I. Introduction

Intellectual property and technology are now recognized as key drivers of transactions for companies desiring to enter new business lines, expand their customer base, or extend their geographic reach. For instance, a 2016 report by Deloitte revealed that acquisition of technology is tied for first place in a list of the most critical drivers in mergers and acquisitions.\(^1\) Others in the transaction industry concur, highlighting the desire to enhance intellectual property or acquire new technologies.\(^2\) It is widely recognized that intellectual property (IP) and technology can assist strategic company growth, but often acquisition of IP and technology is desired over organic growth within the company because of its rapid

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\(^*\) I am grateful to all of those with whom I had the pleasure of working in pulling this project together. In particular, I would like to give special thanks to Emily Josef for her careful and thorough review of this book. I would also acknowledge, with gratitude, the support and love of my husband, Brian, without whom this book would not have been possible.

growth potential. For this, among other reasons, mergers and acquisitions (M&A) activity continues to grow substantially, with recent global deal values being quoted as upward of $4.7 trillion, despite recent global political anxiety, sluggish growth across emerging markets, and uncertainty surrounding interest rates.\(^3\) For these reasons, due diligence regarding IP and technology in a transaction is expected to increase as well.

At its core, due diligence on intellectual property is intended, as a whole, to answer one question: How much is it worth? To answer that question, we have to address three tiers of questions.

**Tier 1 Questions: What is the intellectual property, and to whom does it belong?**

- What is the intellectual property?
- Who owns the intellectual property?
- Does anyone else have certain rights to the intellectual property?

**Tier 2 Questions: Is it good intellectual property?**

- Is the intellectual property good/valid?
- Is the intellectual property enforceable against others?

**Tier 3 Questions: Is it valuable intellectual property?**

- Does the intellectual property cover the products or services that are of interest in the transaction?
- Is the intellectual property being inappropriately used (i.e., misappropriated or infringed) by a third party?
- Do the company products, services, or actions inappropriately use another’s intellectual property?
- Does the intellectual property generate any revenue through licensing, joint ventures, or any other type of contractual relationship?

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3. *Id.*
In other words, thorough intellectual property due diligence does not focus solely on procedural matters such as registrations, filing deadlines, and statutory bar dates (i.e., the first Tier 1 question). Due diligence also should include a substantive review of ownership, transfer of intellectual property rights, intellectual property validity and enforceability, confirmation that the intellectual property covers the company products and services that are of interest, and investigation of the other questions just listed. This chapter provides a general review of the most common types of intellectual property and some of the basic information on due diligence. In-depth analysis of each IP area is covered in following chapters, but I believe that an introductory chapter is necessary to assist intellectual property attorneys in refreshing their understanding in areas of IP law that they may not practice daily, in the context of due diligence.

II. What Are the Most Common Types of Intellectual Property?

The broad categories that make up the field of intellectual property include patents, copyrights, trademarks, and trade secrets. See Table 1.1 for a side-by-side comparison of these forms of intellectual property.

A. Patents

1. What is a Patent?

A patent is a set of exclusive rights given by a sovereign entity to the patent holder, granting the holder the ability to stop others from making, selling, offering for sale, using, or importing the patented invention for a certain amount of time. In other words, patents are a contract between a sovereign entity and the inventor, giving the inventor a limited right to use jurisdictional courts to exclude all others from the market in consideration for disclosing the invention to the public instead of keeping it
secret.4 However, this limited-term right to exclude is valid only if the patent applicant describes the invention in such a way that it enables others to practice the invention once the patent term has ended and sets forth the best mode contemplated by the inventor of carrying out the invention.5 Patents are sometimes considered the strongest form of intellectual property protection

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5. See, e.g., AK Steel Corp. v. Sollac & Ugine, 344 F.3d 1234 (Fed. Cir. 2003); Eli Lilly & Co. v. Barr Labs., Inc., 222 F.3d 923 (Fed. Cir. 2002). Under the 2011 America Invents Act, best-mode disclosure is still required under 35 U.S.C. § 112, but failure to disclose best mode can no longer be the basis for holding a patent unenforceable.
because the patent holder can even exclude another independent inventor.

The term of the patent is dependent upon the type of patent, the priority claims of the patent, and various other procedures before the government body that grants such rights. In the United States, the government agency that administers patents is the United States Patent and Trademark Office (USPTO or PTO). Patents are covered by Title 35 of the U.S. Code and are interpreted by the federal courts.

Patents are legally enforceable only in the country that issued the patent. In addition, each country has its own laws regarding registration, issuance, and maintenance of patents. Although most countries are signatories to various international treaties intended to harmonize patent laws (which are covered in Chapter 6 on patents), other countries’ laws may or may not be consistent with those in the United States.

The legally enforceable portion of a patent is set forth in the “claims.” The claims describe the individual components of the invention and are set forth in the numbered list at the back of the patent. The claims are perhaps the most important part of the patent because they define the legal bounds of the rights to exclude.

A patent’s power to exclude does not exist until the patent is granted. Once a patent application is filed, the patent holder can place the language “patent pending” on the covered product or—with proper notification—on the company’s website. This marking puts others on constructive notice that if their product or method falls within the patent’s claims, they may be liable for damages, seizure, and injunction once the patent is issued.

2. What are the Types of Patents?
In the United States, there are three types of patents: utility patents, design patents, and plant patents.

1. A utility patent protects useful, novel, and nonobvious machines, compositions of matter, articles of manufacture,
processes, or a new and useful improvement thereof.\footnote{A process is an act, or a series of acts or steps. See Gottschalk v. Benson, 409 U.S. 63, 70 (1972); NTP, Inc. v. Research in Motion, Ltd., 418 F.3d 1282, 1316 (Fed. Cir. 2005); 35 U.S.C. § 100(b); Bilski v. Kappos, 130 S. Ct. 3218 (2010). A machine is a concrete thing, consisting of parts, or of certain devices and combination of devices. Burr v. Duryee, 68 U.S. (1 Wall.) 531, 570 (1863); Corning v. Burden, 56 U.S. 252, 267, 14 L. Ed. 683 (1854). An article of manufacture is an article produced from raw or prepared materials by giving to these materials new forms, qualities, properties, or combinations, whether by hand labor or by machinery. Diamond v. Chakrabarty, 447 U.S. 303, 308 (1980). A composition of matter is two or more substances and all composite articles, whether they be the results of chemical union, or of mechanical mixture, or whether they be gases, fluids, powders, or solids, for example. Chakrabarty, 447 U.S. at 308. Note, however, that this is the definition under U.S. law. Even though most countries are party to the World Trade Organization TRIPS Agreement, which was put in place to harmonize international patent laws, there are variations on what is patentable subject matter between countries.} Note, however, that claims directed to nothing more than abstract ideas (such as mathematical algorithms), natural phenomena, and laws of nature are not eligible for patent protection. In addition, in the United States there are certain categories of inventions that are not patentable subject matter, such as:

- Transitory forms of signal transmission
- A human per se
- A legal contractual agreement between two parties
- A computer program per se
- A company
- A mere arrangement of printed matter
- Data per se.\footnote{See Manual of Patent Examining Procedure 2106 for more detailed descriptions of each category of nonpatentable subject matter.}

2. A design patent is a form of legal protection granted for the ornamental design of a functional item. In other words, a design patent protects the way an article looks (35 U.S.C. § 171), including its shape and surface ornamentation applied to the article. The utility patent, in contrast, protects the way an article is used and works (35 U.S.C. § 101). Both design and utility patents may be...
obtained on an article if invention resides both in its utility and its ornamental appearance. Figure 1.1 illustrates how the same article of manufacture is claimed differently by a design patent and utility patent.

3. A plant patent is a form of legal protection granted to one who has invented or discovered and asexually reproduced a distinct and new variety of plant, other than a tuber-propagated plant or a plant found in an uncultivated state.

In the United States, rights are not conveyed until the patent application issues as a patent. In other words, filing a patent application lacks legal significance in that the applicant has no legally enforceable rights. Rights are conveyed on the day the patent issues.

The process for obtaining a patent begins by filing a patent application in the jurisdiction’s regulatory agency that covers patents, such as the USPTO. Back-and-forth argument between the inventors (generally through their counsel) and the USPTO defines the scope of the issued patent, which is set forth in what are called claims. Patent laws have been harmonized among most countries by treaty, but even so each jurisdiction can have slightly different patent laws. As such, the exact claims and scope of protection may vary by country. It is important to note that in the United States the PTO can extend the term of a utility patent in one of two ways: either through patent term adjustment (PTA) or through a patent term extension (PTE). A PTA awards day-for-day credits to the normal patent term based on delays in prosecution by the PTO. A PTE awards credits to the normal patent term to compensate the patent holder for patent term lost during the clinical development of the product and waiting for approval by the Food and Drug Administration (FDA). PTE rules are controlled by the Hatch-Waxman Act, which limits PTE awards to patents for human drugs, food or color additives, medical devices, animal drugs, and veterinary biological products.
A company obtained utility and design patents on the same product. The covered claims are below.

**U.S. Application No. US20140171812, a utility patent application:**

Claim 1. A system for use in the detection of coronary artery disease comprising:
- a detection device including:
  - a detection device body,
  - at least one sensor coupled to the detection device body,
  - a memory,
  - a controller configured to instruct at least one sensor to sample data and store the sampled data in the memory, and
  - a contact portion configured to contact a patient; and
- an identification element including at least one identification area corresponding to a data acquisition location on the patient, and at least one identification area configured to interface with the contact portion,
wherein the system is configured to determine a presence of coronary artery disease based on the data sampled by at least one sensor at the data acquisition location associated with at least one identification area

**U.S. Patent D693,927S, a design patent:**

Claim 1. The ornamental design for a medical device, as shown and described.

![Figure 1.1: Sample Comparison of Utility and Design Patents](image-url)
B. Copyrights

1. What is a Copyright?

Copyrights are a set of exclusive rights given by a sovereign entity to the copyright holder, which protects an author’s original works of authorship. The authorship includes works such as literary, dramatic, musical, and artistic works. The copyright holder has the exclusive right to reproduce, distribute copies of, make derivative works of, publicly perform, and publicly display the copyrighted work.

Copyright protection attaches to a work at the moment of its creation—that is, as soon as the work is “fixed in any tangible medium of expression,” such as written on paper, entered into a computer, or recorded via media.\(^8\) A copyright owner does not need to register the work to secure copyright protection; however, a timely registration gives the owner certain benefits in a lawsuit.

The individual who renders a work in its tangible form—its author—is deemed to be the copyright owner. Multiple authors who jointly create a work are deemed to be co-owners of the copyright to that work. Copyrights created in a “work for hire” situation are deemed to be owned by the author’s employer.

Copyrights have a long life, as they are valid for the life of the author plus 70 years. For anonymous works, the term of the copyright is the earlier of 95 years from publication or 120 years from creation.

2. What does the Copyright Protect or Cover?

Copyright protects eight different categories of original works of authorship:

- Literary, musical, and dramatic works
- Pantomimes and choreographic works
- Pictorial, graphic, and sculptural works
- Sound recordings
- Motion pictures and other audiovisual (AV) works

• Computer programs
• Compilations of works and derivative works
• Architectural works.

It should be noted, however, that copyrights do not protect facts, ideas, systems, or methods of operation, although it may protect the way these things are expressed. For example, the listing of ingredients for a recipe is not protected under copyright law, but there may be a basis for copyright protection when the recipe has explanations or directions (a literary expression), or when there is a collection of recipes, as in a cookbook.

An increasingly important copyrighted work is software programs and compilations of works, especially given the recent propensity for software programs to collect user personal identifying information, user-generated data, and data on user use of the software. Although some data such as a person’s name or address are not copyrightable because they are facts, the compilation of these same data into a database is something that is generally considered protectable by copyright law; that is, the database can be protected. This copyright is not extended to the underlying facts or data but instead is directed to the database as long as the database is selected, coordinated, or arranged in such a way that it constitutes an original work of authorship.9

3. What Legal Rights are Associated with a Copyright?

The U.S. Copyright Act grants certain exclusive rights to the owner of a copyright in a work, including the right to:

• Reproduce the copyrighted work
• Prepare derivative works based upon the copyrighted work
• Distribute copies or phonorecords of the copyrighted work to the public by sale or other transfer of ownership, or by rental, lease, or lending

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• In the case of literary, musical, dramatic, and choreographic works, pantomimes, and motion pictures, to perform the copyrighted work publicly
• In the case of literary, musical, dramatic, and choreographic works, pantomimes, and pictorial, graphic, or sculptural works, to exhibit the copyrighted work publicly.\(^\text{10}\)

These exclusive rights are different from the rights given to a person who merely owns a copy of the work. For example, a person who purchases a book may do anything she likes with the book itself: e.g., resell it, destroy it, lend it to another. She cannot, however, make copies of the book, or exercise any right that is the exclusive right granted to the owner. Only the owner of a copyright in a work has the right to prepare, or to authorize someone else to create, a new version of that work.

The procedure for registering a copyright is very straightforward; the U.S. Copyright Office does not examine the registration application and its related copyright for validity, or any other characteristics. It is merely a registration process.

C. Trademarks
1. What is a Trademark, Trade Name, Logo, Service Mark?

In the United States, trademarks, trade names, service marks, and logos are protected by the federal Lanham Act and various state statutes.\(^\text{11}\) A trademark is any word, name, symbol, or device, or any combination thereof, that identifies or distinguishes one’s goods from those manufactured or sold by others and indicates the source of the goods. By acting as indicators of source, trademarks and service marks promise a consistent level of quality, helping the consumer to decide whether to purchase a desirable product or service again or to avoid an undesirable one.

\(^{10}\) 17 U.S.C. § 106; yet note that each of these rights is subject to limitations, qualifications, or outright exceptions with respect to the copyright owner’s exclusive rights, as set out in the Copyright Act.

Trademarks do not have to be registered to be protected under the Lanham Act; however, trademarks registered with the PTO enjoy certain benefits regarding ownership and use. Trademarks are protected for as long as they are in use. Notably, trademarks registered with the PTO are valid for ten years. The registration is continuously renewed for ten-year periods if the trademark continues to be used in commerce. There are also state registrations; however, such registrations are applicable to trademarks used only in the particular state. If the trademark is not used for an extended period of time, it may result in abandonment of the trademark rights.

Trademarks also may be filed, in most countries, either individually or under an international system for facilitating registration in multiple jurisdictions around the world, called the Madrid System or Madrid Protocol. Each country has its own laws regarding registration and issuance of trademarks. Another party infringes a trademark if its mark is identical to the trademark or there is a likelihood of confusion as to the source of business, goods, or services.

2. What does a Trademark Protect or Cover?

A trademark can be a word, logo, slogan, package design, or other source indicator (or a combination thereof), or any other cognizable thing that serves to indicate a particular source, good, or service. Many countries recognize two types of trademarks: collective marks and certification marks. Collective marks indicate membership in a group, such as ABA (American Bar Association) or AAA (American Automobile Association). Certification marks are those certifying that a product or service meets a particular standard of quality.

The strongest trademarks are those that are distinctive and widely associated with the good or service being marketed. There are four characteristics of the mark that practitioners examine to determine how protectable a mark is:

- Fanciful or coined marks—Marks that are words that have no meaning or are made up. Examples include XEROX for copiers and EXXON for petroleum products.
• Arbitrary marks—Words that may have a common meaning but have no meaning associated with the products or services being sold. Examples include APPLE for computers and WENDY’S for hamburgers.

• Suggestive marks—Marks that imply some benefit or attribute associated with the goods or services. Examples include AIRBUS for airplanes and WHIRLPOOL for washing machines.

• Descriptive marks—Marks that describe goods, services, or another characteristic. These marks cannot be protected as trademarks unless the public comes to recognize use of the mark with the product or services. Examples include laudatory words, geographically descriptive terms that imply an attachment to a physical place, or use of a surname.

3. What Legal Rights are Associated with a Trademark?
Depending upon the country, a trademark right can be established through use of the mark or through a registration process. In some countries, a company may have common law rights in unregistered trademarks. These rights are established by the actual use of the mark on goods or services in such a manner that the mark becomes associated with the particular goods or services. These rights, simply called common law rights, arise without government or agency registration. Common law rights are typically limited to the actual geographical area of use of the mark. Unregistered trademarks also may be protected by a state’s unfair competition laws or by the common law tort of passing-off.

Trademark rights also can be established through registering the trademark with a government agency. In the United States, registration may occur through each state trademark registry, or through the U.S. Patent and Trademark Office for federal registry.

Unregistered trademarks are subject to several concerns that do not arise with respect to registered trademarks. For instance, another party may have already registered the mark with the USPTO or with a state registry. Such a registration establishes
a first use date. Without a registration, the unregistered trademark holder may find that it is accused of trademark infringement unless the holder can show careful documentation of first use of the trademark and its use over time.

**D. Trade Secrets**

1. **What is a Trade Secret?**

Under the Uniform Trade Secrets Act (UTSA), a *trade secret* is information, including a formula, pattern, compilation, program, device, method, technique, or process, that:

   (i) derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use, and

   (ii) is the subject of efforts that are reasonable under the circumstances to maintain its secrecy.\(^{12}\)

The exact definition of a trade secret varies by jurisdiction, but generally a trade secret is information not generally known in the public that confers some economic advantage to the trade secret holder, who makes reasonable efforts to maintain its secrecy.\(^ {13}\) In some jurisdictions, trade secrets may be referred to as *confidential information*. Notably, a trade secret ceases to exist when it becomes part of the public domain in the community in which that secret would be profitable. Further, there are no protections in place to shield the trade secret holder from third parties reverse engineering the information. In fact, those third parties can obtain trade secret protection for their own information. The trade secret holder must, however, define its trade secret internally, put measures in place to restrict access of the trade

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\(^{12}\) UTSA § 1.4.

\(^{13}\) See Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), an international legal agreement between member nations of the World Trade Organization (WTO), at art. 39.
What Are the Most Common Types of Intellectual Property?

secret to those on a need-to-know basis, and educate its employees on trade secret protection.

2. What does a Trade Secret Protect?
Any type of information can be protected as a trade secret. For instance, common trade secrets include customer lists, research and development information, software algorithms, nonpatented inventions, cost information such as pricing strategy and spreadsheets, methods or processes used to manufacture certain products, ingredients or formulas, designs, and marketing plans.

Some of the most famous trade secrets include the ingredients for Kentucky Fried Chicken’s original recipe, Coca-Cola’s formula, Google’s search algorithm, and the formula for WD-40.

3. What Legal Rights are Associated with a Trade Secret?
Trade secrets derive their economic value from not being generally known to the public. Insufficient practices to protect trade secrets also can decrease the value of trade secret intellectual property, especially if high value is placed on the know-how associated with the intellectual property.

Given that trade secrets are never registered with any government agency, protection of trade secrets requires that the trade secret holder create an inventory of the trade secrets and put measures in place to protect the trade secrets from ever becoming public. Such measures include imposing obligations and restrictions on employees and contractors through employment and contractor agreements, use of noncompete clauses in agreements, and heavy use of nondisclosure agreements (NDAs). Clear workplace policies should also be developed. Other measures include physically restricting access to the trade secret by use of locked doors or files, computer passwords, router use, and other means.

E. Other Intellectual Property Issues
It is impossible to separate the value of intellectual property from the technology and data that support it and support the overall infrastructure of the business. As such, it is increasingly
important to examine technology assets and information technology infrastructure in a transaction. This examination may include a review of the target’s cloud computing services, data collected by the target, and aggregate tools. Further, online data collection policies should be carefully examined to ensure that customer information is collected and held in accordance with industry-standard practices. Due diligence regarding technology, data, and online services is covered in Chapter 8.