Intellectual Property Economics Insights

Valuation of Copyright Intellectual Property

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Introduction

Copyrights have similar valuation and economic characteristics to other types of intellectual property (IP) including trademarks, patents, and trade secrets. All of these IP are specifically protected by either federal or state statutes. These statutes provide very specific economic protection to (and, thereby, very specific development motivation to) the creative and innovative developer/owners of the IP.

First, we will describe the factors that are relevant to the identification and valuation of copyright IP. Second, we will discuss common valuation methods. Third, we will review common internal and external data sources that are useful in the analysis of copyrights. Last, we present two simple examples, using two different analytical methods, to illustrate the valuation of copyright IP.

Description of Copyright Intellectual Property

In the following sections, we will consider each of these questions regarding the identification and valuation of copyright IP:

1. What is a copyright and what economic advantage does it provide?
2. What are the social benefits of copyright protection?
3. What types of works are subject to—and not subject to—copyright protection?
4. What are the various categories of copyrights?
5. What is the legal term of copyright protection?
6. What is the economic impact of copyright registration?
7. What are the common forms of transfer of the copyright?

Economic Benefits Associated with Copyrights

As is true with all IP, a copyright has a special set of legal rights and protections that is afforded to the owner of the copyright. These legal rights are summarized below:

> A copyright is a bundle of exclusive rights that provides authors of original literary, musical, dramatic and artistic works with the sole right to authorize (or prohibit) the following uses of their copyrighted works:
>
> - To reproduce all or part of the work.
> - To make new (derivative) versions.
> - To distribute copies by selling, renting, leasing, or lending them.
> - To perform (that is, to recite, dance, or act) the work publicly.
> - To display the work publicly, directly, or by means of film, TV, slides, or other device or process.

The first three rights are violated when anyone copies, excerpts, adapts, or publishes a copyrighted work without permission. In rare cases, an author may dedicate a work to the public domain. However, unless the facts prove otherwise, an analyst should assume that all original works published less than 75 years ago in the United States are protected by copyright.[1]

> *". . . under copyright law, the term* author *includes artists, composers, photographers, computer software programmers, and other individuals of creative talent—in addition to writers."*

It is noteworthy that the above definition uses the term "author." As it is mentioned above, copyrights cover a variety of creative and artistic works—many of which are not literary. One reason for this is that, under copyright law, the term *author* includes artists, composers, photographers, computer software programmers, and other individuals of creative talent—in addition to writers. Also, since copyrights are sometimes granted to businesses, an author can be a corporation or other non-individual business form.

Basically, a copyright provides legal protection regarding the original expression of ideas. A copyright does not protect the ideas themselves. That is, an idea cannot be copyrighted. Rather, it is the expression of the idea—the way the idea is presented—that is copyrighted. A copyright gives the owner the exclusive right to (and prohibits all other parties from the right to) perform, reproduce, alter, distribute, or display the original work of expression. A copyright allows the owner to—and prevents another party's ability to—profit from the original work.

There are several legal and economic similarities between copyrights and trade secrets. Some of these similarities include the following:

Copyrights and trade secret laws sometimes protect the same kinds of information and sometimes are mutually exclusive of each other. Here are the salient points of how trade secret and copyright legal protections can work together under the Copyright Act of 1976:

- Trade secret and copyright protection are both available for unpublished works as long as the idea (or ideas) in the work are sufficiently innovative to qualify as a trade secret (any confidential information that provides a business with a competitive advantage) and the information is kept confidential.
- Trade secret and copyright protection may both be available for works that are distributed on a limited and restricted basis under a copyright licensing arrangement requiring the licensee (user) to recognize and maintain the trade secret aspects of the work. This dual protection is especially pertinent for the computer software business.
- Trade secret protection is generally not available for software—if the source code is made available to the public on an unrestricted basis through such means as listing it in a computer magazine or on a medium of distribution (for instance, a floppy disk).
- Works that are widely distributed without specific licensing agreements will generally lose their trade secret status but may be entitled to copyright protection.
- The deposit of a physical copy of the work that is being registered with the U.S. Copyright Office operates to disclose any trade secrets in the work unless the deposit in some way masks the material that comprises the trade secret. For instance, it is impossible to deposit samples of source code with major portions blacked out so that the parts of the code being maintained as a trade secret are not disclosed. There are several other methods for simultaneously registering a computer program and maintaining trade secrets. One common way is to withhold the source code altogether and deposit object code—which is impossible to understand when read in the U.S. Copyright Office.[2]

Generally, the "author" of the original work owns the copyright. Again, with regard to copyrights, the relative person in any discipline (for example, the artist, composer, or musician) is called the author. There are three exceptions to this rule regarding copyright ownership:

1. If an employee in the normal course of employment creates the copyright material, the employer owns the copyright. Such copyrighted materials are called "work made for hire."
2. If the copyrighted material is commissioned by a patron and the patron and the author sign "a work made for hire" agreement, then the copyright is owned by the patron. An example of this may be the commission of a family or executive portrait.
3. If the author sells the copyright, then the buyer owns the copyright, regardless of whether the buyer is an individual, corporation, or other form of entity.

All of the material in a copyrighted original work does not have to be new. Inexperienced analysts sometimes believe that the compilations of the work of other "authors" are not subject to copyright protection. This is not correct. In fact, the compilation of existing work itself may be considered an original expression subject to copyright.

"A compilation is a copyrightable work that is the result of bringing together or arranging preexisting material. . ."

A compilation is a copyrightable work that is the result of bringing together or arranging preexisting material (regardless of whether that material is protected by copyright) in an original—or non-obvious—way. Copy-right protection is based on the original selection, coordination, or arrangement of the material, not the copyright status of the preexisting material itself.

There are two types of compilations: (1) fact compilations and (2) collective works. Arranging public domain information, such as names and addresses or other data, in some minimally creative way creates a fact compilation. Common examples of fact compilations are electronic databases, directories, almanacs, price lists, and catalogs.

A collective work is a special type of compilation created by arranging copyrightable elements in a single work. Common examples are poetry anthologies, encyclopedias, newspapers, and magazines.[3]

Copyrights allow monopolistic exploitation benefits to the copyright owners. There are general social benefits to providing these individual economic benefits. These general social benefits are explained as follows:

The Founding Fathers recognized that everyone would benefit if creative people were encouraged to create new intellectual and artistic works. When the United States Constitution was written in 1787, the framers took care to include a copyright clause (Article I, section 8) stating that "The Congress shall have Power…to promote the Progress of Science and useful Arts, by securing for limited times to Authors…the exclusive Right to their…writings."

The primary purpose of copyright, then, is not to enrich authors; rather, it is to promote the progress of science and the useful arts—that is, human knowledge. To pursue this goal, copyright encourages authors in their creative efforts by giving them a mini-monopoly over their works—termed a copyright. But this monopoly is limited when it appears to conflict with the overriding public interest in encouraging creation of new intellectual and artistic works generally.[4]

Categories of Materials Subject to Copyright

While there is only one legal form of a copyright, there are several categories or types of work that are subject to copyright protection:

1. artistic—including paintings, sculptures, and drawings;
2. choreographic works—including ballet;
3. dramatic works—including plays, operas;
4. literary works—including books, manuscripts, newspapers, magazines, poetry, and advertisements;
5. musical works—including compositions, song lyrics, and advertising jingles (musical works include the compositions themselves and the recordings of the works);
6. pictorial and photographic—including cartoons, pictures, maps, prints, drawings, and photographs;
7. video and audiovisual works—including movies and motion pictures, music videos, and television programs.

These works do not have to be published, recorded, or performed in order to be subject to copyright protection. For example, an unpublished and newer performed play may still be protected by copyright.

Term of Copyright Protection

Estimating the term of copyright protection is somewhat confusing because the law related to this point changed in 1976. The current U.S. Copyright Act was enacted in 1976 and covers works created after December 31, 1977. The previous U.S. Copyright Act was enacted in 1909 and covers works created up to December 31, 1977.

With consideration to these statutory changes, the term of copyright protection is as follows:

> Few things in this world last as long as copyright protection. Indeed, an author's work is likely to be long forgotten before her copyright in it expires. The copyrights in works created after 1977 by individuals usually lasts for the life of the author plus an additional 50 years. The copyright in works created by employees for their employers lasts for 75 years from the date of publication, or 100 years from the date of creation, whichever occurs first.
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> The copyright in works created and published before 1978 lasts for 75 years from the date of publication if they were (or are) timely renewed…. As a result, it may be necessary to do some legwork to find out if certain pre-1978 published works are still under copyright. The copyright in works created but not published before 1978 lasts at least until December 31, 2002.[5]

"Estimating the term of copyright protection is somewhat confusing because the law related to this point changed in 1976."

Copyright Registration

Many inexperienced analysts believe that it is necessary for an author to register the created work in order for it to be subject to copyright protection. Unlike patents and trademarks, this is not true with regard to copyrights.

There are several reasons why an author may wish to formally register his or her work with the U.S. Copyright Office, such as the following:

> A creative work is protected by copyright the moment the work assumes a tangible form—which in copyright circles is referred to as "fixed in a tangible medium of expression." Contrary to popular belief, providing a copyright notice and/or registering the work with the U.S. Copyright Office are not necessary to obtain basic copyright protection. But there are some steps that can be taken to enhance the creator's chances for success if he or she turns to the courts to enforce a copyright:
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> - Place a copyright notice on a published work. The copyright notice, or "copyright bug" as it is sometimes called, commonly appears in this form: "© (year of publication) (author or other basic copyright owner)." By placing this notice on a work

that is published (distributed to the public without restriction), the author prevents others from copyrighting the work without permission and claiming that they did not know that the work was covered by copyright. This can be important if the author is forced to file a lawsuit to enforce the copyright, since it is much easier to recover significant money damages from a deliberate (as opposed to innocent) copyright infringer.

- Register works with the U.S. Copyright Office. Timely registration within three months of the work's publication date, or before the infringement actually begins—makes it much easier to sue and recover from an infringer. Specifically, timely registration creates a legal presumption that the copyright is valid and allows the copyright owner to recover up to $100,000 (and possibly attorney fees) without proving any actual monetary harm.[6]

Transferability of Copyrights

Copyright rights can be (and often are) sold or transferred—in whole or in part. In fact, the transfer of copyright rights is the most common way for authors to commercialize their copyrighted work. The two most common types of copyright transfers are assignments and licenses:

> When all copyright rights are transferred unconditionally, it is generally termed an "assignment." When only some of the rights associated with the copyright are transferred, it is known as a "license." An exclusive license exists when the right being licensed can only be exercised by the licensee and no one else. If the license allows others to exercise the same rights being transferred in the license, the license is said to be non-exclusive.[7]

"Copyright rights can be (and often are) sold or transferred—in whole or in part."

Licensing is the most common form of the transfer of copyright rights. A license splits the bundle of legal (and economic) rights associated with copyrights. These "split copyrights" are described as follows:

> Any of the exclusive rights that make up a copyright can be subdivided, or split, into smaller and smaller pieces and then transferred to one or more parties. Just think about the way books are marketed. In addition to book rights, there are audio rights, foreign translation rights, performance rights, film adaptation rights and even future technology rights. Each exclusive right is jealously guarded and, as a rule, sold piecemeal to one or more persons to maximize the author's return. The ways in which the copyright pie can be sliced are almost endless.
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> A copyright owner may limit any (or all) of the rights granted to another by (1) time, (2) geography, (3) language, or (4) type of use. Rights can even be split by market segment or channels of distribution (e.g., hardcover vs. paperback rights). Copyrights are infinitely divisible. Bear in mind that rights are seldom sold, licensed, or transferred in their totality or non-specifically.[8]

Common Valuation Methods

All three general intangible asset valuation approaches may be applicable to the analysis of copyrights. The cost approach is less commonly used than the income and market approaches. Because the copyright grants monopolistic rights to the owner, the cost approach is not always applicable to copyright analysis. However, if properly performed, the cost approach does have application in certain instances.

Cost Approach

Both creation cost and re-creation cost methods may be used with regard to copyright analysis. Since copyrights represent a creative or artistic IP, the term "creation cost" is used more commonly than the term "replacement cost." Likewise, the term "re-creation cost" is used more commonly than the term "reproduction cost." Nonetheless, there are conceptual and procedural similarities (1) between creation cost and replacement cost and (2) between re-creation cost and reproduction cost.

In all cost approach analyses of copyrights, the analyst should consider both (1) developer's profit and (2) entrepreneurial incentive as cost components. In the cost approach analysis of IP, developer's profit and entrepreneurial incentive can sometimes represent the largest components of value.

The cost approach does have certain limitations with regard to the analysis of copyrights. Because of these limitations, the cost approach is often considered to provide a floor (or minimum) estimate of value—as opposed to a ceiling (or maximum) estimate of value.

The application limitation of the cost approach relates to the fact that the copyright grants the holder exclusive or monopolistic rights with regard to the subject work. The cost approach is based on the economic principle of substitution. This principle postulates that an investor will typically pay no more for a property than the cost to purchase or construct a substitute property. However, it is not legally possible to purchase or construct a substitute property with regard to copyrights. Copyrights are only granted with regard to unique and

original work. Therefore, the hypothetical investor who attempts to purchase or construct a substitute property is, by definition, guilty of copyright infringement.

Therefore, the "willing buyer" in a copyright market value transaction cannot legally re-create the subject copyright. The "willing seller" in a copyright market value transaction will typically not sell for less than his or her cost (that is, the investment) in the subject copyright. For this reason, the cost approach analysis often provides a minimum indication of copyright value.

Market Approach

Market approach methods are commonly used in copyright valuation and economic analyses. There is an active market with regard to the fee simple sales of copyrights. This is true with regard to all of the types of copyrighted materials (for example, literary, musical, artistic, etc.) discussed above.

"There is an active market with regard to the fee simple sales of copyrights."

However, the transactional (particularly pricing) details regarding these copyright sales are not publicly disclosed. Also, it is often difficult for analysts to develop units of comparison in order to extract market-derived pricing multiples from these transactional data. In other words, it is difficult to convert pricing data regarding the actual sale of a copyright into a meaningful "per picture," "per lyric," or "per word" pricing multiple.

There is a very active market with regard to the license of all types of copyrighted materials. Therefore, royalty rate or similar license analysis is the most common market approach method.

Analysts sometimes have the problem of developing units of comparison if the selected empirical license agreements call for fixed periodic dollar payments—for example, $100,000 per year. However, many copyright license agreements are on either (1) a royalty rate formula or (2) a per-use formula. With regard to the royalty rate formula, the license agreement typically compensates the author by a percentage of the total revenues generated through the use of the copyrighted materials. With regard to the per-use formula, the license agreement typically compensates the author as a dollar amount for each time the copyrighted material is performed, displayed, or otherwise used.

Income Approach

Income approach methods are very commonly used in the valuation and economic analysis of copyright intellectual properties. The various income approach methods typically involve some form of:

1. incremental analysis—the estimation of the difference between (a) the amount of income that an economic unit (e.g., business enterprise) would generate with the use of the subject copyright, and (b) the amount of income the same economic unit would generate without the use of the copyright;
2. profit split analysis—the estimation of the total income that an economic unit (e.g., business enterprise) would generate from the use of the copyright where the total income estimate is allocated (in part) to the copyright and (in part) to all of the other tangible and intangible assets that support the generation of the total income estimate; and/or
3. royalty income analysis—the estimation of the total amount of royalty income that the author of the work could generate through the licensing of the copyrighted material.

With regard to all of these income approach analyses, the copyright income is projected over an estimate of the remaining useful life (RUL) of the income stream. Typically, the RUL estimate is much shorter than the (very long) period associated with the legal life of the copyright. Most often, the RUL is an expectation of the period of popular and commercial acceptance of the book, movie, song, play, poem, or other copyrighted work. The present value of the income projection over this expected RUL is an indication of the copyright value.

"The present value of the income projection over this expected RUL is an indication of the copyright value."

In particular, income approach methods are commonly used with regard to infringement and similar damages analyses. The question with regard to copyright (and other IP) infringement is: Should the income stream subject to analysis be: (1) the income that the copyright owner lost (i.e., "lost profits") as a result of infringement or (2) the income that the infringing party earned (i.e., "found profits") as a result of the infringement?

This question can be answered from either a legal perspective or an economic perspective. From a legal perspective, the answer is based on statutory authority and judicial precedent that may be jurisdiction-specific. Accordingly, competent legal counsel should be consulted in this regard. From an economic perspective, the argument is often made that the copyright owner is due both measures of income—that is, the "lost prof-

its" of the copyright owner and the "found profits" of the infringing party.

Valuation Example

This section will present two simple copyright valuation examples. Example 1 presents an illustration of a cost approach analysis. In Example I, we will estimate the value of the copyright associated with a video training film. Example 2 presents an illustration of an income approach analysis. In Example 2, we will estimate one measure of damages associated with the infringement of a copyrighted musical composition.

Example 1 Cost Approach Analysis

Willamette Management Associates ("Willamette") is a preeminent valuation consulting, economic analysis, and financial advisory firm. The firm's analysts are brilliant practitioners of applied microeconomics. However, some of the firm's analysts have not developed their more mundane skills. With this fact in mind, and in order to keep the Willamette offices properly illuminated, firm management produced a video training film entitled "How to Change a Light Bulb."

This training video proved to be remarkably successful at all of the Willamette offices. Willamette Capital ("Capital") is the private company investment banking firm affiliate of Willamette. The Capital analysts were so impressed with the Light Bulb training film that they requested Willamette management to transfer the copyright on this original video work to Capital.

The objective of this analysis is to estimate a fair transfer price for the subject copyright, as of December 31, 2002, between the two related corporate entities.

Fact Set and Assumptions

The subject copyright relates to the original video "How to Change a Light Bulb" ("Light Bulb"). The video is a safety and training film of approximately 18 minutes in length. Universal Training Corporation, an independent producer of institutional training films, produced the video. The video represents the culmination of a safety research project conducted by Willamette with the objective of reducing job-related injuries and resulting workers' compensation costs.

The findings of an extensive safety research project conducted by Willamette are embodied within the video. The research project related to an injury and illness prevention program that was developed to educate and train approximately 100 Willamette analysts. At the time of its development, this video was the only training film produced exclusively for the promotion of safety and prevention of job-related injuries at economic consulting firms.

Analytical Approaches and Methods

Based on the availability of information and the relevant facts and circumstances in the instant case, we concluded that the cost approach is appropriate for estimating the copyright value. We base this conclusion on the following:

- The video was developed specifically for the purpose of training and educating Willamette analysts in safety awareness and injury prevention. Accordingly, the intellectual content of the video represents the culmination of knowledge and experience in safety awareness particularly relevant to Willamette operations.
- The costs (including direct, indirect, and opportunity-related costs) of creating the subject copyrighted video are readily determinable and traceable.
- The video represents the only known safety film produced specifically for economic consulting firms. Based upon this fact, transactions in comparative copyrights were not available for our analysis; therefore, application of the market approach was not practical.
- The video was not created for income producing purposes, that is re-sale. Therefore, it would be difficult to apply the income approach.

Table 1 summarizes the cost approach analysis. As presented in Table 1, the analysis considers the following factors with respect to estimating the copyright value:

- an estimate of the direct compensation, overhead, and benefits-related cost of the intellectual content of the video and
- the accumulation of all direct costs incurred during the actual production of the video.

The cost of the intellectual content of the video is best described as the cost resulting from the requisite accumulation of safety-related knowledge and experiences that would facilitate the conceptual development of the video. If faced with the task of replacing the video, Willamette would have to call upon individuals with considerable experience regarding both (1) the operations of economic consulting firms and (2) job-related accidents and potential safety hazards.

As summarized in Table 1, we estimated the following indirect costs relating to the video intellectual content:

- Annual cost of experience-appropriate individual. An "experience-appropriate" individual is a Willamette employee considered to have the necessary knowledge and experience regarding safety-related issues required for the

development of the concepts and objectives that are contained in the video.

An employee with at least a 10-year tenure would possess the requisite experience. Such an employee would earn direct compensation approximating $77,000 per year. In order to reflect the true total cost of this individual's conceptual development time, we also included an estimate for overhead and benefits-related (i.e., health insurance, pension, etc.) costs.

The overhead and benefits-related component of the conceptual development cost approximates $35,000 on an annual basis, approximately 45 percent of annual direct compensation. The following items are included in the overhead component of employee costs: (1) the direct costs of support staff personnel (e.g., administrative assistants and secretaries) and (2) their associated employee benefits (e.g., medical, dental, pension, etc.).

- Percentage of annual cost devoted to safety area. The percentage of annual cost devoted to the safety area

Table 1
Cost Approach Analysis
"How to Change a Light Bulb" Copyright
As of December 31, 2002

	Direct Compensation	Overhead/ Benefits
Indirect Costs		
Estimate of Intellectual Content Cost:		
Total annual cost of an "experience-appropriate" individual [a]	$76,750	$ 34,538
Percentage of annual cost devoted to safety area [b]	40%	40%
Estimated annual cost of intellectual development time	30,700	13,815
Estimated required intellectual development period (years) [c]	10	10
Estimated total intellectual content cost	307,000	138,150
Percentage of intellectual development cost applicable to the video [d]	25%	25%
Estimated cost of intellectual content	$76,750	$ 34,538
Total indirect costs (rounded)		$111,000
Direct Costs		
Cost of Subject Video Production:		
Universal Training Corporation script, video production, and quick reference guide drafting cost [e]		$ 24,200
Willamette personnel direct labor costs [f]		14,300
Additional direct expenses [g]		2,400
Total direct costs (rounded)		$ 41,000
Initial development cost of "How to Change a Light Bulb"		$152,200
Obsolescence factor [h]		25%
Indicated transfer price of subject copyright		$114,000
Indicated transfer price of "How to Change a Light Bulb" copyright (rounded)		$110,000

a. Salary estimate and related overhead and benefits (45% of salary) for 10-year experience level in relevant training and development rates.
b. Safety-related time commitments are based upon interview and discussion with the safety and training manager.
c. Based on the historical analysis of the director of employee relations and development employment history.
d. Estimate based upon the historical technological advancement of economic consulting.
e. Cost estimate provided by the copyright author.
f. Cost estimate provided by the copyright author.
g. Cost estimate provided by the copyright author.
h. The projection of a 10-year total life for the video was based on the estimated conceptual development period and discussions with the director of employee relations and development. Approximately 2.5 years of the video's estimated total life has elapsed as of the valuation date.

represents that portion of the "experience-appropriate" employee's time devoted to safety-related issues. Discussions with the Willamette safety and training manager indicated that approximately 30 percent to 50 percent of her activities were related to the safety function.

- Estimated annual cost of intellectual development time. The projection of a 40 percent safety-related annual time commitment translates into a total annual cost of the safety function of approximately $45,000, represented by $31,000 in direct compensation and $14,000 in overhead and benefits-related cost.
- Estimated required intellectual development period. Based on discussions with the director of employee relations and development, we estimated the total intellectual development period to be 10 years. That means the safety concepts presented in the video will provide relevant guidance and training to Willamette employees for approximately 10 years before technological innovation renders existing safety concepts and practices obsolete.
- Estimated total intellectual content cost. The projection of a 10-year intellectual development period and a total annual cost of the safety function of approximately $45,000 results in an estimated total intellectual cost of approximately $450,000. This cost includes: (1) approximately $307,000 in direct compensation and (2) approximately $138,000 in overhead and benefits-related costs.
- Percentage of intellectual development cost applicable to the video. We estimated that a 40 percent time commitment to the safety function is required of an "experience-appropriate" employee.

  With regard to the video, however, redundant activities and technological advancements during the 10-year intellectual development period would render some of the experiences and knowledge irrelevant. Therefore, portions of the attendant safety function costs are necessarily excluded from the total cost of intellectual development.

  Based on (1) discussions with the director of employee relations and development and (2) the estimated 10-year intellectual development period, we projected that 25 percent of total work commitment dedicated to the safety function would relate to concepts and information appropriately included within the video content.
- Estimate of cost of intellectual content. Based on (1) a 10-year intellectual development period, (2) a total intellectual content cost approximating $450,000, and (3) a 25 percent safety function relevance factor, the estimated cost of the intellectual content of the video is approximately $111,000. This cost includes approximately $77,000 in direct compensation and $35,000 in overhead and employee benefit-related costs.

As presented in Table 1, total indirect costs associated with the development of the video intellectual content are $111,000 (rounded).

The cost of actual video production represents all direct costs incurred to bring the video to its more tangible, and functionally effective, form. Willamette incurred the following direct production costs:

- Universal Training Corporation fee. Willamette contracted with Universal Training Corporation for the actual production of the video. Universal Training Corporation (1) wrote the original script for the video, (2) produced the video, and (3) drafted the initial quick reference guide relating to the video. The total cost of the Universal Training Corporation services was $24,200.
- Willamette direct labor costs. A task force comprised of eight Willamette employees was responsible for overseeing the activities of Universal Training. The task force was also responsible for reviewing and editing all materials produced by Universal Training Corporation.

  We estimated total direct labor charges and attendant overhead and benefits costs relating to the efforts of the task force at $14,300.
- Additional direct expenses. Willamette incurred incidental direct expenses in the form of miscellaneous support items such as administrative costs, duplication, reproduction and postage charges, back belts, shirts and voice-overs during the production of the video. We estimated the total cost of these incidental direct expenses to be $2,400.

As presented in Table 1, the total direct costs associated with the development of the tangible components of the video are $41,000 (rounded).

Based on the nature of the film, the only relevant obsolescence factor in this particular instance is technological obsolescence. Based on our analysis, we estimated that the video would remain relevant for an estimated 10-year period. We concluded that a straight-line decay rate is reasonable regarding the technological relevance of the video content.

Value Conclusion

Based on the procedures described above, the appropriate transfer price between Willamette and Capital for the copyright on the Light Bulb training film, as of December 31, 2002, is $110,000 (rounded).

Example 2 Income Approach Analysis

Arthur N. Dersen is a prominent composer of country and bluegrass music and lyrics. Last year, Arthur composed the

words and music to "The Enron Blues," a soulful ballad about professional misconduct, fraud, collusion, and lack of independence in the public accounting industry. Art Andersen is a less-known composer of country and blues music. Art misappropriated the words and music to "Blues." Art represented the copyrighted work as his own when he signed a license agreement with Country Music Corporation (CMC), a record production and distribution company.

CMC will pay Art a license fee equal to 50 percent of the net income associated with the sale of all recordings of "Blues." In the CMC license agreement, net income is defined as:

	Revenue for sales of all recordings
Less:	Cost of goods sold (including payments to the recording talent)
Less:	Selling, general, and administrative expenses
Equals:	Net income

After "Blues" was recorded and released, Arthur learned of Art's treachery. Arthur initiated a copyright infringement action against Art. A relevant question in this infringement action is: What is the amount of economic damages suffered by Arthur? At the request of Arthur's legal counsel, the objective of our analysis is to estimate how much Art was unjustly enriched as a result of this copyright infringement.

Fact Set and Assumptions

The date of the copyright infringement is May 31, 2002. CMC management prepared a projection of the income it expects to earn from the recording and distribution of "Blues." For country songs like "Blues," it is CMC's experience that the average total life of consumer popularity is five years. Also, according to CMC historical experience, consumer demand of such music approximates an exponential decay curve function.

Therefore, starting with the May 31, 2002, infringement date, the percent surviving in the consumer demand curve will be less than 10 percent (i.e., immaterial) after the year 2013. This decay curve for consumer demand is based on (1) a five-year average life and (2) an exponential decay function.

Based on our analysis, we concluded that the appropriate present value discount rate is 16 percent.

Analytical Approaches and Methods

Based (1) on the information available to us (including the CMC business plan) and (2) on the objective of the analysis (i.e., to estimate the amount of unjust enrichment to Art related to the copyright infringement), the income approach is the most applicable analysis.

Table 2 on the following page summarizes the financial aspects of the CMC business plan with regard to its recording and distribution of "Blues." This table projects total revenue generation, gross profit (i.e., total revenues less cost of goods sold), and net income (i.e., gross profit less selling, general, and administrative expense).

Based on the CMC projection of net income over the expected life cycle of the production and distribution of "Blues" recordings, we estimated the expected copyright license payments from CMC to Art.

Using a present value discount rate of 16 percent, Table 2 presents the present value of the unjust enrichment to Art (in the form of expected license payments) as a result of his infringement of the "Blues" copyright.

Value Conclusion

Based on the income approach analysis summarized in Table 2, Art was unjustly enriched in the amount of $110,000 (rounded) due to his infringement of Arthur's copyright. This amount represents one measure of the economic damages experienced by Arthur as a result of Art's copyright infringement of the music and lyrics related to "The Enron Blues."

Notes:

1. Lloyd J. Jassin and Steven C. Schechter, *The Copyright Permission and Libel Handbook* (New York: John Wiley & Sons, 1988), pp. 14-15.
2. Stephen Elias, *Patent, Copyright & Trademark*, 2nd ed. (Berkeley, CA: Nolo Press, 1997), pp. 24, 26.
3. Jasin and Schechter, *The Copyright Permission and Libel Handbook*, pp. 14-15.
4. Stephen Fishman, *The Copyright Handbook—How to Protect & Use Written Works*, 4th ed. (Berkeley, CA: Nolo Press, 1997), p. 2/2.
5. Ibid., p. 2/5.
6. Elias, *Patent, Copyright & Trademark*, 2nd ed., pp. 67-68.
7. Ibid., p. 69.
8. Jassin and Schechter. *The Copyright Permission and Libel Handbook*, p. 15.

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This article is adapted from Chapter 17 of Valuing Intangible Assets, *by Robert F. Reilly and Robert P. Schweihs (New York: McGraw-Hill, 1999). For more information on this book, see page 26 of this issue.*

Table 2
Copyright Infringement Damages Analysis
Value of Expected Copyright License Payments
As of May 30, 2002

Economic Analysis Variables	Part Year 2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Consumer demand decay function (average total life = 5 years)	0.9433	0.8052	0.6592	0.5397	0.4419	0.3618	0.2962	0.2425	0.1986	0.1626	0.1331	0.1090
Total recording and distribution revenues	$622,600	$956,570	$822,330	$706,930	$607,720	$522,440	$449,120	$386,100	$331,920	$285,340	$245,290	$210,870
Gross profit margin	14.99%	17.01%	17.75%	18.40%	18.84%	18.50%	18.50%	18.50%	18.50%	18.50%	18.50%	18.50%
Gross profit (revenue less cost of goods sold) in dollars	93,320	162,690	145,960	130,080	114,470	96,650	83,090	71,430	61,400	52,790	45,380	39,010
Selling general and administrative expenses	88,020	122,940	96,470	76,570	60,680	48,300	38,810	31,470	25,770	21,100	17,270	14,140
Net income	5,300	39,760	49,490	53,520	53,780	48,350	44,280	39,950	35,640	31,690	28,110	24,870
License payment to copyright author/owner [a]	2,650	29,330	24,774	26,760	268,900	24,175	22,140	19,975	17,820	15,845	14,055	12,435
Present value factors @ 16% discount rate	0.9576	0.8515	0.7340	0.6328	0.5455	0.4703	0.4054	0.3495	0.3013	0.2597	0.2239	0.1930
Discounted copyright license payments	2,535	16,925	18,160	16,930	14,670	11,370	8,975	6,980	5,370	4,115	3,145	2,400
Total present value of copyright license payments	$111,575											
Value of expected copyright license payments (rounded)	$110,000											

a. Projected to be equal to 50% of net income.