Intangible Asset Valuation: Cost Approach Valuation Methods and Procedures

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Willamette Management Associates
Portland, Oregon • Chicago, Illinois • Atlanta, Georgia
Discussion Outline

- What is and what is not an intangible asset
- Examples of intangible assets and intellectual property
- Common reasons to value intangible assets
- Intangible asset valuation approaches and methods
- Intangible asset cost approach considerations
- Intangible asset cost approach methods and procedures
- Cost approach illustrative example
- Valuation report considerations
What is an Intangible Asset?

• An intangible asset should be:
  – intangible; that is, it lacks physical substance, so its value comes from its bundle of legal rights
  – an asset; so it should have certain ownership characteristics:
    1. It is subject to a specific identification and a recognizable description
    2. It is subject to legal existence and legal protection
    3. It is subject to the rights of private ownership, and that private ownership should be transferable
    4. It is documented by some tangible evidence or manifestation of its existence (for example, a contract, a license, a registration document, a compact disc, a listing of customers, or a set of financial statements)
    5. It is created or comes into existence at an identifiable time or as the result of an identifiable event
    6. It is subject to being destroyed or to a termination of existence at an identifiable time or as the result of an identifiable event
Identifiable Intangible Assets
ASC Topic 804 Recognition Considerations

- FASB ASC 805-30-20 Glossary:

  **Identifiable Intangible Assets**

  The acquirer recognizes separately from goodwill the identifiable intangible assets acquired in a business combination. An intangible asset is identifiable if it meets either (1) the separability criterion or (2) the contractual-legal criterion described in the definition of identifiable.
Identifiable Intangible Assets
ASC Topic 805 Recognition Considerations

- FASB ASC 806-30-20 Glossary:

  **Identifiable**
  An asset is identifiable if it meets either of the following criteria:
  1. It is separable, that is, capable of being separated or divided from the entity and sold, transferred, licensed, rented, or exchanged, either individually or together with a related contract, identifiable assets, or liability, regardless of whether the entity intends to do so.
  2. It arises from contractual or other legal rights, regardless of whether those rights are transferable or separable from the entity or from other rights and obligations.

**Intangible Assets**
Assets (not including financial assets) that lack physical substance. (The term intangible assets refers to intangible assets other than goodwill.)

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What is Not an Intangible Asset?

- There are intangible attributes or influences that may affect the value of intangible assets
- These attributes or influences are not assets
- Examples include:

1. High market share
2. High profitability or high profit margin
3. Lack of regulation
4. A regulated (or protected) position
5. Monopoly position (or barriers to entry)
6. Market potential
7. Breadth of customer appeal
8. Mystique
9. Heritage
10. Competitive edge
11. Life-cycle status
12. Uniqueness
13. Discount prices (or full prices)
14. Positive image
15. First to market
16. Technological superiority
17. Consumer confidence or trustworthiness
18. Creativity
19. High growth rate
20. High return on investment
21. Size
22. Synergies
23. Economies of scale
24. Efficiencies
25. Longevity
Examples of Intangible Assets: ASC 805

- Marketing-related intangible assets
  - Trademarks, trade names, service marks, collective marks, certification marks
  - Trade dress (unique color, shape, package design)
  - Newspaper mastheads
  - Internet domain names
  - Noncompetition agreements

- Customer-related intangible assets
  - Customer lists
  - Order or production backlog
  - Customer contracts and related customer relationships
  - Noncontractual customer relationships
Examples of Intangible Assets: ASC 805 (cont.)

- Artistic-related intangible assets
  - Plays, operas, and ballets
  - Books, magazines, newspapers, and other literary works
  - Musical works such as compositions, song lyrics, and advertising jingles
  - Pictures and photographs
  - Video and audiovisual material, including motion pictures or films, music videos, and television programs
Examples of Intangible Assets: ASC 805 (cont.)

- Contract-based intangible assets
  - Licensing, royalty, and standstill agreements
  - Advertising, construction, management, and service or supply contracts
  - Lease agreements (whether the acquiree is the lessee or the lessor)
  - Construction permits
  - Franchise agreements
  - Operating and broadcast rights
  - Servicing contracts such as mortgage servicing contracts
  - Employment contracts
  - Use rights such as drilling, water, air, timber cutting, and route authorities
Examples of Intangible Assets: ASC 805 (cont.)

- Technology-based intangible assets
  - Patented technology
  - Computer software and mask works
  - Unpatented technology
  - Databases, including title plants
  - Trade secrets, such as secret formulas, processes, and recipes
Examples of Intangible Assets: IRC 197

- Internal Revenue Code Section 197 intangible assets include:
  - Goodwill
  - Going concern value
  - Any of the following intangible items:
    - workforce in place including its composition and terms and conditions (contractual or otherwise) of its employment,
    - business books and records, operating systems, or any other information base (including lists or other information with respect to current or prospective customers),
    - any patent, copyright, formula, process, design, pattern, knowhow, format, or other similar item,
    - any customer-based intangible,
    - any supplier-based intangible, and
    - any other similar item.
  - Any license, permit, or other right granted by a governmental unit or an agency or instrumentality thereof
Examples of Intangible Assets: IRC 197 (cont.)

- Internal Revenue Code Section 197 intangible assets include: (cont.)
  - Any covenant not to compete (or other arrangement to the extent such arrangement has substantially the same effect as a covenant not to compete) entered into in connection with an acquisition (directly or indirectly) of an interest in a trade or business or substantial portion thereof
  - Any franchise, trademark, or trade name
Intellectual Property

- Intellectual property assets represent a small subset of general intangible assets

- Intellectual property includes the following four intangible assets only:
  - Patents
  - Copyrights
  - Trademarks
  - Trade secrets
Categories of Reasons to Value Intangible Assets

- Transaction pricing and structuring
- Financing securitization and collateralization
- Federal and state tax planning and compliance
- Management information and strategic planning
- Bankruptcy and reorganization
- Forensic analysis and dispute resolution
- Intercompany use and ownership transfers
- Financial accounting and fair value reporting
- Corporate governance and regulatory compliance
- License, joint venture, development opportunities
Intangible Asset Valuation Considerations

- What intangible asset is the valuation subject?
- What intangible asset rights are included in the valuation?
- What is the appropriate standard of value?
- What is the appropriate premise of value?
- What is the appropriate valuation date(s)?
- Who is the intended audience for the valuation?
- What is the appropriate type of report?
Generally Accepted Intangible Asset Valuation Approaches and Methods

- **Cost approach methods**
  - Reproduction cost new less depreciation method
  - Replacement cost new less depreciation method
  - Trended historical cost less depreciation method

- **Market approach methods**
  - Relief from royalty method
  - Comparable uncontrolled transactions method
  - Comparable profit margin method

- **Income approach methods**
  - Differential income (with/without) method
  - Incremental income method
  - Profit split method (or residual profit split method)
  - Residual (excess) income method
Reasons to Use the Cost Approach

- The selection of the applicable valuation approaches is a process of elimination.
- If there are sufficient reliable data, then the analyst will typically apply all three valuation approaches.
- If there are insufficient guideline sale or license transaction data available, then the analyst may have to rely on the cost approach by default.
- If the intangible asset is not the type of asset that generates a measurable amount of income (however defined), then the analyst may have to rely on the cost approach by default.
Application of the Cost Approach

• Certain intangible assets particularly lend themselves to the cost approach, such as:
  1. recently developed (i.e., relatively new) intangible assets
  2. intangible assets for which the historical development cost data are still available
  3. intangible assets that are operated by an owner with the expertise to assist the analyst in the estimation of a current development cost
  4. intangible assets that are operated by an owner with the expertise to assist the analyst in the estimation (a) of RUL and (b) of obsolescence
  5. intangible assets that are used (or used up) in the production of income but which themselves do not produce any income; examples include product formulae, employee or work station training/operator manuals, operating procedures, computer software, an assembled workforce, etc.; these intangible assets are sometimes referred to as “back room” intangible assets
Application of the Cost Approach (cont.)

- In selecting the cost approach, the analyst should consider if there are sufficient data available to estimate both:
  1. the intangible asset current cost
  2. all forms of obsolescence (including RUL considerations)
Intangible Asset Cost Approach
Valuation Components

- All cost approach methods include a current cost measurement and a depreciation measurement

- Four cost components
  - Direct costs (direct materials and direct labor)
  - Indirect costs (overhead and administrative expenses)
  - Developer’s profit (on the direct and indirect costs)
  - Entrepreneurial incentive (opportunity cost—or lost income—during the replacement period)

- Three depreciation components
  - Physical depreciation (not a significant factor)
  - Functional/technological obsolescence (consider the intangible asset RUL)
  - Economic/external obsolescence (consider the intangible asset ROI)
Intangible Asset Cost Approach
Valuation Components (cont.)

• Typical cost approach valuation formula
  Replacement cost new
    less Functional obsolescence
    less Technological obsolescence
    less Economic/external obsolescence
  equals Value

• Cost approach valuation considerations
  – All cost components (including opportunity cost) included in the measurement
  – Treatment of excess capital (development) costs and excess operating costs
  – Consideration of the intangible asset RUL
  – Consideration of owner/operator economic obsolescence
The Cost Approach in Real Estate Appraisal

- The Dictionary of Real Estate Appraisal (fifth edition) definitions:
  1. Direct costs (page 58) – Expenditures for the labor and materials used in the construction of improvements; also called hard costs. See also “indirect costs.”
  2. Indirect costs (page 100) – Expenditures or allowances for items other than labor and materials that are necessary for construction, but are not typically part of the construction contract. Indirect costs may include administrative costs; professional fees; financing costs and the interest paid on construction loans; taxes and the builder’s or developer’s all-risk insurance during construction; and marketing, sales, and lease-up costs incurred to achieve occupancy or sale. Also called soft costs. See also “direct costs.”
3. Developer’s profit (page 57) – The profit anticipated or earned by the developer of a real estate project.

4. Entrepreneurial incentive (page 67) – The amount an entrepreneur expects to receive for his or her contributions to a project. Entrepreneurial incentive may be distinguished from entrepreneurial profit (often called developer’s profit) in that it is the expectation of future profit as opposed to the profit actually earned on a development or improvement. See also entrepreneurial profit.
The Cost Approach in Real Estate Appraisal (cont.)

- *The Appraisal of Real Estate* (14th edition) definitions:
  1. Direct costs (page 571) – Expenditures for the labor and materials used in the construction of improvements; also called *hard costs*.
  2. Indirect costs (page 572) – Expenditures or allowances for items other than labor and materials that are necessary for construction, but are not typically part of the construction contract. Indirect costs may include administrative costs, professional fees, financing costs and the interest paid on construction loans, taxes and the builder’s or developer’s all-risk insurance during construction, and marketing, sales, and lease-up costs incurred to achieve occupancy or sale. Also called *soft costs*. 
3. Entrepreneurial profit (page 573) – A market-derived figure that represents the amount an entrepreneur receives for his or her contribution to a project and risk; the difference between the total cost of a property (cost of development) and its market value (property value after completion), which represents the entrepreneur’s compensation for the risk and expertise associated with development. An entrepreneur is motivated by the prospect of future value enhancement (i.e., the entrepreneurial incentive). An entrepreneur who successfully creates value through new development, expansion, renovation, or an innovative change of use is rewarded by entrepreneurial profit. Entrepreneurs may also fail and suffer losses.

4. Entrepreneurial incentive (page 573) – The amount an entrepreneur expects to receive for his or her contribution to a project. Entrepreneurial incentive may be distinguished from entrepreneurial profit (often called developer’s profit) in that it is the expectation of future profit as opposed to the profit actually earned on a development or improvement.
5. Contributions of the Entrepreneur, Developer, and Contractor (page 574) – In analyzing the components of reward and compensation received (or anticipated) by an entrepreneur, appraisers may choose to further distinguish between the concepts of project profit, entrepreneurial profit, developer’s profit, and contractor’s profit:

- **Project profit** is the total amount of reward for entrepreneurial coordination and risk.
- **Entrepreneurial profit** refers to the portion of project profit attributable to the efforts of the entrepreneur, distinct from the efforts of the developer, if one is present. In projects in which the entrepreneur and the developer are one and the same, the entrepreneurial profit is equivalent to total project profit.
- **Developer’s profit** represents compensation for the time, energy, and expertise of an individual other than the original entrepreneur—usually, in large projects, the person responsible for managing the overall development process.
- **Contractor’s profit** (including subcontractors’ fees) is essentially a portion of the project’s overhead and is not usually reflected in the entrepreneurial reward.

The measure of project profit used in cost approach calculations usually includes both a developer’s profit and an entrepreneurial profit. The profit a contractor receives is often already reflected in the fee a contractor charges and would therefore be included in the direct costs.
**Illustrative Example Fact Set**

- The analyst is asked to value a fairly large internal medicine practice, The Columbia Group (“Columbia”).
- The valuation date is December 31, 2014. A local not-for-profit hospital, Cornell Hospital (“Cornell”), approaches the Columbia practice owners with an unsolicited offer to buy the practice assets.
- The Cornell board of directors retained the analyst to estimate a purchase offer price for the Columbia assets.
- The Columbia has 10 physicians, 20 clinical staff members (registered nurses, medical technicians, etc.) and 10 administrative staff (billing clerks, receptionists, etc.).
- As part of the practice valuation, the analyst estimates the value of the Columbia assembled workforce.
- The analyst decides to use the cost approach and the replacement cost new less depreciation (RCNLD) method.
Trained and Assembled Workforce
Replacement Cost New Less Depreciation Method
As of 12/31/14

<table>
<thead>
<tr>
<th>Assembled Workforce Employee Component</th>
<th>No. of Employees</th>
<th>Average Salary</th>
<th>Other Costs Factor</th>
<th>Full Absorption Cost</th>
<th>Percent of the Total Annual Cost Required to Replace Employees</th>
<th>Average Replacement Cost New Component</th>
<th>Total Replacement Cost New Component</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physicians</td>
<td>10</td>
<td>180,000</td>
<td>1.6</td>
<td>288,000</td>
<td>20% 20% 40%</td>
<td>230,400</td>
<td>$2,304,000</td>
</tr>
<tr>
<td>Clinical staff</td>
<td>20</td>
<td>60,000</td>
<td>1.5</td>
<td>90,000</td>
<td>10% 10% 30%</td>
<td>45,000</td>
<td>900,000</td>
</tr>
<tr>
<td>Administrative staff</td>
<td>20</td>
<td>40,000</td>
<td>1.4</td>
<td>56,000</td>
<td>5% 10% 25%</td>
<td>22,400</td>
<td>448,000</td>
</tr>
<tr>
<td>Total employees</td>
<td>50</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3,652,000</td>
</tr>
</tbody>
</table>

Add:
Developer’s profit cost component
  - Developer’s profit margin
  - Developer’s profit cost component (rounded)

Total direct costs and indirect costs plus developer’s profit
Add:
Entrepreneurial incentive
  - Estimated total workforce replacement period
  - Estimated average workforce replacement cost
  - Estimated average workforce replacement cost investment (i.e., $4,017,000 total cost ÷ 2)
  - Required annual return on investment
  - Required return on investment for 6 month replacement period
  - Entrepreneurial incentive (i.e., $2,009,000× 8%) (rounded)

Total replacement cost new $4,178,000
Replacement Cost New – Direct Costs and Indirect Costs

- The RCN estimate considers the total compensation paid to each employee, labeled as “average salary.” These costs are typically called direct costs.

- The RCN estimate considers all of the other expenses that the entity incurs related to each employee. Those costs are called indirect costs, including:
  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.

- The total annual cost that the entity pays for an employee is called the full absorption cost. This full absorption cost includes:
  1. the compensation paid by the employer to the employee and
  2. the expenses paid by the employer to others so that the employee can perform his or her job.
Replacement Cost New – Direct Costs and Indirect Costs (cont.)

• The RCN includes all of the costs that the employer would incur to replace the current workforce with a brand new (but comparable) workforce. These costs may include:
  1. advertising for recruiting potential new employees to apply for each position
  2. interviewing expenses, background checks and other pre-employment tests, and placement fees incurred to have the new employee show up on day one
  3. on-the-job training in the particular position including first month training, first year training, and accumulated continuing education for long-term employees

• There are two additional cost components to consider:
  1. developer’s profit and
  2. entrepreneurial incentive.
Replacement Cost New – Developer’s Profit and 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 a firm to create the assembled workforce.

• Likewise, the practice owners would expect to earn a profit on the sale of their internally developed assets to the willing buyer.

• There are several alternative procedures for estimating entrepreneurial incentive.

• A common procedure is to estimate the lost profits opportunity cost that the entity would experience during the intangible asset replacement period.
Replacement Cost New – Developer’s Profit and Entrepreneurial Incentive (cont.)

- When using this procedure, the analyst should appropriately allocate the entity’s overall profit to all of the intangible assets.

- Let’s assume that the Columbia practice has five intangible assets. The entrepreneurial incentive should be allocated among the five intangible assets.

- Another common entrepreneurial profit measurement procedure is to calculate a fair rate of return on the total intangible asset cost components (i.e., direct costs, indirect costs, and developer’s profit).

- The assembled workforce RCN is the sum of all four cost components.
Illustrative Depreciation Considerations

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

- From the practice acquisition due diligence, the analyst learns the following facts:
  1. two of the practice’s lab techs (part of the clinical staff) are scheduled to retire in the next year or so
  2. one of the practice’s billing accountants (part of the administrative staff) is out on disability leave and is not expected to return to work
  3. the practice is overstaffed with regard to administrative personnel; in addition to the above-mentioned billing accountant, any willing buyer would eliminate two of the administrative positions
  4. the practice has experienced very low turnover of the clinical staff; because of long tenure of these nurses and technicians, they earn an average annual salary of $60,000; if the actual clinical employees were replaced, they would be replaced with adequately qualified (but less tenured) employees earning an average annual salary of $50,000
### Trained and Assembled Workforce

#### Physical Deterioration – As of 12/31/14

<table>
<thead>
<tr>
<th>Workforce Component</th>
<th>No. of Employees</th>
<th>Average Direct and Indirect Replacement Cost New</th>
<th>Total Direct and Indirect Replacement Cost New</th>
<th>Developer’s Profit and Entrepreneurial Incentive Cost Components</th>
<th>Total Replacement Cost New</th>
<th>Percent Depreciation</th>
<th>Accumulated Depreciation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical staff</td>
<td>2</td>
<td>$45,000</td>
<td>$90,000</td>
<td>$13,000</td>
<td>$103,000</td>
<td>100%</td>
<td>$103,000</td>
</tr>
<tr>
<td>Administrative staff</td>
<td>1</td>
<td>22,400</td>
<td>22,400</td>
<td>3,200</td>
<td>25,600</td>
<td>100%</td>
<td>25,600</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td>16,200</td>
<td>128,600</td>
<td></td>
<td>$128,600</td>
</tr>
</tbody>
</table>
## Trained and Assembled Workforce Functional Obsolescence – As of 12/31/14

<table>
<thead>
<tr>
<th>Workforce Component</th>
<th>No. of Employees</th>
<th>Excess Direct and Indirect Replacement Cost New</th>
<th>Excess Developer’s Profit and Entrepreneurial Incentive Components</th>
<th>Excess Total Replacement Cost New Per Employee</th>
<th>Functional Obsolescence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical staff</td>
<td>18</td>
<td>$7,500</td>
<td>$1,100</td>
<td>$8,600</td>
<td>$154,800</td>
</tr>
<tr>
<td>Administrative staff</td>
<td>2</td>
<td>22,400</td>
<td>3,200</td>
<td>25,600</td>
<td>51,200</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>$206,000</td>
<td></td>
<td></td>
<td>$206,000</td>
</tr>
</tbody>
</table>
### Trained and Assembled Workforce
Replacement Cost New Less Depreciation Method
As of 12/31/14

<table>
<thead>
<tr>
<th>Cost Approach Analysis</th>
<th>Cost Component</th>
</tr>
</thead>
<tbody>
<tr>
<td>Replacement cost new (all employees)</td>
<td>$4,178,000</td>
</tr>
<tr>
<td>Less: Physical deterioration allowance (inadequate staff)</td>
<td>128,600</td>
</tr>
<tr>
<td>Less: Functional obsolescence allowance (superadequate staff)</td>
<td>206,000</td>
</tr>
<tr>
<td>Equals: Replacement cost new less depreciation</td>
<td><strong>$3,843,400</strong></td>
</tr>
</tbody>
</table>

- This RCNLD conclusion indicates what a willing buyer would pay to a willing seller for this assembled workforce, assuming that there is no economic obsolescence related to this intangible asset.
Factors that May Indicate the Existence of Economic Obsolescence

- The entity income approach value indication is less than the entity asset-based approach value indication.
- The entity market approach value indication is less than the entity asset-based approach value indication.
- Owner/operator revenue decreasing in recent years.
- Owner/operator profitability decreasing in recent years.
- Owner/operator cash flow decreasing in recent years.
- Owner/operator product pricing decreasing in recent years.
- Industry/profession revenue decreasing in recent years.
- Industry/profession profitability decreasing in recent years.
- Industry/profession cash flow decreasing in recent years.
- Industry/profession product pricing decreasing in recent years.
Factors that May Indicate the Existence of Economic Obsolescence (cont.)

- Owner/operator profit margins decreasing in recent years.
- Owner/operator returns on investment decreasing in recent years.
- Industry/profession profit margins decreasing in recent years.
- Industry/profession returns on investment decreasing in recent years.
- Industry/profession competition increasing in recent years.
# Trained and Assembled Workforce Economic Obsolescence As of 12/31/14

## Selected Economic Obsolescence Data

**As of December 31, 2014**

<table>
<thead>
<tr>
<th>Item</th>
<th>Financial or Operational Performance Metric</th>
<th>LTM Ended 12/31/14</th>
<th>Benchmark Measure</th>
<th>LTM Percent Shortfall</th>
<th>Benchmark Comparison Reference Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Average collected revenue per physician</td>
<td>$340,000</td>
<td>$420,000</td>
<td>19%</td>
<td>2014 regional internal medicine group average</td>
</tr>
<tr>
<td>2</td>
<td>Number of support staff per physician</td>
<td>4.0</td>
<td>3.2</td>
<td>25%</td>
<td>2014 regional internal medicine group average</td>
</tr>
<tr>
<td>3</td>
<td>Average salary per physician</td>
<td>$180,000</td>
<td>$220,000</td>
<td>18%</td>
<td>2014 regional internal medicine group average</td>
</tr>
<tr>
<td>4</td>
<td>Annual growth rate in the practice revenue</td>
<td>3.5%</td>
<td>4.5%</td>
<td>22%</td>
<td>actual subject practice average for 2010-14</td>
</tr>
<tr>
<td>5</td>
<td>Profit contribution per physician (pre-MD comp)</td>
<td>$200,000</td>
<td>$280,000</td>
<td>29%</td>
<td>2014 regional internal medicine group average</td>
</tr>
<tr>
<td>6</td>
<td>Profit contribution margin (pre-MD comp)</td>
<td>59%</td>
<td>67%</td>
<td>12%</td>
<td>2014 regional internal medicine group average</td>
</tr>
<tr>
<td>7</td>
<td>Average patients seen per physician per day</td>
<td>8.2</td>
<td>10</td>
<td>18%</td>
<td>the 2014 subject practice budget</td>
</tr>
<tr>
<td>8</td>
<td>Average revenue billed per patient visit</td>
<td>$80</td>
<td>$100</td>
<td>20%</td>
<td>the 2014 subject practice budget</td>
</tr>
<tr>
<td>9</td>
<td>Return on the practice average assets</td>
<td>10%</td>
<td>12.5%</td>
<td>20%</td>
<td>actual subject practice average for 2010-14</td>
</tr>
<tr>
<td>10</td>
<td>Return on the practice average equity</td>
<td>20%</td>
<td>25%</td>
<td>20%</td>
<td>actual subject practice average for 2010-14</td>
</tr>
</tbody>
</table>

**LTM benchmark measures percent shortfall:**

- mean 20.3%
- median 20.0%
- mode 20.0%
- trimmed mean 20.3%
- trimmed median 20.0%

**Economic obsolescence indication** 20%
## Trained and Assembled Workforce
### Economic Obsolescence Allowance
#### As of 12/31/14

<table>
<thead>
<tr>
<th>Cost Approach Analysis</th>
<th>Cost Component</th>
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<tbody>
<tr>
<td>Replacement cost new less depreciation</td>
<td>$3,843,400</td>
</tr>
<tr>
<td>Times: Selected economic obsolescence percent</td>
<td>20%</td>
</tr>
<tr>
<td>Equals: Economic obsolescence allowance (rounded)</td>
<td>$768,700</td>
</tr>
</tbody>
</table>
Trained and Assembled Workforce  
Cost Approach Valuation Synthesis and Conclusion  
As of 12/31/14

<table>
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<td>$4,178,000</td>
</tr>
<tr>
<td>less: Physical deterioration allowance</td>
<td>128,600</td>
</tr>
<tr>
<td>Less: Functional obsolescence allowance</td>
<td>206,000</td>
</tr>
<tr>
<td>Less: Economic obsolescence allowance</td>
<td>768,700</td>
</tr>
<tr>
<td>Equals: Replacement cost new less depreciation</td>
<td>3,074,700</td>
</tr>
<tr>
<td>Assembled workforce value (rounded)</td>
<td>$3,100,000</td>
</tr>
</tbody>
</table>
Intangible Asset Valuation
Synthesis and Conclusion

• The synthesis and conclusion is the last procedure in the valuation process

• The analyst typically performs a valuation reconciliation procedure related to the alternative value indications

• The analyst answers the following questions:
  – Did I value the right thing? That is, did I analyze the correct intangible asset?
  – Did I value the right thing the right way? That is, did I apply the appropriate valuation approaches, methods, and procedures?
  – Did I reach the right value conclusion? That is, did I correctly apply the valuation procedures that I performed in order to reach a reasonable and supportable 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 purpose and objective of the assignment?
Intangible Asset Valuation Report

• In order to encourage the reader’s acceptance, the effective intangible asset valuation report should be:
  – clear, convincing, and cogent
  – well-organized, well-written, and well-presented
  – free of grammar, punctuation, spelling, and mathematical errors
  – procedurally and mathematically replicable, without the use of any unexplained or unsourced valuation/damages variables
Intangible Asset Valuation Report (cont.)

- The persuasive intangible asset valuation report will tell a narrative story that:
  - defines the analyst’s assignment
  - describes the analyst’s data gathering and due diligence procedures
  - justifies the analyst’s selection of—and rejection of—the generally accepted valuation approaches, methods, and procedures
  - explains how the analyst performed the valuation synthesis and reached the final value conclusion
  - defends the analyst’s intangible asset value conclusion
  - describes all of the data sources that the analyst relied on (and includes copies of nonpublic source documents)

- “If it’s not in the valuation report, you didn’t do it”
Summary and Conclusion

- What are and what are not intangible assets
- Examples of intangible assets and intellectual property
- Common reasons to value intangible assets
- Intangible asset valuation approaches and methods
- Intangible asset cost approach considerations
- Intangible asset cost approach methods and procedures
- Cost approach illustrative example
- Valuation report considerations
- Questions and discussion
Robert F. Reilly, CPA

Robert Reilly has been a managing director of Willamette Management Associates for over 23 years. Willamette Management Associates provides business valuation, forensic analysis, and financial opinion services for transaction, financing, taxation, bankruptcy, litigation, and planning purposes. Robert frequently provides valuation, economic damages, and intercompany transfer price analyses related to intellectual property and other intangible assets. Robert has testified in both federal and state courts on numerous occasions on intellectual property valuation, damages, and transfer price matters.

Robert holds a BA in economics and an MBA in finance, both from Columbia University. He is a certified public accountant, accredited in business valuation, and certified in financial forensics. He is also a chartered financial analyst, chartered global management accountant, certified management accountant, certified business appraiser, and certified valuation analyst.

Robert has served as a member of the AICPA forensic and valuation services executive committee (FVSEC), business valuation committee (BVC), and consulting services executive committee (CSEC). He is an inductee into the AICPA business valuation hall of fame.

Robert is the co-author of 12 valuation books including Guide to Intangible Asset Valuation (published in 2013 by the AICPA) and Practical Guide to Bankruptcy Valuation (published in 2013 by the American Bankruptcy Institute).

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