Valuation of Professional Licenses and Other Individual Intangible Assets

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As individuals, many practitioners need to hold licenses in order to provide their professional services, including practitioners of law, medicine, accountancy, and many other professions. In addition to government-issued professional licenses, these professional practitioners may also own and operate other individual intangible assets, including client relationships, services names and service marks, affiliation and other agreements, and many others. As entities, professional practices and professional services companies typically own and operate practice licenses and other intangible assets. Such other intangible assets may include client relationships and contracts, client and other files and records, an assembled workforce, employment and noncompete agreements, trademarks and trade names, and various permits and contracts. Valuation specialists are often asked to value these practitioner or entity licenses and other intangible assets for various regulatory, accounting, taxation, transaction, financing, litigation, or other reasons. This discussion describes many of those reasons. This discussion summarizes the relevant generally accepted valuation approaches, methods, and procedures. And, this discussion illustrates the application of those generally accepted valuation approaches and methods through several simplified illustrative examples.

Introduction

There are numerous reasons why a valuation analyst ("analyst") may be asked to value either an individual practitioner's professional license or the intangible assets of a professional practice or professional services company. Such practitioner or professional practice intangible assets are sometimes referred to as discrete intangible assets or as identifiable intangible assets.

These terms are often applied to distinguish these intangible assets from the general goodwill and reputation of the individual practitioner or of the professional practice entity.

First, the individual professional practitioner may directly own an intangible asset. This situation typically occurs when the practitioner personally develops and owns an intangible asset such as a client relationship, a proprietary technology, internally developed computer software, a trade secret, a license or permit, an employment or a noncompete agreement, or other contract right.

For some intangible assets, the individual practitioner may outbound license the personally owned intangible asset (such as a trade secret) to a business enterprise (e.g., to generate license fee or royalty income). For other intangible assets (such as a license), the practitioner may personally operate the intangible asset (e.g., to generate professional services income).

Second, the individual professional practitioner may indirectly own an intangible asset. This situation typically occurs when one practitioner owns an equity interest in a private professional services company or professional practice. This

situation applies whether the professional practice or professional services company is a corporation, limited liability company, partnership, or some other form of organization.

Virtually all professional practices and professional services companies own and operate individual intangible assets. In most professions, these intangible assets materially contribute to the overall professional services company value. In many cases, these individual intangible assets directly generate either license income or operating income for the private professional services company or professional practice.

Third, the individual professional practitioner may develop (and own) intangible asset value that is separate from the tangible asset value and the intangible asset value that is owned by the professional services company or professional practice. For example, the individual practitioner may develop his or her own client relationships, supplier relationships, banking relationships, systems and procedures, trade secrets, or technical expertise.

The professional services company or professional practice may use these personally owned intangible assets in its daily business operations. However, if the company or practice was sold, the entity itself would have its own valuable institutional goodwill. This intangible asset value would be included in the business equity (e.g., stock, limited liability company interests, or partnership units) sale price.

In addition, if the professional services company or professional practice was sold, the individual practitioner may also have his or her own valuable goodwill. This intangible asset value may be included in payments related to a future employment agreement, consulting agreement, noncompete agreement, and so on.

Fourth, an individual professional practitioner will often own and operate intangible assets—either directly or indirectly (through a professional practice). Such professional practitioner intangible assets may include professional licenses and permits, client relationships, client files and records, practice trademarks and trade names, referral relationships from other practitioners, institutional contractual relationships (e.g., with hospitals), and personal goodwill (defined, for this purpose only, as excess earnings capacity).

Accordingly, analysts are often asked to value either the professional practice's or the individual practitioner's intangible assets for various purposes.

This discussion summarizes the typical categories of professional practitioner intangible assets, the different types of intangible asset valuation analyses, and the various reasons to develop intangible asset valuation analyses.

This discussion also summarizes the typical economic characteristics of the professional practice or individual practitioner intangible assets.

Finally, this discussion summarizes the generally accepted valuation approaches, methods, and procedures with respect to professional practice or individual practitioner intangible assets. These generally accepted intangible asset valuation approaches and methods are also presented through simple illustrative examples.

Professional Practitioner Intangible Asset Categories

The value of a professional practitioner's intangible asset comes from the legal rights, the intellectual content, and the expected economic benefits associated with that intangible asset. Like all assets (both tangible and intangible), a professional practitioner's intangible asset can be owned and can have value.

Related to both individual practitioners and to professional practices, the four typical intangible asset categories are summarized below.

1. Financial Assets. Most analysts are familiar with financial assets. Typical examples of financial assets include cash, accounts and notes receivable, stocks and bonds, and other negotiable investment securities.

   When such financial assets are owned by a professional practice or a professional services company, these intangible assets are recorded as "current assets" for financial statement presentation purposes.

2. General Intangible Assets. This second category includes most other commercial intangible assets.

   Because this category is quite broad, most practitioner's intangible personal property and intangible real property assets are classified as general intangible assets.

3. Intellectual Property. Intellectual property assets are distinguished by their special legal recognition and specific legal rights.

   There are four types (or categories) of individual practitioner or professional practice intellectual property: trademarks, patents, copyrights, and trade secrets.

4. Intangible Value in the Nature of Goodwill. Intangible value in the nature of goodwill is often considered to be a residual intangible asset. That is, for valuation and other

economic analysis purposes, goodwill is often quantified as the intangible value component of a professional practice or professional services company entity (of whatever legal form) that cannot be specifically assigned to, or identified with, any of the other three types of intangible assets.

Like the other intangible asset categories, professional practice goodwill—and the individual practitioner's personal goodwill—can be owned and can have value.

There is no single list of all generally accepted intangible assets that may be owned by an individual practitioner or a professional practice. Analysts may refer to various lists of intangible assets for different valuation purposes.

For various financial accounting purposes, analysts may refer to the Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC") topic 805, *Business Combinations*, or the International Financial Reporting Standards No. 3R, *Business Combinations*, listing of identifiable intangible assets.

For various taxation purposes, analysts may refer to the intangible asset listings in Internal Revenue Code Sections 197 and 482.

For various litigation purposes, analysts may refer to the intangible asset listing in the textbook, *Guide to Intangible Asset Valuation* by Robert Reilly and Robert Schweihs, published by the AICPA in 2014.

When performing a valuation of the practitioner's or the practice's intangible assets, the analyst may group individual intangible assets into categories. The intangible assets included in each category are generally similar in nature and in function. In addition, the intangible assets within each category often possess similar economic characteristics.

Also, intangible assets are typically placed in the same category when similar valuation methods apply to that intangible asset type.

Analysts often group individual practitioner or professional practice intangible assets into the following categories:

1. Technology-related (e.g., proprietary technology, patents, technical know-how)
2. Customer-related (e.g., customer lists, customer contracts)
3. Contract-related (e.g., exclusive rights agreements, favorable supplier contracts, technology-sharing agreements, franchise agreements)
4. Data-processing-related (e.g., computer software, automated databases)
5. Human-capital-related (e.g., trained and assembled workforce, noncompete covenants, employment agreements)
6. Marketing-related (e.g., advertising materials, marketing brochures and materials)
7. Location-related (e.g., leasehold interests, mineral or mining exploration rights)
8. License-related (e.g., operational or environmental licenses or permits, pollution-control permits)
9. Artistic-related (e.g., literary works and other compositions)
10. Engineering-related (e.g., engineering drawings and schematics, blueprints, proprietary documentation)
11. Intellectual-property-related (e.g., patents, trademarks, copyrights, and trade secrets)
12. Goodwill-related (e.g., goodwill and going concern value)

This intangible asset categorization is presented for illustrative purposes only. It does not represent any particular financial accounting, income tax, family law, or other authority.

Further, assigning an asset to a particular intangible asset category does not affect the value conclusion. In other words, the economic attributes of the practitioner's or the practice's intangible asset do not change based on how that intangible asset is categorized.

There are also intangible asset categorizations that are appropriate for financial accounting and income tax accounting. For example, the ASC topic 805-20-10 identifies the following five intangible asset categories that are recognized under U.S. generally accepted accounting principles ("GAAP") for acquisition accounting purposes:

1. Marketing-related (e.g., trademarks, trade dress, newspaper mastheads, Internet domain names, noncompetition agreements)
2. Customer-related (e.g., customer lists, order or production backlog, customer contracts and related customer relationships, noncontractual customer relationships)
3. Artistic-related (e.g., plays, operas, ballets; books, magazines, newspapers, other literary works; musical works, such as compositions, song lyrics, advertising jingles;

pictures, photographs; video and audiovisual material, including motion pictures or films, music videos, television programs)

4. Contract-related (e.g., licensing, royalty, standstill agreements; advertising, construction, management, service or supply contracts; lease agreements (whether the acquiree is the lessee or the lessor); construction permits; franchise agreements; operating and broadcast rights; servicing contracts, such as mortgage servicing contracts; employment contracts; use rights, such as drilling, water, air, timber-cutting, route authorities)
5. Technology-based (e.g., patented technology; computer software and mask works; unpatented technology; databases, including title plants and trade secrets, such as secret formulas, processes, recipes)

The above ASC 805 list of intangible assets can also be applied for various GAAP fair value measurement purposes. However, the FASB categorization of intangible assets is different from the categorization recognized by the Internal Revenue Service for business acquisition purchase accounting purposes.

The income-tax-related intangible asset categorization that follows is presented in Internal Revenue Code Section 197 (26 U.S.C. 197 (d)(1)):

1. Goodwill
2. Going-concern value
3. Any of the following items:
   a. Workforce in place including its composition and terms and conditions (contractual or otherwise) of its employment
   b. Business books and records, operating systems, or any other information base (including lists or other information with respect to current or prospective customers)
   c. Any patent, copyright, formula, process, design, pattern, know-how, format, or other similar item
   d. Any customer-based intangible
   e. Any supplier-based intangible
   f. Any other similar item

As these various lists illustrate, there are several alternative ways to categorize a practitioner's intangible assets. The important point is that both the valuation profession and various governmental and regulatory authorities recognize the existence of individual intangible assets. And, each of these parties has developed an intangible asset categorization process to help it organize and analyze these individual intangible assets.

Exhibit 1 presents a list of individual practitioner or professional practice/professional services company intangible assets (both intangible real property and intangible personal property), that may be subject to valuation. This exhibit is not intended to provide an exhaustive list of all individual practitioner or professional practice intangible assets.

Types of Professional Practice Intangible Asset Analyses

While there are numerous individual types of individual practitioner or professional practice intangible asset analyses, all of these analyses may be grouped into the following five categories:

1. Valuation—Estimates a defined value of a specified intangible asset ownership interest as of a specific date. The defined value may be fair value, fair market value, investment value, use value, collateral value, owner value, etc.

   This type of analysis typically includes consideration of the three generally accepted intangible asset valuation approaches: the cost approach, the income approach, and the market approach.
2. Transfer Price—Measures a third-party license royalty rate or an intercompany transfer price for the use of an intangible asset. The fair, arm's-length standard is the typical (but not the only) transfer pricing standard.

   The royalty rate or transfer price is usually set for a limited term or time period (e.g., 1, 5, or 10 years).
3. Lifing—Quantifies the intangible asset expected useful economic life ("UEL"), the periodic rate of obsolescence or value decrease, and/or the residual value (say, at the end of a license agreement).
4. Damages—Measures the amount of lost profits or other measure of economic damages associated with a specific damages event that affected the practitioner or the professional practice intangible asset.

   The damages amount may be expressed as a dollar amount or as a royalty rate. The dollar amount would then be incorporated into a judicial award or a negotiated litigation settlement. The royalty rate damages

Exhibit 1 (page 1 of 2)
Illustrative List of Professional Practitioner or Professional Practice Individual Intangible Assets

INTANGIBLE PERSONAL PROPERTY ASSETS

Financial Assets

Options, warrants, grants, rights—related to securities

General Intangible Assets

Advertising campaigns and programs

Agreements

Airport gates and landing slots

Appraisal plants (files and records)

Awards and judgments (legal)

Bank customers—deposit, loan, trust, credit card, and such

Blueprints and drawings

Book and other publication libraries

Broadcast licenses (e.g., radio, television)

Buy-sell agreements

Certificates of need for healthcare institutions

Chemical formulations

Claims (against insurers and similar parties)

Computer software (both internally developed and externally purchased)

Computerized databases

Contracts

Cooperative agreements

Credit information files

Customer contracts

Customer lists

Customer relationships

Designs, patterns, diagrams, schematics, technical drawings

Development rights

Distribution networks

Distribution rights

Employment contracts

Engineering drawings and related documentation

Environmental rights (and exemptions)

FCC licenses for radio bands (cellular telephone, paging, and the like)

Favorable financing

Film libraries

Food flavoring and food product recipes

Franchise agreements (commercial)

Franchise ordinances (governmental)

Manual (versus automated) databases

Government contracts

Government programs

Governmental registrations (and exemptions) Historical documents

HMO enrollment lists

Insurance expirations

Insurance in force

Joint ventures

Laboratory notebooks

Landing rights (for airlines)

Licenses—professional, business, and so forth

Literary works

Litigation awards and damage claims

Loan portfolios

Management contracts

Marketing and promotional materials

Masks and masters (for integrated circuits)

Medical (and other professional) charts and records

Newspaper morgue files

Noncompete covenants

Nondiversion agreements

Open-to-ship customer orders

Permits

Prescription drug files

Prizes and awards (related to professional recognition)

Production backlogs

Proposals outstanding, related to contracts, customers, and so on

Regulatory approvals (or exemptions from regulatory requirements)

Retail shelf space

Royalty agreements

Shareholder agreements

Solicitation rights

Subscription lists (for magazines, services, and such)

Supplier contracts

Technical and specialty libraries (books, records, drawings, and the like)

Technical documentation

Technology-sharing agreements

Title plants

Trained and assembled workforce

Training manuals and related educational materials, courses, and programs

Exhibit 1 (page 2 of 2)
Illustrative List of Professional Practitioner or Professional Practice Individual Intangible Assets

Intellectual Property

- Brand names and logos
- Copyrights
- Development rights—intellectual property
- Know-how and associated procedural documentation
- Manuscripts
- Musical compositions
- Patent applications
- Patents—both product and process
- Procedure ("how we do things here") manuals and related documentation
- Product designs
- Proprietary processes—and related technical documentation
- Proprietary products—and related technical documentation
- Proprietary technology—and related technical documentation
- Trade secrets
- Trademarks and trade names

Goodwill Intangible Assets

- Going-concern value (and immediate use value)
- Goodwill—institutional
- Goodwill—personal
- Goodwill—professional
- Personality contracts

INTANGIBLE REAL PROPERTY ASSETS

General Intangible Assets

- Development rights—land and other real estate
- Easements
- Favorable leases
- Leasehold estates
- Leasehold interests
- Location value
- Mineral extraction rights
- Natural resources
- Ore and mineral deposit database
- Possessory interest
- Real property use rights
- Use rights—air, water, land

conclusion would be applied against the damaging party's revenue in order to calculate a periodic damages payment (in the form of a royalty payment). The royalty payment is paid by the damaging party to the damaged party.

In order to measure the amount of lost profits suffered by the damaged party, this type of intangible asset analysis typically includes consideration of:

a. the "but for" projection method,
b. the yardstick method,
c. the before and after method, and
d. similar damages measurement methods.

5. Fairness—Assesses the absolute and/or relative fairness of a proposed or actual intangible asset transfer transaction. The transaction may include a sale, license, or other type of transfer.

This analysis usually considers both the price and the terms of the transaction. This intangible asset analysis usually specifies fairness to an identified party (e.g., to the buyer, seller, licensor, licensee, debtor, creditor, joint venturer, etc.).

Analysts typically use the same general economic principles to develop each of these different types of economic analyses.

Reasons to Value Practitioner or Professional Practice Intangible Assets

While there are many reasons to perform valuation analysis of the individual practitioner's or the

professional practice's individual intangible asset. Most of these reasons can be grouped into the following 10 categories:

1. Sale/license transaction pricing and structuring
2. Intercompany use and ownership transfers
3. Financial accounting and reporting
4. Taxation planning and compliance
5. Financing collateralization and securitization
6. Infringement (and related) litigation claims and dispute resolution
7. Management information and strategic planning
8. Corporate governance and regulatory/contractual compliance
9. Bankruptcy, restructuring, and reorganization analysis
10. License, joint venture, and other development or commercialization opportunities

Each of these 10 categories of reasons to conduct the valuation is further explained below.

Transaction Pricing and Structuring

Practitioner or practice/company intangible asset owners/operators often need assistance with regard to negotiating and/or designing an intangible asset license or sale transaction. Such transactions may involve:

1. the license/sale of an individual intangible asset (often called a "naked" sale) or
2. the license/sale of a portfolio of related intangible assets (e.g., all of the intangible assets of a product line).

Some of the individual analyses related to this category include the following:

- Negotiating, pricing, and structuring the sale transaction
- Negotiating and structuring the terms of a license (e.g., royalty rate, product and geography limitations, contract term, sublicense rights, etc.)
- Providing a fairness opinion regarding the sale/license (related to price and terms)
- Providing a private inurement or excess benefits opinion regarding a sale/license involving a not-for-profit institution

Intercompany Transfer Price

Practice or practitioner intangible asset owners/operators often need assistance with the intercompany sale or license of intangible assets. These transfers can relate to product/service cost accounting, management information, state income tax, and federal income tax issues.

Such a transfer price may be important to a parent professional practice or services company when, for example, business unit Alpha owns (and developed) a patent, trademark, software, and so on, and business unit Beta uses the intangible asset to produce and sell a product.

This type of analysis answers the following question: How much does Beta have to pay Alpha for the right to use (or for the ownership transfer of) Alpha's intangible assets?

Some of these related analyses include the following:

- The cost accounting allocation for the intercompany use of an intangible assets
- The transfer of the intangible asset to a holding company (in a low/no income tax state) for purposes of licensing the intangible asset to sister operating companies or professional practices (in high income tax states)
- The transfer the use of intangible assets between a U.S. taxpayer company and a controlled foreign taxpayer company (whether an inbound or outbound transfer of the intangible asset use).

  The Treasury Regulations related to Internal Revenue Code Section 482 provide for very specific transfer price methods to be used for this purpose. These transfer price measurement methods include:

  1. the cost plus method,
  2. the comparable profit margin method, and
  3. several profit split methods
- The transfer of ownership of an intangible asset between a U.S. taxpayer company and a controlled foreign taxpayer company (which often involves an intangible asset transfer from the United States to a low/no income tax rate country)
- The intercompany use of an intangible asset between a wholly owned subsidiary and a non-wholly-owned subsidiary (where noncontrolling stockholders may want assurance regarding the fairness of the intercompany transfer price)

Financial Accounting

Most individual practitioner or professional practice intangible asset owner/operators are familiar with the fair value measurement of intangible assets for GAAP-related reasons.

Some of these financial accounting and fair value measurement reasons include the following:

- Acquisition accounting allocation of transaction purchase price
- Periodic testing for the impairment of acquired goodwill and other intangible assets
- Periodic testing for the impairment of long-lived (i.e., amortizable) intangible assets
- Fresh start accounting for a reorganized company emerging from bankruptcy
- Recording the owners' intangible asset contributions to a new business formation

Taxation Planning and Compliance

In addition to the intercompany transfer price considerations mentioned above, the professional practice or individual practitioner intangible asset owners may need to value the intangible asset for various federal, state, and local taxation purposes:

- Federal income tax purposes include charitable contribution deductions, worthless security deductions (e.g., of an intellectual property holding company), basis of the intangible asset contributed to/distributed from a partnership, basis and amortization deductions related to a business purchase price allocation, and other reasons.
- Federal gift and estate tax purposes often relate to lifetime transfers of—or a decedent's personal ownership in—intellectual property. This type of analysis also relates to the transfer of an ownership in a professional practice or a professional services company where the entity value depends on the intangible asset).
- State and local property tax purposes relate to jurisdictions where the practitioner's or the practice's intangible asset is either specifically exempt from—or is specifically subject to—property taxation.

Financing Transactions

Particularly during periods of tight credit, the individual practitioner or the professional practice may use the intangible asset as a source of collateral for various types of financing transactions.

The related analyses include the following:

- Collateral valuations (of the intangible asset and/or of related licenses) for cash-flow-based financing and for asset-based financing
- Current value valuations and terminal value valuations for sale/license-back financings
- Solvency opinions (of a debtor company) prepared for creditors to avoid fraudulent conveyance claims

Litigation Claims

Individual practitioners and professional practices (and their legal counsel) may retain analysts to perform lost profits and other damages measurement analyses (e.g., market analyses for convoyed products, analysis of mitigation actions, etc.) for the following purposes:

- Intellectual property infringement
- Breach of supply, services, purchase, or other commercial contract
- Breach of noncompete or confidentiality agreement
- Dissipation of corporate assets/shareholder oppression claims
- Eminent domain and condemnation disputes
- Intellectual property license agreement disputes
- Breach of development, commercialization, or joint venture agreements
- Shareholder (or member or partner) disputes related to professional practices or professional services firms
- Lender liability disputes
- Fraud and misrepresentation related to mergers and acquisitions

Management Information and Planning

Individual practitioners and professional practice owners need to know what intangible assets they own so they can develop plans to maximize the value of these assets.

These analyses may include the following:

- Inventory and valuation of intangible assets to identify financing, licensing, spin-off, or other commercial opportunities
- UEL estimates to assess reasonableness of long-term strategic plan assumptions

- Development of executive compensation incentive plans, based on intangible asset valuations, return on investment ("ROI") calculations, and related factors
- Reasonableness of an intangible asset sale/license transactions between the practice and an insider (e.g., a practitioner, director, executive, controlling stockholder)

Corporate Governance and Regulatory Compliance

In the post-Sarbanes-Oxley environment, practice managements are concerned about the governance of all corporate assets (both tangible and intangible). And, not-for-profit organization managements are also concerned about income tax and regulatory compliance issues.

These issues may include the following:

- Valuation of intangible assets to assess the reasonableness of business interruption and other insurance coverage
- Inventory of intangible assets to document accounting control and protection of all practice assets
- Fair market value appraisals of all intangible assets bought or sold by a not-for-profit entity
- Fair market value appraisals of all intangible assets licensed by/to (or of services provided by/to) a not-for-profit entity

Bankruptcy and Reorganization

Interested parties may include the debtor-in-possession ("DIP"), DIP financing sources, various creditors and creditor committees, their respective legal counsel, the bankruptcy trustee, potential licensors/licensees, and other parties.

These parties are typically concerned about the value of their claims, maximizing cash flow opportunities, the fairness of transactions in the bankruptcy estate, and (perhaps) the reasonableness of a proposed reorganization plan.

These issues may involve the following:

- Valuation of any intangible asset that serves as a creditor's collateral
- Valuation of any intangible asset included in a solvency analysis with respect to preference and fraudulent conveyance claims
- Identification of cash flow generation license or spin-off opportunities
- Assessment of the fairness of DIP intangible asset sales/licenses
- Analysis of the effect on intangible assets of the proposed plan of reorganization
- Implementation of post-bankruptcy fresh start accounting, according to FASB ASC topic 852-10-45 *Reorganizations*

License and Other Commercialization Opportunities

Practice or practitioner intangible asset owners/operators may need help identifying intangible asset license and commercialization opportunities. Practice or practitioner intangible asset owners need help to analyze the costs and the benefits associated with such potential opportunities.

These cost/benefit analyses include the following:

- Analysis of the costs (e.g., future commitments) and benefits (e.g., license royalties) of a proposed license agreement
- Analysis of the costs and benefits (in terms of risk and ROI) of a proposed joint venture ("JV") development agreement—typically compared to an independent intangible asset development plan.

  The analysis typically includes consideration of:

  1. the intangible asset contributions to the JV formation and
  2. the intangible asset distributions from the JV dissolution.
- Analysis of the costs and benefits of a third-party development or commercialization agreement, where one party to the agreement owns the intangible asset and the other party to the agreement operates the intangible asset
- Alternative analyses of various agreement terms and conditions (e.g., up-front payments, milestone payments, royalty rates, territories covered, products covered, required development/promotion expenditures, contract periods, residual values, etc.)

Intellectual Property

The main difference between intellectual property and general commercial intangible assets is that intellectual property is consciously and creatively produced. General commercial intangible assets tend to develop naturally in the regular course of business.

For example, an intellectual property could be a logo designed for a professional practice or professional services company. That practice or company logo would qualify as a trademark (or a service mark). That same practice or company may also own general intangible assets such as supplier relationships and supplier contracts related to purchased goods and services.

Client relationships, client contracts, and general goodwill are examples of intangible assets that do not qualify as intellectual property. No specific design or artistic creativity went into creating such general intangible assets.

On the other hand, a patent on a production process, a trademark on a new product (or a service mark on a new service), a copyright on a design, and secret knowledge of the formula recipe for a food product are all examples of intellectual property.

Of course, these illustrative intellectual property examples also qualify as intangible assets.

Intellectual Property Development Process

The development process is different for each kind of intellectual property. Patents frequently relate to an invention of some kind. The inventor may have been trying to create something new or to improve on something that already existed. A discovery of a new invention or process could be accidental. As long as the invention is novel and nonobvious, it may qualify to be patented.

A trademark arises out of a conscious effort to create a mark that will distinguish one product or business enterprise from all others. A trademark can be "a distinctive word, phrase, logo, graphic symbol, or other device."

The goal for a trademark or a service mark is to be unique in order to identify that specific product or service as coming from a specific source.

Only tangible expressions of thoughts and ideas can be copyrighted. That is, an author cannot copyright an actual idea. However, an author may copyright the specific expression of an idea.

For example, an author could write a book about wizards. The book itself would be subject to copyright, but the idea of wizards would not be subject to copyright. Other authors would remain free to write, draw, sing, and so on about wizards.

A trade secret may be developed independently of an already existing business enterprise. Or, a trade secret may be developed within the natural process of a business enterprise.

For example, a secret family recipe could become the foundation of an international food processing company.

An important distinction between a trade secret and other types of intellectual property is that a trade secret is never registered. Therefore, the legal protection associated with a trade secret does not have an expiration date. Accordingly, a trade secret could, hypothetically, last forever.

Intellectual Property Commercialization Process

An intellectual property often enjoys commercialization opportunities that general intangible assets typically do not.

Goodwill, a trained and assembled workforce, or favorable supplier contracts are typically not considered to be identifiable intangible assets that can be commercialized outside of the individual practitioner or the professional practice that owns/operates these intangible assets.

In contrast, intellectual property has transferable legal rights that can be more easily sold or licensed. In addition, intellectual property legal rights can be easily divided, while intangible asset legal rights cannot be easily divided.

For general intangible assets, either the individual practitioner or the professional practice owner uses the intangible asset or an operator uses the intangible asset.

However, for intellectual property, the practitioner or the practice owner can use the intellectual property, and an operator can also use the intellectual property through the process of an intellectual property license. In addition, a second (and a third, and a fourth . . .) operator can use the subject intellectual property through the process of an intellectual property sublicense.

Patents, trademarks, copyrights, and trade secrets can be either sold outright or licensed. A license allows the intellectual property owner to permit others to use its intellectual property—without the owner giving up the ownership rights to the intellectual property.

In general, this license procedure is how a franchise works. The franchisor is the owner of the patent, trademark, copyright, or trade secret, and the franchisee is able to use the franchisor's intellectual property subject to certain restrictions.

An intellectual property owner does not have to license its intellectual property. That is, the intellectual property owner may operate its own intellectual property by directly entering the relevant

marketplace. An intellectual property owner can feel confident in distributing its work because the intellectual property rights are protected either by statute or by common law.

For example, federal copyright law protects the author's legal right to all of the following:

- Reproduce all or part of the work
- Make new (derivative) versions
- Distribute copies by selling, renting, leasing, or lending them
- Perform (e.g., recite, dance, or act) the work publicly
- Display the work publicly, directly, or by means of film, TV, slides, or other device or process

Typical Terms of Intellectual Property License Agreements

One of the benefits of the individual practitioner or the professional practice owning an intellectual property is the ability to license (or lease) it to a nonowner/operator.

In order to operate the practitioner or the practice intellectual property, a licensee may agree contractually to pay royalties to the licensor. The licensing of intellectual property can be a very profitable line of business for the intellectual property owner/developer.

Typically, the terms of the intellectual property license agreement will set out the royalty rate (or other royalty payment arrangement) that the licensee will pay to the licensor. This royalty rate is sometimes expressed as a percentage of the income that is generated by the operation of the licensed intellectual property.

When the intellectual property royalty rate is expressed as such a profit split formula, 25 percent of the licensee/operator income is a typical "profit split" royalty rate to pay to the licensor/owner.

In the profit split formula, the terms profit or income are typically defined as earnings before income and taxes ("EBIT"). The profit split formula would be applied to the EBIT earned from the products or service that used the subject intellectual property.

In the profit split formula, the intellectual property operator/licensee would pay a royalty payment to the intellectual property owner/licensor for the use of the intellectual property. That royalty payment would equal, say, 25 percent of the operator/licensee's EBIT.

Of course, the operator/licensee would retain the remaining 75 percent of EBIT in order to provide:

1. a fair rate of return on all other tangible and intangible assets and
2. a profit margin to the operator/licensee.

An intellectual property license agreement typically sets out the terms by which the licensee/operator can use the practitioner or the practice intellectual property. Obviously, the intellectual property licensor has a continued interest in the value of its intellectual property. The licensor does not want the subject intellectual property to be devalued in any way because of misuse by the intellectual property licensee.

Therefore, the intellectual property license agreement typically sets out standards or practices that the licensee/operator must follow in order to maintain the quality of the intellectual property.

Typical Other Terms of Intellectual Property Contract Agreements

The owner of intellectual property rights is free to grant to another party full ownership of the intellectual property by selling it.

In an intellectual property sale contract of this sort, the ownership of intellectual property is fully transferred with the ownership rights. After the intellectual property sale, no royalties will be paid to the original intellectual property owner.

Typical Types of Intellectual Property Rights

Intellectual property rights come from statutory law. In general, the right of ownership allows an inventor (say, the individual practitioner) to profit from the work that he or she put into the invention.

The right to exclude anyone else from using an invention for a period of time gives the inventor an opportunity to benefit economically from the research and development, time spent creating, or any other effort put into the invention.

For example, a pharmaceutical company may spend millions of dollars and years of effort to develop a single pharmaceutical product. If another company was able to commercialize that pharmaceutical product right away, then the development company would lose its ability to recover its cost investment and to make a profit.

Also, the other pharmaceutical companies would get to "cheat" in a way, by not having to pay anything for the development of the subject pharmaceutical product. There is an underlying issue of fairness in ensuring that someone is compensated for his or her work and that no one else is allowed to unfairly benefit from it.

Typical Parties to the Intellectual Property Commercialization Process

There are typically three parties to the intellectual property commercialization process:

1. The intellectual property developer
2. The intellectual property owner
3. The intellectual property operator

One party may operate in all three roles. That would be the case if that party created the intellectual property, continues to own it, and uses it to generate or protect some measure of income.

Frequently, the intellectual property developer may also be the intellectual property owner. Typically, a person receives the legal rights to an intellectual property the moment it is created. However, this statement is not always the case.

For example, if the work was created for hire on commission, the intellectual property developer would not be the intellectual property owner. The person who commissioned the work for hire would be the intellectual property owner.

If a practice/company employee in the scope of his or her employment creates the work, then the intellectual property rights would be owned by the employer.

If the intellectual property operator is not the intellectual property owner, then there probably would be some form of a use license agreement between the two parties.

The intellectual property operator will typically pay a royalty fee to the intellectual property owner in exchange for the ability to use the intellectual property.

Factors That the Analyst Should Consider

The factors for the analyst to consider related to whether an intangible asset qualifies as an intellectual property would include a typical dictionary definition of intellectual property, such as:

> Property that derives from the work of the mind or intellect; specifically: an idea, invention, trade secret, process, program, data, formula, patent, copyright, or trademark or application, right, or registration relating thereto (see the *Merriam-Webster's Dictionary of Law*).

As mentioned above, there are four categories of individual practitioner or professional practice intellectual property: (1) patents, (2) copyrights, (3) trademarks, and (4) trade secrets.

The intellectual property is the patent or the copyright itself. The intellectual property is not the product that is patented or the manuscript that is copyrighted.

Factors for the analyst to consider related to whether the practitioner or practice intangible asset is a valuable intellectual property also include if the value of an intellectual property comes from its exclusivity. For example, once a patent or copyright has expired and can be used by any party, it will have far less value.

A patent or a copyright is typically more valuable at the beginning of its legal protection life. When a patent is first granted, the intellectual property owner can be assured of years of the exclusive ability to prohibit anyone else from using, making, and selling the related property.

The intellectual property owner may look forward to royalty income and/or operating income from the intellectual property. As the legal protection expiration date approaches, the amount of future royalty and/or operating income typically decreases.

Therefore, the value of the intellectual property typically decreases over time.

Generally Accepted Professional Practice Intangible Asset Valuation Approaches and Methods

Numerous methods and procedures may be appropriate for the valuation of individual practitioner or professional practice intangible assets. Due to the fundamental similarities and differences of these valuation methods and procedures, they are categorized into the three generally accepted valuation approaches.

These three generally accepted intangible property valuation approaches are based on fundamental economic principles. The three generally accepted

intangible property valuation approaches are as follows:

1. The cost approach
2. The market approach
3. The income approach

The three generally accepted intangible property valuation approaches encompass a broad spectrum of microeconomics principles and property investment dynamics. Each of the three generally accepted valuation approaches has the same objective: to arrive at a reasonable indication of a defined value for the practitioner or practice intangible asset.

Accordingly, analytical methods and procedures that are based on the same economics principles are grouped into the three valuation approaches.

An analyst typically attempts to value the practitioner or the practice intangible asset using all three generally accepted valuation approaches—in order to obtain a multidimensional perspective on the subject intangible asset.

However, the individual methods and procedures that are associated with the three valuation approaches may or may not be applicable to the valuation of a particular practitioner or practice intangible asset.

Consequently, the analyst's selection of the valuation methods and procedures applied to value a particular practitioner or practice intangible asset will depend on the following:

- Unique characteristics of the intangible asset
- Quantity and quality of available data
- Purpose and objective of the subject analysis
- Experience and judgment of the analyst

The objective of using more than one valuation approach is to develop mutually supporting evidence for the value conclusion. An analyst's value conclusion is typically based on a synthesis of the value indications derived from each applicable valuation approach and method.

Market Approach Valuation Methods

The market approach is based on the economics principles of competition and equilibrium. These economics principles indicate that, in a free and unrestricted market, supply and demand factors will drive the price of an intangible asset to a point of equilibrium.

The principle of substitution also influences the market approach. This is because the identification and analysis of equilibrium prices for a substitute intangible asset typically provides pricing evidence with regard to the practitioner or the practice intangible asset value.

Market Approach Valuation Principles

The analyst often attempts to apply market approach methods first in the valuation process. This is because "the market"—that is, the economic environment where arm's-length transactions between unrelated parties occur—is often the best indicator of value.

However, the market approach may not be appropriate for the valuation of certain commercial intangible assets.

This is particularly the case if the condition of the practitioner's or the practice's intangible asset is not sufficiently similar to the intangible assets that are transacting (by sale or license) in the marketplace. In that case, the guideline intangible asset transactional prices may not indicate the expected price for the intangible asset.

The price of an individual intangible asset is not necessarily equal to its value. Value is often defined as an expected price. That is, value is the price that an intellectual property would expect to fetch in its appropriate marketplace.

In contrast, price represents what one particular buyer paid to one particular seller for one particular intangible asset.

In any particular intangible asset sale (or license) transaction, either participant may have been influenced by nonmarket, participant-specific influences. If such influences did occur, and if such influences are not general to the marketplace, then a particular intangible asset transactional price may not be indicative of the expected price of the practitioner's intangible asset.

Even if the practitioner or the practice intangible asset was itself bought or licensed, that subject transactional price should not be naively relied upon to indicate an expected future price. This is because this transactional price may have been influenced by nonmarket, participant-specific influences.

Market Approach Valuation Process

Within the market approach, there are somewhat fewer valuation methods for the analyst to consider as compared to either the cost approach or the income approach. Nonetheless, the practical application of the market approach involves a complex and rigorous analytical process.

There is a general systematic process—or framework—to the application of market approach methods to intangible asset valuation.

The basic procedures of this systematic process are summarized as follows:

- Research the appropriate exchange market to obtain information about sale or license transactions, involving a "guideline" (i.e., generally similar) or "comparable" (i.e., almost identical) intangible asset that may be compared to the subject intangible asset—in terms of characteristics such as intangible asset type, intangible asset use, industry or profession in which the intangible asset operates, date of sale, and so on.
- Verify the information by confirming:
  1. that the data obtained are factually accurate and
  2. that the sale or license exchange transactions reflect arm's-length market considerations.

  If the guideline sale or license transaction was not at arm's-length market conditions, then adjustments to the transactional data may be necessary. This verification procedure may also elicit additional information about the current market conditions for the sale or license of the intangible asset.
- Select relevant units of comparison (e.g., income multipliers or dollars per unit—units such as "per drawing," "per customer," "per line of code") and develop a comparative analysis for each selected unit of comparison.
- Compare the selected "guideline" or "comparable" intangible asset sale or license transactions with the actual intangible asset using the selected elements of comparison, and adjust the sale or license price of each guideline transaction appropriately to the intangible asset.

  If such adjustments cannot be measured, then eliminate the sale or license transaction as a guideline for future valuation analysis consideration.
- Reconcile the various value indications developed from the analysis of the guideline sale and/or guideline license transactions into either:
  1. a single value indication or
  2. a range of values.

  In an imprecise market—subject to varying economics—a range of values may sometimes be a better conclusion for the marital estate intangible asset than a single value estimate.

The reconciliation procedure is the last procedure of any market approach valuation analysis in which two or more value indications are derived from guideline market data. In the reconciliation procedure, the analyst summarizes and reviews the data and the analyses that resulted in each value indication.

The analyst then resolves these value indications into either a range of values or into a single value indication.

It is important for the analyst to consider the strengths and weaknesses of each value indication derived, examining the reliability and appropriateness of the market data compiled and the analytical procedures applied.

Cost Approach Valuation Methods

The cost approach is based on the economics principles of substitution and price equilibrium. These economics principles indicate that a willing buyer will pay no more for a fungible intangible asset than the cost to obtain (i.e., either to purchase or to construct) an intangible asset of equal utility.

In other words, a willing buyer typically pays no more for a fungible intangible asset than the price of an intangible asset of comparable utility. For purposes of this economics principle, utility can be measured in many ways, including functionality, desirability, and so on.

Accordingly, an efficient market typically adjusts the price of all properties (including intangible assets) in equilibrium, so that the price the market will pay is a function of the comparative utility of each property.

The cost approach may have application limitations with regard to the valuation of some practitioner or practice intangible assets. This is because some intangible assets are not fungible. That is, some intangible assets are unique. Such unique assets cannot be substituted for comparable intangible assets.

When the practitioner's or the practice's intangible asset is unique (functionally, technologically, or legally), then the analyst should carefully consider the application of the cost approach in the subject valuation.

Within the cost approach, cost is influenced by the marketplace. That is, the relevant cost is often the greatest amount that the marketplace is willing to pay for the fungible intangible asset.

This value is not necessarily the actual historical cost of creating the individual intangible asset, and it is not necessarily the sum of the historical costs for which the willing seller would like to be

compensated. This is because value is not equal to cost, at least not to cost as measured in the historical accounting sense.

The conceptual foundations of all cost approach valuation methods relate to the following economics principles:

- The substitution principle—This principle indicates that no prudent buyer would pay more for a fungible intangible asset than the total cost to develop a new intangible asset of equal desirability and utility.
- The supply-and-demand principle—This principle indicates that shifts in supply and demand:
  1. cause costs to increase and decrease and
  2. cause changes in the supply of different types of intangible assets.
- The externalities principle—This principle indicates that gains or losses from external factors may affect the value of an intangible asset. For this reason, external conditions may cause a newly developed intangible asset to be worth more or less than its cost.

Definition of Intangible Asset Cost

There are several generally accepted cost approach valuation methods.

Each of these cost approach valuation methods applies a particular definition of cost.

Two of the typical definitions of cost are:

- reproduction cost new and
- replacement cost new.

There are subtle, but important, differences in these two different definitions of cost.

Reproduction cost new is the total cost, at current prices, to develop an exact duplicate or replica of the practitioner's or practice's intangible asset. This duplicate intangible asset would be developed using the same materials, standards, design, layout, and quality of workmanship used to create the original intangible asset.

Replacement cost new is the total cost to develop, at current prices, an asset having equal functionality or utility of the intangible asset.

Functionality is an engineering concept that means the ability of the intangible asset to perform the task for which it was designed. Utility is an economics concept that means the ability of the intangible asset to provide an equivalent amount of satisfaction.

The replacement intangible asset would be (1) developed with modern methods and (2) developed according to current standards, state-of-the-art design and layout, and the highest available quality of workmanship.

The replacement intangible asset may have greater utility than the actual intangible asset. If this is the case, the analyst should adjust for this factor in the obsolescence analysis of the replacement cost new less depreciation method.

Moreover, while the replacement intangible asset performs the same task as the actual intangible asset, the replacement asset is often "better" (in some way) than the actual intangible asset.

The replacement intangible asset may yield more satisfaction than the actual intangible asset. If this is the case, the analyst should adjust for this factor in the obsolescence estimation of the replacement cost analysis.

There are several other definitions of cost that are applicable to a cost approach analysis. For example, some analysts consider a measure of cost avoidance as a cost approach method. This method quantifies either historical or prospective costs that are avoided (i.e., not incurred) by the intangible asset owner/operator due to the intangible asset ownership.

However, cost avoidance measurement methods are typically considered to be income approach valuation methods.

In addition, some analysts consider trended historical costs as an indication of value. In this method, actual historical intangible asset development costs are identified and quantified and then "trended" to the valuation date by an appropriate inflation-based index factor.

Regardless of the specific definition of cost used in the analysis, all cost approach valuation methods typically include a comprehensive and all-inclusive definition of cost.

Intangible Asset Cost Components

The intangible asset development cost measurement (whether replacement cost new, reproduction cost new, or some other measure of cost) should include direct costs (e.g., materials) and indirect costs (e.g., engineering and design labor).

The intangible asset cost measurement should also include:

1. the intangible asset developer's profit (on the direct cost and indirect cost investment) and
2. an opportunity cost/entrepreneurial incentive (to economically motivate the intangible asset development process).

The developer's profit is a cost component that is sometimes overlooked in the cost approach analysis.

From the perspective of the intangible asset developer, first, the developer expects a return of all of the material, labor, and overhead costs related to the development process.

Second, the developer expects a return on all of the material, labor, and overhead costs related to the development process.

For example, a building contractor expects to earn a reasonable profit on the construction of any residential, commercial, or industrial building. Likewise, an intangible asset developer expects to earn a reasonable profit on the intangible asset development.

The developer's profit can be estimated by using several procedures. It can be estimated as a percentage return on the developer's investment in material, labor, and overhead.

It can be estimated as a percentage markup—or as a fixed dollar markup—to the amount of cost and time involved in the development process. It can also be estimated as a fixed dollar amount.

The analyst may sometimes disaggregate the developer's investment into two subcomponents:

1. The amount financed by external financing sources (e.g., banks and other financial institutions)
2. The amount financed by the intangible asset owner directly.

The developer's profit associated with the costs financed by external sources is analogous to construction period interest accrued in the construction of a tangible asset.

Some analysts include this construction period interest in the developer's profit cost category, and some analysts include this interest in the overhead cost category. Usually, a higher rate of return is assigned to the cost amount financed by the intangible asset owner directly, as compared to the cost amount financed by external financing sources.

The opportunity cost is another cost component that is sometimes overlooked in the cost approach analysis. Nonetheless, opportunity cost is an integral component of the cost approach analysis.

The opportunity cost is the amount of economic benefit required to motivate the intangible asset owner to enter into the development process.

The opportunity cost is often measured by reference to the intangible asset replacement/reproduction time period (i.e., the amount of time required for the owner to replace or reproduce the marital estate intangible asset de novo).

The analyst estimates the difference between:

1. the amount of income that the owner will earn by operating the actual intangible asset and
2. the amount of income that the owner will earn during the time period of developing the replacement/reproduction intangible asset.

The developer typically developer earns zero or negative income during the intangible asset replacement/reproduction time period. The intangible asset opportunity cost component is often measured as the difference between:

1. the positive income earned from the ownership/operation of the practitioner or the practice actual intangible asset during the replacement period and
2. the zero or negative income earned by the hypothetical replacement/reproduction intangible asset during the replacement period.

With regard to the cost approach, intangible asset developers may be compared to real estate developers (e.g., the developer of a shopping mall or a residential apartment complex). There is an opportunity cost associated with the development process for both the intangible asset developer and the real estate developer.

The time (and the financial resources) that they devote to the subject project is time (and resources) that they are diverting from another development project.

Alternatively, the time (and financial resources) that they devote to the subject project is time (and resources) that they are diverting from owning the subject (operational) intangible asset or residential/commercial real estate complex.

Likewise, both the intangible asset developer and the real estate developer expect to be compensated for the conceptual, planning, and administrative efforts associated with putting the entire project together.

Both types of developers expect to be compensated for the full period of time between:

1. when they initially begin the development of the subject project and
2. when they realize the full commercial potential of the subject development project.

This opportunity cost concept may be easier to understand with regard to the real estate developer. From the time the real estate developer first begins to construct the shopping mall until the time all of

the retail stores are leased and occupied, the developer is likely to experience negative cash flow during this development period.

Let's assume that this time period is two years.

A real estate developer who purchased an operational (i.e., fully leased) shopping mall two years earlier would experience positive cash flow during that same two-year period. The foregone cash flow during the two-year development period is one indication of the opportunity cost required to motivate the real estate developer to build a new shopping mall (instead of buying an existing shopping mall).

Accordingly, this opportunity cost measure may be considered as one of the cost components in the real estate valuation cost approach analysis.

The same type of opportunity cost is necessary to motivate the intangible asset developer to produce a new patent, trademark, computer program copyright, chemical formulation trade secret, food recipe trade secret, or other intangible asset.

The intangible asset owner should be compensated for the risk of the new development process compared to the relatively low risk of using the last generation of technology, consumer brands, computer software, and so on.

The intangible asset developer should be compensated for the forgone economic income (however measured) during the intangible asset development period. This forgone economic income is one indication of the opportunity cost required to motivate the intangible asset developer to create a new intangible asset (instead of buying an existing intangible asset).

Accordingly, this opportunity cost measure may be considered as one of the cost components in the cost approach analysis.

All five cost subcomponents (i.e., material, labor, overhead, developer's profit, and opportunity cost) should be considered as part of a comprehensive intangible asset cost approach analysis. So, while the cost approach is a fundamentally different set of valuation analyses from the income approach, there are necessary economic analyses involved in the cost approach.

These economic analyses (which may involve some analysis of the intangible asset income) provide indications of both:

1. the appropriate levels of opportunity cost (if any) and
2. economic obsolescence (if any).

Cost New less Depreciation

The intangible asset replacement cost new is the total cost to create, at current prices, an intangible asset having equal utility to the practitioner's or the practice's intangible asset.

However, the replacement intangible asset would be:

1. developed with modern methods and
2. developed according to current standards, state-of-the-art design and layout, and the highest available quality of workmanship.

Accordingly, the replacement intangible asset may have greater utility than the practitioner or the practice intangible asset.

Reproduction cost new is the total cost, at current prices, to construct an exact duplicate or replica of the practitioner or the practice intangible asset. This duplicate intangible asset would be created using the same materials, standards, design, layout, and quality of workmanship used to create the original intangible asset.

The intangible asset cost new (however measured) should be adjusted for losses in value due to the following:

- Physical deterioration
- Functional obsolescence
- Technological obsolescence (a particular component of functional obsolescence)
- Economic obsolescence (a particular component of external obsolescence)

Physical deterioration is the reduction in the value of an intangible asset due to physical wear and tear resulting from continued use. It is unlikely that an intangible asset will experience physical deterioration. However, the analyst should consider this concept in any cost approach analysis.

Functional obsolescence is the reduction in the value of an intangible asset due to its inability to perform the function (or yield the periodic utility) for which it was originally designed. Technological obsolescence is a decrease in the value of an intangible asset due to improvements in technology that make an intangible asset less than the ideal replacement for itself.

Technological obsolescence occurs when, due to improvements in design or engineering technology, a replacement intangible asset produces a greater standardized measure of utility than the practitioner's or practice's intangible asset.

Technological obsolescence is typically considered to be a specific component of functional obsolescence. Accordingly, the analyst may capture all of the value influences due to both design flaws and

changing technology in one category—and call that functional obsolescence.

Economic obsolescence (i.e., a specific component of external obsolescence) is a reduction in the value of the intangible asset due to the effects, events, or conditions that are external to—and not controlled by—the intangible asset current use or condition.

The impact of economic obsolescence is typically beyond the control of the intangible asset owner/operator. For that reason, economic obsolescence is typically considered incurable.

In any cost approach analysis, the analyst estimates the amounts (if any) of physical deterioration, functional obsolescence, technological obsolescence, and economic obsolescence related to the intangible asset.

In this estimation, the analyst may consider the intangible asset actual age—and its expected UEL. Such an age/UEL consideration may be an important component in the application of the cost approach.

In the cost approach, a typical formula for quantifying the intangible asset replacement cost new is: reproduction cost new – curable functional and technological obsolescence = replacement cost new.

To estimate the intangible asset value, the following formula is often used: replacement cost new – physical deterioration – economic obsolescence – incurable functional and technological obsolescence = value.

Income Approach Valuation Methods

The income approach is based on the economics principle of anticipation (also called the principle of expectation). In this approach, the value of the practitioner or the practice intangible asset is the present value of the expected income to be earned from the intangible asset ownership/operation.

As the name of this economics principle implies, the willing buyer "anticipates" the "expected" economic income to be earned from the intangible asset.

This expectation of prospective income is converted to a present worth—that is, the indicated value of the intangible asset. This conversion requires the analyst to estimate the investor's required rate of return on the intangible asset generating the prospective income.

This required rate of return will be a function of many economic variables, including the risk—or the uncertainty—of the practitioner's or the practice's expected future income.

Measures of Intangible Asset Income

Numerous alternative measures of income may be relevant to the practitioner or the practice intangible asset valuation. If properly applied, many different measures of income can be used in the income approach to provide a reasonable indication of value.

Some of the alternative measures of income include the following:

- Gross or net revenue
- Gross income (or gross profit)
- Net operating income
- Net income before tax
- Net income after tax
- Operating cash flow
- Net cash flow
- Incremental income
- Differential income
- Royalty income
- Excess earnings income
- Several others (such as incremental income)

Many different measures of income may be used in the income approach. Therefore, an important procedure in this valuation approach is for the analyst to ensure that the discount rate or the direct capitalization rate applied is derived on a basis consistent with the measure of income used.

There are at least as many income approach valuation methods as there are alternative measures of intangible asset income.

In addition, all of the different income approach valuation methods may be grouped into two categories:

1. Direct capitalization methods
2. Yield capitalization methods

However, most of these income approach valuation methods may be grouped into five categories of valuation methods. These five categories of income approach valuation methods have similar practical and conceptual considerations.

Income Approach Valuation Methods

These five categories of income approach intangible asset valuation methods are summarized below:

1. Valuation methods that quantify the incremental level of the intangible asset income

   That is, the intangible asset owner/operator will expect a greater level of economic income (however measured) by

owning/operating the practitioner's or the practice's intangible asset as compared to not owning/operating the practitioner's or the practice's intangible asset.

2. Valuation methods that quantify a decremental level of intangible asset costs or expenses

   That is, the intangible asset owner/operator will expect a lower level of costs or expenses, such as other required levels of capital costs or operating costs, by owning/operating the practitioner's or the practice's intangible asset as compared to not owning/operating the practitioner's or the practice's intangible asset.

3. Valuation methods that estimate a relief from a hypothetical license royalty payment

   That is, the amount of a royalty payment that a hypothetical third-party intangible asset licensee would be willing to pay to a hypothetical third-party intangible asset licensor in order to obtain (i.e., to license) the use of, and the rights to, the practitioner's or the practice's intangible asset.

4. Valuation methods that quantify the difference in the value of the owner/operator overall practice or company, or similar economic unit, as a result of owning the practitioner's or practice's intangible asset (and using it in the owner/operator practice or company)

   That is, this actual value is compared to the hypothetical value associated with not owning the practitioner or practice intangible asset (and not using it in the owner/operator practice or company).

5. Valuation methods that estimate the value of the practitioner's or the practice's intangible asset as a residual from the value of the owner/operator overall practice or company (or of a similar economic unit), or as a residual from the value of an overall estimation of the total intangible asset of the owner/operator practice or company (or of a similar economic unit).

Direct Capitalization Methods

In a direct capitalization analysis, the analyst:

1. estimates a normalized measure of income for one period (i.e., one period into the future to the valuation date) and
2. divides that measure by an appropriate investment rate of return.

The appropriate investment rate of return is called the direct capitalization rate.

The direct capitalization rate may be derived for a perpetuity period of time, or the direct capitalization rate may be derived for a specified finite period of time. This decision will depend on the analyst's expectation of the duration of the intangible asset income projection.

Yield Capitalization Methods

In a yield capitalization analysis, the analyst projects the appropriate measure of income for several discrete time periods into the future. This projection of prospective income is converted into a present value by the use of a present value discount rate.

The present value discount rate is the investor's required rate or return—or yield capitalization rate—over the expected term of the intangible asset income projection.

The duration of the discrete projection period—and whether or not a residual or terminal value should be considered at the conclusion of the discrete projection period—will depend on the analyst's expectation of the duration of the intangible asset income projection.

The result of either the direct capitalization analysis or the yield capitalization analysis is the income approach value indication of the practitioner or the practice intangible asset.

Tax Amortization Benefit Adjustment

Regardless of whether the yield capitalization method or the direct capitalization method is used, the analyst should consider one additional income approach procedure.

That procedure relates to the cash flow effect of the tax amortization benefit ("TAB") deduction related to an intangible asset that is purchased as part of a taxable business combination.

More often than not, the analyst will not make this income tax amortization benefit adjustment to the pre-adjusted income approach value indication. However, the analyst should consider whether such an adjustment is appropriate in each intangible asset income approach analysis.

When an intangible asset is purchased as part of the taxable acquisition of a going-concern business, (i.e., the practice or the company) the price of that purchased asset may be amortizable to the acquirer for federal income tax purposes. This amortization deduction is allowed under Internal Revenue Code Section 197.

That is why such intangible asset assets are referred to as Section 197 intangible assets. However, the analyst should consider the following:

- Not all commercial intangible assets qualify as Section 197 intangible assets.
- A Section 197 intangible asset has to be purchased as part of a business acquisition (and not on a stand-alone basis).
- The business acquisition has to be a taxable transaction, such as a cash-for-assets transaction under Section 1060 (and not, for example, a Section 368 stock-for-stock merger).
- The intangible asset owner/operator contemplated in the defined standard of value should be a taxpayer who is able to use the amortization-related income tax deduction.

Therefore, before applying a TAB, the analyst should consider the following:

1. Is the subject intangible asset a Section 197 intangible asset?
2. Would the subject intangible asset normally sell as a Section 197 intangible asset?

If the answer to either question is yes, then the analyst may consider applying a TAB adjustment (in the income approach analysis).

Section 197 allows the business acquirer to amortize the fair market value (presumably, the price paid) of the purchased intangible asset over a statutory 15-year amortization period. This annual amortization is a deduction that reduces the acquirer's taxable income and, therefore, income tax expense.

The value of this amortization deduction is the present value of the income tax expense savings over 15 years, present valued at the present value discount rate used in the income approach valuation analysis.

When applicable, this present value of income tax expense savings is added to the pre-adjusted income approach value indication for the intangible asset.

The sum of (1) the present value of the income tax savings and (2) the pre-adjusted value indication equals (3) the final income approach value indication for the individual practitioner or the professional practice intangible asset.

Alternatively, some analysts use an income tax amortization factor as a shortcut to the 15-period tax expense savings calculation.

The TAB formula follows:

$$TAB = \frac{1}{1 - \left(\left(\frac{income\ tax\ rate}{amortization\ period}\right) \times present\ value\ annuity\ factor\right)}$$

In this formula, the income tax rate should be the same tax rate that was applied in the unadjusted income approach analysis.

The present value annuity factor is the present value of an annuity of $1 for 15 years at the present value discount rate that was used in the unadjusted income approach analysis. And, the amortization period is always 15 years for a Section 197 intangible asset.

For example, let's consider a business acquirer with a 40 percent effective income tax rate and a 20 percent present value discount rate.

Applying the amortization factor formula, the intangible asset income approach value indication adjustment would be as follows:

$$TAB\ Adjustment = \frac{1}{1 - \left(\left(\frac{40\%}{15\ years}\right) \times 4.6755\right)}$$

Assuming that the unadjusted income approach value indication for the practitioner or the practice intangible asset is $100, the amount of the TAB adjustment is $14 rounded (i.e., $100 × 14%).

Applying the amortization factor formula, the total income approach value indication for the practitioner or the practice intangible asset is $114 (i.e., $100 unadjusted value + $14 TAB adjustment).

This TAB adjustment (however calculated) is intended to reflect the increment in net cash flow related to the amortization-related income tax expense savings.

This net cash flow increment is not reflected in the unadjusted income approach analysis. This adjustment, then, properly reflects the amount of income tax expense that should be included in the income approach analysis.

Because it is an adjustment to income tax expense in the income approach, this adjustment is not applicable to either the cost approach or the market approach. In other words, the TAB adjustment should not be considered in intangible asset analyses based on either the cost approach or the market approach.

Intangible Asset Useful Economic Life Analysis

After the analyst has identified the appropriate valuation approaches and methods, the next procedure

is the analysis of UEL. The estimation of UEL (i.e., a "lifing analysis") may be an important consideration of each of the three valuation approaches.

In the income approach, a lifing analysis may be developed to estimate the projection period for economic income subject to either yield capitalization or direct capitalization.

In the cost approach, a lifing analysis may be developed to estimate the total amount of obsolescence, if any, from the estimated measure of "cost"—that is, the intangible asset development reproduction or replacement cost.

In the market approach, a lifing analysis may be developed to select, reject, and/or adjust "comparable" or "guideline" intangible asset sale or license transactional data.

For each valuation approach, the UEL analysis considerations may have a direct and predictable effect on the concluded intangible asset value. The likely expected effects on the intangible asset value indications are summarized below.

Expected Effect on the Income Approach Value Indication

Normally, in the income approach, a longer UEL estimate may result in a greater intangible asset value. An intangible asset income approach value is particularly sensitive to the UEL estimate when the UEL is less than 10 years. And, the intangible asset income approach value is not particularly sensitive to the UEL estimate when the UEL is more than 20 years.

Expected Effect on the Cost Approach Value Indication

Normally, in the cost approach, a longer UEL estimate may result in a greater intangible asset cost approach value. That is because a longer UEL generally indicates less obsolescence in the practitioner or practice intangible asset.

Normally, a shorter UEL estimate results in a lower intangible asset cost approach value. This is because a shorter UEL generally indicates greater obsolescence in the practitioner or practice intangible asset.

Expected Effect on the Market Approach Value Indication

The "market" should indicate an acceptance for the practitioner or the practice intangible asset's UEL. If the practitioner or the practice intangible asset UEL is materially different from the guideline sale or license transaction intangible asset UEL, then adjustments to the market-derived transactional pricing multiples may be justified.

If the practitioner or the practice intangible asset UEL is materially different from the guideline sale or license transaction intangible asset UELs, then this fact may indicate a lack of marketability for the practitioner or practice intangible asset.

This fact may indicate a lack of market demand for an intangible asset with the practitioner or the practice intangible asset age/life characteristics.

Determinants That May Influence Intangible Asset Expected UEL

The following list presents some of the typical determinants, or factors that may directly influence the intangible asset expected UEL:

- Legal determinants
- Contractual determinants
- Functional determinants
- Technological determinants
- Economic determinants
- Analytical determinants

Each of these categories of life-influence determinants may be considered in the analyst's UEL estimation. Typically, for practitioner or practice intangible asset valuation purposes, the life determinant that indicates the shortest UEL deserves primary consideration in the UEL estimate.

Valuation Synthesis and Conclusion

The intangible asset values indicated by all three generally accepted valuation approaches should be considered in the final value synthesis and conclusion. This is due to the fact that the valuation variables used—and the value indications concluded—in each approach provide a different perspective on the practitioner or the practice intangible asset value.

The following discussion presents three simplified illustrative examples with regard to an intangible asset valuation. Each simplified example illustrates one generally accepted intangible asset valuation approach.

Illustrative Example of the Cost Approach and the Income Approach

Exhibits 2 through 5 present a simplified illustrative example of a trade secret intangible asset

valuation. This illustrative intangible asset relates to the manufacture of compressed meal replacement bar ("MRB") products by the hypothetical Family Services Company Partners ("Family").

For the last year or so, Family has produced a popular low-calorie MRB product that has a good taste, crunchy texture, high protein, and nutritional balance. The intangible asset includes the trade secret proprietary process by which this MRB product is manufactured.

The trade secret process was developed by the company president and principal shareholder, Fred Family.

The trade secret is the compress-and-form manufacturing process of the MRB product recipe and formulation. Fred documented this trade secret in a set of engineering drawings and in a process flow chart notebook.

Family management has elected not to patent this proprietary process for competitive reasons. Both the company engineers and the company legal counsel believe that the manufacturing process would be patentable.

Nonetheless, if the trade secret became public knowledge through the patent procedure, Fred is concerned that the company competitors could reverse engineer an equally effective manufacturing process that would not violate the patent.

Family treats this proprietary technology as a trade secret. All of the engineering and other documentation related to this manufacturing process is protected in a locked cabinet in Fred's office.

Only a select number of Family engineering and production managers have access to that information. And, all of those Family employees have signed nondisclosure agreements.

Fred also believes that this proprietary process gives the company's MRB product a distinct competitive advantage. Family marketing personnel stress this product differentiation feature in all of the company marketing materials and presentations.

In summary, the intangible asset is the trade secret (including the technical documentation) related to the "compress-and-form" manufacturing proprietary process (hereinafter referred to as "the MRB trade secret").

Illustrative Example Fact Set and Analysis Assumptions

The objective of this valuation is to estimate the fair market value of the MRB trade secret intangible asset as of January 1, 2022.

The Family trade secret is used in the manufacture of a health food product line that is projected to generate $147 million in net revenue next year.

Family has developed a unique modification to the standard compression process. The trade secret produces an MRB product that has a crunchy texture and a "snappy" break.

In addition, the final product maintains a good taste and a high nutritional value.

A lower moisture content of the final product increases the retail shelf life of the MRB product.

The trade secret produces a product with much greater consumer appeal than competitive products. The Family product can be produced at the same cost of sales than the lower quality competitor products.

Selection of Valuation Approaches and Methods

In this hypothetical example, the appropriate standard of value is fair market value.

Based on a highest and best use analysis, the analyst's selected premise of value is value in continued use as part of a going-concern business. This so-called premise of value is consistent with the analyst's:

1. valuation assignment and
2. assessment of the highest and best use of the subject intangible asset.

Based on (1) the quality and quantity of available data and (2) the purpose and objective of the subject analysis, the analyst decided to apply two valuation approaches:

1. The cost approach, and specifically the reproduction cost new less depreciation ("RPCNLD") method
2. The income approach, and specifically the yield capitalization method (based on differential income)

Cost Approach Analysis

The analyst has access to the actual historical development costs related to the Family trade secret. This type of historical cost information is not always available to an analyst.

Because this trade secret was so important to the company, Family tracked the original cost of its proprietary process development efforts. Therefore, the analyst is able to restate the historical development costs of the trade secret in current (i.e., valuation date) dollars.

This trended historical cost analysis provides the analyst with an estimate of the cost that would be incurred by a hypothetical willing buyer to reproduce the trade secret.

Cost Approach Valuation Variables

Fred provided the analyst with the historical accounting information regarding the number of hours spent by Fred and other Family engineers and scientists on the various aspects of the trade secret development. The analyst estimated a full absorption cost related to the trade secret development.

This full absorption cost included all employee salaries, employee benefits, employment-related taxes, and related company overhead. This full absorption cost also included a component for development period interest related to the direct costs.

The analyst calculated each of these full absorption cost components as of the valuation date. Accordingly, the full absorption cost represents the reproduction cost for the intangible asset.

The analyst concluded the current cost per person-hour for all of the employee hours actually spent on the development, testing, and implementation of the trade secret.

The product of (1) the total number of person-hours actually spent to develop the Family trade secret and (2) the estimated full absorption cost per person-hour results in an estimate of the reproduction cost new ("RPCN").

The analyst considered adjustments to the RPCN estimate for losses in value due to functional, technological, and economic obsolescence.

The analyst considered (1) the age and expected UEL of the trade secret, (2) the intangible asset position within its technology life cycle, and (3) the intangible asset owner/operator's return on investment related to the use of the trade secret.

Exhibit 2 summarizes the RPCNLD analysis. The total RPCN includes the following:

1. Direct costs
2. Indirect costs
3. Developer's profit
4. Entrepreneurial incentive

The direct costs include the direct salary costs of the Family development team. The indirect costs include the related employee benefit costs, employment taxes, overhead allocation, and development period interest expense.

The developer's profit includes an estimate of the profit margin that an independent engineering firm would charge to Family if that engineering firm was retained to develop the trade secret. The entrepreneurial incentive is the opportunity cost related to the intangible asset development process.

The analyst quantified this opportunity cost as the difference in the amount of cash flow that Family would earn with versus without the trade secret.

The analyst also estimated the incremental cash flow during the period of elapsed time required to develop (i.e., reproduce) the trade secret. Fred estimated that the trade secret development period would be 24 months.

As indicated in Exhibit 2, the RPCN for the trade secret is $10.975 million.

Based on the current age (i.e., one year) and UEL (i.e., five years) of the Family trade secret, the analyst concluded that a 15 percent functional obsolescence allowance was appropriate for the intangible asset.

That 15 percent functional obsolescence allowance results in $1.646 million of "depreciation."

The analyst developed several economic obsolescence measurement analyses. Based on these analyses, the analyst concluded that there was no economic obsolescence associated with the ownership or operation of this intangible asset.

The indicated RPCNLD estimate is $9.329 million. And, this RPCNLD estimate is rounded to a fair market value indication for the Family trade secret intangible asset of $9.3 million, as of January 1, 2022.

Income Approach Analysis

First, the analyst projected the prospective cash flow associated with the use of the trade secret in the Family current business operations.

Second, the analyst projected the prospective cash flow that would be generated without the use of the trade secret.

The trade secret value indication is based on the difference between the present value indications from the two different Family operating scenarios:

1. Family operating with the trade secret in its current business operations and
2. Family operating without the trade secret in its current business operations).

Valuation Variables

Family marketing management provided projections of the product unit selling price, unit volume, and market share for the five years after the valuation date. Family management also projected the cost of

Exhibit 2
Family Services Company Partners
MRB Trade Secret Intangible Asset
Cost Approach
As of January 1, 2022

Intangible Asset Development Procedures: Type of Laboratory Research & Testing	Total Person-Hours to Reproduce the Development Procedures	Average Base Cost per Person-Hour ($)	Employee Benefits and Overhead Cost Allocation Factor	Full Absorption Cost per Person-Hour ($)	Reproduction Cost New ($)
Compression Process Analysis	15,000	75	1.85	139	2,085,000
Food Ingredient Mixtures	8,000	75	1.85	139	1,112,000
Manufacturing Process Testing	10,000	85	1.85	157	1,570,000
Manufacturing Process Drawings & Documentation	8,500	90	1.85	167	1,420,000
				Total Direct and Indirect Costs [a]	6,187,000
				Plus: Developer's Profit at 15% [b]	928,000
				Plus: Entrepreneurial Incentive [c]	3,860,000
				Equals: Indicated RPCN [d]	10,975,000
				Less: Functional Obsolescence (at 15% of RPCN)	1,646,000
				Equals: RPCNLD	9,329,000
				Indicated Trade Secret Fair Market Value (rounded)	9,300,000

[a] The full absorption cost allocation factor includes a component for development period interest.
[b] The developer's profit represents a fair profit margin that an independent food engineering company would charge to a client to develop a manufacturing process like the MRB trade secret.
[c] The entrepreneurial incentive indicates the incremental amount of net cash flow than the owner/operator of the MRB trade secret will earn during the 24-month process development period—compared to the amount of net cash flow the same owner/operator would earn from using an alternative trade secret. See Exhibits 2 and 3 for the present values of net cash flow for years 1 and 2.
[d] This RPCN estimate includes all related direct costs, indirect costs, developer's profits, and entrepreneurial incentive.
[e] The analyst concluded that a 15 percent functional obsolescence allowance was appropriate. Management expects to develop and implement an improved compression process in a few years. The current trade secret has been in use for approximately one year. Therefore, the total expected life of this trade secret is approximately six years (i.e., on year age plus five years RUL). Therefore, this intangible asset is approximately 15 percent (i.e., one year divided by six years) from an age/life perspective. Since this intangible asset is earning a fair return on investment, the analyst concluded that no allowance for economic obsolescence is needed.

goods sold and the capital expenditure data related to the production of the MRB food product.

In addition, Family management prepared a five-year projection of the selling, general, and administrative expenses related to the MRB food product line.

After a due diligence review of the Family-management-prepared financial projections, the analyst concluded that these product line financial projections were supported and credible.

This valuation method measures the difference in the Family operating income potential both with and without the operation of the trade secret. The income potential represents the amount of income that is available to the business after consideration of a required level of reinvestment for continued operations and for expected growth.

The analyst selected net cash flow as the appropriate measure of income.

For purposes of this analysis, the analyst defined net cash flow as follows:

	Net sales
Less:	Cost of sales
Less:	Operating expenses
Equals:	Net income before taxes
Less:	Income taxes
Plus:	Depreciation and amortization expense
Less:	Capital expenditures
Less:	Additions to net working capital
Less:	Contributory asset capital charge
Equals:	Net cash flow

In this analysis, the product line net cash flow is projected over the trade secret expected UEL. The net cash flow projection is discounted at an appropriate discount rate in order to conclude a present value.

Based on industry experience, Family management expects that it will develop a replacement trade secret in about five years. Both Family and all of its competitors continuously develop improved MRB products.

Family management is already working on the development of a new and improved compression process.

Family management expects that the new and improved process will be developed, tested, and implemented within five years. At that time, the current trade secret will be obsolete.

This five-year expected UEL is consistent with the Family historical experience regarding its trade secret technology life cycle. And, this five-year expected UEL is consistent with the industry's historical experience regarding a trade secret technology life cycle.

Therefore, the analyst selected five years as the appropriate measure of the trade secret UEL.

The analyst selected the following valuation variables:

Scenario I: Family operating with the MRB trade secret in operation

- Net sales growth rate: 10 percent per year
- Gross margin percentage: 26 percent of net sales
- Other operating expenses: 11 percent of net sales
- Effective income tax rate: 36 percent of pretax income
- Depreciation expense: 1 percent of net sales
- Net capital expenditures: equal to depreciation expense
- Contributory assets charge: $2.2 million per year
- Incremental net working capital: 5 percent of net sales
- Present value discount rate: 15 percent
- Remaining useful life estimate: 5 years

Scenario II: Family operating without the MRB trade secret in operation

- Expected sales decrement: –10 percent per year
- Other operating expenses: 11.5 percent of net sales
- Incremental net working capital: 7 percent of net sales
- Present value discount rate: 16 percent (increased 1 percent due to increased competition risk without trade secret)
- All other valuation variables remain unchanged for Scenario I.

The contributory asset charge is included to account for the fair return on the investment of all the Family contributory assets that are used with the trade secret. The Family contributory assets include net working capital, tangible operating assets, and the company trade name.

The projected decrease in product line sales without the trade secret in operation is based on discussions with Family management.

This projected sales decrease indicates management's estimate of the consumer response to the decrease in taste, crunchiness, and retail shelf life of the MRB product without the trade secret.

The negative sales growth rate reflects management's projection of the combined effects of:

1. decreased unit selling price and
2. decreased unit volume sales.

Without the product differentiation provided by the trade secret, Family management estimates that it will have to increase its marketing expense. This marketing expense increase accounts for the one-half of 1 percent projected increase in other operating expenses.

In addition, Family management projects that it will have to liberalize its customer credit policy in order to stimulate sales of the less desirable MRB product.

Family management estimates that it will have to give 60-day credit terms—instead of the current 30-day credit terms.

This change in credit policy will affect the company's accounts receivable balances. This change in credit policy will also result in an expected change in the net working capital investment.

The 15 percent present value "with the trade secret" discount rate is based on the analyst's estimate of the Family weighted average cost of capital ("WACC").

The 16 percent "without the trade secret" discount rate is based on the 15 percent WACC, adjusted 1 percent for the additional competition risk associated with not having a superior MRB product.

Income Approach Valuation Analysis

As presented in Exhibit 3, the sum of the product line discounted cash flow with the trade secret in operation is $49.5 million.

As presented in Exhibit 4, the sum of the product line discounted cash flow without the trade secret in operation is $39.9 million.

The difference of these two income projections indicates a value differential related to the trade secret of $9.6 million.

Exhibit 3
Family Services Company Partners
MRB Trade Secret Intangible Asset
Income Approach
As of January 1, 2022
Scenario I: Family Operating with the Family Trade Secret in its Business Operations

MRB Product Line Financial Projection Variables ($ in 000s):	Year 1	Year 2	Year 3	Year 4	Year 5
Net Sales	$146,912	$161,603	$177,764	$195,540	$215,094
Gross Margin	38,197	42,017	46,219	50,840	55,924
Operating Expenses	(16,160)	(17,776)	(19,554)	(21,509)	(23,660)
Earnings before Interest and Taxes	22,037	24,240	26,665	29,331	32,264
Income Tax Expense	(7,933)	(8,727)	(9,599)	(10,559)	(11,615)
Operating Income	14,104	15,514	17,065	18,772	20,649
Depreciation Expense	1,469	1,616	1,778	1,955	2,151
Capital Expenditures	(1,469)	(1,616)	(1,778)	(1,955)	(2,151)
Contributory Asset Charge	(2,200)	(2,200)	(2,200)	(2,200)	(2,200)
Incremental Net Working Capital Investment	(696)	(735)	(808)	(889)	(978)
Net Cash Flow	11,208	12,579	14,057	15,683	17,471
Present Value Discount Factor [a]	0.9325	0.8109	0.7051	0.6131	0.5332
Discounted Net Cash Flow	10,451	10,200	9,912	9,616	9,315
Sum of the MRB Product Line Discounted Net Cash Flow with the Family Trade Secret in Place (rounded)	49,500				

[a] Assumes a midyear discounting convention.

Exhibit 4
Family Services Company Partners
MRB Trade Secret Intangible Asset
Income Approach
As of January 1, 2022
Scenario II: Family Operating without the Subject Trade Secret in its Business Operations

MRB Product Line Financial Projection Variables ($ in 000s):	Year 1	Year 2	Year 3	Year 4	Year 5
Net Sales	$146,912	$161,603	$177,764	$195,540	$215,094
Expected Sales Decrement without the MRB Process	(14,691)	(16,160)	(17,776)	(19,554)	(21,509)
Net Sales without Proprietary Process in Operation	$132,221	$145,443	$159,987	$175,986	$193,584
Gross Margin	34,377	37,815	41,597	45,756	50,332
Operating Expenses	(15,205)	(16,726)	(18,399)	(20,238)	(22,262)
Earnings before Interest and Taxes	19,172	21,089	23,198	25,518	28,070
Income Tax Expense	(6,902)	(7,592)	(8,351)	(9,186)	(10,105)
Operating Income	12,270	13,497	14,847	16,331	17,965
Depreciation Expense	1,322	1,454	1,600	1,760	1,936
Capital Expenditures	(1,322)	(1,454)	(1,600)	(1,760)	(1,936)
Contributory Asset Charge	(2,200)	(2,200)	(2,200)	(2,200)	(2,200)
Incremental Net Working Capital Investment	(876)	(926)	(1,018)	(1,120)	(1,232)
Net Cash Flow	9,194	10,372	11,629	13,012	14,533
Present Value Discount Factor [a]	0.9259	0.7982	0.6881	0.5932	0.5114
Discounted Net Cash Flow	8,512	8,279	8,002	7,718	7,432
Sum of the MRB Product Line Discounted Net Cash Flow without the Family Trade Secret in Place (rounded)	39,900				
Compared to Sum of the MRB Product Line Discounted Net Cash Flow with the Family Trade Secret in Place (rounded) (from Exhibit 2)	49,500				
Equals: Indicated Fair Market Value of the Family Trade Secret	9,600				

[a] Assumes a midyear discounting convention.

Therefore, the income approach estimates a fair market value indication of $9.6 million for the Family trade secret intangible asset as of January 1, 2022.

Value Conclusion

The analyst decided to assign equal weight to the value indications provided by the two valuation approaches.

Based on the analyses presented in Exhibits 2 through 5, the fair market value of the Family trade secret intangible asset is $9.3 million (rounded) as of January 1, 2022.

Exhibit 5 presents the valuation synthesis and conclusion for this illustrative trade secret intangible asset valuation.

Illustrative Example of the Market Approach

Let's also consider a simplified illustrative application of the income approach to intangible asset valuation.

Let's assume that Pharmaceutical Products Practice ("PPP") is a pharmaceutical products professional services company.

PPP management has developed a new pharmaceutical drug compound company.

PPP management expects that the new drug product will enjoy considerable commercial success.

PPP is a private company. Let's assume that PPP management retains the analyst to value its patent

Exhibit 5
Family Services Company Partners
MRB Trade Secret Intangible Asset
Valuation Synthesis and Conclusion
As of January 1, 2022

Valuation Approach	Valuation Method	Value Indication ($ in 000s)	Value Indication Emphasis	Value Conclusion ($ in 000s)
Cost Approach	Reproduction Cost New less Depreciation Method	9,300	50%	4,650
Income Approach	Yield Capitalization Method (based on a "with and without" differential income method analysis)	9,600	50%	4,800
	Fair Market Value of the Trade Secret Intangible Asset (rounded)			9,500

intangible asset as part of an overall valuation of PPP. Let's also assume that the assignment standard of value is fair market value. And, let's also assume that the appropriate assignment premise of value is value in continued use as part of a going-concern business.

Let's assume that the valuation date is January 1, 2022.

The analyst decides to apply the income approach and the relief from royalty ("RFR") valuation method to value the patent related to the new PPP product commonly called Vigor.

The Vigor drug product treats the medical condition called erectile dysfunction (or "ED").

Illustrative Example Fact Set and Analysis Assumptions

The Vigor drug compound was patented, passed its clinical trials, and received all FDA approvals. Vigor was just introduced on the market. PPP management expects that Vigor will generate about $400 million in first-year (i.e., 2022) product revenue.

Let's assume that the analyst concludes a nine-year UEL for the Vigor patent. This analyst UEL conclusion is based on the following:

- The consensus of PPP management
- The life cycle of the previous generations of ED drugs
- Current research stage of potential replacement drugs
- The expected impact of generic pharmaceutical products;
- Published product life estimates from pharmaceutical industry analysts; and
- PPP management plans for developing its own replacement (i.e., more effective) pharmaceutical compound

Market Approach Valuation Variables

Based on due diligence and research, the analyst concludes the following Vigor product expected revenue growth rates:

- 10 percent expected product revenue increase for the first three years
- 0 percent expected product revenue increase for the next three years
- 12 percent expected product revenue decrease for the last three years

The analyst concluded that there will be no residual revenue from the Vigor product after the nine-year UEL. That is, PPP management indicated that it will discontinue the manufacture of Vigor and, instead, manufacture a replacement drug product after year 9.

PPP management expects to incur an expense of approximately $10 million a year related to the legal defense, marketing, and administration of the Vigor patented drug product.

PPP management projects that this level of expense will increase at the rate of 3 percent per year, regardless of the level of the Vigor product sales revenue.

PPP management believes that any owner of the Vigor drug compound patent would incur such an annual expense.

PPP management also informed the analyst that PPP would continue to incur this type of expense if it was the licensee of the patent (and another company was the licensor of the patent).

The analyst also concluded that a 20 percent pretax present value discount rate is appropriate for this patent valuation, given the risk of the Vigor drug product.

Guideline Intangible Asset License Search Procedures

The analyst researched several online intangible asset license royalty rate data sources.

The analyst searched each database for:

1. the pharmaceutical industry Standard Industrial Classification code and
2. pharmaceutical compound or product patent license agreements.

The analyst also searched for pharmaceutical compound patent licenses entered into within three years of the subject valuation date.

The analyst searched for patent licenses where the royalty payment was expressed primarily as a percent of revenue. And, the analyst scanned all of the identified patent license agreement descriptions for a similar disease (i.e., vascular) and a similar therapy (i.e., a pill-type drug) to the subject Vigor drug product.

Guideline Patent License Agreement Royalty Rates

Based on the above-described patent license search criteria, the analyst selected comparable uncontrolled transactions—or CUTs.

These hypothetical CUT drug patent license agreements are presented in Exhibit 6.

Illustrative Example of a Royalty Rate Adjustment Grid

Based on the comparability factors considered to be the most relevant to the subject valuation, the analyst adjusted the hypothetical guideline license transactional data as presented in Exhibit 7.

Market Approach Valuation Analysis

Based on the uneven expected revenue growth rate and the UEL analyses summarized above, the analyst decided to apply the yield capitalization method (instead of the direct capitalization method).

This RFR method yield capitalization model is an expanded format of the RFR method direct capitalization formula. The Vigor drug patent yield capitalization method analysis is presented in Exhibit 8.

In this simplified illustrative example, and based on the application of the market approach and the RFR method, the analyst concluded that the fair market value of the Vigor patent intangible asset is $90 million, as of the January 1, 2022, valuation date.

Summary and Conclusion

This discussion summarized the analyst's considerations related to the valuation of the intangible assets of an individual practitioner or of a professional practice/professional services company.

There are numerous situations in which the analyst may be asked to value an individual practitioner's intangible asset or a professional practice entity's intangible asset.

Individual intangible assets may be owned by an individual practitioner or by professional practice owners (who may develop the intangible assets outside of the professional practice)—or by the professional practice or the professional services company itself.

In addition, intangible assets often comprise a large percentage of the total market value of the professional practice or the professional services company entity.

Exhibit 6
Pharmaceutical Products Practice
Vigor Drug Compound Patent Intangible Asset
Hypothetical Guideline Intangible Property Use License Agreements
As of January 1, 2022

Guideline Drug Patent License	Guideline Drug Patent Licensee	Guideline Drug Patent Licensor	Guideline License Start Date	Guideline License Term Years	Guideline License Royalty Rate %	Other Consideration Paid to the Licensor	Type of Licensed Drug Product
1	Pfizer, Inc.	Columbia U.	2019	15	6	$4m [a]	ED
2	Glaxo Smith Kline	Autogen	2020	10	5	$10m [b]	Cardiovascular
3	Johnson & Johnson	Nobel N.V.	2018	12	10	[c]	Anti-obesity
4	Merck& Co.	All Saints Hospital	2021	10	4.5	[d]	Vascular
5	Pharmacia & Upjohn	MIT	2020	15	5.5	[e]	Pulmonary Hypertension
6	Wyeth-Ayerst	MD, LP	2019	20	8-10	[f]	Botanical ED

[a] Represents an upfront (i.e., development financing) license payment.
[b] Represents a milestone payment after the fifth year of the license.
[c] The license agreement also settles a pending $50 million litigation between the various license parties.
[d] The physician owners/employees also receive research grants from Merck.
[e] There are also numerous other relationships between the licensor/licensee parties.
[f] The license royalty rate range is based on the level of the drug product annual sales volume.
Note: All of these data are hypothetical and are presented for illustrative purposes only.

Exhibit 7
Pharmaceutical Products Practice
Vigor Drug Compound Patent
Guideline Royalty Rate Adjustment Grid and Selected Subject-Specific Royalty Rate
As of January 1, 2022

Guideline Drug Patent License	Guideline Patent Royalty Rate %	Guideline Patent Comparable to the Subject Patent [a]	Size of the Guideline Product Market [b]	Growth Rate of Guideline Product Market [b]	Guideline Product Market Share Relative to the Subject Product [b]	Effect of Other Consideration Paid to the Licensor	Adjusted Guideline Patent Royalty Rate
1	6	3	0	0	--	+.5% [c]	6%
2	5	2	++	++	0	+1% [c]	7%
3	10	2	+	0	0	-2% [c]	8%
4	4.5	3	+	0	-	- [c]	4%
5	5.5	2	+	+	0	- [c]	6%
6	8-10	3	++	-	-	-2% [d]	7%
				License Royalty Rate Mean			6.3%
				License Royalty Rate Trimmed Mean			6.5%
				License Royalty Rate Median			6.5%
				License Royalty Rate Mode			6.5%
				Selected PPP Patent Royalty Rate Conclusion			6.5%

[a] Based on a scale of 0 to 3; where 0 means that the guideline patent is less comparable to the subject company patents and 3 means that the guideline patent is more comparable to the subject company patents.
[b] Based on a scale of --, -, 0, +, ++; where -- is the smallest in size relative to the subject company patented product and ++ is the largest in size relative to the subject company patented product.
[c] Valuation analyst adjustment, based on an assessment of other factors (1) in the guideline intellectual property license agreement or (2) between the guideline intellectual property licensor and the licensee.
[d] Valuation analyst adjustment due to the different nature of a botanical drug product versus a pharmaceutical drug product.

Exhibit 8
Pharmaceutical Products Practice
Vigor Drug Compound Patent
Market Approach
Relief from Royalty Method
As of January 1, 2022

PPP Patent Valuation Analysis	Projection Period								
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9
Patented Product Revenue Expected Growth Rate	10%	10%	10%	0%	0%	0%	–12%	12%	12%
Patented Product Revenue Amount (year 0 revenue = 400)	440	484	532	532	532	532	469	412	363
Selected Patent Inbound License Royalty Rate	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%
Projected Relief from License Royalty Expense (rounded)	29	31	35	35	35	35	30	27	24
Projected Patent Maintenance Expense (year 0 expense = 10)	10	11	11	11	12	12	12	13	13
Projected Net Relief from License Royalty Expense (rounded)	19	20	24	24	23	23	18	14	11
Present Value Discount Factor (at 20%, midyear convention)	0.9091	0.7576	0.6313	0.5261	0.4384	0.3653	0.3045	0.2537	0.2114
Present Value of Net Relief from License Royalty Expense	17	15	15	13	10	9	5	4	2
Total Present Value of Net Relief from License Royalty Expense	90								
Indicated Fair Market Value of the PPP Vigor Patent (rounded)	90								

In all cases, the valuation begins with the identification of the individual practitioner or the professional practice intangible asset ownership rights. And, the intangible asset value is often a function of its potential to earn and/or protect income for the practitioner or the practice intangible asset owner/operator.

For the individual practitioner or the professional practice intangible asset valuation, there are three generally accepted approaches—the cost approach, the market approach, and the income approach.

Each of these valuation approaches has the same objective: to arrive at a reasonable value indication for the practitioner or the practice intangible asset.

Within each of the three generally accepted valuation approaches, numerous generally accepted methods and procedures may be appropriate for the particular intangible asset valuation.

The selection of the appropriate valuation methods and procedures for the individual practitioner or the professional practice intangible asset is based on:

1. the characteristics of the individual intangible asset,
2. the quantity and quality of available data,
3. the purpose and objective of the valuation analysis, and
4. the experience and judgment of the individual valuation specialist.

The final value conclusion for the individual practitioner or the professional practice intangible asset is typically based on a synthesis of the value indications derived from each applicable valuation approach and method.

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