real asset that a start-up company possesses.¹⁵ Based on the value investors attach to the intellectual property, it is a resource that can be leveraged for the growth of the company and is therefore appropriately regarded as a form of capital. This asset, which will be referred to as “intellectual capital,” exists in various places within the company and takes on different forms.¹⁶ From the business plan to the executive team, research and development, and method of execution, the startup’s lifecycle is full of intellectual capital nuggets that need to be carefully identified, catalogued, and protected.¹⁷ At the same time counsel must be sensitive and resist adopting an overly broad protective approach which is expensive and drains valuable resources.

By weaving together legal, business, and accounting principles to examine the issues intellectual property lawyers face on a daily basis, this article provides an overview of several key concepts and issues relating to the protection of intellectual property in the New Economy. Another objective is to use these prisms to shed a new perspective on these issues and help the lawyer think like an entrepreneur. Adopting this mode of thought is useful because it helps minimize friction with a client who is occasionally convinced that lawyers are an anathema to business.¹⁸

13. Kyle Huske, *Bombs to Booms*, IPO.COM, May 30, 2001, at <http://www.ipo.com/ipoinfo/printnews.asp?p=IPO&pg=28340>.

14. TIM MILLER, ED., THE INTERNET M&A UPDATE—SPECIAL REPORT: JULY REPORT: INTERNET M&A & SHUTDOWNS (Aug. 1, 2001), available at <http://www.webmergers.com>.

15. SMITH & PARR, *supra* note 10, at 1 (“Upstart companies are creating new products and services based not on extensive natural resource holdings or cash hordes, but on intellectual property resources.”).

16. *Id.* at 54 (discussing intellectual capital).

17. See generally BOUCHOUX, *supra* note 5, at 1-14 (discussing recognition and protection of a company’s intellectual property).

18. Cf. Eran Kahana, *Metamorphosis, Inc.*, BUS. L. TODAY (ABA), Jan. 2002, available at <http://www.abanet.org/buslaw/blt/2002-01-02/kahana.html>. Creating a new,

Part II of this article defines and reviews the significance of intellectual property as a capital asset.¹⁹ It also touches on some of the accounting difficulties associated with tracking this asset and lists the authoritative sources guiding valuation for accounting reasons. At the same time, this Section purposefully avoids delving into the volumes of information that concern valuation of intangibles. Determining the meaning of value in the New Economy is the subject of Part III.²⁰ Here, the discussion leads the reader through the thought process of identifying value in the New Economy. It provides a business and legally oriented perspective on the maintenance of value through the anti-commoditizing effect of intellectual property, and it reviews the dynamic nature of value and employs the Amazon.com One-Click dispute as a method to illustrate intellectual capital's role in the struggle for market share, market leadership, and appreciation of investment capital. Part IV discusses the relationship of business models to the protection of intellectual capital.²¹ At the outset, it explains the interrelationship between extra-corporate and intra-corporate forces in shaping the business, revenue and sales models, and provides a real-life example to illustrate how these forces affect its election. Patenting business methods and the role of strategic business considerations is the subject of Part V.²² The *State Street*²³ case and *Amazon.com's*²⁴ One-Click case are offered to explain the importance of business method patents, the disputes arising from their utilization, and various business considerations employed in working with them.²⁵ Part VI discusses the business and legal challenges lawyers are likely to face when working with the client's CEO and other senior managers, and it provides a business-styled approach to solving difficult situations where the urgency for sales is pitted against operating in a legal and ethical manner.²⁶ Capturing intellectual

"value-added" lawyer can be achieved by combining the skills of a legal analyst with that of a business strategist, and his new creature can be referred to as a strategic business lawyer. *Id.*

19. *See infra* Part II.

20. *See infra* Part III.

21. *See infra* Part IV.

22. *See infra* Part V.

23. *State St. Bank & Trust Co. v. Signature Fin. Group, Inc.*, 149 F.3d 1368 (Fed. Cir. 1998).

24. *Amazon.com, Inc. v. Barnesandnoble.com, Inc.*, 239 F.3d 1343 (Fed. Cir. 2001).

25. *See infra* Part V.

26. *See infra* Part VI.

capital and leveraging it for the company's benefit is the subject of Part VII.²⁷ The technical nature of this section is necessary in order to explain how the myriad of intellectual capital nuggets can be collated into an easy-to-use, value-creating format. Part VIII offers the conclusion.²⁸

II. INTELLECTUAL CAPITAL: DEFINITION, ACCOUNTING OBSTACLES, & SIGNIFICANCE

Intellectual capital is an intangible asset²⁹ that must be understood as comprising much more than something which cannot be touched or seen. The key to understanding the role of this term of art is to focus on value. In order for intellectual capital to maintain an existence vis-à-vis valuation, it needs to possess a number of vital characteristics.³⁰ Reilly and Schweis described these elements in a manner suggestive of the bundle of rights theory and by assigning to it attributes descriptive of tangible-asset classes, such as real estate.³¹ Specifically they propose that some of the more common characteristics or attributes necessary for the qualification as an intangible asset include the following:

1. It should be subject to specific identification and recognizable description.

2. It should be subject to legal existence and protection.

3. It should be subject to the right of private ownership, and the private ownership should be legally transferable.

4. There should be some tangible evidence or manifestation of the existence of the intangible asset (e.g., a contract, a license, a registration document, a computer diskette, listing of customers, set of financial statements, etc.).

5. It should have been created or have come into existence at an identifiable time or as the result of an identifiable event.

6. It should be subject to being destroyed or to a termination of existence at an identifiable time or as the result of an identifiable event.³²

27. *See infra* Part VII.

28. *See infra* Part VIII.

29. It is important to note that discussion of accounting principles, such as the definition of what is an "intangible asset," is merely treated here in such manner as to provide a high-level overview.

30. ROBERT F. REILLY ET AL., VALUING INTANGIBLE ASSETS 5 (1998).

31. *Id.*

32. *Id.*

This intangible asset class eludes common metrics to such a degree that accountants hold it as an axiomatic principle that generally accepted accounting principles (“GAAP”) do not properly capture it.³³ This is based on the fact that typical financial statements, which are part of GAAP and work well to record historic financial transactions, nonetheless fail to accommodate a company’s potential value.³⁴ Early investors, particularly venture capitalists, focus on potential value when making their investment.³⁵ It is therefore important for counsel to have at least a rudimentary level of familiarity with these tools.

GAAP’s financial statements’ “failure” in this regard, however, is not a design flaw. Rather, it is attributable to the fact that they are not meant to account for intangible assets in the first place.³⁶ For instance, the “balance sheet” portion of the financial statement is intended to provide the accountant with a snapshot of the company’s assets and liabilities at a specific point in time. The “income statement” portion provides a summary of the transactions over a coterminous time. Both portions are meant to be read together. Both provide information about the company’s financial health, but neither records activity related to intangible asset value. The accounting world, therefore, continuously looks to the Financial Accounting Standards Board (“FASB”), the Appraisals Standards Board (“ASB”) (which promulgates the Uniform Standards of Professional Appraisal Practice), the American Society of Appraisers (“ASA”), and the Internal Revenue Service (“IRS”) to provide it with the proper metrics for valuing a company’s intangible assets. It is not the domain of counsel to be thoroughly familiar with these authorities. However, it is advisable to be at the very least aware of their role in the formal valuation of intangible assets.³⁷

33. SMITH & PARR, *supra* note 10, at 87-88 (discussing intangible assets on balance sheets).

34. *Id.* at 93 (discussing the disparity between a business’s value on a balance sheet and its value to an investor who is concerned with the business’s present and prospective earning power).

35. *See* FINANCIAL ACCOUNTING STANDARDS BOARD (FASB) SUMMARY OF STATEMENT NO. 142, GOODWILL & OTHER INTANGIBLE ASSETS (2001); *see also* ROBERT W. HAMILTON & RICHARD BOOTH, CORPORATE FINANCE 1 (3rd ed. 2001). Although it is not usually the role for a lawyer to calculate the value of a business, it is often necessary for a lawyer to draft documents that incorporate references to valuation or to present evidence about the value of a business or investment opportunity. *Id.*

36. SMITH, *supra* note 10, at 89.

37. *See generally id.* (discussing in depth the valuation of intangible assets).

For the purposes of this discussion intellectual capital is, on the micro level, primarily composed of knowledge that can be attributed to a particular employee, and, on the macro level, to the organization as a whole. The knowledge component of intellectual capital is in turn comprised of core competencies (what the employee and the company do better than other similar companies), collective experience, method of management of business strategies, customer relationships, sales, brand and trademark development processes and strategies, and other similar aspects.

The significance of intellectual capital is that, in the realm of the New Economy, valuation does not rest in a company's tangible assets, but in its intangible assets, i.e., its intellectual capital.³⁸ In 2001, this asset class yielded a price tag of \$36.5 billion,³⁹ a figure extrapolated from the amount of venture capital disbursements to dot-coms and other high-tech companies throughout those years. Venture capitalists, which are the single most important capital resource for New Economy companies, are not dependent on GAAP or other guidelines for their valuation decisions.⁴⁰ Their metric is primarily based on the caliber of the management team's experience catapulting the portfolio company toward success.⁴¹ This experience is one of the components of intellectual capital and, as mentioned above, carries a lucrative price.

A useful illustration is the relatively recent investment of \$18 million disbursed to Kontiki, a company headed by "brand name" management personnel such as Marc Andreessen, founder of Netscape, and Jim Barksdale, Netscape's first president.⁴² In this case, the company's investors are gambling that these managers will quickly and efficiently execute the business plan and assigned to Kontiki's intellectual capital—the fuel that will make it happen—a value of \$18 million.

38. Sabra Chartrand, *Patents: Putting a Value on the Intangible*, N.Y. TIMES, Dec. 18, 2000, at C30.

39. Press Release, Nat'l Venture Capital Ass'n, Venture Capital Investment Increases in Q4 for First Time Since Mid-2000: 2001 Finishes as 3rd Strongest Year for Venture Capital (Feb. 4, 2002), available at http://www.nvca.com/nvca02_04_02.html.

40. See generally Miles Weiss, *Silicon Valley Venture Capital Fund Makes 1,500% Return on Ebay Investment*, PITTSBURGH POST-GAZETTE, Apr. 18, 1999, at F-4.

41. *Id.*

42. Henry Norr, *Startup to Speed Downloads*, S.F. CHRON., Aug. 6, 2001, at B3.

III. DETERMINING "VALUE" IN THE NEW ECONOMY

As alluded to in the previous section, New Economy companies are not valued based on their historical earnings and tangible assets for the simple reason that they usually have none of those attributes, which is particularly true in first round financings.⁴³ Instead, they are valued on their potential earnings power, which is usually extracted from the perceived caliber of their intellectual property.

Even though some New Economy investors have done very well in their valuations and successfully earned enormous returns⁴⁴ between 1997 and 2000, many more did poorly.⁴⁵ Even those who were successful had at best a seventeen percent success rate.⁴⁶ This fact shows that valuation is not an exact science,⁴⁷ despite the plethora of available formulas. Because these formulas are outside the scope of this article, they will not be discussed further. Instead, the discussion will touch on the market capitalization, and price to earnings (P/E) ratio methods as a way to illustrate the mechanics of determining value.

Valuation in startups begins with the company's founder. The value assigned is based entirely on his or her subjective perception of what the investment community would be willing to pay. Once the search for investors is launched, that number will be modified (usually downward) in accordance with their responses.⁴⁸

In first round⁴⁹ financings, the startup typically has neither a

43. See Tim Jackson, *Inside Track: Secrets of Scouting for Success: a Talent for Picking Winners and Working Hard to Help Them has Made Benchmark Capital One of the Most Successful Venture Capital Firms Ever*, FIN. TIMES (LONDON), Aug. 29, 2000, at 12.

44. Benchmark Capital invested \$5 million in eBay. That investment is valued at over \$4 billion today. See Weiss, *supra* note 40; See generally RANDALL E. STROSS, *E-BOYS: THE FIRST INSIDE ACCOUNT OF VENTURE CAPITALISTS AT WORK* (Crown Pub. 2000).

45. Weiss, *supra* note 40 (stating that "[t]he ground is littered with ventures that haven't gone well").

46. See Huske, *supra* note 13.

47. See Jackson, *supra* note 43.

48. Many times, attorneys at Treston & Redmond see business plans in which the entrepreneurs are essentially negotiating against themselves. It is said that a bad negotiator is one who always gets what he or she wants. This is because they are not raising the bar high enough. This suggests that entrepreneurs should pick a sum high enough that leaves sufficient room for the virtually inevitable process of negotiating downward.

49. First round refers to a professional investment by a venture capital fund, and is sometimes referred to as "Series A," which is attributed to the class of stock offered. Previous investment is usually referred to as a "seed round." These types

track record⁵⁰ nor significant or any tangible assets. Beyond the founders notion, the measure of value is related to the confidence levels the investors have in the revenue-generating potential of the intellectual capital. For example, this confidence level can be translated into a twenty-dollar-per-share value (with 10,000 shares outstanding). The market capitalization method multiplies those two figures, and the resulting \$2 million is considered the company's worth.

Once the company is trading publicly, its value can be measured using the P/E ratio. The numerator represents the price of stock per share, and the denominator represents the annual earnings per share. This ratio can indicate how many years of earnings at current levels it would take to cover the current value of the shares. For example, a P/E ratio of eighty means that the company has \$2 of annual, per-share earnings for every \$160 in per share price.

P/E ratios are also better indicators of value than the cost of the stock per share. Take for example two stocks. One costs \$15 per share and the other \$125. The \$15 share has a P/E of fifty and the \$125 has a P/E of twelve. The \$15 is considered a more expensive stock than the \$125 stock because the investor is paying more for the \$15 stock's future earnings stream than for the \$125 stock's earnings stream.

Intellectual property protects value by acting against the commoditization of products. Without it, differentiating factors between similar products or services disappear—leaving the voracious, variety-oriented appetites of consumers with nothing more than dull, hardly differentiable products or services. This in turn negatively affects value.

For example, instead of the bountiful variety of laptop computers offered by Apple Computers, Dell, Compaq, and Hewlett Packard, consumers would be faced with an array of generic machines that do not appropriately reflect the core competencies of their progenitors. For that matter, Dell's laptops are not merely computers. They are differentiated by the company's ability to design relatively inexpensive, innovatively designed machines where state-of-the-art computer display systems

of investments are typically provided by "angel" investors (high net worth individuals) or friends and family who do not delve into relatively substantial financial and other due diligence analysis.

50. See Jackson, *supra* note 43.

are frequently first arrivals in the market. Apple, on the other hand, has branded itself as an innovator by blending radical design concepts with a different computer operating system.

What these companies have in common is that they leverage their intellectual capital to consistently battle the current of obsolescence and to clamor for the coveted position of market leader. The value of their anti-commoditizing agent (in this case the trademark) frequently represents a substantial percentage of the company's value. Apple's brand value (trademark), for example, equals an overwhelming 80% of its \$6.8 billion market capitalization.⁵¹

Value, particularly in startup and emerging growth companies is dynamic. It changes with how efficient the company is at executing its business plan, with the mood of venture capital funds and Wall Street, with corporate and consumer consumption trends, and other factors.

How the entrepreneur's ideas are transformed from a series of electronic brain signals streaming through synapses into revenue generating assets is a process that, in and of itself, also gathers additional intellectual capital. For example, as any e-commerce company knows (or at the very least should be aware of), to generate significant sales through its Web site it is insufficient to merely construct a flashy site that attracts "visitors." These same visitors must be assisted through the purchase process and as quickly as possible turned from browsers into buyers. Additionally, the goal is not to attract one or two purchases, but to develop a relationship in a consistent, long-term manner. In other words, how the company executes its plan for attracting and building a loyal customer base is part of its intellectual capital. This is an ongoing process that is refined along the way. The quality of the steps the company takes to execute this strategy can have significant value. Thus, portions of the strategy need to be patented, and most (if not all) of it should be protected by confidentiality, non-compete, and other agreements.

A useful example of how value works in this regard is patent number 5,960,411 ("411"),⁵² better known as Amazon.com's famous (or infamous, depending on the reader's perspective)

51. Neil Gross, *Commentary: Valuing Intangibles is a Tough Job, But it has to be Done*, BUS. WK., Aug. 6, 2001, available at http://www.businessweek.com/magazine/content/01_32/b3744008.htm.

52. U.S. Patent No. 5,960,411 (issued Sept. 28, 1999).

“One-Click” shopping method. Any person who has used this purchase feature on Amazon’s site can relate to how easy it makes the online shopping experience.⁵³

The process works in the following manner: The customer is required to fill out certain information, including credit card number, shipping preferences, shipping address, etc. Next, the customer must opt in to enable the “One-Click” option.⁵⁴ From this point on, a customer is able to conclude a transaction with a single click of the mouse from that computer.⁵⁵ This patent caused not only an interesting and novel legal dispute,⁵⁶ but also when Barnesandnoble.com, Inc., (“BN”) tried using the same shopping process on its Web site they succeeded in raising a public raucous over patenting methods on the Internet.⁵⁷

There is no doubt that Amazon was acting in its best interests when it submitted its shopping method to the United States Patent and Trademark Office (“PTO”).⁵⁸ It knew it had developed a powerful and valuable method to attract and retain customers.⁵⁹ Possibly the best measure of its value is the fact that BN decided to copy the process. After all, it is said that imitation is the most sincere form of flattery.

From a value perspective, the effect of the lawsuit against BN was to serve as a warning sign to other would-be infringers that Amazon would vigorously defend its intellectual capital when its business interests so warranted.⁶⁰ Amazon’s ability to selectively exclude competitors from using that process, coupled with the ability to freely license the technology to others, such as Apple Computers, increased the value of the company vis-à-vis its

53. W. Scott Petty, *Forcing An On-Line Competitor to Design Around an Internet Patent*, INTELL. PROP. TODAY, Jan. 2000, at 25.

54. *Id.*

55. *Id.*

56. *Amazon.com, Inc. v. Barnesandnoble.com, Inc.*, 73 F.Supp.2d 1228, 1249 (W.D. Wash. 1999), *vacated*, 239 F.3d 1343 (Fed. Cir. 2001) (granting injunctive relief thus barring Barnes & Noble from using what Amazon.com termed its “copycat version.”).

57. One Web site illustrative of the debate is www.noamazon.com. The site claims that Amazon’s patent practices “threaten” development of the Internet. *See* <http://www.noamazon.com>. On February 14, 2001, the United States Court of Appeals, Federal Circuit vacated and remanded the preliminary injunction granted against BN. *Amazon.com, Inc. v. Barnesandnoble.com, Inc.*, 239 F.3d 1343, 1366 (Fed. Cir. 2001).

58. *See* Petty, *supra* note 53.

59. *Id.*

60. *Id.*

investors. On October 31, 1999 (prior to conclusion of the trial), Amazon's price per share was approximately \$68.⁶¹ On the day the preliminary injunction was awarded its price per share was a little over \$85,⁶² and during the peak of that Christmas shopping season its price per share was mostly on the rise, cresting at just over \$105 per share.⁶³

When you consider the fact that its P/E ratios were negative throughout this time (because it was far from showing earnings) this is a remarkable achievement. It is difficult to attribute it to anything but investor excitement over its business model and future earnings prospects, all of which tie back to its intellectual capital.

Value placed by venture capitalists on startups and emerging growth companies is also based on the type of venture fund making the investment. If it is an early stage fund, one which focuses on startups, the valuation methodology will usually be more conservative, due mostly to the fact that there is going to be a comparatively longer term of illiquidity and a corresponding higher level of risk.⁶⁴ Promoting the investment attractiveness for this type of fund necessitates the conservative valuation strategy, which is designed to yield a higher return for the limited partners.

This means the founder who was first to place a price tag on his/her company is going to have a tough battle to prevent excessive erosion in valuation once negotiations commence. Whatever the valuation figure ends up being, it will be based on a mutually-agreed-upon sum, and the venture investors will usually keep this valuation intact until a material event, such as a surge or drastic decline in sales, occurs. However, given the latest investment mood in the private equity markets (as of this writing), valuations will likely be more quickly adjusted than they were during the height of the dot-com golden era.

In many ways, the valuation euphoria that surrounded the dot-com sector from 1998 to 2000 was similar to sentiments regarding the Titanic.⁶⁵ Investors and media hype touted the indestructibility

61. Gretchen Morgenson, *Market Watch: Over the Rainbow with Amazon.com*, N.Y. TIMES, Oct. 31, 1999, at 1.

62. Susan Decker, *Amazon Wins Legal Round: Judge Rules Against Rival Barnesandnoble.com*, SEATTLE TIMES, Dec. 2, 1999, at E2.

63. Thomas Hirschmann, *Applause for Amazon.com's Sales Prospects Boosts Shares*, NAT'L POST, Dec. 10, 1999, at D1.

64. This is relative to venture funds, which have shorter investment cycles.

65. Connor O'Cleary, *'Titanic' Building Pervaded by Desperation Again*, IRISH

and stupendous earning capabilities of dot-coms because they were predicated on superior business models, much in the same manner the designers of the Titanic confidently proclaimed it was unsinkable because of its size and method of manufacture.⁶⁶ Obviously painful was the realization that dot-coms, like any other company, could fail and that the Titanic, like any other ship, could sink.⁶⁷ If nothing else, the Internet bubble's burst has reinforced the notion that valuation techniques need to be in line with reality. Currently, many investors are paying attention to that lesson. Whether or not they will continue doing so when the next "bubble" comes around is unknown.

IV. SIGNIFICANCE OF BUSINESS MODELS

Selecting an appropriate business model and understanding the forces that affect its structure are necessary elements for achieving the protection and efficient leverage of intellectual property in the digital age.⁶⁸ Furthermore, within the various components that comprise the business model, there are distinct instances where intellectual capital exists.⁶⁹ This section reviews the issues surrounding business model election and identifies where intellectual capital exists.

Every company that systematically safeguards its intellectual capital leverages the legal provisions⁷⁰ that determine what and how

TIMES, Mar. 14, 2001, at 19.

66. *Id.*

67. *Id.*

68. Francis Gurry, *The Evolution of Technology and Markets and the Management of Intellectual Property Rights*, 72 CHI.-KENT. L. REV. 369, 370 (1996). Significant evidence exists to demonstrate the use of intellectual property as a critical tool to achieve competitive positioning within the global marketplace. *Id.* at 371. Intellectual property plays a significant role in the global arena where a patent can protect inventions and designs, trademarks enable the presence of a company or product to be readily identified and distinguished from other items, and copyrights permit the protection of expressions, which is of particular importance in the digital sector. *Id.*

69. Gary M. Hoffman, *Turning our Intellectual Property Assets Into Cash*, 635 PLI/PAT 427, 429 (2001). Intellectual capital includes intellectual property, human resources, internally used business models, and other intangible assets. *Id.* at 433. See also Thomas A. Stewart, *INTELLECTUAL CAPITAL: THE NEW WEALTH OF ORGANIZATIONS* 58 (1997).

70. Examples of Intellectual Property and Unfair Competition Statutes include: The Patent Act, 35 U.S.C. §§ 1-376 (2001); The Trademark Act of 1946 (The Lanham Act), 15 U.S.C. §§ 1051-1127 (2001); The Copyright Act of 1976, 17 U.S.C. §§ 101-810 (2001); and The Federal Trade Commission Act, 15 U.S.C. §§

intellectual property can be protected. The company's business model functions as a method to control how intellectual property is distributed, while technology may be used to monitor, restrict, and enforce customer use, and can be used to protect against piracy.⁷¹

The interplay between extra-corporate and intra-corporate forces in shaping the business, revenue and sales models is illustrated in Figure One.

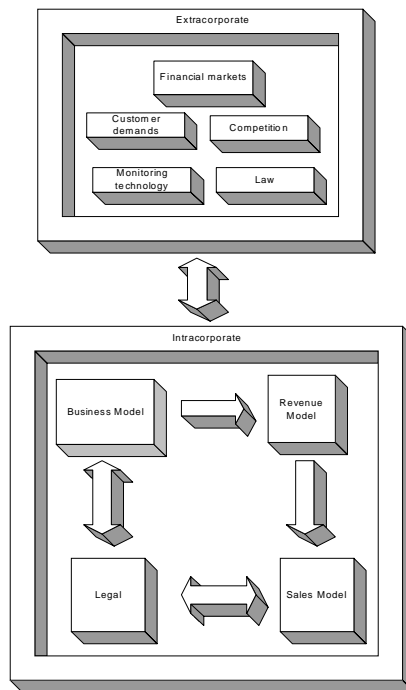


Figure One: Forces Affecting Business Model Selection

41-58 (2001).

71. Between approximately April 2000 and April 2001, the battle between Microsoft and software pirates in twenty countries has yielded the seizure of software valued at \$1.7 billion. Glenn Simpson, *Microsoft Urges Global Attack Against Piracy of Software*, WALL ST. J. TECH CENTER (Apr. 2001). Microsoft is "by far the biggest victim of software piracy." *Id.*; See also Gabriel Garcia, *Economic Development and the Course of Intellectual Property in Mexico*, 27 TEX. INT'L L.J. 701 (1992) (citing INTELLECTUAL PROPERTY RIGHTS, GLOBAL CONSENSUS, GLOBAL CONFLICT? 5 (Michael R. Gadbow & Timothy J. Richards eds., 1988) to show that the percentage of United States' exports containing valuable intellectual property rose from 9.9% in 1947 to 27.4% in 1986). Furthermore, pirating of intellectual property continues to occur at the expense of United States companies, with Mexico pirating nearly \$500 million per year alone. *Intellectual Property Enforcements*

“Business model” is a catchall term that describes the manner in which a business is structured for the purpose of generating revenue.⁷² Consider the following example, which is based on the business model of a former client (Company XYZ). Company XYZ’s business model calls for it to provide outsourced data services; this type of business is known as an application service provider (“ASP”).⁷³

Company XYZ’s revenue model provides that services are charged based on a “per-click” transaction fee. This sales model is an extension of the revenue model. It specifically details how sales will be obtained, whether through value added resellers (“VARs”), strategic partners, channel partners, or direct sales.

All of these documents contain nuggets of intellectual capital, which competitors would be delighted to obtain. One of the reasons for its value is the significant amount of research and scenario-building that the company’s managers had to undertake to finally determine how they would charge and promote their ASP services.⁷⁴

Pricing information, for example, must be kept confidential in this business model because it can reveal XYZ’s cost of goods sold (“COGS”), which in turn can reveal its gross margin. This margin may then help a competitor get the upper hand in a competitive bid scenario. One fairly simple safeguard is for counsel to require that service contracts⁷⁵ explicitly limit a customer’s ability to share pricing information (including pricing method) with suiting competitors, and counsel should make it clear during negotiations

Seen as Insufficient, Experts Say, WORLD INTELL. PROP. REP., May 1997, at 155.

72. Gail L. Grant, *Business Models for the Internet and New Media*, 545 PLI/PAT 39, 45 (1999). The focus of a business model is about how a company can sustain generation of revenues and profit. *Id.* at 46. The components of a business model include: markets/customers; products/services; and channels of distribution. *Id.* at 45-46.

73. Current terminology employs the acronym “xSP” to accommodate the various types of service providers. These include: commercial, corporate, data, and Internet services.

74. See NATIONAL SCIENCE BOARD, SCIENCE & ENGINEERING INDICATORS, app. at 375 (1998). From 1981 to 1998, the amount of resources invested in research and development increased from an average of 2.32% of GDP to an average of 2.67% of GDP, showing the steady increase in industrialized countries of research and development expenditures in the United States. *Id.*

75. 15 U.S.C. § 2301(8) (2000). Under the Warranty Act, the term “service contract” means “a contract in writing to perform, over a fixed period of time or for a specified duration, services relating to the maintenance or repair of (or both) a consumer product.” *Id.*

that this is an expectation.⁷⁶

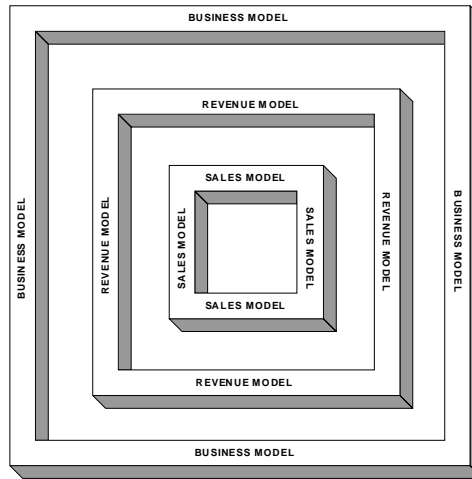


Figure Two: Model Relationship

The extra-corporate variables illustrated in Figure One have a critical effect on the election of the business model. The health of the financial markets (such as NASDAQ, the NYSE, and interest rates) affect the business model through the availability of capital. Venture capitalists, who are the primary source of capital, are highly susceptible to market disruptions.⁷⁷ They are heavily dependent on liquidity events (generated by execution of exit strategy) in order to generate new capital that can then be disbursed to other portfolio companies. Typically (and preferably for the venture capitalist)⁷⁸ this event will occur in the form of an IPO.⁷⁹ But if the capital market is depressed and IPOs are hard to

76. In the author's professional experience, this requirement has never been a deal breaker. Another method to illustrate the relationship between the business model, revenue and sales model is provided in Figure 2.

77. See Hoffman, *supra* note 69 at 430. To attract the attention and support of venture capital firms, a start-up company must demonstrate that it not only has a business model that makes sense, but that there is adequate protection of its intellectual capital. *Id.* at 437.

78. See PAUL A. GOMPERS & JOSH LERNER, *THE MONEY OF INVENTION: HOW VENTURE CAPITAL CREATES NEW WEALTH* 66 (Harvard Bus. Sch. Press 2001) ("Investments in companies that eventually go public yield much higher returns than those in firms that get acquired or remain privately held.")

79. Lance D. Reich, *Dot.com (Patent Pending): Patents Are Now Central to Business Strategy*, 75 MAR. FLA. B. J. 44 (2001). A very popular business model today is the software or Internet start-up company that obtains venture capital funding with

come by, it is concomitantly more difficult to raise money for new ventures.⁸⁰ The business model, therefore, should take this environment into account and, from it, design a revenue model that can quickly generate positive cash flow to get the company through the rough times. Company XYZ achieved this by setting aside (for new contracts) flat transaction fee revenue models and instead favored the use of a hybrid revenue model that contains an up-front charge, minimum monthly fee, and a regular (or higher) per-click fee.

Customer demands exert tremendous force on a company's business model. Using XYZ's example, if the customers demand the ASP to provide 24 x 7 x 365 up-time access to their data, the business model will require the revenue model to charge an appropriate fee that accounts for the higher COGS associated with providing this type of service. Once again, how the company goes about responding to this is, in and of itself, intellectual capital. The level of efficiency the company can achieve in providing this service level, i.e., what steps it takes to minimize the COGS, coincides with the value of this particular nugget of intellectual capital. The higher efficiency rates it is able to achieve directly affects its value and subsequent P/E ratios.

Effectively responding to the competition means that the company has researched the competition's sales behavior. So if a competitor's revenue model charges its customers a flat monthly fee, it is incumbent on the company to respond with its own monthly charge scheme. If a competitor uses affiliate programs to generate sales leads and pays a commission (*e.g.*, 3.5%) on the gross margin of sales closed, this will also influence the business model's approach to the revenue model. The company's approach in researching and responding to the competition also comprises intellectual capital and will also affect the bottom line.

Legal developments, which are addressed in greater detail in Part VI, provide the framework for what can and cannot be done. The business model's dependence on legal developments can be illustrated by the viability of patenting business methods.⁸¹

the objective of launching an initial public offering (IPO) of stock. *Id.*

80. *Id.* Because of the large number of companies vying for funding, venture capitalists look to companies with protected technology and solid business plans. *Id.* Thus, the start-up company is increasingly turning to patents to bolster their credibility when seeking capital. *Id.*

81. *See, e.g.*, *State St. Bank & Trust Co. v. Signature Fin. Group, Inc.*, 149 F.3d 1368 (Fed. Cir. 1998). The *State Street* ruling held that business methods are

Hypothetically, if legal developments indicate that business method patents are only valid for three years, versus the original seventeen,⁸² this would obviously have a significant impact on revenue forecasts where a company's revenue model calls for income from licensing its business method. If the time frame is so dramatically shortened, the company's managers must start planning to adopt new methods that will generate long-term revenue.

Finally, technology plays an important role as a method with which to monitor compliance with license agreements.⁸³ The company may decide that it will use internal resources to monitor customer access to its servers, or limit the customer's ability to illegally distribute working copies of software to other parties. Microsoft, for example, has inserted a time-sensitive licensing feature into its latest office suite, known as Office XP, respectively. Users installing the program are required to register the software with Microsoft's licensing center, and if they do not do so within the prescribed amount of time, operation of the software is disabled.⁸⁴

V. PATENTING BUSINESS METHODS & BUSINESS STRATEGY

A balanced decision is required when deciding whether to patent a business method and whether to seek injunctive relief where infringement is identified. The decision should take into account both business and legal considerations, and counsel

patentable and thereby triggered an explosion in the filing of e-commerce, business method patent applications. *See* Hoffman, *supra* note 69 at 431-32. In 1999 alone, over 600 patents were issued and thousands of applications were received for business methods. *Id.*

82. Similar suggestions have been made. *See, e.g.*, Jeff Bezos, An Open Letter from Jeff Bezos on the Subject of Patents (also suggesting that any new laws should be retroactive), *available at* <http://www.amazon.com/exec/obidos/subst/misc/patents.html/002-0119896-8617667> (last visited Sept. 20, 2001).

83. *See* Hoffman, *supra* note 69 at 431-32. Licensing of intellectual property assets is being used with greater frequency as a source of revenue by companies such as Texas Instruments, IBM, Lucent, Rockwell, and Dow Chemical. *Id.* at 432. Chrysler has received over \$300 million just by licensing the "Jeep" brand name. *Id.* Some companies, such as Xerox and Lucent, have even set up separate corporate entities that manage and take advantage of these revenue sources. *Id.* at 433.

84. *See, e.g.*, Frequently Asked Questions about Microsoft Product Activation *at* <http://www.microsoft.com/piracy/basics/activation/mpafaq.asp> (last visited Feb. 4, 2002).

should take the position that maximizes utility for the company and is compatible with the corporate culture.⁸⁵

The foundation for protecting intellectual capital is provided in the United States Constitution. It prescribes that “Congress shall have the power . . . to promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to the respective writings and discoveries.”⁸⁶ Congress leveraged this provision by enacting 35 U.S.C. § 101, providing that “[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefore, subject to the conditions and requirements of this title.”⁸⁷

Business method patents on the Internet received a healthy boost with the seminal case of *State Street Bank & Trust Co. v. Signature Financial Group Inc.*⁸⁸ It was shortly thereafter that the Federal Circuit started a trend of recognizing the validity of patenting business methods and e-commerce applications.⁸⁹

The suit in *State Street* was over Signature’s patent for a business method known as “Data Processing System for Hub and Spoke

85. See Rochelle Cooper Dreyfuss, EXAMINING STATE STREET BANK: DEVELOPMENTS IN BUSINESS METHOD PATENTING, 636 PLI/PAT 437, 444-52 (Feb. 2001). Prof. Dreyfuss offers an interesting perspective on business method patents as being incompatible with promoting competition.

86. U.S. CONST. art. VII, § 8, cl. 8.

87. 35 U.S.C. § 101 (2001).

88. 149 F.3d 1368 (Fed. Cir. 1998).

89. See *AT&T Corp. v. Excel Communications, Inc.*, 172 F.3d 1352, 1356-58 (Fed. Cir. 1999); see also *Ex Parte Clement W. Bowman*, Appeal No. 1999-0583, 2001 WL 1646047, at *6 (June 12, 2001) (Dixon, J., concurring); Jeff Leow, *In re Intel Corp.*, 15 BERKELEY TECH. L.J. 333, 349 (2000) (discussing the *Intel* settlement and the legitimate exercise of intellectual property rights); Richard M. Moose & John E. Vick, Jr., *E-Commerce Patents: Moving at the Speed of Light*, 12 S.C. LAW. 18, 20 (June 2001) (discussing the role of *State Street* in opening the door to new patent activity); Gary Myers, *Statutory Interpretation, Property Rights, and Boundaries: The Nature and Limits of Protection in Trademark Dilution, Trade Dress, and Product Configuration Cases*, 23 COLUM.-VLA J.L. & ARTS 241, 255 (2000) (discussing the expansion of trademark law and the interpretative method for resolving trademark disputes in relations to *State Street*); Leo J. Raskind, *The State Street Bank Decision: The Bad Business of Unlimited Patent Protection for Methods of Doing Business*, 10 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 61, 80 (1999) (discussing though *State Street* supports the authorization of patents, a clear analytical framework needs to be established); John R. Thomas, *The Patenting of the Liberal Professions*, 40 B.C. L. REV. 1139, 1140 (1999) (focusing on patentable processes and the business method patent of *State Street*).

Financial Services Configuration.”⁹⁰ Until the negotiations to allow State Street to license the process broke down, there seemed to be some agreement between the parties.⁹¹ However, soon after the talks failed, State Street sued and won access to Signature’s patented business method.⁹² Signature’s claim, however, was upheld on appeal⁹³ with the end result being the establishment of legal precedent providing for the validity of patenting business methods and e-commerce applications.⁹⁴

What followed was reminiscent of the gold rush years of the mid-nineteenth century. Virtually every company with an e-commerce platform, be it a pure-play dot-com or a click and mortar company, rushed business method applications to the PTO with the aim of excluding others from using its “proprietary” business methods for creating and using Internet shopping carts, cyber cash, on-line promotions, data processing, and other processes.⁹⁵

When patent ‘411 was enforced, Amazon was a fledgling company—a startup. Barnes and Noble, in contrast, was a well-established company with strong brand recognition and far more financial resources.⁹⁶ Its move to offer the same purchase process on its Web site was a major threat to Amazon, so it was strategically critical that Amazon seek injunctive relief.⁹⁷

In 2001, it was evident that Amazon.com’s struggle with enforcement of ‘411 was not over. The Federal Circuit vacated and remanded the case in *Amazon.com v. Barnesandnoble.com*.⁹⁸ The Federal Circuit stated that while it appears on the record before us that Amazon has carried its burden with respect to demonstrating the likelihood of success on infringement, it is also true that BN has raised substantial questions as to the validity of the ‘411 patent. For that reason, we must conclude that the necessary prerequisites for

90. *State St. Bank & Trust Co. v. Signature Fin. Group, Inc.*, 149 F.3d 1368, 1370 (Fed. Cir. 1998).

91. *Id.*

92. *Id.*

93. *Id.* at 1377.

94. *Id.*

95. See James Gleick, *Patently Absurd*, N.Y. TIMES, Mar. 12, 2000 at Magazine Desk.

96. Matthew O. Wells, *Internet Business Method Patent Policy*, 87 VA. L. REV. 729, 751 (2001).

97. See Robert Hof et al., *Can Amazon Make It?*, BUS. WK., July 10, 2000, at 38-43 (analyzing Amazon’s business model, finances and prospects).

98. 239 F.3d 1343 (Fed. Cir. 2001).

entry of a preliminary injunction are presently lacking.⁹⁹

The fight may not be over, but the stakes are different. Today Amazon has one of the most recognizable brands in e-commerce,¹⁰⁰ and BN no longer poses such a significant threat. It would therefore be advisable for Amazon to refrain from a knee-jerk reaction and carefully consider settling this case before it is heard in September 2001.¹⁰¹ This recommendation is based on a worst case scenario analysis. Even if Amazon loses the case, it is far from clear that this alone will be detrimental to its value. Taken from a different perspective, if BN is successful in invalidating the '411 patent, it is not certain that this will provide it with any significant commercial advantage. The likelihood that Amazon's existing customer base will "defect" because they can now get the same user functionality with BN is low.¹⁰²

The bottom line is that seeking and obtaining a business method patent is an important business strategy and enforcing that patent in a selective, calculated manner is conducive to advancing the company's interests. At the same time, there are occasions where the utility extracted from enforcement efforts is minimal and the company is better advised to focus its resources on other challenges. For counsel to adopt this approach, it is critical to have a clear picture of the industry in which the client operates.

VI. BUSINESS AND LEGAL CHALLENGES

One of the first challenges in protecting intellectual capital can come not from competitors but from the company's managers. Resistance to obtaining patent protection can come from the CEOs who occasionally, sometimes frequently, question the utility of patenting in the first place.

In several instances involving a former client, the CEO would point to anecdotal evidence that patenting frequently proves to be an expensive process that yields very little benefit in relation to cost and creates undue pressure on other resources. This argument is strong because larger competitors can flood out a fledgling rival by

99. *Id.* at 1366.

100. *Can Amazon Survive?*, KNOWLEDGE AT WHARTON, Aug. 30, 2000, at <http://knowledge.wharton.upenn.edu/articles.cfm?catid=7&articleid=238>.

101. See Wells, *supra* note 96 at 730 (explaining that the Internet community responded unfavorably toward Amazon for patenting its methods).

102. Cf. *It's a Page Turner: Amazon vs. Barnes & Noble*, KNOWLEDGE AT WHARTON, OCT. 27, 1999, at <http://knowledge.wharton.upenn.edu/articles.cfm?articleid=91&catid=4>.

contesting their right to the patent and embroiling them in expensive litigation. In such cases, it ultimately makes very little difference if the startup prevails, since it lost the valuable opportunity to enter into the market. Thus, any damages recovered will more likely prove inadequate compensation for this loss.

Arguments in favor of protecting intellectual property through patenting point to the nature of the operational environment with which New Economy companies are faced. The evolution of the Web from an obscure, government defense initiative to a mass consumer economic platform¹⁰³ created new realities for conducting business while at the same time blurring marketing differences between anything from multi-billion dollar corporations to university dorm-based startups.¹⁰⁴

This operational environment renders it insufficient for a company to merely offer the best product at the cheapest price. Instead, it is increasingly critical to offer the best product, not necessarily at the cheapest price, but certainly with the best possible service. The variables for achieving this are limited only by the imagination of the managers. Their ideas for realizing these efficiencies need to enjoy protection as an intellectual capital asset, sometimes through a business method patent.

For example, feature functionality, ease of use, customer retention and visitor tracking tools for Web sites serve to differentiate between merchants that offer comparable products at comparable prices. But, until the *State Street Bank*¹⁰⁵ decision, the refinement of a startup's core competency through the development of a unique business method could not be protected from competitors.¹⁰⁶ The operational environment now imposed by the Web makes it necessary to identify the most important

103. Margaret Khayat Bratt & Norbert F. Kugele, *Who's in Charge? The Web May Be World-Wide, But Lawmaking Bodies Are Not. Two Experts Take a Look at the Evolving Field of International Jurisdiction over the Internet*, 80 MICH. B. J. 42, 43 (July 2001) (discussing the globalization of jurisdiction).

104. Henry H. Drummonds, *Transnational Small and Emerging Business in a World of Nikes and Microsofts (A retrospective article on the 1998 Lewis & Clark Law Forum and the Message of Seattle)*, 4 J. SMALL & EMERGING BUS. L. 249, 261 (2000) (explaining that the Internet pressures companies of all sizes to be flexible because of changing technology).

105. *State Street Bank & Trust Co. v. Signature Fin. Group*, 149 F.3d 1368 (Fed. Cir. 1998), *cert. denied*, 525 U.S. 1093 (1999).

106. See Wells, *supra* note 96, at 732 (recognizing that patent protection became more popular because of inadequacy of trade secret and copyright protection).

intellectual capital components and protect their value from infringement by competitors. As mentioned above, protecting these components is highly advisable because it tends to raise the value of the company as a whole.¹⁰⁷ Furthermore, the CEO and board should be advised that failure to protect a company's intellectual property components could be a breach of fiduciary duty.

Another business and legal challenge is presented by the possible business decision to infringe on a patent because it is necessary to "get the ball rolling." The business side can prove to be insensitive to the dangers to which this sort of action can lead, and counsel may find themselves isolated in insisting that this is not an improper course of action. The pressure to begin generating revenue and achieve positive cash flow is so compelling that willful patent infringement can sometimes be an attractive proposition. However, it raises the specter of a potentially dangerous legal position.¹⁰⁸

Counsel must clearly point out, in writing, to the CEO and the board of directors that any willful action that infringes on a patent jeopardizes the company to a far greater degree than lack of sales. By approaching the problem from a business perspective, counsel's message is more effective because it allows the "audience" to grasp the severity of its proposed actions in terms that they can easily relate to. In other words, the risk outweighs the reward. Secondly, counsel must point out that fulfillment of fiduciary responsibilities to other stakeholders is also jeopardized by proceeding with this course of action.

Aside from the fiduciary aspects, the legal risk of willful infringement is identified by the Patent Act, which authorizes courts to "increase the damages up to three times the amount found or assessed"¹⁰⁹ and allows further that "[t]he court in exceptional cases may award reasonable attorney fees to the prevailing party."¹¹⁰ Furthermore, to proactively tackle the possible anecdotal comments that courts are lenient and that these penalties are easy to avoid, counsel should make it clear that patent

107. See discussion *infra* Parts II-IV.

108. Cf. *American Safety Table Co. v. Schreiber*, 415 F.2d 373, 379 (2d Cir. 1969) ("[D]efendants' infringing acts, although deliberate and with knowledge of plaintiff's rights, could not be termed pernicious due to prevailing 'economic pressure in the form of customer dissatisfaction.'").

109. 35 U.S.C. § 284 (2001).

110. *Id.* at § 285.

enforcement is an undertaking that courts take seriously and that they will use whatever provisions they have at their disposal to drive that message home. Does the company want to carry the stigma of a patent infringer? This could prove substantially detrimental, even fatal, to the prospects of securing future client and investor trust and cast a negative tone on the company's management style in their future business endeavors. This can typically be taken as an unwarranted risk.

VII. CAPTURING INTELLECTUAL CAPITAL

Throughout the course of this discussion, numerous references have been made regarding the value of intellectual capital to the company's bottom line. To effectively protect and harness the value of intellectual capital, it is necessary to have a good plan and proper tools.

The first step is to design a plan from which the enterprise can implement a knowledge management program (Program).¹¹¹ The Program's mission is to enable the strategic, systemic process of creating value-based leverage of an organization's intellectual capital by organizing and enabling easy access for authorized users.¹¹² Once implemented, this Program will influence the increase of potential (both short-term and long-term) value of the company's intellectual capital. Effective accomplishment is directly related to the robustness and success of the Program.

It is important to first clarify some terminology. The term "knowledge" is used in reference to the contents of various information source files such as documents, spreadsheets, presentations, memoranda, and others.¹¹³ This term is used because it appropriately suggests that the focal point of the Program is the content of the file, not its physical structure.¹¹⁴ It is from the file's content that data (knowledge) relationships will be created.

111. See, e.g., *Information Component Management*, at <http://www.reachcast.com/technology.html> (last visited Feb. 6, 2002) (describing an example of a knowledge management program).

112. *Id.* (noting the flexibility of access for users).

113. Norman Walsh, *What is XML?*, XML.COM, Oct. 3, 1998 at <http://www.xml.com/pub/a/98/10/guide1.html> (describing the sources of structured information) (last visited Feb. 6, 2002).

114. See, e.g., *Information Component Management*, *supra* note 111 (noting the crucial nature of relevant information).

“Contributors” are individuals who create the knowledge.¹¹⁵ For instance, anyone who participates in writing the company’s business plan is considered a contributor.¹¹⁶ The Program, however, is not primarily concerned with identifying the specific author.

The following example is based both on an article¹¹⁷ and experience gained from working on a similar program for one of the world’s largest food manufacturers. The system this food manufacturer was piloting was based on what is known as an information component management (“ICM”) system which was developed by ReachCast, Inc.¹¹⁸ This system’s name was derived from the concept of rule-based componentization of documents into relevant chunks of knowledge which can then be dynamically viewed, controlled, tracked and reused.¹¹⁹ Each of the chunks created is identified in the system as an information component (“IC”).¹²⁰ Since an in-depth review of all the technical components of the ICM paradigm is outside the scope of this discussion, this Section will only address its fundamental principles.¹²¹

Within the ICM system, each IC is an independent entity. Its independent status is derived from its separate existence from the source (“parent”) and can be managed, searched for, accessed, displayed and transmitted on its own, using Web technology.¹²² (An illustration of how ICs are distilled is available in Figure 3 below.)

The ICs are derived from various information sources such as those created using the Microsoft Office suite of programs, Portable Document Format (“PDF”) files, extensible markup language (“XML”) and even paper-based documents that are scanned and rendered to an Image + Text PDF.¹²³

The process of generating ICs is conducted by an automated,

115. *Id.* (describing contributor’s technology).

116. *Id.*

117. See generally Eran Kahana, *Information Component Management*, 12 DISASTER RECOVERY J. 1 (1999).

118. See generally *Information Component Management “ICM,”* at http://www.reachcast.com/white%20papers/ICM_Whitepaper.pdf (June 1999) [hereinafter ICM].

119. See *Information Component Management*, *supra* note 111 (describing component-oriented access to information).

120. *Id.*

121. *Id.* (describing software packages available to users).

122. *Id.* (describing how the ICM technology analyzes and provides structure to information within components).

123. See Walsh, *supra* note 113 (describing possible sources of information for structured information).

predefined rules-based process that understands, unwraps, and distills the structure of the source in such a way that ensures the source file is not altered.¹²⁴ The true, 1:1 fidelity nature of IC and its source information provides users with a high level of confidence that what they are using looks like the original file.¹²⁵ It also ensures admissibility as an “original” where the information source is required to satisfy legal requirements.¹²⁶

Once created, each IC is transformed into a database object, stored and indexed in a proprietary object relational database design.¹²⁷ Like any other knowledge, the IC object may include a combination of expressive elements such as words, graphics, numbers, structure and style.¹²⁸

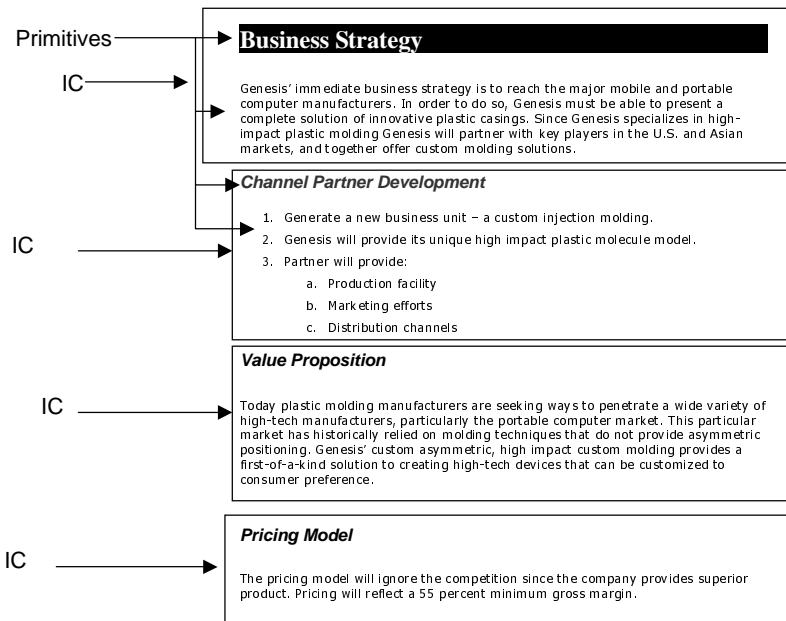


Figure Three: IC Breakdown

124. See ICM *supra* note 118 (illustrating the composition of ICs).

125. *Id.* (noting the importance of confidence in control).

126. *Id.*

127. *Id.* (noting one manufacturer's database design line).

128. See, e.g., Walsh, *supra* note 113 (noting possible combinations of elements in IC documents).

During the IC creation process, source information files are decomposed into XML-based ICs according to a set of rules written by the company.¹²⁹ The rules describe style sheet and layout information¹³⁰ based on, for example, the Business Strategy document in Figure 3 above. This enables the “structure of the document to be separated from its content.”¹³¹ The IC itself is comprised of “primitives” (such as text, graphics, titles, etc.), which are the most basic elements of the document, and relevant component attribute values (metadata).¹³² The ICM system’s user-interface then enables the user to display and re-assemble (organize into a new document) any of these ICs in a standard Web browser and transmit the document to another user.¹³³

The ICs are stored in a proprietary Document Commerce server as relational entries.¹³⁴ ICs are classified not by physical representation in a document, but rather by content.¹³⁵ In the database, ICs and primitives are stored in separate tables that can be accessed and shared in ways ranging from database records, to Javabeans,¹³⁶ CORBA¹³⁷, or COM¹³⁸ objects, which basically render the operating system neutral. The ICM database is comprised of three main tables:

129. See, e.g., *Information Component Management*, *supra* note 111 (noting ability of contributors to set the rules regarding IC use).

130. See ICM *supra* note 118, at 5.

131. *Id.*

132. *Id.* (illustrating the interrelation between ICs and “primitives”).

133. *Id.* (illustrating how ICM technology makes use of a standard web browser).

134. *Id.* at 6 (describing a “Document Commerce” server).

135. *Id.* at 1 (noting the crucial nature of “relevancy” in IC use).

136. See, e.g., Enterprise JavaBeans Technology, at <http://java.sun.com/products/ejb/> (last updated Jan. 17, 2002). Java’s packaging mechanism ensures interoperability on a variety of operating systems.

137. See <http://www.corba.org>. (last visited Feb. 6, 2002). Common Object Request Broker Architecture (“CORBA”) provides a set of common interfaces through which object-oriented software can communicate, regardless of the operating system.

138. See *About Microsoft COM*, at <http://www.microsoft.com/com/about.asp> (last updated Aug. 13, 1999). Common Object Model (“COM”) is an object-based programming specification developed by Microsoft and is designed to provide robust object interoperability. Because it is based on a binary standard rather than on source code, COM enables communication between objects written in different software programming languages, running in different process spaces, and on different platforms.

Documents Table: holds information about the original document. This allows for basic document management, such as document retrieval. The Documents Table also holds an XML representation of the document structure for XML-based applications and search engines.

IC Table: holds the IC logical object definition. This is the main IC data file which stores the IC properties, structure and relationships to other ICs. It contains IC objects, including their attributes and data. The IC Table is related to the IC Primitives Table. The system thus knows exactly which IC includes which primitives.

IC Primitives Table: holds the physical IC data, such as text, images, etc.¹³⁹

Dealing with knowledge generated internally is one of the challenges in this Program.¹⁴⁰ Another challenge is that the ICM system must be flexible enough to accommodate contributions from external sources.¹⁴¹ These files represent a different challenge because of the numerous variables in document formatting that render “rule-based [information] componentization”¹⁴² relatively difficult. The key in this situation is to assemble representative samples of all possible document types and generate rules based on common denominators.¹⁴³

It is advisable to approach the implementation of the Program with clearly defined milestones. Depending on the available resources, the first priority should be on developing the Program to efficiently deal with internal contributions and then turn attention to external sources. Following this approach significantly increases the odds of success.

139. *Id.*

140. *See* ICM, *supra* note 118.

141. *Id.*

142. *Id.* at 4.

143. *Id.* at 3.

VIII. CONCLUSION

As of this writing, there is still no clear indication if or when the financial markets will return to their “irrational exuberant”¹⁴⁴ days. However, it is clear from lessons peppered throughout history that the next “bubble” is just around the proverbial corner, and many more books like Charles Mackay’s seminal “Extraordinary Popular Delusions and the Madness of the Crowds”¹⁴⁵ will be written about the next wave of excited investors. So when the next so-called “bubble” shows up, attorneys will once again be flooded with clients clamoring to protect their intellectual capital and novel legal theories will keep the judicial system busy. Perhaps also by that time, critics of the PTO will be appeased, at least in their demand for patent reform. Whether or not the PTO will be better equipped to handle Internet-based business method patent filings such as Amazon’s ‘411 is unknown.

Regardless of the developments in the financial markets and the occasional resistance from clients, it is clear that efforts directed at protecting the company’s intellectual capital will remain a top priority. The stakes are simply too high to ignore this critical asset. Properly keeping in mind the dynamics that mold how this asset is used and continuously searching for systems and methods to secure and leverage it are bound to be the determinants of success in the New Economy.

144. Federal Reserve Chairman Alan Greenspan, The Challenge of Central Banking in a Democratic Society, Address at the Annual Dinner and Francis Boyer Lecture of the American Enterprise Institute for Public Policy Research (Dec. 5, 1996).

145. CHARLES MACKAY, MEMOIRS OF EXTRAORDINARY POPULAR DELUSIONS AND THE MADNESS OF CROWDS I (1841). Mackay wrote about the tulip bulb hysteria that gripped Holland in the late 1700s. Cf. Theresa A. Gabaldon, *John Law, with a Tulip, in the South Seas: Gambling and the Regulation of Euphoric Market Transactions*, 26 J. CORP. L. 225, 284 (2001) (observing that gambling may “provide a perfect model for euphoric financial market transactions”). Query whether Federal Reserve Chairman Alan Greenspan’s “irrational exuberance” speech was somewhat reflective of Mackay’s catchy title. Greenspan, *supra* note 144.