

# Fair Value Valuation of Identifiable Intangible Assets in the Acquisition Accounting of a Business Combination

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*Financial Accounting Standards Board (“FASB”) Accounting Standards Codification (“ASC”) topic 805 provides U.S. generally accepted accounting principles (“GAAP”) guidance with regard to the acquisition accounting for business combinations. One important consideration within the application of acquisition accounting is the fair value valuation of the acquired identifiable intangible assets. This discussion provides practical guidance with regard to the recognition of—and the fair value valuation of—identifiable intangible assets within the context of a business combination. This discussion provides illustrative examples of the fair value valuation of several identifiable intangible assets. And, this discussion provides valuation analyst caveats with regard to the development of, the work paper documentation of, and the valuation reporting for acquisition accounting fair value valuations.*

## INTRODUCTION

The Financial Accounting Standards Board (“FASB”) Accounting Standards Codification (“ASC”) topic 805 provides U.S. generally accepted accounting principles (“GAAP”) guidance related to business combinations. ASC 805 provides GAAP guidance related to the accounting for—and the reporting of—transactions that represent a business combination that should be recorded using the acquisition method of accounting.

The acquisition method of accounting is described in ASC 805-10-05-4. A business combination is defined in ASC 805-10-20 as “A transaction or other event in which an acquirer obtains control of one or more businesses. Transactions sometimes referred to as true mergers or mergers of equals are also business combinations.”

ASC 805 provides the requirements for how the acquirer in a business combination accomplishes the following financial reporting objectives:

1. Recognizing and measuring (a) the identifiable intangible assets acquired, (b) the

liabilities assumed, and (c) any noncontrolling interest in the acquiree entity

2. Recognizing and measuring either (a) the goodwill acquired in the business combination or (b) any gain from a bargain purchase in the business combination
3. Determining what information to disclose to allow its financial statement users to evaluate the nature of—and the financial effect of—the business combination

The specific subtopics encompassed in ASC 805 include the following:

1. Overall (general acquisition accounting method guidance)
2. Identifiable assets and liabilities and any controlling interest
3. Goodwill or gain from a bargain purchase, including the consideration transferred
4. Reverse acquisitions

5. Related issues
6. Income taxes

Under ASC 805, the corporate acquirer accounts for a business combination under what is called the acquisition method of accounting. The experienced valuation analyst (“analyst”) may recall the now-obsolete GAAP term “purchase method” of accounting. Several years ago the FASB changed the previous terminology of “purchase method” (and the FASB also changed many of the technical accounting procedures) to the current terminology of “acquisition method.”

The reason for this terminology change was to emphasize that, under ASC 805, a business combination transaction can occur even when a merger or acquisition purchase transaction is not involved.

This discussion focuses on the fair value valuation of identifiable intangible assets related to a business combination for acquisition accounting purposes. That is, this discussion summarizes the analyst considerations with regard to performing, developing, documenting, and reporting the fair value valuation of acquired identifiable intangible assets.

This discussion concludes with recommended analyst caveats related to the development of—and the reporting of—fair value valuations of the identifiable intangible assets acquired in a business combination.

## IDENTIFIABLE INTANGIBLE ASSETS

Under ASC 805, an acquirer will recognize separately from goodwill the identifiable intangible assets acquired in a business combination. An intangible asset is considered to be identifiable if it meets either the separability criterion or the contractual-legal criterion of ASC 805-20-55.

For acquisition accounting purposes, an intangible asset is considered to be identifiable if it meets either of the following two ASC 805-20-55-2 criteria:

- The intangible asset is separable, that is, capable of being separated or divided from the entity that holds it and sold, transferred, licensed, rented, or exchanged, either individually or together with a related contract, identifiable asset, or liability, regardless of whether the acquirer intends to do so.
- The intangible asset arises from contractual or other legal rights, regardless of whether those rights are transferable or separable from the acquiree or from other rights and obligations of the acquiree.

These two criteria for identifiable intangible assets are called:

1. the separability criterion and
2. the legal/contractual criterion.

## CATEGORIES OF IDENTIFIABLE INTANGIBLE ASSETS

ASC 805-20-55 provides a list of intangible assets that the FASB considers to have the characteristics to meet at least one of the two above-listed criteria to be an identifiable intangible asset.

The following list provides the ASC 805-20-55-13 categories of identifiable intangible assets:

- Marketing-related intangible assets
- Customer-related intangible assets
- Artistic intangible assets
- Contract-related intangible assets
- Technology-related intangible assets

According to ASC 805, goodwill is also an intangible asset. However, the FASB has determined that goodwill is not considered to be an identifiable intangible asset. Therefore, acquired goodwill is not valued. Rather, acquired goodwill is measured.

### Marketing-Related Intangible Assets

ASC 805-20-55-14 through 19 provide the following examples of marketing-related intangible assets:

- Newspaper mastheads
- Trademarks, service marks, trade names, collective marks, and certification marks
- Trade dress
- Internet domain names
- Noncompetition agreements

### Customer-Related Intangible Assets

ASC 805-20-55-20 through 28 provide the following examples of customer-related intangible assets:

- Customer lists
- Customer contracts and related customer relationships
- Noncontractual customer relationships
- Order or production backlogs

### Artistic-Related Intangible Assets

ASC 805-20-55-29 provides the following examples of artistic-related intangible assets:

- Plays, operas, ballets
- Books, magazines, newspaper, and other literary works
- Musical works such as composition, song lyrics, and advertising jingles
- Photographs, drawings, and clip art
- Audiovisual material including motion pictures, music videos, television programs

## Contract-Related Intangible Assets

ASC 805-20-55-31 through 37 provide the following examples of contract-based intangible assets:

- License, royalty, standstill agreements
- Advertising contracts
- Lease agreements
- Construction permits
- Construction contracts
- Construction management, service, or supply contracts
- Broadcast rights
- Franchise rights
- Operating rights
- Use rights
- Servicing contracts
- Employment contracts

## Technology-Related Intangible Assets

ASC 805-20-55-38 provides the following examples of technology-based intangible assets:

- Patented or copyright software
- Mask works
- Unpatented technology
- Databases
- Trade secrets

## DEFINING THE INTANGIBLE ASSET VALUATION ASSIGNMENT

Documenting the analyst's understanding of the assignment is an important procedure in the intangible asset fair value valuation. As indicated in the Mandatory Performance Framework ("MPF"), there are two components to the intangible asset fair value valuation assignment:

- The objective of the analysis
- The purpose of the analysis

Each of these two assignment components are summarized below.

## The Objective of the Valuation Analysis

As indicated in the MPF, the objective of the analysis describes what the intangible asset valuation is intended to do. The objective of the valuation analysis describes the following:

- The specific intangible asset(s) that is (are) the subject of the valuation
- The ownership interest (or the bundle of legal rights) that is the subject of the valuation
- The standard of value and the premise of value being estimated
- The "as of" acquisition date or valuation date

ASC 820, Fair Value Measurements, provides a definition of fair value. ASC 820 also provides a conceptual framework—and practical guidance—for the measurement of fair value.

ASC 820-10-20 defines the fair value standard of value as follows:

The price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants as of the measurement date.

## The Purpose of the Valuation Analysis

As indicated in the MPF, the purpose of the fair value valuation analysis describes the following:

- The audience for the intangible asset valuation (i.e., the party or parties who will rely on the valuation analysis and the value conclusion)
- The decision (if any) that will be influenced by the analysis results

The purpose of the valuation analysis also indicates the following:

- Why the intangible asset valuation is being performed
- The intended use(s) of the intangible asset valuation

- Who is expected to (and permitted to) rely on the results of the intangible asset valuation

## BUNDLES OF LEGAL RIGHTS

In a business combination, the intangible asset ownership interest transferred is not always a fee simple interest. The acquirer may not own the total bundle of legal rights related to the transferred intangible asset, or the acquirer may not have transferred the entire bundle of legal rights to the acquirer. Therefore, the analyst should consider (and document in the assignment understanding) what bundle of legal rights is encompassed in the intangible asset fair value valuation.

Some of the alternative intangible asset legal rights that may be transferred (and, therefore, subject to valuation) include the following:

- Fee simple interest
- Life interest or estate
- Term interest or estate
- Licensor/franchisor interest
- Licensee/franchisee interest
- Sublicense interest
- Reversionary interest
- Development rights
- Exploitation rights
- Use rights
- Other contractual rights

## DATA GATHERING AND DUE DILIGENCE

Even though fair value contemplates a transfer between market participants, the analyst typically gathers and analyzes information related to the current intangible asset owner/operator.

Such information may typically include the following:

- The owner/operator historical and prospective financial statements
- The owner/operator historical and prospective intangible asset development/maintenance costs
- The owner/operator current and expected total production resource/capacity constraints

As one part of the fair value analysis, the analyst typically describes and quantifies the intangible

asset economic benefits to the current owner/operator.

Examples of such economic benefits include the following:

- Associated revenue increase (e.g., related product unit price/volume, market size/position)
- Associated expense decrease (e.g., expense related to product returns; cost of goods sold; selling, general, and administrative; research and development)
- Associated investment decrease (e.g., inventory, capital expenditures)
- Associated risk decrease (existence of intangible asset licenses/contracts, decrease in the cost of capital components)

In the above list of factors, the word “associated” means the economic benefits that can be associated with—or attributed to—the subject intangible asset.

In addition, the analyst typically performs an assessment of the intangible asset impact on the owner/operator strategic position. That is, the analyst typically considers the impact of the intangible asset on the owner/operator’s SWOT (strengths, weaknesses, opportunities, and threats).

## MARKET PARTICIPANT/MARKET POTENTIAL

In addition to assessing the economic benefit to the current owner/operator, the analyst typically considers the intangible asset market potential outside of the current owner/operator—that is, to the market participant.

In this assessment of the intangible asset economic benefit to the market participant, the analyst typically considers the following factors:

- Change in the market definition or the market size for the intangible asset to an alternative (market participant) owner/user
- Change in the alternative/competitive uses of the intangible asset to an alternative (market participant) owner/user
- The subject intangible asset’s ability to create inbound or outbound license opportunities to an alternative (market participant) owner/user

The analyst typically considers whether the current owner (or a market participant) can both:

1. operate the identifiable intangible asset in the acquired entity and also
2. outbound license the identifiable intangible asset (for use in different products, different markets, different territories, etc.).

- Any technology obsolescence life issues
- Any economic obsolescence life issues
- The lives of any prior generations of the subject intangible asset
- The current position of the subject intangible asset in its life cycle

## ANALYST'S REVIEW OF FINANCIAL PROJECTIONS

As indicated in the MPF, the analyst typically reviews and challenges (1) any owner/operator-prepared financial projections and (2) any owner/operator-prepared measures of intangible asset economic benefits.

These due diligence procedures typically apply to any financial projections prepared by either:

1. the acquiree company management or
2. the acquirer company management.

As part of the prospective financial information due diligence process, the analyst typically performs the following benchmark analyses:

- Compare any owner/operator-prepared prior financial projections to the owner/operator's prior actual results of operations
- Compare any owner/operator-prepared projections to the owner/operator's current capacity constraints
- Compare any owner/operator-prepared financial projections to the current total market size (for the market in which the intangible asset owner operates)
- Consider any published industry data related to average comparable profit margin ("CPM") for other companies that participate in the intangible asset owner's industry
- Consider any published data related to the CPM of guideline publicly traded companies that participate in the intangible asset owner's industry
- Consider the quality and quantity of available intangible asset license data; these data could relate to the inbound or outbound license of the subject intangible asset or these data could relate to the arm's-length use licenses of comparable uncontrolled transaction ("CUT") intangible assets
- Perform a useful economic life ("UEL") analysis, with consideration of the following factors:
  - Any legal/statutory life indications
  - Any contract/license life indications

ASC 805 pays particular attention to the estimation of the identifiable intangible asset UEL. This is because that UEL directly or indirectly affects the valuation of the intangible asset in each of the three generally accepted intangible asset valuation approaches (described below). In addition, the UEL affects the amortization period for intangible assets with a determinable UEL.

## INTANGIBLE ASSET VALUATION APPROACHES AND METHODS

There are three generally accepted intangible asset valuation approaches: the cost approach, the market approach, and the income approach.

There are a number of generally accepted valuation methods within each intangible asset valuation approach. Each of the methods within an approach are based on common economic principles.

There are a number of valuation procedures that are used to apply each intangible asset valuation method. The valuation procedures are performed in order for the analyst to select and apply the individual valuation variables that are needed to complete the valuation method.

The various fair-value-related ASC topics often use the term "valuation techniques." The term "techniques" is not often used in the valuation literature outside of the discipline of GAAP-related fair value valuations. However, analysts should understand that the ASC term "valuation techniques" is analogous to the more common term "valuation approaches."

The following list of valuation approaches and methods uses the terminology and the categorization included in both ASC 820 and the MPF. Some of the valuation method titles and categories used for fair value accounting purposes may be slightly different than the titles that analysts would use for other valuation purposes.

For example, ASC 820 and the MPF categorize the greenfield method as an income approach valuation method. Most non-GAAP-related valuation literature would categorize the greenfield method as a cost approach valuation method. This is because the greenfield method quantifies the opportunity

cost to the intangible asset owner/operator to recreate an intangible asset if the owner/operator did not already own the subject intangible asset.

The greenfield method is often used for such contract-related intangible assets as licenses, permits, franchises, and certificates of need. The principal opportunity cost to the owner/operator is that entity's lost income during the intangible asset recreation period.

However, these naming convention issues—such as whether the greenfield method is a cost approach method or an income approach method—are mainly semantic. These naming convention issues should not influence the value conclusion reached by the application of the particular intangible asset valuation method.

A detailed description of the generally accepted valuation approaches and methods is beyond the scope of this discussion. However, Exhibit 1 provides a list of the generally accepted intangible asset valuation approaches and methods.

The analyst should consider all generally accepted valuation approaches and methods in the fair value valuation of each identifiable intangible asset included in the business combination.

As recommended in the MPF, the analyst should document the thought process related to the selection of—and the rejection of—each valuation approach and method selected (or not selected). The analyst should document that selection (and rejection) criterion both (1) in the fair value valuation work papers and (2) in the fair value valuation report.

## COST APPROACH VALUATION CONSIDERATIONS

Some identifiable intangible assets lend themselves to cost approach valuation analyses. The following analyst considerations should be documented in both the fair value valuation work papers and the fair value valuation report.

All cost approach methods include both (1) a current cost measurement and (2) a depreciation measurement.

The analyst should explain and document his or her consideration of the following four cost components in the cost approach analysis:

- Direct costs (including direct materials and direct labor)
- Indirect costs (including development-related overhead and administrative expenses)
- Developer's profit (on the sum of the direct costs and the indirect costs)
- Entrepreneurial incentive (that is, the opportunity cost—or the owner/operator's lost income—during the intangible asset estimated replacement period)

The analyst should also explain and document his or her consideration of the following three depreciation components in the cost approach analysis:

- Physical depreciation (not a significant factor in most intangible asset valuations)
- Functional/technological obsolescence (where the analyst considers the intangible asset's estimated UEL)
- Economic/external obsolescence (where the analyst considers the intangible asset owner/operator's return on investment—or ROI—related to the intangible asset cost approach value indication)

### Exhibit 1 Identifiable Intangible Assets Generally Accepted Valuation Approaches and Methods

#### Cost Approach Methods

- Reproduction cost new less depreciation (“RPCNLD”) method
- Replacement cost new less depreciation (“RCNLD”) method
- Trended original cost less depreciation (“TOCLD”) method

#### Market Approach Methods

- Relief from royalty (“RFR”) method
- Comparable uncontrolled transactions (“CUT”) method
- Comparable profit margin (“CPM”) method

#### Income Approach Methods

- Differential income (with/without) method
- Incremental income method
- Greenfield method
- Profit split method (or residual profit split method)
- Disaggregated method
- Distributor method
- Residual (excess) income method
- Capitalized excess earnings method (“CEEM”)
- Multiperiod excess earnings method (“MEEM”)

In the acquisition accounting valuation, the analyst should explain and document his or her application of the following cost approach valuation formula:

Current cost measurement  
less: Physical depreciation (if any)  
less: Functional obsolescence  
less: Technological obsolescence (if quantified separately from functional obsolescence)  
less: Economic obsolescence (a component of external obsolescence)  
equals: Intangible asset fair value indication

In addition, the analyst should consider the following cost approach factors:

- All cost components (including the opportunity cost component) included in the current cost measurement
- The treatment of any excess capital (i.e., related to the intangible asset development) costs and any excess operating costs (related to the operation of the intangible asset)
- All considerations of (and estimation of) the intangible asset's UEL
- All considerations of (and estimation of) economic obsolescence that may exist at the intangible asset owner/operator entity level

## MARKET APPROACH VALUATION CONSIDERATIONS

The analyst should be aware that market approach valuation pricing metrics are based on either comparable or guideline:

- licenses of intangible assets,
- sales of intangible assets, or
- companies that use intangible assets.

The fair value valuation should explain and document the analyst's consideration of—and selection/rejection of—the following market approach valuation variables and valuation procedures:

- Any quantitative/qualitative analysis with regard to the ownership and operation of the intangible asset
- The guideline license/sale/company selection criteria
- The actual guideline license/sale/company selection (and rejection)

- The verification of the selected guideline transactional data
- The analysis of the selected guideline transactional data
- The selection of the appropriate pricing metrics to use in the subject market approach analysis
- The selection of the specific pricing multiples to apply to the subject intangible asset financial or operational fundamentals
- The actual application of the selected pricing multiples to the subject intangible asset's financial or operational metrics
- The conclusion of the various market approach value indications based on the application of the subject-specific pricing multiples

In the acquisition accounting valuation, the analyst should consider and document the following acquisition accounting market approach valuation considerations:

- The impact of applying seasoned guideline intangible asset transactional data with regard to a development stage identifiable intangible asset
- The impact of applying development stage guideline intangible asset transactional data with regard to a seasoned identifiable intangible asset
- The state of the competition in the owner/operator industry as of the valuation date
- The analysis of the guideline company and/or industry average comparable profit margins; the important valuation consideration follows: Is the identifiable intangible asset the only reason for the difference in the operating profit margins between (1) the intangible asset owner/operator company and (2) the analyst's selected CPM companies?

## INCOME APPROACH VALUATION CONSIDERATIONS

Some identifiable intangible assets lend themselves to income approach valuation analyses. The following analyst considerations should be documented in both the fair value valuation work papers and the fair value valuation report.

The analyst should be aware that, in the intangible asset income approach, the common income measurement concepts include the following:

- Incremental (or differential) owner/operator revenue (selling price and/or units sold)
- Decremental owner/operator expense (operating or other)
- Decremental owner/operator investment (capital or other)
- Decremental risk to the owner/operator (resulting in a lower discount rate)
- A split of the owner/operator overall business enterprise income
- Any excess owner/operator overall business enterprise income

Some of the common income measures (related to the identifiable intangible asset) that may be used in the income approach analysis include the following:

- Earnings before interest, taxes, depreciation, and amortization (“EBITDA”)
- Earnings before interest and taxes (“EBIT”)
- Net operating income (“NOI”) (EBITDA less income taxes)
- Net income
- Net cash flow

The analyst should associate the above-mentioned income concepts and income measures to the identifiable intangible asset. That is, the income approach valuation should incorporate only the income associated with the ownership of—or the operation of—the identifiable intangible asset. The fair value valuation report (and the valuation work papers) should explain how the analyst allocated, split, or otherwise associated the intangible-asset-related portion of the owner/operator income to the identifiable intangible asset subject to valuation.

The fair value valuation report (and the valuation work papers) should explain the analyst’s selection of the particular income approach valuation formula to use in the analysis. That is, the fair value valuation report should explain which of the following valuation methods and procedures were used (and why they were used):

1. Yield capitalization methods, based on a nonconstant expected growth rate in the intangible asset income projection
  - a. with the income projected over a finite intangible asset UEL income projection period (without a terminal value) or
  - b. with the income projected over a finite intangible asset UEL income projection period with a terminal value

2. Direct capitalization methods, based on a constant expected growth rate in the intangible asset income projection
  - a. with the intangible-asset-related income capitalized over a finite UEL projection period or
  - b. with the intangible-asset-related income capitalized over a perpetuity UEL projection period

For each of the above-mentioned income approach valuation methods, the estimation of the intangible asset UEL is an important part of the fair value valuation. The estimated UEL affects the income approach valuation analysis and value conclusion. And, the estimated UEL affects the amortization period for the identifiable intangible asset, after it is recorded in the acquisition accounting.

As will be further explained below, the analyst should explain two components of the UEL estimation.

The first component is the term of the UEL—for example, the number of years of remaining useful life in the income projection. The second component is the rate of income decay over the UEL. This factor relates to the slope of the intangible asset income decay curve.

That is, will the intangible asset income remain constant over the UEL? Will the intangible asset income decline over the UEL? Will that future income decrease occur at a constant rate of change—or at a nonconstant (accelerating) rate of change?

The analyst should decide and document the following income approach valuation considerations in the acquisition accounting analysis:

- How the analysis matched the selected discount/capitalization rate with the selected intangible asset income measure
- How the analysis matched the selected discount/capitalization rate with the subject intangible asset level of risk
- How the analyst considered the valuation date state of the competition in the owner/operator industry
- How the analysis considered all subsequent (to the valuation date) capital expenditures, R&D expenses, marketing expenditures, etc., related to the intangible asset ownership/operation
- How the fair value valuation analyzed only the amount of income that is directly related



to (or associated with) the subject intangible asset

- How the fair value valuation present valued the projected income either:
  - over the intangible asset average UEL or
  - down the intangible asset UEL income decay curve.

In both the fair value valuation report and fair value valuation work papers, the analyst should explain and document the decision process with regard to (1) the selection of the length of the intangible asset UEL period and (2) the selection of the shape of the intangible asset UEL decay curve.

## INCOME APPROACH TAX AMORTIZATION BENEFIT ADJUSTMENT

The analyst's decision to apply a tax amortization benefit ("TAB") adjustment to the income approach analysis may have a material impact on the intangible asset fair value conclusion. Both ASC 820 and the MFP discuss the valuation considerations with respect to the TAB in an intangible asset income approach analysis. The analyst should ensure that the fair value valuation report (and the fair value valuation work papers) adequately discuss the analyst's TAB considerations.

For federal income tax purposes in the U.S., taxpayers may amortize the cost of many purchased intangible assets over the Internal Revenue Code Section 197 15-year allowed amortization period. In the intangible asset income approach valuation method analysis:

1. the intangible asset value amortization expense is typically recognized as a noncash expense that occurs before the measurement of pretax income and
2. the amortization expense is typically added back to the income projection as a noncash expense after the projected income tax expense line in the income approach analysis.

Alternatively, this incremental effect on the income approach value indication may be recognized by the use of a so-called tax amortization benefit factor. The TAB factor is typically added as a value increment adjustment to the unadjusted income approach value indication.

This TAB factor is often measured using the following formula:

$$TAB = \frac{1}{1 - \left(\frac{\text{income tax rate}}{\text{amortization period}}\right) PVAF}$$

In the typical application of the TAB formula in the income approach valuation analysis:

- the income tax rate is the effective income tax rate that is otherwise used in the unadjusted income approach projection
- the amortization period is always the Section 197 statutory 15-year period
- the PVAF is the present value of an annuity factor for 15 years at the present value discount rate that is otherwise used in the unadjusted income approach valuation analysis

The following example provides a simple illustration of the application of the TAB adjustment in a typical intangible asset income approach analysis:

### Illustrative Example 1 Income Approach Valuation Analysis Application of the TAB Adjustment

#### Illustrative Example Valuation Variables:

Intangible Asset Income Approach Unadjusted Value Indication – \$100,000,000

Owner/Operator Effective Income Tax Rate Used in the Unadjusted Analysis – 40%

Selected Present Value Discount Rate – 20%

#### TAB Factor Calculation:

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

$$TAB \text{ Factor} = 1.1424$$

This TAB factor results in an approximately 14 percent value adjustment—or value increment—to the unadjusted intangible asset income approach value indication.

## Illustrative Example 1 (Continued) Illustrative TAB Adjustment Factor Application Fair Value Conclusion

### Application of TAB Factor to the Income Approach:

Unadjusted Income Approach Value Indication ×  
TAB Adjustment Factor =  
Intangible Asset Fair Value Indication

\$100,000,000 Unadjusted Value × 1.1424 TAB =  
\$114,000,000 Fair Value (rounded)

The analyst should note that not all identifiable intangible assets qualify as Section 197 amortizable intangible assets. And, not all identifiable intangible assets are subject to the TAB adjustment in the income approach valuation analysis.

The analyst should also note that not all acquisition transactions are taxable (i.e., tax basis adjustment) acquisitions. However, under the acquisition accounting principles, the TAB adjustment may be applicable even if the amortizable tax basis of the transferred assets may not change in the hands of the new owner/market participant.

Also, the analyst should note that not all national taxing jurisdictions allow for the amortization of acquired intangible assets. That is, in international business combinations, there may be no equivalent to Section 197 in the local county income tax laws.

The analyst should consider (and document) all of the issues related to the TAB adjustment in the income approach valuation analyses.

## VALUATION SYNTHESIS AND CONCLUSION

The analyst should explain (and document) the acquisition accounting valuation synthesis and conclusion process. The synthesis and conclusion is the last procedure in the analyst's process of reaching a fair value conclusion.

In the valuation synthesis and conclusion, the analyst typically performs a procedure that is often referred to as the valuation reconciliation. In this reconciliation, the analyst reviews all of the intangible asset valuation analyses and the various intangible asset value indications.

The analyst typically assigns either a quantitative or a qualitative weighting to each value indication. Based on the results of this valuation reconciliation, the analyst selects the final intangible asset value conclusion.

As part of this fair value valuation synthesis and conclusion process, the analyst typically asks—and answers—the following questions:

- Did I value the right thing? That is, did I analyze the correct intangible asset—and the correct ownership interest?
- Did I value the right thing the right way? That is, did I apply the appropriate valuation approaches, methods, and procedures in order to reach a fair value conclusion?
- Did I reach the right valuation conclusion? That is, did I correctly apply the valuation procedures that I performed in order to reach a reasonable and supportable fair value estimate?
- Did I do what I intended to do? That is, did I perform the assignment that I set out to perform? Did I achieve the stated purpose and objective of the fair value valuation assignment?

In particular, the MPF emphasizes the importance of the analyst's documentation of these considerations in the fair value valuation work papers.

The previous discussions summarized many of the analyst's considerations in the identifiable intangible asset valuation. The following discussions present illustrative examples of typical income approach, market approach, and cost approach intangible asset fair value valuations.

These fair value valuation analyses are presented for illustrative purposes only. They are not presented as a template for the application of these identifiable intangible asset valuation analyses.

## INCOME APPROACH ILLUSTRATIVE EXAMPLE

This illustrative example summarizes an income approach valuation analysis of an acquired customer relationships identifiable intangible asset. In this example, let's assume that the Alpha Telecommunications Company ("Alpha") stock was acquired by Acquiror Telecom Company. The valuation date is January 1, 2017.

The Alpha recurring customer relationships are an important intangible asset for the acquiree company.

The stock acquisition transaction will be accounted for as a business combination under the acquisition accounting provisions of ASC 805. Accordingly, fair value is the appropriate standard of value for this intangible asset valuation. Based on the analyst's

highest and best use (“HABU”) analysis, value in continued use is the appropriate premise of value for this intangible asset valuation.

Alpha serves both residential customers (about two-thirds of the Alpha revenue is generated by residential customers) and commercial customers (about one-third of the Alpha revenue is generated by commercial customers).

This illustrative example presents the valuation of the residential customer relationships. The valuation of the acquired commercial customer relationship would follow a similar methodology. Of course, the selected valuation variables will be different for the two categories of Alpha customer relationships.

Alpha retained an analyst to estimate the fair value of its customer relationship intangible asset as of the January 1, 2017, valuation date. The analyst decided to use the income approach and the multiperiod excess earnings method (“MEEM”) to value this identifiable intangible asset. This decision regarding the selection of the valuation approach and the valuation method should be supported in the valuation report and in the valuation work papers.

To simplify this example, let’s assume that the analyst has already valued the Alpha contributory working capital assets, contributory tangible assets, and the following contributory intangible assets: computer software, proprietary technology, trademarks and trade names, and the trained and assembled workforce.

Let’s assume that the analyst performed—and documented—a rigorous due diligence process. Based on that due diligence, the analyst selected the valuation variables listed in Exhibit 2.

Exhibit 3 summarizes the analyst’s income approach multiperiod excess earnings method valuation analysis of the Alpha customer relationships intangible asset.

Exhibit 4 presents the supporting detail for the analyst’s assessment of the Alpha residential customer relationships historical turnover (also called customer “churn”) rate.

Exhibit 5 presents the analyst’s assessment of the operating profit margin valuation variable. The analyst considered this historical profit margin related to the Alpha residential customers. Then, the analyst normalized this historical operating profit margin to remove the selling expenses specifically related to the solicitation of new residential customers.

Exhibit 6 summarizes the analyst’s projections of depreciation and amortization expense and of capital expenditures with regard to the Alpha residential customer-related revenue. These projections were based on the analyst’s assessment of the Alpha historical relationships on these financial fundamentals.

Exhibit 7 summarizes the analyst’s projections with regard to the working capital valuation variable. This exhibit summarizes the projection of the changes in the Alpha working capital balance during the expected UEL of the customer relationships. And, this exhibit summarizes the analysis of the contributory asset charge ROI related to the Alpha working capital balance investment.

Exhibit 8 summarizes the analyst’s projection of the appropriate contributory asset charge ROI with regard to the customer relationships-related tangible asset balance investment.

Exhibit 9 summarizes the analyst’s calculation of the appropriate contributory asset charge ROI with regard to the Alpha other (non-customer-relationship) intangible assets. The analyst had previously identified and valued the following contributory intangible assets: computer software, trademarks and trade names, proprietary technology, and a trained and assembled workforce.

In summary, the analyst used the multiperiod excess earnings method to estimate the fair value of the Alpha residential customer relationships intangible asset. The analyst projected the intangible-asset-related income over the expected UEL of the residential customer relationships.

The analyst present valued this excess income projection to conclude an unadjusted value indication. And, the analyst estimated and added the TAB adjustment in order to conclude the fair value of this identifiable intangible asset.

## COST APPROACH ILLUSTRATIVE EXAMPLE

This illustrative example summarizes a cost approach valuation analysis of an acquired assembled workforce. The assembled workforce is a common contributory intangible asset considered in many fair value valuations. In this example, let’s assume that Bravo Electric Company (“Bravo”) is an electric generation company that owns and operates an electric generating plant.

The Bravo stock was acquired by Acquiror Electric Company. The acquisition accounting valuation date was January 1, 2017.

The purchase transaction was accounted for as a business combination under the acquisition accounting provisions of ASC 805. Accordingly, the appropriate standard of value is fair value. Based on the analyst’s HABU analysis, the appropriate premise of value is value in continued use.

Even though the Bravo assembled workforce is not an identifiable intangible asset under ASC 805,

**Exhibit 2**  
**Alpha Telecommunications Company**  
**Residential Customer Relationships Valuation**  
**Selected Valuation Variables**  
**As of January 1, 2017**  
**(\$000s)**

<b>Valuation Analysis Projection Variables</b>	<b>Basis for the Analyst's Valuation Variable Selection</b>
Total Alpha 2017 budget revenue	\$6,000,000
Budgeted residential customer revenue	\$4,000,000
Budgeted commercial customer revenue	\$2,000,000
Annual revenue growth rates	Alpha management long-range strategic plan
Customer attrition rate	Based on an average of the actual monthly attrition rates for the period 2013–2016
Economic useful life	Years until the remaining expected customer revenue is less than 5% of the original (valuation date) customer revenue
EBITDA profit margin %	Based on an average of 2012–2016, adjusted for new customer selling expense
Depreciation expense	15% of revenue, based on an average of 2012–2016
Amortization expense	5% of revenue, based on an average of 2012–2016
Income tax rate	Market-derived (market participant) effective income tax rate
Contributory asset charges:	Working capital balance = 10% of revenue, based on the 2012–2015 actual average; capital charge % = the 10% Alpha weighted average cost of capital (“WACC”)
Working capital charge	
Tangible asset charge	Tangible asset fair value = \$4,800,000, based on a replacement cost new less depreciation (“RCNLD”) method valuation analysis of the real estate (“RE”) and tangible personal property (“TPP”); \$4,800,000 = 80% of total revenue; capital charge % = the 10% WACC
Intangible asset charge	Contributory intangible asset fair value = \$2,000,000 based on the analyst’s fair value valuations of the Alpha software, trademarks, technology and assembled workforce; capital charge % = the 10% WACC; \$200,000 capital charge = 3% of the Alpha total revenue
Capital expenditures	Annual capx = 105% of annual depreciation expense, based on the analyst’s due diligence of Alpha management projections; this variable is consistent with the Alpha historical 10-year average relationship
Working capital change	Based on the projected annual change in working capital balance; the balance is based on 10% of the remaining customer revenue
Discount periods	The midyear discounting convention is assumed
Discount rate	Based on the 10% WACC; the WACC equals the valuation conclusion’s weighted average return on assets—or WARA (and the acquisition price internal rate of return (“IRR”), so the analyst used 10% as the capital charge return on investment (“ROI”)
Tax amortization benefit factor	Based on 15-year period, 40% income tax rate, and 7.6061 PVAF factor for 15 years at a 10% present value discount rate

**Exhibit 3**  
**Alpha Telecommunications Company**  
**Residential Customer Relationships Intangible Asset**  
**Fair Value Valuation Summary**  
**As of January 1, 2017**  
**(\$000s)**

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11
Total Residential Customer Revenue	4,000,000	4,160,000	4,326,400	4,499,456	4,679,434	4,866,612	5,012,610	5,162,988	5,317,878	5,477,414	5,641,737
Residential Revenue Growth Rate		4%	4%	4%	4%	4%	3%	3%	3%	3%	3%
Customer Annual Attrition Rate	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%
Remaining Customer Revenue %	76.0%	57.8%	43.9%	33.4%	25.5%	19.3%	14.7%	11.1%	8.5%	6.4%	4.9%
Remaining Customer Revenue	3,040,000	2,404,482	1,899,290	1,502,818	1,188,576	939,256	736,854	573,092	452,020	350,555	276,445
EBITDA Margin %	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
EBITDA	1,824,000	1,442,688	1,139,574	901,691	713,146	563,554	442,112	343,855	271,212	210,333	165,867
Depreciation/Amortization Expense											
(% of revenue)	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
Depreciation/Amortization Expense	608,000	480,896	379,858	300,564	237,715	187,851	147,371	114,618	90,404	70,111	55,289
EBIT	1,216,000	961,792	759,716	601,127	475,431	375,703	294,741	229,237	180,808	140,222	110,578
- Income Taxes @ 40%	486,400	384,717	303,886	240,451	190,172	150,281	117,896	91,695	72,323	56,089	44,231
- After-Tax Operating Income	729,600	577,075	455,830	360,676	285,259	225,422	176,845	137,542	108,485	84,133	66,347
Less: Contributory Asset Charges:											
- Working Capital Asset Charge	30,400	24,045	18,993	15,028	11,886	9,393	7,369	5,731	4,520	3,506	2,764
- Tangible Asset Capital Charge	243,200	192,358	151,943	120,225	95,086	75,141	58,948	45,847	36,162	28,044	22,116
- Intangible Asset Capital Charge	91,200	72,134	56,979	45,085	46,657	28,178	22,106	17,193	13,561	10,517	8,293
Total Capital Charge	364,800	288,537	227,915	180,338	142,629	112,712	88,423	68,771	54,243	42,067	33,173
+ Depreciation/Amortization Expense	608,000	480,896	379,858	300,564	237,715	187,851	147,371	114,618	90,404	70,111	55,289
- Capital Expenditures	478,800	378,706	299,139	236,694	187,200	147,932	116,054	90,262	71,193	55,212	43,540
+ Working Capital Decrease	(96,000)	(63,552)	(50,519)	(39,647)	(31,425)	(24,931)	(20,241)	(16,376)	(12,107)	(10,146)	(7,412)
= Net Cash Flow from Remaining Customers	590,000	454,280	359,153	283,855	224,570	177,560	139,980	109,503	85,560	67,111	52,335
Discount Period	0.5	1.5	2.5	3.5	4.5	5.5	6.5	7.5	8.5	9.5	10.5
Present Value Factor @ 10%	0.9524	0.8658	0.7871	0.7155	0.6505	0.5914	0.5376	0.4887	0.4443	0.4039	0.3672
Present Value of Remaining Customer Cash Flow	561,916	393,316	282,689	203,098	146,083	105,009	75,253	53,514	38,014	27,106	19,217
Total Present Value of Remaining Customer Cash Flow	1,905,215										
× Tax Amortization Benefit Factor	1.2544										
= Fair Value of the Remaining Customer Relationships (rounded)	2,400,000										

**Exhibit 4**  
**Alpha Telecommunications Company**  
**Residential Customer Relationships Valuation**  
**Residential Customer Turnover Rate Analysis**

Month	2013	2014	2015	2016
January	2.46%	2.08%	2.00%	2.10%
February	1.76%	1.93%	2.02%	1.94%
March	2.05%	2.04%	2.05%	2.08%
April	1.91%	2.01%	2.01%	2.08%
May	2.06%	1.98%	2.01%	1.95%
June	1.95%	1.99%	2.09%	2.00%
July	1.92%	2.00%	2.00%	1.78%
August	2.26%	2.05%	2.03%	2.00%
September	1.96%	2.02%	2.09%	2.11%
October	2.20%	2.10%	2.01%	2.03%
November	1.87%	2.00%	1.93%	1.86%
December	<u>1.56%</u>	<u>2.01%</u>	<u>1.90%</u>	<u>1.85%</u>
Residential Customer Annual Turnover Rate	<u>24.0%</u>	<u>24.2%</u>	<u>24.2%</u>	<u>23.8%</u>

**Exhibit 5**  
**Alpha Telecommunications Company**  
**Residential Customer Relationships Valuation**  
**Normalized EBITDA Margin Analysis**

	2012	2013	2014	2015	2016	Mean	Median	Selected
Reported EBITDA Profit Margin %	58.2	58.0	57.6	58.2	58.0	58.0	58.0	
+ New Customer Selling Expense %	<u>2.0</u>	<u>2.2</u>	<u>2.4</u>	<u>2.2</u>	<u>2.0</u>	<u>2.2</u>	<u>2.2</u>	
= Normalized EBITDA Profit Margin %	<u>60.2</u>	<u>60.2</u>	<u>60.0</u>	<u>60.4</u>	<u>60.0</u>	<u>60.2</u>	<u>60.2</u>	<u>60%</u>

The historical new customer-related selling expense includes (1) any advertising directed solely to new customers and (2) any new customer promotional expense.

**Exhibit 6**  
**Alpha Telecommunications Company**  
**Projection of the Relationship of**  
**Depreciation/Amortization Expense**  
**and Capital Expenditures**  
**(\$000s)**

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11
Remaining Residential Customer Revenue	3,040,000	2,404,482	1,899,290	1,502,818	1,188,576	939,256	736,854	573,092	452,020	350,555	276,445
Depreciation Expense (% of revenue)	<u>15%</u>	<u>15%</u>	<u>15%</u>	<u>15%</u>	<u>15%</u>	<u>15%</u>	<u>15%</u>	<u>15%</u>	<u>15%</u>	<u>15%</u>	<u>15%</u>
Depreciation Expense	456,000	360,672	284,894	225,423	178,286	140,888	110,528	85,964	67,803	52,593	41,467
Capital Expenditures as % of Depreciation Expense	<u>105%</u>	<u>105%</u>	<u>105%</u>	<u>105%</u>	<u>105%</u>	<u>105%</u>	<u>105%</u>	<u>105%</u>	<u>105%</u>	<u>105%</u>	<u>105%</u>
Capital Expenditures	478,800	378,706	299,139	236,694	187,200	147,932	116,054	90,262	71,193	55,212	43,540
Amortization Expense (% of revenue)	<u>5%</u>	<u>5%</u>	<u>5%</u>	<u>5%</u>	<u>5%</u>	<u>5%</u>	<u>5%</u>	<u>5%</u>	<u>5%</u>	<u>5%</u>	<u>5%</u>
Amortization Expense	<u>152,000</u>	<u>120,224</u>	<u>94,965</u>	<u>75,141</u>	<u>59,429</u>	<u>46,963</u>	<u>36,843</u>	<u>28,655</u>	<u>22,601</u>	<u>17,528</u>	<u>13,822</u>
Depreciation & Amortization Expense	608,000	480,896	379,859	300,564	237,715	187,851	147,371	114,619	90,404	70,111	55,289

**Exhibit 7**  
**Alpha Telecommunications Company**  
**Working Capital**  
**Contributory Asset Charge**  
**(\$000s)**

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11
Remaining Residential Customer Revenue	3,040,000	2,404,480	1,899,290	1,502,818	1,188,576	939,256	736,854	573,092	452,020	350,555	276,445
Working Capital as a % of Revenue	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Working Capital Balance	304,000	240,448	189,929	150,282	118,857	93,926	73,685	57,309	45,202	35,056	27,644
Capital Charge ROI %	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Capital Charge on Working Capital Balance	30,400	24,045	18,993	15,028	11,886	9,393	7,369	5,731	4,520	3,506	2,764
Change in the Annual Working Capital Balance	(96,000)	(63,552)	(50,519)	(39,647)	(31,425)	(24,931)	(20,241)	(16,376)	(12,107)	(10,146)	(7,412)

**Exhibit 8**  
**Alpha Telecommunications Company**  
**Tangible Assets**  
**Contributory Asset Charge**  
**(\$000s)**

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11
Remaining Residential Customer Revenue	3,040,000	2,404,480	1,899,290	1,502,818	1,188,576	939,256	736,854	573,092	452,020	350,555	276,445
Net Tangible Assets as % of Revenue	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
Remaining Residential Customer Tangible Assets	2,432,000	1,923,584	1,519,432	1,202,254	950,861	751,405	589,483	458,474	361,616	280,444	221,156
Capital Charge ROI %	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Capital Charge on the Tangible Assets	243,200	192,358	151,943	120,225	95,086	75,141	58,948	45,847	36,162	28,044	22,116



the assembled workforce should be valued:

1. to properly calculate any appropriate contributory asset charge for any income approach intangible assets and
2. to ensure that the residual amount of goodwill is at least equal to the amount of the implied fair value of the acquired assembled workforce.

Let's assume that the Bravo plant operates with 50 employees. There are three principal staff levels at Bravo; let's call these levels executives, technicians, and administrative staff.

Bravo retained an analyst to estimate the fair value of its assembled workforce intangible asset as of January 1, 2017. The analyst decided to use the cost approach and the RPCNLD method to estimate the fair value of the Bravo assembled workforce for acquisition accounting purposes.

Exhibit 10 summarizes the reproduction cost new ("RPCN") component of the Bravo assembled workforce RPCNLD method analysis. In this RPCN calculation, the analyst considers all four components of intangible asset cost: direct costs, indirect costs, developer's profit, and entrepreneurial incentive. The analyst considered all four cost components in the calculation of the current (valuation date) cost to recruit, hire, and train the recreated Bravo assembled workforce.

The analyst's cost-related due diligence considerations are summarized next.

## Reproduction Cost New—Direct Costs and Indirect Costs

The RPCN estimate considers the total compensation paid to each Bravo employee, labelled as "average salary" on Exhibit 10. These costs are considered to be direct costs. These costs are typically paid to the subject employees. The RPCN estimate considers all of the other expenses that the acquired entity

### Exhibit 9 Alpha Telecommunications Company Residential Customer Relationships Valuation Identifiable Intangible Assets Contributory Asset Charge (\$000s)

Contributory Intangible Assets	Fair Value Estimate
Computer Software	500,000
Trademarks and Trade Names	500,000
Proprietary Technology	500,000
Assembled Workforce	<u>500,000</u>
Total	<u>2,000,000</u>
<b>Contributory Intangible Asset Capital Charge</b>	
Contributory Intangible Assets – Total Fair Value	2,000,000
× Rate of Return on Contributory Assets	<u>10%</u>
= Contributory Intangible Asset Annual Capital Charge	200,000
÷ Alpha Total Revenue	<u>6,000,000</u>
= Contributory Intangible Asset Capital Charge as a % of Revenue	<u>3%</u>

would incur related to each employee. These other costs are considered indirect costs and include the following:

1. Payroll taxes
2. Employee benefits
3. Continuing professional education
4. Annual license and credential fees
5. Uniforms and lab coats
6. Employee parties, gifts, etc.

These indirect costs are typically paid on behalf of the subject employees to parties outside of the employer.

The total annual cost that the subject entity pays for an employee is often called the full absorption cost. This full absorption cost includes the following:

1. The compensation paid by the employer to the employee
2. The expenses paid by the employer to others so that the employee can perform his or her job

The RPCN includes all of the costs that the employer would incur to recreate the current assembled workforce with a new (but directly comparable) workforce. These costs may include the following:

1. Advertising for recruiting potential new employees to apply for each position

**Exhibit 10**  
**Bravo Electric Company**  
**Trained and Assembled Workforce Valuation**  
**Cost Approach RPCNLD Method**  
**As of January 1, 2017**

Bravo Assembled Workforce Employee Component	Number of Employees	Average Annual Salary	Other Cost Factor	Full Absorption Cost	Percent of Annual Full Absorption Cost			Percent of Full Absorption Cost to Reproduce Employees		Average Reproduction Cost New Component	Total Reproduction Cost New Component
					Recruit New Employees	Hire New Employees	Train New Employees	Reproduce Employees	Reproduce Employees		
Executives	10	\$ 180,000	1.6	288,000	20%	20%	40%	80%	\$ 230,400	\$2,304,000	
Technicians	20	60,000	1.5	90,000	10%	10%	30%	50%	45,000	900,000	
Administrative Staff	20	40,000	1.4	56,000	5%	10%	25%	40%	22,400	448,000	
<b>Total Employees</b>	<b>50</b>										<b>3,652,000</b>
Total Direct Cost and Indirect Cost Components											
Add: Developer's Profit Cost Component:											
Developer's Profit Margin											
Developer's Profit Cost Component (rounded)											
Total Direct Costs and Indirect Costs and Developer's Profit											
Add: Entrepreneurial Incentive Cost Component:											
Estimated Total Workforce Replacement Period											
Estimated Average Workforce Reproduction Cost Investment (i.e., \$4,017,000 total cost ÷ 2)											
Required Annual Return on Investment											
Required Return on Investment for 6-Month Workforce Recreation Period (16% ÷ 2)											
Entrepreneurial Incentive Cost Component (i.e., \$2,009,000 × 8% [rounded])											
Equals: Total Reproduction Cost New											
										<u>161,000</u>	<u>\$4,178,000</u>
										<u>365,000</u>	<u>4,017,000</u>
										<u>10%</u>	

2. Interviewing expenses, background checks, and other pre-employment tests; and placement fees incurred to have the new employees show up on their first day of employment
3. On-the-job training in the particular position including first month training, first year training, and accumulated continuing education for the long-term employee

## Reproduction Cost New—Developer’s Profit and Entrepreneurial Incentive

There are two additional cost components for the analyst to consider in the RPCN calculation:

1. Developer’s profit
2. Entrepreneurial incentive

The developer’s profit considers the profit margin that a management consulting, human resources outsourcing, or professional staffing firm would earn if a willing buyer retained such an independent firm to recreate the subject assembled workforce. Likewise, the assembled workforce owner/operator (i.e., the target company) would expect to earn a profit on the sale of its internally developed intangible assets to the willing buyer/acquirer.

There are several generally accepted alternative procedures for estimating the entrepreneurial incentive cost component. One common procedure is to estimate the lost-profits-related opportunity cost that the acquiree entity would experience during the intangible asset recreation period. When using this entrepreneurial incentive measurement procedure, the analyst should appropriately allocate the subject entity’s overall operating profit (i.e., the total opportunity cost during the intangible asset recreation period) to all of the recreated intangible assets.

For example, let’s assume that the acquiree company has five intangible assets that are valued by reference to the cost approach. The target company total entrepreneurial incentive (i.e., the recreation period total acquiree company lost profits) should be allocated among the five recreated intangible assets.

Another common entrepreneurial profit measurement procedure is to calculate a fair rate of return on the total of the recreated intangible asset other cost components (i.e., direct costs, indirect costs, and developer’s profit). This is the entrepreneurial profit measurement procedure that is illustrated in Exhibit 10.

The Bravo assembled workforce RPCN is the sum of all four cost components calculated by the analyst. Now, let’s consider the depreciation and obsolescence adjustment to the Bravo RPCN calculation.

## Illustrative Depreciation Analysis Considerations

In order to reach a fair value conclusion, the analyst estimates the assembled workforce RPCNLD. As in any cost approach analysis, the analyst considers if there is any deterioration or obsolescence related to this acquired intangible asset.

From the valuation due diligence process, the analyst learned the following facts about the Bravo workforce:

1. Two of the technicians are scheduled to retire in the next year or so.
2. One of the administrative staff is out on disability leave and is not expected to return to work.
3. Bravo is overstaffed with regard to administrative staff; in addition to the administrative employee who is on disability leave, any market participant willing buyer would be expected to eliminate two of the administrative positions.
4. Bravo has experienced very low employee turnover of its technician staff. Because of their long tenure, these technicians earn an average annual salary of \$60,000. If the actual technicians were replaced, they would be replaced with adequately qualified (but less tenured) employees earning an average annual salary of \$52,500.

Exhibit 11 summarizes the analyst’s physical depreciation analysis with regard to the assembled workforce. Three employees are either not physically on the job—or are not physically needed to be on the job. One employee is on disability leave and is not expected to be replaced. Two of the current employees will retire soon.

The market participant acquirer would not pay the acquiree company for workforce reproduction costs that the acquirer will, in fact, have to incur in the very near future. The analyst has to eliminate (through depreciation) the RPCN factor for these three employees from the assembled workforce fair value valuation.

Exhibit 12 summarizes the analyst’s functional obsolescence analysis. Functional obsolescence includes a value decrement for intangible assets that are either:

1. inadequate or
2. superadequate.

Bravo has two inadequate employees—that is, employees who a market participant acquirer would

**Exhibit 11**  
**Bravo Electric Company**  
**Trained and Assembled Workforce Valuation**  
**Physical Deterioration**  
**As of January 1, 2017**

Assembled Workforce Components	No. of Employees	Average Direct and Indirect Reproduction Cost New	Total Direct and Indirect Reproduction Cost New	Developer's Profit and Entrepreneurial Incentive Cost Components	Total Reproduction Cost New	Percent Depreciation	Equals: Accumulated Depreciation
Technicians	2	\$45,000	\$90,000	\$13,000	\$103,000	100%	\$103,000
Administrative Staff	1	22,400	22,400	<u>3,200</u>	<u>25,600</u>	100%	<u>25,600</u>
Total							<u>\$128,600</u>

**Exhibit 12**  
**Bravo Electric Company**  
**Trained and Assembled Workforce Valuation**  
**Functional Obsolescence**  
**As of January 1, 2017**

Assembled Workforce Components	No. of Employees (A)	Excess Direct and Indirect Reproduction Cost New (B)	Excess Developer's Profit and Entrepreneurial Incentive Cost Component (C)	Excess Total Reproduction Cost New (B + C)	Functional Obsolescence (A × (B + C))
Technicians	18	\$7,500	\$1,100	\$8,600	\$154,800
Administrative Staff	2	22,400	3,200	25,600	<u>51,200</u>
Total					<u>\$206,000</u>

**Exhibit 13**  
**Bravo Electric Company**  
**Trained and Assembled Workforce Valuation**  
**Cost Approach RPCNLD Method**  
**As of January 1, 2017**

Cost Approach Analysis	Cost Component
Reproduction Cost New (all 50 employees)	\$4,178,000
Less: Physical Deterioration Allowance (limited life staff)	128,600
Less: Functional Obsolescence Allowance (inadequate staff and superadequate staff)	<u>206,000</u>

not continue to employ. The acquirer will not pay the acquiree for the RPCN related to these inadequate employees. Bravo has 18 superadequate employees—that is, employees who are overtrained, overqualified, and overpaid. The acquirer will not pay the acquiree for the excess compensation (above replacement level of compensation) level RPCN component for these 18 employees.

For the assembled workforce intangible asset, Exhibit 13 summarizes the analyst's calculation of reproduction cost new less physical depreciation and less functional obsolescence.

This RPCNLD conclusion indicates what a market participant willing buyer would pay to an acquiree company willing seller for this assembled workforce, assuming that there is no economic obsolescence related to this intangible asset. To complete the cost approach analysis, the analyst has to test for economic obsolescence at the intangible asset owner/operator.

Exhibit 14 summarizes the analyst's illustrative measure of intangible asset owner/operator economic obsolescence. Based on a rigorous due diligence, the analyst decided that there were six performance metrics that could be used to measure economic obsolescence (if any) at Bravo.

That due diligence also revealed the appropriate benchmark measures or benchmark time periods that the analyst could use to compare (1) the Bravo operations without/before economic obsolescence to (2) the Bravo current operations with economic obsolescence.

Exhibit 15 summarizes the analyst's calculation of the assembled workforce economic obsolescence amount.

## Illustrative Cost Approach Example Conclusion

Exhibit 16 summarizes the analyst's cost approach measurement of the fair value of the Bravo assembled workforce intangible asset as of the January 1, 2017, valuation date.

## MARKET APPROACH ILLUSTRATIVE EXAMPLE

This illustrative example summarizes a market approach analysis of acquired trademarks and trade names. Trademarks and trade names are common marketing-related intangible assets considered in many fair value valuations. In this example let's assume that Charlie Company ("Charlie") is a cellular telephone services company.

The Charlie stock was acquired by Consolidated Telecom Company. This acquisition was accounted for as a business combination under the provisions of ASC 805. The appropriate business combination valuation date was January 1, 2017.

The Charlie trademarks and trade names are an important identifiable intangible asset for the acquiree company. For ASC 805 acquisition accounting purposes, the appropriate standard of value is fair value. Based on the analyst's HABU analysis, the appropriate premise of value is value in continued use.

Charlie retained an analyst to estimate the fair value of the acquired trademarks and trade names intangible asset. The analyst decided to use the market approach and the relief from royalty ("RFR") method to value the identifiable intangible asset.

Charlie management provided the analyst with a long-term financial forecast. The analyst performed a rigorous due diligence process, and the analyst concluded that the appropriate UEL is 20 years before the subject trademarks. The reasons for this UEL estimate were described in the fair value valuation report and documented in the fair value valuation work papers.

Let's assume that the Charlie WACC is 11 percent. This 11 percent WACC is also the weighted average return on assets ("WARA") that results from the analyst's total purchase price allocation. And, let's assume that this 11 percent WACC is also the overall acquisition price/deal structure IRR.

## Common Intellectual Property License Transaction Databases

First, the analyst performed due diligence with regard to the Charlie ownership of the subject trademarks and with regard to the subject intellectual property ownership interests.

Second, the analyst performed due diligence with regard to the Charlie operation of the subject trademarks and with regard to the economic benefit of the trademarks to Charlie.

After selecting the RFR method as the most appropriate valuation method, the analyst searched for arm's-length trademark license agreements between independent parties that could serve as comparable uncontrolled transactions (or "CUTs"). The analyst consulted several commercially available databases in the search for trademark CUTs that would provide empirical evidence of market participant trademark/license royalty rates.

The analyst researched cellular-telephone-related CUT intellectual property license agreements by accessing the following databases:

**Exhibit 14**  
**Bravo Electric Company**  
**Trained and Assembled Workforce Valuation**  
**Economic Obsolescence**  
**As of January 1, 2017**

Metric Item	Bravo Financial or Operational Performance Metric	Bravo LTM Ended 12/31/16	Benchmark Measure	LTM Percent Shortfall Compared to Benchmark	Benchmark Comparison Reference Source
1	Average Collected Revenue per Employee	\$340,000	\$420,000	19%	2016 Industry Average
2	Annual Growth Rate in the Entity Revenue	3.5%	4.5%	22%	Actual Bravo Average for 2012–2016
3	Profit Margin	10%	14%	29%	2016 Industry Average
4	Profit Contribution Margin	55%	67%	18%	2016 Industry Average
5	Return on the Entity Average Assets	10%	12.5%	20%	Actual Bravo Average for 2012–2016
6	Return on the Entity Average Equity	20%	25%	20%	Actual Bravo Average for 2012–2016
LTM Benchmark Measures Percent Shortfall:					
		– Mean Percent	21.3%		
		– Median Percent	20.0%		
		– Mode Percent	20.0%		
		– Trimmed Mean Percent	20.3%		
		– Trimmed Median Percent	<u>20.0%</u>		
			<u>20.0%</u>		
Selected Economic Obsolescence Percent					

**Exhibit 15**  
**Bravo Electric Company**  
**Trained and Assembled Workforce Valuation**  
**Economic Obsolescence**  
**As of January 1, 2017**

Cost Approach Analysis	Cost Approach Component
Reproduction Cost New less Physical Depreciation and Functional Obsolescence	\$3,843,400
× Selected Economic Obsolescence Percent	<u>20%</u>
= Economic Obsolescence Allowance (rounded)	<u>\$768,700</u>

- RoyaltySource (www.royaltysource.com)—The AUS Consultants database provides intellectual property license transaction royalty rates. The database can be searched by industry, technology, and/or keyword. The information includes royalty rates, name of the licensee and the licensor, a description of property licensed (or sold), the transaction terms, and the original information sources.
- RoyaltyStat, LLC (www.royaltystat.com)—RoyaltyStat is a subscription-based database of intellectual property license royalty rates and license agreements, compiled from Securities and Exchange Commission documents. The database is searchable by SIC code or by full text.
- ktMINE (www.bvmarketdata.com)—ktMINE is an interactive database that provides direct access to intellectual property license royalty rates, actual license agreements, and detailed agreement summaries. In this database, intellectual property license agreements are searchable by industry, keyword, and various other parameters.

selected. And, the analyst documented the reasons for each potential CUT that was rejected. The analyst reviewed each CUT license agreement. And, the analyst confirmed each CUT license pricing formula.

The analyst documented the selected comparison methods (e.g., territory, products covered, exclusivity, licensor requirements, license rights, renewal options, and license terms). And, the analyst assembled (and normalized) the relevant royalty-related pricing data with regard to the selected CUT licenses.

Exhibit 17 summarizes the relevant license pricing and other data with regard to the analyst's selected CUT trademark licenses. (The Exhibit 17 data are hypothetical and were materially modified for the purposes of this illustrative example.)

Exhibit 18 summarizes the analyst's quantitative analysis of the CUT license agreement royalty rate data.

Comparing (1) the Charlie trademarks to (2) the selected CUT license trademarks, the analyst

**Selected CUT Trademark License Agreements**

The analyst documented the CUT search criteria. The analyst documented the CUT selection criteria. The analyst documented the reasons for each potential CUT that was

**Exhibit 16**  
**Bravo Electric Company**  
**Trained and Assembled Workforce Valuation**  
**Cost Approach Valuation Synthesis and Conclusion**  
**As of January 1, 2017**

Cost Approach Analysis	Cost Approach Component
Reproduction Cost New	\$4,178,000
– Physical Deterioration Allowance	128,600
– Functional Obsolescence Allowance	206,000
– Economic Obsolescence Allowance	<u>768,700</u>
= Reproduction Cost New less Depreciation	<u>\$3,074,700</u>
Trained and Assembled Workforce Fair Value (rounded)	<u>\$3,100,000</u>

**Exhibit 17**  
**Charlie Company**  
**Trademarks and Trade Names**  
**Market Approach Relief from Royalty Method**  
**CUT Trademark License Transactions**

Trademark Licensor	Trademark Licensee	Comparable Uncontrolled Transaction Trademark License Summary Description	License Start Year	License Term	License Royalty Rate Range % of Revenue		License Upfront/ Other Fees
					Low	High	
Southwestern Bell Telephone Company	Telecom Group	Telecom Group agreed to a royalty for the exclusive right to the name, reputation, and public image of the Southwestern Bell Telephone Company.	2014	10 years	5.0%	5.0%	NA
Cable and Wireless PLC	Hong Kong Telecommunications Ltd.	Cable and Wireless entered into an exclusive agreement with a Hong Kong telephone company for the use of its trademarks (in particular, use of the telecommunication name and logo in connection with international business) on relevant products and services.	2012	10 years	4.0%	4.0%	NA
AT&T Corp.	KIRI Inc.	AT&T grants to KIRI an exclusive license to use the licensed marks (AT&T and globe design logo) solely in connection with the marketing, advertising, promotion, and provision of the licensed services (such as telecommunication and Internet services) in the licensed territory.	2013	5 years	2.5%	4.0%	\$2.5 million minimum guarantee
Nextel	Nextel Partners	A contract between a private U.S. company and a publicly owned U.K. spin-off company includes an exclusive license agreement for the right to use the Nextel brand name. The licensee owns its own spectrum and provides services to the public as Nextel.	2015	5 years	1.5%	2.0%	NA
France Telecom (Orange Brand Services Limited, UK)	PTK Centertel	PTK Centertel is rebranding its name from Idea to Orange. Idea, which now holds 32.2% of the market, will change its name and logo (trademark). PTK Centertel will pay to France Telecom a royalty for the exclusive use of the Orange name and mark.	2016	5 years	1.6%	1.6%	NA
Global Communications International, Inc.	Unical Enterprises, Inc.	Unical licensed from Global an exclusive right to use the following trademarks: Techline, Easytouch, Favorite, Classic Favorite, Classic Favorite Plus, Phototouch, Choice, Competitor, Competitor Plus, Roommate, Plaza, Favorite Plus, Easyreach, Big Button, EZ Button, Cleartech, Favorite Messenger II, Digimate, Mountain Bell, B Office, Bell Symbol, Bell Mark, Northwestern Bell. All of the above are in connection with corded telephones, cordless telephones, answering machines, and integrated telephone/answering devices.	2015	10 years	2.1%	2.2%	NA
Virgin Enterprises Limited	NTL Inc.	NTL entered into a trademark license agreement under which it is entitled to use specified Virgin trademarks within the U.K. and Ireland related to Internet, television, fixed line telephony, and mobile telephony.	2015	10 years	1.25%	1.25%	£8.5 million minimum annual royalty



considered trademark use, territory, products, market size, market growth rate, user size, user profitability, trademark-related profit potential, and other factors. Based on this comparative analysis, the analyst concluded that the Charlie trademarks deserved a royalty rate that was slightly below the mean and median royalty rates—but higher than the first (i.e., the low) quartile royalty rate.

The analyst selected a 2 percent of revenue royalty rate to apply to the Charlie trademark RFR method analysis. The analyst also selected this royalty rate so as to consider the expense to the licensor of maintaining the licensed trademark over the expected 20-year trademark UEL period.

Exhibit 19 summarizes the analyst’s market approach RFR method fair value valuation analysis. This analysis incorporates the royalty relief analysis over both (1) a 5-year discrete projection period and (2) a 15-year terminal value projection period. The total 20-year term of this projection period equals the analyst’s estimate of the Charlie trademark UEL.

Based on this market approach and relief from royalty method valuation analysis, the analyst concluded the fair value of the Charlie trademarks and trade names as of the business combination valuation date.

## RECONCILIATION OF WACC, WARA, AND IRR

The prior three examples illustrated the application of the income approach, the cost approach, and the market approach, respectively, in the fair value valuation of acquired intangible assets. At the conclusion of the intangible asset valuation process, there is an additional procedure that is important in the acquisition accounting valuation.

In the earlier stages of the fair value valuation, the analyst mathematically concluded (and documented in the valuation work papers) that the acquiree company WACC was consistent with the acquisition price implicit IRR. In this concluding stage of the fair value valuation, the analyst should also quantitatively prove (and document in the valuation

### Exhibit 18 Charlie Company Trademarks and Trade Names Market Approach Relief from Royalty Method Analysis of CUT Trademark License Data

Indicated CUT License Agreements License Royalty Rate Range		
	Low Royalty Rate Indications	High Royalty Rate Indications
High Royalty Rate	5.0%	5.0%
Low Royalty Rate	1.3%	1.3%
Mean Royalty Rate	2.9%	3.2%
Median Royalty Rate	2.1%	2.2%
Trimmed Mean Royalty Rate	2.3%	2.8%
First Quartile Royalty Rate	1.4%	2.8%
Third Quartile Royalty Rate	4.5%	4.6%

Analyst’s Selection of the Appropriate Charlie Trademark Royalty Rate = 2%

work papers) that the purchase price allocation implied WARA is consistent with both:

1. the acquiree’s WACC used in the fair value valuation and
2. the deal IRR expected by the corporate acquirer.

In particular, the MPF indicates that this WACC/IRR/WARA reconciliation is an important part of the fair value valuation process for acquisition accounting purposes. Therefore, the following example presents an illustration of the analyst’s comparison of:

1. the acquiree company-based WACC,
2. the acquirer company-base IRR, and
3. the purchase price allocation-based WARA.

This illustrative example relates to the hypothetical Delta Company that was acquired in February 2017. The analyst was retained to perform the fair value valuation for acquisition accounting purposes.

## ILLUSTRATIVE RECONCILIATION OF WACC TO WARA TO IRR

Let’s assume that 100 percent of the Delta Company (“Delta”) stock is acquired by Acquirer Corporation (“Acquirer”) for a total acquisition purchase price of

**Exhibit 19**  
**Charlie Company**  
**Trademarks and Trade Names**  
**Market Approach Relief from Royalty Method**  
**Fair Value Valuation Summary**  
**As of January 1, 2017**

Present Value of Discrete Projection Period Trademark Royalty Expense Relief:	Projected Calendar Years				
	2017 \$000	2018 \$000	2019 \$000	2020 \$000	2021 \$000
Management–Provided Revenue Projection [a]	8,634,139	8,358,945	8,042,393	7,720,369	7,377,326
Selected Trademark License Royalty Rate [b]	<u>2%</u>	<u>2%</u>	<u>2%</u>	<u>2%</u>	<u>2%</u>
Projected Pretax Trademark Royalty Expense Relief	172,683	167,179	160,848	154,407	147,547
Less: Projected Income Tax Rate [c]	<u>37%</u>	<u>37%</u>	<u>37%</u>	<u>37%</u>	<u>37%</u>
Projected After-Tax Trademark Royalty Expense Relief	108,790	105,323	101,334	97,277	92,954
Discounting Period [d]	0.5000	1.5000	2.5000	3.5000	4.5000
Present Value Factor @ 11% [e]	<u>0.9492</u>	<u>0.8551</u>	<u>0.7704</u>	<u>0.6940</u>	<u>0.6252</u>
Presented Value of Trademark Royalty Relief	<u>103,264</u>	<u>90,061</u>	<u>78,068</u>	<u>67,510</u>	<u>58,115</u>
Sum of Present Values of Trademark Royalty Relief	<u>397,018</u>				
Present Value of Terminal Period Trademark Royalty Expense Relief:					
Fiscal 2022 Normalized Trademark Royalty Expense Relief [f]	\$92,954				
Direct Capitalization Multiple [g]	<u>7.579</u>				
Terminal Value of Trademark Royalty Expense Relief	704,498				
Present Value Factor @ 11% [e]	<u>0.6252</u>				
Present Value of Terminal Value	<u>\$440,452</u>				
Trademark Valuation Summary:					
Present Value of Discrete Period Trademark Royalty Expense Relief	\$397,018				
Present Value of Terminal Period Trademark Royalty Expense Relief	<u>440,452</u>				
Fair Value of the Charlie Trademarks (rounded)	<u>\$840,000</u>				
<p>[a] Revenue projection provided by Charlie management and subject to analyst due diligence; this revenue projection is consistent with the acquirer’s transaction-related long-range financial plan.</p> <p>[b] Based on the analyst’s review of arm’s-length license agreements between parties for similar intellectual property.</p> <p>[c] Based on the market participant expected effective income tax rate.</p> <p>[d] Calculated as if cash flow is received at midyear.</p> <p>[e] Based on the Charlie weighted average cost of capital.</p> <p>[f] Based on the 2021 projected after-tax trademark royalty expense relief and an expected long-term growth rate of 0 percent.</p> <p>[g] Based on a present value of an annuity factor for an 11 percent discount rate and a remaining 15-year expected UEL (after the 5-year discrete projection period).</p>					

\$7,283,850. Let's assume that the business combination transaction closes on January 20, 2017.

Let's assume that the analyst performed (and documented) a rigorous review of the Acquirer's target company cash flow projections. The analyst performed this due diligence in order to calculate the transaction-price-implied IRR. The analyst performed an acquiree company WACC calculation in order to conclude the appropriate present value discount rate (and direct capitalization rate) to use in the income approach valuation analyses.

The analyst concluded the fair value for all of the acquired Delta net working capital assets, tangible assets, and intangible assets (including the residual amount for the acquired goodwill).

The analyst concluded the purchase price allocation WARA based on the concluded fair value indications for each of the categories of acquired Delta assets.

To confirm the reasonableness of the fair value purchase price allocation, the analyst compared (1) the transaction price IRR to (2) the acquiree company WACC to (3) the fair value purchase price allocation WARA.

Exhibit 20 summarizes the analyst's IRR calculation, based on (1) the total transaction consideration of \$7,283,850 and (2) the Acquirer-prepared financial projections used to price the business combination transaction.

The analyst solved for the IRR that caused the sum of (1) the present value of the discrete projection period net cash flow and (2) the present value of the terminal period to equal (3) the \$7,283,850 total transaction price. That calculated IRR was 11.8 percent. For comparison purposes, the analyst rounded the 11.8 percent calculated IRR to 12 percent.

Exhibit 21 summarizes the WACC calculation that the analyst performed to conclude the present value discount rate (and the direct capitalization rate) to use in the Delta fair value valuations. The Exhibit 21 data are hypothetical and are presented for illustrative purposes only.

Based on the WACC analysis, the analyst concluded that the appropriate present value discount rate was 12 percent (rounded). This 12 percent WACC-based discount rate is consistent with the Acquirer's transaction-analysis-based 12 percent IRR.

Exhibit 22 summarizes the analyst's WARA analysis. Exhibit 22 presents each of the Delta acquired asset categories. Exhibit 22 includes the fair value indications for each of the asset categories valued by the analyst—including the residual calculation of the acquired goodwill.

Exhibit 22 presents the analyst's determination of a fair, market-derived rate of return on each of the acquired asset categories. And, Exhibit 22 presents the calculation of the weighted return on assets for each of the acquired asset categories.

Based on the Exhibit 22 analysis, the WARA implied by the analyst's purchase price allocation was 12 percent (rounded). That fair value valuation 12 percent WARA compares to the 12 percent Delta WACC and the 12 percent Acquirer IRR. Accordingly, this WARA/WACC/IRR reconciliation gives the analyst comfort with regard to the acquisition accounting fair value conclusions.

## ATTRIBUTES OF A FAIR VALUE VALUATION REPORT

The MPF provides considerable guidance with regard to the documentation that should be included in a fair value valuation report prepared for acquisition accounting purposes. This MPF guidance extends to the reporting of intangible asset fair value valuations prepared for ASC 805 compliance purposes.

In order to encourage the valuation report reader's acceptance and to comply with the MPF, the intangible asset fair value valuation report should be:

- clear, convincing, and cogent;
- well-organized, well-written, and well-presented;
- free of grammar, punctuation, spelling, and mathematical errors; and
- procedurally and mathematically replicable, without the reliance on any unexplained or unsourced valuation variables.

Whether the fair value valuation report is a "comprehensive valuation report" or an "abbreviated valuation report" (as those terms are defined in the MPF), the intangible asset fair value valuation report should tell a narrative story that:

- defines the analyst's valuation assignment;
- describes the analyst's data gathering and due diligence procedures;
- justifies the analyst's selection of (and rejection of) each of the generally accepted valuation approaches, methods, and procedures;
- explains how the analyst performed the valuation synthesis and reached the final fair value conclusion;
- defends the analyst's intangible asset fair value conclusion; and

**Exhibit 20**  
**Delta Company**  
**Illustrative Purchase Price Allocation**  
**Acquisition-Related Financial Projections**  
**Internal Rate of Return Calculation**  
**As of January 20, 2017**

	Projected Fiscal Years Ending December 31,					Normalized 2021
	2017	2018	2019	2020	2021	
<b>Acquirer's Acquisition-Related Financial Projections</b>						
Present Value of Discrete Period Net Cash Flow:						
Net Operating Income (after tax)	\$ 736,209	\$636,207	\$654,030	\$667,110	\$680,453	\$680,453
Noncash Expense (i.e., depreciation expense)	3,615	3,723	3,798	3,874	3,951	
Capital Expenditures	(4,016)	(4,137)	(4,220)	(4,304)	(4,390)	
Change in Net Working Capital	<u>(10,093)</u>	<u>(11,869)</u>	<u>(11,583)</u>	<u>(11,815)</u>	<u>(12,051)</u>	<u>(12,051)</u>
Net Cash Flow	728,715	623,924	642,025	654,865	667,963	668,402
Months Remaining in the Initial Projection Year	<u>11.21</u>					
Adjusted Net Cash Flow	677,690					
Discounting Period	0.4517	1.4035	2.4035	3.4035	4.4035	
Delta Present Value Factor @ 11.8%	0.9508	0.8550	0.7647	0.6839	0.6117	
Present Value of Net Cash Flow	\$ 644,348	\$533,453	\$490,953	\$447,862	\$408,591	
Total Present Value of Discrete Period Net Cash Flow	<u>\$2,525,207</u>					
<b>Acquirer Acquisition-Related Financial Projections</b>						
Present Value of Terminal Period Net Cash Flow:						
Fiscal 2022 Net Cash Flow (2021 NCF + 2%)	<u>\$681,770</u>					
Delta Direct Capitalization Rate (11.8% - 2%)	<u>9.8%</u>					
Terminal Value	6,956,837					
Delta Present Value Factor @ 11.8 Percent	<u>0.6117</u>					
Present Value of Terminal Period Net Cash Flow	<u>\$4,255,497</u>					
<b>Value Summary:</b>						
Discrete Period Net Cash Flow Present Value	\$2,525,207					
Terminal Period Net Cash Flow Present Value	<u>4,255,497</u>					
Business Enterprise Value	6,780,704					
Cash and Cash Equivalents	<u>506,946</u>					
Total Transaction Purchase Price	<u>\$7,287,650</u>					
Transaction Implied Internal Rate of Return	<u>11.8%</u>					
Transaction Price IRR (rounded)	<u>12%</u>					

**Exhibit 21**  
**Delta Company**  
**Illustrative Purchase Price Allocation**  
**Weighted Average Cost of Capital**  
**As of January 20, 2017**

**Present Value Discount Rate  
and Direct Capitalization Rate**

Cost of Equity Capital:		Source:
Model #1: Modified Capital Asset Pricing Model:		
Risk-Free Rate of Return	2.3%	20-year Treasury bond, <i>The Federal Reserve Statistical Release</i> , as of February 5, 2017
General Equity Risk Premium	6.0%	Duff & Phelps, LLC, <i>2017 Valuation Handbook: Guide to Cost of Capital</i>
Multiplied by: Raw Small Composite Industry Levered Delta	0.5	Duff & Phelps, LLC, <i>2017 Valuation Handbook: Industry Cost of Capital</i> , SIC code 36
Industry-Adjusted General Equity Risk Premium	3.0%	
Size Equity Risk Premium	<u>5.6%</u>	Duff & Phelps, LLC, <i>2017 Valuation Handbook: Guide to Cost of Capital</i> , decile 10
Indicated Cost of Equity Capital	<u>10.9%</u>	
Model #2: Build-Up Model:		
Risk-Free Rate of Return	2.3%	20-year Treasury bond, <i>The Federal Reserve Statistical Release</i> , as of February 5, 2017
General Equity Risk Premium	6.0%	Duff & Phelps, LLC, <i>2017 Valuation Handbook: Guide to Cost of Capital</i>
Industry Equity Risk Premium	0.3%	Duff & Phelps, LLC, <i>2017 Valuation Handbook: Industry Cost of Capital</i> , SIC code 36
Size Equity Risk Premium	<u>5.6%</u>	Duff & Phelps, LLC, <i>2017 Valuation Handbook: Guide to Cost of Capital</i>
Indicated Cost of Equity Capital	<u>14.2%</u>	
Selected Cost of Equity Capital	12.5%	Average of Models #1–#2

**Cost of Debt Capital:**

Before-Tax Cost of Debt Capital	5.4%	Source: <i>Moody's Baa Corporate Bond Yield</i> , as of February 5, 2017
Income Tax Rate	<u>38%</u>	Based on the blended federal and state effective income tax rate
Selected Cost of Debt Capital	3.3%	

**Weighted Average Cost of Capital Calculation:**

Weighted Average Cost of Capital Calculation:		Source:
Selected Cost of Equity Capital	12.5%	
Multiplied by: Equity/Invested Capital (based on SIC code 36)	<u>99.0%</u>	Duff & Phelps, LLC, <i>2017 Valuation Handbook: Industry Cost of Capital</i> , SIC code 36
Equals: Weighted Cost of Equity Capital	<u>12.4%</u>	
Selected Cost of Debt Capital	3.3%	
Multiplied by: Debt/Invested Capital (based on SIC code 36)	<u>1.0%</u>	Duff & Phelps, LLC, <i>2017 Valuation Handbook: Industry Cost of Capital</i> , SIC code 36
Equals: Weighted Cost of Debt Capital	<u>0.03%</u>	
Weighted Average Cost of Capital (rounded)	12%	
Less: Expected Long-Term Growth Rate (rounded)	<u>2%</u>	
Equals: Direct Capitalization Rate (rounded)	<u>10%</u>	

**Exhibit 22**  
**Delta Company**  
**Illustrative Purchase Price Allocation**  
**Weighted Average Return on Assets Analysis**  
**As of January 20, 2017**

Acquired Net Assets Subject to Valuation	Fair Value Conclusion \$	Required Rate of Return on Assets	Weighted Return of Assets
Net Working Capital	1,297,324	3%	0.5%
Tangible Assets	58,902	6%	0.0%
Trademarks and Trade Names	1,103,700	12%	1.9%
Patents	165,900	12%	0.3%
Customer Relationships	2,977,100	12%	5.2%
Trained and Assembled Workforce	241,400	12%	0.4%
Goodwill (excluding assembled workforce)	<u>1,439,524</u>	20%	<u>4.0%</u>
Total Net Assets (equals purchase price)	<u>7,283,850</u>		
Weighted Average Return on Assets (rounded)			<u>12%</u>
Weighted Average Cost of Capital (rounded)			<u>12%</u>
Transaction Price Internal Rate of Return (rounded)			<u>12%</u>

- describes all of the data sources that the analyst relied on (and includes exhibit or appendix copies of any nonpublic source documents).

## SUMMARY AND CONCLUSION

This discussion focused on the types of identifiable intangible assets that are typically considered in an ASC 805 acquisition accounting valuation. This discussion also considered what is not an identifiable intangible asset for business combination fair value valuation purposes.

This discussion described the common elements of the identifiable intangible asset fair value valuation. This discussion presented an illustrative income approach valuation analysis of an identifiable intangible asset. This discussion presented an illustrative cost approach valuation analysis of an identifiable intangible asset. And, this discussion presented an illustrative market approach valuation analysis of an identifiable intangible asset.

This discussion summarized the analyst's considerations with regard to the intangible asset fair value

valuation synthesis and conclusion. With consideration of the MPF, this discussion summarized the analyst's considerations with regard to documenting the intangible asset valuation variables in the fair value valuation work file. With consideration of the MPF professional guidance, this discussion summarized the analyst's considerations for reporting the results of the intangible asset valuation in the fair value valuation report.

This discussion summarized the analyst's considerations with regard to the development of—and the reporting of—an identifiable intangible asset valuation for ASC 805 acquisition accounting purposes. And, this discussion presented analyst caveats related to the development of—and the reporting of—fair value valuations of identifiable intangible assets acquired in a business combination.

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