

Confirming the Cost Approach Intangible Asset Value Indication

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The cost approach is applicable to the valuation (1) of many types of intangible assets and (2) of intangible assets that operate in many industries. However, before reporting the cost approach value conclusion, the valuation analyst will typically attempt to confirm the value indication. This discussion summarizes value indication confirmation procedures. This discussion also presents several illustrative examples of intangible asset valuations.

INTRODUCTION

The valuation analyst should consider performing procedures to confirm the cost approach value indication in the following two situations:

1. The intangible asset is valued as part of an assumed (hypothetical) independent sale or license transaction; in other words, the intangible asset is valued separately from any other owner/operator assets.
2. The intangible asset is valued as part of an assumed (hypothetical) aggregate sale or license transaction; in other words, the intangible asset is valued as part of the total assemblage of owner/operator assets.

There are many instances when the valuation analyst may value the intangible asset in the first above-listed scenario. Such analyses could conclude a value indication, a lost profits or damages amount, a license royalty rate, an intercompany transfer price, or other analysis. In this scenario, the intangible asset is assumed to transfer independently from any other owner/operator assets.

There are also many instances when the valuation analyst may value the intangible asset in the second above-listed scenario. Such analyses often involve valuing the intangible asset as part of the process of an overall business enterprise valuation.

Or, such analyses may involve allocating an indication of value to its component assets for numerous financial accounting, income tax, property tax, and other purposes.

In either case, the valuation analyst may confirm the cost approach value indication by the process of reconciliation with other value indications. In a stand-alone intangible asset valuation, the analyst may compare the cost approach value indication with any income approach or market approach value indications.

Of course, in many valuation engagements, the analyst is not able to perform all three valuation approaches. However, if the analyst is able to perform other valuation approaches, the analyst should reconcile those value indications to the cost approach value indication.

INTANGIBLE ASSET VALUE CONFIRMATION PROCEDURES

If the income or market approach value indications are greater than the cost approach value indication, that may mean that the cost approach analysis (1) understated the appropriate amount of entrepreneurial incentive or (2) overstated the appropriate amount of obsolescence (either functional obsolescence and/or economic obsolescence).

“Negative goodwill value indications . . . often indicate that the valuation failed to adequately recognize economic obsolescence in the cost approach analyses.”

If the income or market approach value indications are less than the cost approach value indication, that may mean that the cost approach analysis (1) overstated the appropriate amount of entrepreneurial incentive or (2) understated the appropriate amount of (or possibly failed to consider) obsolescence (either functional obsolescence and/or economic obsolescence).

Sometimes, valuation approaches conclude materially different value indications for the same intangible asset. However, more often, the analyst can reconcile seemingly different value indications. That reconciliation may indicate that the analyst misapplied (or failed to apply) an integral procedure in the cost approach analysis.

The valuation analyst may be able to confirm the cost approach value indication when the valuation is a component of either (1) an asset-based valuation performed to conclude a total business entity value or (2) a total business entity purchase price (or other total enterprise value) allocation.

Analysts often use the cost approach to value intangible assets (and also tangible assets) in the application of the asset accumulation method to value a business enterprise. In that valuation method, the analyst concludes a total entity value as the sum of all tangible and intangible asset values (less the sum of all liability values).

To confirm an intangible asset cost approach value indication, the analyst can compare the total entity value indication to business entity value indications derived from the income approach and/or market approach.

In some instances, the analyst is not able to (or is not engaged to) perform income or market approach valuations of the subject entity. If there are income and/or market approach value indications for the subject entity, the analyst should reconcile those indications to the asset-based approach value indication.

In the case of a purchase price (or other total enterprise value) allocation, the analyst has the total entity value to reconcile to the summation of all of the individual tangible and intangible asset values.

When the income approach or market approach values (or the total purchase price) materially

exceed the sum value of all of the entity individual assets, then the analyst should consider whether the following are true:

1. The cost approach asset values are understated because (a) entrepreneurial incentive is understated or (b) obsolescence is overstated.
2. One or more intangible assets is missing from the entity valuation analysis; in other words, the analysis may have failed to identify and value one or more intangible assets that exist in the subject entity.

When the income approach or market approach values (or the total purchase price) are materially less than the sum value of all of the entity individual assets, then the analyst should consider whether the following are true:

1. The cost approach values are overstated because (a) entrepreneurial incentive is overstated or (b) obsolescence (and particularly economic obsolescence) is understated (or ignored).
2. One or more intangible assets is double counted in the entity valuation analysis; in other words, the analysis may have assigned independent values to (let's say) a medical practice's professional licenses, service name, patient relationships, and practice goodwill when only one of these intangible assets materially contributes to the overall practice value.

Of course, business enterprise valuation approaches sometimes conclude materially different value indications for the same entity. More often, the analyst can reconcile seemingly different value indications. That reconciliation may indicate that the analyst misapplied (or failed to apply) integral procedures in the cost approach analysis of the subject entity intangible assets.

With regard to a business value concluded by an asset accumulation method, it is not unreasonable for an entity to have some positive goodwill (often measured by some type of capitalized excess earnings method analysis). The analyst should consider whether the component asset cost approach value indications are misstated if the entity value indicates (1) a disproportionately large amount of unexplained goodwill or (2) a negative indication for the entity goodwill.

Negative goodwill value indications (or asset approach total values that exceed income or market approach total values) often indicate that the

valuation failed to adequately recognize economic obsolescence in the cost approach analyses.

As part of the asset approach confirmation process, the valuation analyst may look for an indication of economic obsolescence related to the intangible asset owner/operator. Most occurrences of economic obsolescence affect the owner/operator business and are not intrinsic to the subject intangible asset.

Economic obsolescence is typically identified and quantified on a comparative basis. The analyst typically compares the actual intangible asset operations with obsolescence (i.e., what the owner/operator has) to the ideal intangible asset operations without obsolescence (what the owner/operator wants). That difference in financial or operational metrics may be used to measure economic obsolescence in the cost approach analysis.

In the comparative financial or operational performance metric procedure, economic obsolescence is measured without reference to the income approach value indication (if any). In this procedure, economic obsolescence is measured by reference to one or more performance metrics related to the ownership or operation of the intangible asset. Economic rates and income ratios may be used in the economic obsolescence analysis.

For each metric, the intangible asset is analyzed “as is” (i.e., with the effect of the economic obsolescence). The analyst will then calculate each metric without the effect of the economic obsolescence. The two measures (i.e., “with” and “without” the economic obsolescence) are then compared. The difference between the two measures of the selected metric is one indication of economic obsolescence.

The analyst should use professional judgment to select the appropriate economic performance metrics related to the subject intangible asset. Such metrics may include the following:

- Revenue (measured in units, dollars, or product selling price)
- Income (measured as gross income, net operating income, net income, net cash flow, etc.)
- Profit margin (using the various income measures)
- Return on investment (using various measures of gross/net income and various measures of gross/net investment)
- Size of product market (measured in units, dollars, or market share percent)

The appropriate “with” economic obsolescence period for the intangible asset could include any of the following:

- The actual current period operating results
- The average of several recent periods of operating results
- The expected near-term operating results

The appropriate “without” economic obsolescence benchmark for the intangible asset could include the following:

- Historical operating results from the time period when the subject intangible asset was created
- Historical operating results from a time period before the occurrence of the external influences that caused the current economic obsolescence
- Projected operating results for a forecast period that excludes the effects of economic obsolescence (i.e., or period that assumes a return to normal levels of the owner/operator operating results)

To illustrate the consideration of economic obsolescence, let’s estimate economic obsolescence related to a hypothetical intangible asset. The intangible asset is internally developed employee and workstation manuals and procedures (“manuals and procedures”). Let’s use one of the many different comparative economic performance metrics to test for economic obsolescence.

The intangible asset owner/operator market-derived cost of capital is 12.5 percent (i.e., the selected present value discount rate). The intangible asset owner/operator is actually earning (i.e., based on historical NOI) a 10 percent return on investment (i.e., yield rate) on the operation of the intangible asset.

Based on this comparative economic performance metric (i.e., the actual intangible property ROI versus the intangible property required rate of return), the economic obsolescence may be measured as presented in Exhibit 1.

Let’s apply this economic obsolescence component to the internally developed manuals and procedures. This analysis is presented in Exhibit 2.

At this \$48,000,000 cost approach value indicator, the subject company should generate a sufficient level of economic support for the intangible asset. At the \$48,000,000 value, the owner/operator should exactly earn a 12.5 percent ROI on the intangible asset, while the cost of capital is 12.5 percent.

Exhibit 1 Manuals and Procedures Comparative Financial Performance Metric Obsolescence Example Cost Approach Economic Obsolescence Indication	
Market-derived required rate of return (i.e., yield capitalization discount rate)	12.5%
Minus: Actual subject company ROI earned	<u>10%</u>
Equals: Income shortfall return measure (based on the shortfall of the performance metric)	2.5%
Divided by: Market-derived required rate of return	<u>12.5%</u>
Equals: Economic obsolescence indication (i.e., 2.5% return shortfall divided by 12.5% required return)	<u>20%</u>

When applying the cost approach, the valuation analyst should look for various indicia of economic obsolescence from the owner/operator. If there is evidence of owner/operator economic obsolescence, the valuation analyst should use any of a number of comparative financial or operational metrics to measure the economic obsolescence. The valuation analyst should adjust the valuation analysis for this economic obsolescence metric in order to conclude a final value indication.

DEFENDING THE COST APPROACH VALUE INDICATION

There are numerous objectives related to an intangible asset valuation report. As the primary objective, the valuation analyst wants to persuade the report reader that his or her value conclusion is correct. This statement is true whether the intangible asset valuation report is a written report or an oral report. This statement is also true whether the reader is a transaction party, a taxing authority, an auditor, a financial institution, a judge or other finder of fact, or other report reader.

In order to accomplish any objective, the content and format of the valuation report should dem-

onstrate that the valuation analyst has accomplished the following:

1. Understood the specific intangible asset valuation assignment
2. Understood the subject intangible asset and the subject bundle of legal rights
3. Collected sufficient intangible asset owner/operator financial and operational data
4. Collected sufficient industry, market, and competitive data
5. Documented the specific intangible asset owner/operator economic benefits
6. Performed adequate analysis due diligence procedures related to all available data
7. Selected and applied all applicable income approach, market approach, and (particularly, for purposes of this discussion) cost approach valuation methods
8. Reconciled all value indications into a final intangible asset analysis conclusion

The final (and arguably most important) procedure in the entire analysis is for the valuation analyst to defend the value conclusion in a replicable and well-documented valuation report.

When defending an intangible asset value conclusion, the valuation analyst's report should include numerous attributes. Many of these valuation report attributes are listed in Exhibit 3.

In order to encourage the acceptance of the party relying on the written or oral valuation report analysis and conclusion, the valuation report should have the following qualities:

- Clear, convincing, and cogent
- Well-organized, well-written, and well-presented
- Free of grammar, punctuation, spelling, and mathematical errors

The effective (i.e., the persuasive) intangible asset valuation report will tell a narrative story that accomplishes the following:

1. Defines the elements of (or components of) the valuation analyst's specific engagement or assignment

Exhibit 2 Manuals and Procedures Comparative Financial Performance Metric Obsolescence Cost Approach Analysis and Value Indication	
Manuals and procedures RCNLD (before economic obsolescence)	\$60,000,000
Minus: Economic obsolescence at 20% (i.e., \$60,000,000 RCNLD times 20% economic obsolescence)	<u>12,000,000</u>
Equals: Manuals and procedures value	<u>\$48,000,000</u>

Exhibit 3 Intangible Asset Valuation Report Attributes

In order to defend the value conclusion, the intangible asset valuation report should typically include the following attributes:

- Define the intangible asset valuation assignment
- Describe the subject intangible asset and the subject bundle of legal rights related to the intangible asset
- Explain the reasons for the selection or the rejection of all generally accepted intangible asset valuation approaches and methods
- Explain the selection and application of all of the specific analytical procedures that were performed
- Describe the valuation analyst's data gathering and due diligence procedures
- List all intangible asset-related documents and data that were considered by the valuation analyst
- Include copies of all of the analysis source documents that were specifically relied on by the valuation analyst
- Summarize all of the qualitative valuation analyses performed (including, with regard to the subject owner/operator, all strengths, weaknesses, opportunities and threats analysis and other competitive analyses)
- Include schedules and exhibits documenting all of the quantitative valuation analyses performed
- Avoid any unexplained or unsourced intangible asset valuation variables or analysis assumptions
- Provide sufficient explanation and data to allow the report reader to be able to replicate all of the quantitative valuation analyses performed

2. Describes the valuation analyst's intangible asset data gathering and due diligence procedures
3. Justifies the valuation analyst's selection of the generally accepted intangible asset valuation approaches, methods, and procedures
4. Explains how the valuation analyst performed the valuation synthesis process (including any value confirmation procedures) and reached the final intangible asset value conclusion
5. Leads the party relying on the report to the valuation analyst's intangible asset value conclusion

To the extent that the valuation relies on the cost approach, all of the cost approach components (including cost components and obsolescence components) should be defined and defended.

ILLUSTRATIVE VALUATION EXAMPLES

The first example involves the valuation of internally developed computer software. Subject, LLC ("Subject") is the software owner/operator. Subject is a professional billings services company. Computer software is important to the company's

business operations. The valuation date is January 1, 2012. The standard of value is fair market value.

The IT staff has developed numerous computer software programs over the years. All of these programs may be grouped into the seven major systems listed on Exhibit 4. The valuation analyst worked with the IT management to estimate the amount of effort required to replace the functional equivalent (i.e., the economic utility) of the subject software as of the valuation date. The estimates of the number of development effort person-months required to replace the utility of the software systems are listed on Exhibit 4.

The analyst concluded it would require about 11,856 person-months to replace the software.

The valuation analyst studied the Subject actual software development costs during the year 2011. The analyst concluded that the average cost per person-month of software development effort was \$14,585.

That total cost includes all direct costs and all indirect costs related to the company's actual software development efforts. That cost is a full absorption software development cost estimate.

The analyst estimated the developer's profit component of the software RCN. The analyst surveyed several customized software development companies, of the type that would accept contracts to actually replace the systems. These software development companies indicated that they would charge a 16 percent operating profit margin (over

Exhibit 4
Subject, LLC
Internally Developed Computer Software
Valuation Summary
As of January 1, 2012

System No.	Computer Software System	Estimated Software Development Effort in Person Months	Elapsed Time to Develop Replacement Software in Calendar Months	Full Absorption Cost per Person Month	Indicated RCNLD Method Component \$000
1	AS/400	4,531	29	\$14,585	66,100
2	Point of Sale	575	25	14,585	8,400
3	Tandem	3,304	16	14,585	48,200
4	Unisys	1,229	5	14,585	17,900
5	Pioneer	1,807	41	14,585	26,400
6	Voyager	325	12	14,585	4,700
7	Host to Host	<u>85</u>	<u>9</u>	14,585	<u>1,200</u>
	Total direct and indirect costs component (rounded)	11,856	24		172,900
	Plus: Developer's profit (rounded)				<u>27,700</u>
	Subtotal				200,600
	Plus: Entrepreneurial incentive (rounded)				<u>31,200</u>
	Equals: Total replacement cost new				231,800
	Less: Functional obsolescence				<u>36,900</u>
	Equals: Subtotal				194,900
	Less: Economic obsolescence, at 19%				<u>37,000</u>
	Equals: Computer software RCNLD				<u>157,900</u>
	Fair market value of computer software (rounded)				<u>\$158,000</u>

their total actual costs) to replace the software. The analyst added this developer's profit cost component to the RCN estimate.

As indicated in the "Elapsed Time to Develop" column, it would take, on average, 24 elapsed months to develop and install all of the replacement software. These software systems are essential to the Subject ongoing business operations. Without these (or equivalent) software systems, Subject cannot operate as a billing services firm. The analyst decided to estimate the entrepreneurial cost component as the opportunity cost related to total operating profits for a 24-month period.

The analyst estimated the normalized operating profits (measured here as EBIT) for a 24-month period. Working with financial management, the valuation analyst concluded that a 24-month opportunity cost (i.e., total company lost profits without computer software in place) is \$31,200,000. The

analyst included this opportunity cost amount as the entrepreneurial incentive cost component.

Including all four cost components, the valuation analyst estimated the computer software RCN to be \$231,800,000.

During the due diligence examination, the analyst learned that both the Unisys systems and the Pioneer system are in the process of being replaced. The IT department is in the process of developing replacement applications software for both systems. In fact, the Unisys system is expected to be replaced in one year. The Pioneer system is expected to be replaced within three years.

Based on these time period estimates, and working with IT management, the analyst estimated that (1) the Unisys system is 80 percent functionally obsolete and (2) the Pioneer system is 50 percent functionally obsolete.

Exhibit 5
Internally Developed Computer Software
Functional Obsolescence
As of January 1, 2012

Computer Software System	RCN Total Direct and Indirect Cost Components \$000	RCN Developer's Profit and Entrepreneurial Incentive Cost Components	Total RCN Cost Components \$000	Percent Functional Obsolescence	Total Functional Obsolescence \$000
Unisys	17,900	34%	24,000	80%	19,200
Pioneer	26,400	34%	35,400	50%	<u>17,700</u>
Total					36,900

The valuation analyst estimated functional obsolescence as summarized in Exhibit 5.

During the due diligence, the analyst also learned that most of the software was developed and installed between five and eight years ago. During that earlier time period, Subject was much more profitable than it is now. Due to intense competition in the industry, the company's profit margins, growth rates, and returns on investment have decreased between (1) the period when the software was developed (i.e., 2004 through 2007) and (2) the current period (i.e., latest 12 months of 2011).

The analyst considered these factors in the assessment of economic obsolescence related to the subject software. The analyst prepared Exhibit 6 to summarize some of the many economic obsolescence elements considered in the software valuation.

Based on the analysis of the financial and operational metrics, the analyst selected 19 percent as the appropriate economic obsolescence. The analyst applied this economic obsolescence percentage to the RCNLD analysis presented in Exhibit 6.

Based on the illustrative facts presented above, the analyst completed the computer software cost approach analysis.

As presented on Exhibit 6, the valuation analyst concluded that the fair market value of the computer software was \$157,000,000.

The second illustrative example relates to Owner Corporation ("Owner"), a pharmaceutical products company. Owner recently obtained a patent on a new drug compound. The valuation analyst is asked to estimate the fair market value of the drug compound patent. The valuation date is January 1, 2012.

Owner recently completed the drug development, patent, and FDA approval process. Owner management could provide the valuation analyst with current and accurate (1) product development activities and (2) product development effort estimates—in person months.

Exhibit 6
Internally Developed Computer Software
Functional Obsolescence
As of January 1, 2012

Financial and Operational Metrics	Average of 2004-2007	LTM 2011	Percent Difference
EBIT profit margin	24%	20%	-16.7%
Net cash flow margin	12%	10%	-16.7%
Pretax net income margin	15%	12%	-20.0%
EBIT return on total assets	16%	14%	-12.5%
EBIT return on net assets	20%	16%	-20.0%
5-year compound revenue growth rate	6.5%	4.5%	-30.8%
5-year compound net cash flow growth rate	7.5%	5.5%	-26.7%
Average sales price per unit sold:	\$1,200	\$1,050	-12.5%
Mean percent decline in metrics			-19.5%
Median percent decline in metrics			-18.4%
Trimmed mean percent decline in metrics			<u>-18.8%</u>
Selected economic obsolescence			<u>-19%</u>

Exhibit 7
Owner Corporation
Drug Compound Patent
Replacement Cost New Less Depreciation (RCNLD) Method
As of January 1, 2012

Drug Product Development Stages	Estimated Drug Compound Replacement Development Effort in Person Months	Elapsed Time to Develop Drug Compound Replacement (in Calendar Months)	Full Absorption (Direct & Indirect) Cost by Person-Month	Indicated RCNLD Method Component \$000
Initial compound development	3,531	24	\$12,000	42,400
Product compound development	1,575	20	12,000	18,900
Initial stage product tests	2,304	16	12,000	27,600
Second stage product tests	1,669	5	12,000	20,000
Third stage product tests	1,807	21	12,000	21,700
Final patent and FDA license process	1,325	12	12,000	15,900
Product branding and marketing process	<u>885</u>	9	12,000	<u>10,600</u>
Total direct and indirect replacement costs	13,096	48		157,100
Plus: Developer's profit				<u>31,400</u>
Equals: Subtotal				188,500
Plus: Entrepreneurial incentive				<u>41,200</u>
Equals: Total replacement cost new (RCN)				229,700
Less: Functional obsolescence				<u>19,300</u>
Equals: RCNLD before economic obsolescence				210,400
Less: Economic obsolescence at 10%				<u>21,000</u>
Equals: Replacement cost new less depreciation (RCNLD)				<u>189,400</u>
Fair market value of drug compound patent (rounded)				<u>190,000</u>

Working with company management, the analyst concluded that the average full absorption cost of the drug compound development team is \$12,000 per person-month. This full absorption cost estimate is based on actual contemporaneous development team costs. This person-month estimate includes all direct costs and indirect costs related to the drug compound development process.

Exhibit 7 presents (1) the drug compound development stages, (2) the estimated replacement effort by development stage, and (3) the estimated total elapsed time required to replace the drug compound. Based on these data, the analyst can calculate the total direct and indirect replacement costs related to the intangible asset.

The valuation analyst estimated the developer's profit cost component. Like many pharmaceutical

companies, Owner sometimes uses contract laboratories to assist in the drug development process. These contract laboratories typically work on a "cost plus" contract basis. Based on a review of the contracts that management actually entered into with such contract laboratories, the analyst concluded that 20 percent was a reasonable developer's profit margin. The analyst added this 20 percent developer's profit margin to Exhibit 7.

Working with Owner management, the analyst concluded that it would take 48 months of elapsed time to replace the subject drug compound. Management prepared a 10-year business plan for this new drug product. The present value of the expected operating profit (measured here as EBIT) for the first four years of the 10-year business plan is \$41,200,000.

Exhibit 8
Drug Compound Patent
Functional Obsolescence
As of January 1, 2012

Person-month development effort related to unsuccessful drug compound features	1100 months
Times: Direct and indirect cost per person month	<u>\$1,200</u>
Equals: Subtotal	13,200
Plus: Developer's profit at 20%	<u>2,600</u>
Equals: Subtotal	15,800
Plus: Entrepreneurial incentive at 22% (same % of total RCN as indicated in Exhibit 7)	<u>3,500</u>
Equals: Functional obsolescence (rounded)	<u>\$19,300</u>

With the drug compound in place, Owner will earn (on a present value basis) \$41,200,000 of operating profit from this product over the next four years. Without the drug compound in place, Owner will earn \$0 of operating profit from this product over the next four years. The valuation analyst decided to use this opportunity cost as the drug compound entrepreneurial incentive cost component.

The total RCN for this drug compound is \$229,700,000.

During the due diligence process, the analyst learned that the drug development team spent 1,100 person months related to the development of unsuccessful drug compound features. In other words, these features were not included in the drug compound that finally received (1) patent protection and (2) FDA approval.

The analyst concluded that these costs represent functional obsolescence, since a willing buyer would not pay for unsuccessful drug compound features.

The valuation analyst estimated the amount of this functional obsolescence in Exhibit 8.

The analyst considered the existence of economic obsolescence. As mentioned above, Owner management developed a 10-year business plan related to this new drug product. At the end of ten years, management believes that the drug will become obsolete. Of course, the patent will still be legally valid. However, due to industry competition, management expects that a substitute drug product will replace the drug after ten years.

Based on management's 10-year business plan for the new drug, the analyst estimated that Owner will earn an internal rate of return (IRR) of approximately 12.5 percent over ten years related to this drug product line. The analyst learned that the Owner current cost of capital (i.e., WACC) is 14 percent.

Therefore, Owner management expects to earn an IRR (related to the drug patent product line) of 1.5 percent less than the company's 14 percent WACC.

The valuation analyst concluded that this product line will experience approximately 10 percent economic obsolescence (i.e., the 1.5 percent IRR shortfall divided by the 14 percent company WACC). The analyst included this 10 percent economic obsolescence allowance in the Exhibit 7 cost approach analysis.

Based on the cost approach analysis summarized on Exhibit 7, the valuation analyst concluded the fair market value of the drug compound patent to be \$190,000,000.

SUMMARY AND CONCLUSION

In the intangible asset valuation synthesis and conclusion process, the valuation analyst should consider the following question: Does the selected valuation approach(es) and method(s) accomplish the analyst's assignment? That is, does the selected valuation approach and method actually quantify the desired objective of the intangible asset analysis? These objectives include the following:

- A defined value
- A transaction price
- A third-party license rate
- An intercompany transfer price
- An economic damages estimate
- An intangible asset bundle exchange ratio
- An opinion on the intangible asset transaction fairness

The valuation analyst should also consider if the selected valuation approach and method analyzes the appropriate intangible asset bundle of legal

rights. The valuation analyst should consider if there was sufficient empirical data available to perform the selected valuation approach and method. That is, the valuation synthesis should consider if there was sufficient data available to make the analyst comfortable with the analysis conclusion. The valuation analyst should consider if the selected approach and method will be understandable to the intended audience of the intangible asset valuation.

In the valuation synthesis and conclusion, the analyst should also consider which approaches and methods deserve the greatest consideration with respect to the intangible asset's RUL. The RUL is a consideration of each valuation approach.

In the income approach, the RUL may affect the projection period for the income subject to either yield capitalization or direct capitalization.

In the cost approach, the RUL may affect the total amount of obsolescence, if any, from the estimate cost measure (that is, the reproduction cost new or replacement cost new).

In the market approach, the RUL may effect the selection, rejection, and/or adjustment of the comparable or guideline intangible asset sale and license transactional data.

The following factors may influence the intangible asset's expected RUL:

- Legal factors
- Contractual factors
- Functional factors
- Technological factors
- Economic factors
- Analytical factors

Each of these factors may be considered in the RUL estimation. Typically, the life factor that indicates the shortest RUL deserves the primary consideration in the valuation synthesis and conclusion.

The experienced valuation analyst will use professional judgment to weight the various valuation approach and method value indications to conclude a final intangible asset value, based on the following:

- The analyst's confidence in the quantity and quality of available data
- The analyst's level of due diligence performed on that data
- The relevance of the valuation method to the subject intangible asset life cycle stage and degree of marketability
- The degree of variation in the range of value indications

Based on the valuation synthesis, the final value conclusion can be either (1) a value point estimate (which is common for fair market valuations) or (2) a value range (which is common for transaction negotiations or license/sale fairness opinions).

Valuation analysts are often asked to value an intangible asset for a number of reasons. In addition to financial accounting purposes, valuation analysts are often asked to estimate intangible asset value for various transaction, taxation, financing, litigation, bankruptcy, and owner/operator planning purposes.

In all cases, the valuation analyst should consider all generally accepted intangible asset valuation approaches, methods, and procedures. Many valuation analysts are familiar with market approach and income approach valuation methods. However, there are numerous instances when cost approach valuation methods are also applicable to the intangible asset valuation analysis.

This series of discussions summarized on the analyst's procedures and considerations with regard to the application of the cost approach to intangible asset valuation. The cost approach is applicable to the valuation of many types of intangible assets in many industries. However, the cost approach is only applicable if the valuation analyst appropriately (1) considers all of the cost components and (2) identifies and quantifies all obsolescence allowances.

Regardless of the intangible asset or the reason for the valuation, the analyst should be familiar with all generally accepted valuation approaches and methods. The valuation analyst should have a clear, convincing, and cogent rationale for (1) accepting each approach and method applied and (2) rejecting each approach and method not applied. That way, the valuation analysis will achieve the valuation purpose and objective. In addition, the intangible asset valuation analysis will be able to withstand a contrarian review by an auditor, taxing agency, regulatory authority, judicial finder of fact, or other party.

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