APPRAISAL PRACTICES BOARD
VFR VALUATION ADVISORY 2:
THE VALUATION OF CUSTOMER-RELATED ASSETS

APPRAISAL PRACTICES BOARD
THE APPRAISAL FOUNDATION
America's Valuation Resource

APB VFR Valuation Advisory #2:
The Valuation of Customer-Related Assets

This communication is for the purpose of issuing voluntary guidance on recognized valuation methods and techniques.

Date Issued: June 15, 2016

Application: Business Valuation, Intangible Assets

Background: Since the Financial Accounting Standards Board (FASB) issued Statement of Financial Accounting Standards No. 157 (FASB Statement No. 157), predecessor to Accounting Standards Codification (ASC) 820 *Fair Value Measurement* (ASC 820)*,* and FASB Statement No. 141(R), predecessor to ASC 805 *Business Combinations*, there has been increased interest in the identification and recognition of the fair value of assets and liabilities in financial statements. Furthermore, the FASB and the International Accounting Standards Board (IASB) have been working on a convergence project with an objective of having a consistent set of accounting standards that can be used globally. In that regard, the IASB has issued International Financial Reporting Standards (IFRS) 3 (revised) *Business Combinations* (IFRS 3R), and IFRS 13 *Fair Value Measurement*, both of which are largely similar to the same statements issued by the FASB. Accordingly, during the creation of this document, members of the International Valuation Standards Council (IVSC) reviewed the document and discussed certain topics with members of this Working Group to try and ensure consistency with both a) valuation concepts in the International Valuation Standards (IVS) and b) fair value guidance in IFRS 13 that existed at the date of publication of this document.

Because of the need for financial statements to be both reliable and relevant, valuation practices must provide reasonably consistent and supportable fair value conclusions. To this end, it is believed that guidance regarding best practices surrounding certain specific valuation topics would be helpful. The topics are selected based on those in which the greatest diversity of practice has been observed. To date, three Working Groups have been sponsored by The Appraisal Foundation. The first Working Group addressed the topic of contributory assets and charges in a document titled *The Identification of Contributory Assets and Calculation of Economic Rents* dated May 31, 2010 (now known as "VFR Valuation Advisory #1"). The second Working Group has addressed the general topic of customer-related assets in this document. A third Working Group is addressing the topic of the control premiums as applied in valuations done for financial reporting purposes. A fourth Working Group is addressing contingent considerations.

This document is intended to present helpful guidance for those who are preparing fair value measurements of customer-related assets; however, this paper is not intended to be an authoritative valuation standard. The Working Group believes that consideration of the facts and circumstances related to the asset(s) that are being valued may support a departure from the recommendations of this document.

It is the belief of the Working Group that the valuation of assets in general and customer-related assets specifically is a complicated exercise that requires significant judgment. This paper seeks to present views on how to approach and apply the valuation process appropriate for customer-related assets.

The Appraisal Practices Board and The Appraisal Foundation wish to express our utmost gratitude to the *Working Group on Customer-Related Assets* for volunteering their time and expertise in contributing to this document. Specifically, sincere thanks to the following individuals:

The views set forth in this exposure draft are the collective views of the members of this Working Group and do not necessarily reflect the views of any of the firms that the Working Group members are associated with.

The Appraisal Foundation served as a sponsor and facilitator of this Working Group. The Foundation is a non-profit educational organization dedicated to the advancement of professional valuation and was established in 1987 by the appraisal profession in the United States. The Appraisal Foundation is not an individual membership organization, but rather an organization that is made up of other organizations. Today, over 110 non-profit organizations, corporations and government agencies are affiliated with The Appraisal Foundation. The Appraisal Foundation is authorized by the US Congress as the source of appraisal standards and qualifications.

Table of Contents

1.0   INTRODUCTION

1.1.1 This document (Valuation for Financial Reporting Advisory #2), entitled *The Valuation of Customer-Related Assets,* is the result of deliberations by the Working Group on Customer-Related Assets (the second Working Group in the "Best Practices for Valuations in Financial Reporting: Intangible Asset Working Group" series) and was developed with input received from interested parties. Customer-related assets include customer lists, order or production backlog, customer contracts and related relationships, and non-contractual customer relationships. The purpose of this Valuation Advisory is to outline best practices in the valuation of customer-related assets for financial reporting purposes.

1.1.2 There are multiple situations that may require the valuation of customer-related assets for financial reporting purposes, including but not limited to:

   a.   Business combinations;

   b.   Asset acquisitions;

   c.   Goodwill impairment testing;

   d.   Long-lived asset impairment testing; and

   e.   Reorganizations (i.e., fresh-start accounting).

1.1.3 The approaches and methodologies used to value customer-related assets under each of the situations above are similar. Additionally, the situations outlined above are similar in that they focus on a valuation of only the customer-related assets of a business (i.e., existing customers) that meet the identification and recognition criteria (which are discussed in this document) at the effective date of the valuation. Future customer-related assets, which do not meet the identification and recognition criteria, are not included in these analyses. The majority of the accounting guidance is contained in the Financial Accounting Standards Board (FASB) *Accounting Standards Codification*^{TM} (ASC) and the International Financial Reporting Standards (IFRSs).

1.1.4 The following discussion on the valuation of customer-related assets for financial reporting purposes requires an understanding of relevant accounting and valuation concepts. In-depth discussion of these concepts is beyond the scope of this Valuation Advisory and the reader is assumed to have a general understanding of these concepts. Specifically, the reader is assumed to have knowledge of relevant accounting and valuation concepts as they relate to the valuation of assets and liabilities for financial reporting purposes outlined above in paragraph 1.1.2.

1.1.5 The Working Group recognizes professional judgment is critical in effectively planning, performing, and concluding a valuation. Professional judgment requires fact gathering, research, and analysis to reach well-reasoned conclusions based on relevant facts and circumstances available at the time. Due to the nature of judgments, questioning and skepticism are appropriate. Even then, knowledgeable, reasonable, objective individuals can reach different conclusions for a given set of facts and circumstances.

1.1.6 The following important clarifications regarding this document are also made:

37   a. These best practices have been developed with reference to United States (US) Generally Accepted
38   Accounting Principles (GAAP) and IFRSs effective as of the date this document was published.[1]
39   While the Working Group believes the best practices described herein may have application
40   outside of US GAAP and IFRSs, valuation specialists should not apply these best practices to
41   valuations prepared under different standards/statutory requirements without a thorough
42   understanding of the differences between those standards and US GAAP and IFRSs existing as of
43   the date of this publication;

44   b. The Working Group has not used the terms "cash flow," "earnings," and "income" as commonly
45   used in the accounting literature. When these and similar terms are used, they will refer to an
46   "economic earnings" concept associated with the netting of expense and other charges against
47   revenue;

48   c. The terms "value," "valuation," "valuing," "fair value," and any other reference to value
49   throughout this document are intended, for the purposes of this document, to be stated in
50   accordance with "fair value" as defined in ASC and IFRSs;

51   d. The discussions and examples in this Valuation Advisory make specific assumptions for
52   illustrative purposes only. While general principles have been provided for guidance to assist in the
53   valuation of customer-related assets, assumptions used in the valuation of any asset should be
54   based on facts and circumstances; and

55   e. The models used in the sample calculations are for illustrative purposes only and are not intended
56   to represent the only form of model, calculation, or final report exhibit that is generally considered
57   acceptable among valuation specialists.

58 1.1.7 This document provides detail related to valuation techniques that are used to value customer-
59 related assets for accounting-related purposes. The paper includes detailed discussion of the following
60 topics:

61   a. Definitions of customer-related assets as set out in accounting literature and an exploration of the
62   economic characteristics of customer-related assets;

63   b. Valuation techniques used to estimate the fair value of customer-related assets that are viewed to
64   be representative of best practice; and

65   c. How customer-related assets interact with other assets of a business and best practice guidance on
66   how to address these relationships in fair value measurements.

67 1.1.8 The appendices at the end of this Valuation Advisory include examples of several techniques and
68 methodologies relevant to the valuation of customer-related assets. Each example provides a set of facts
69 and circumstances to demonstrate the associated valuation techniques discussed.
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[1] IFRS 13 *Fair Value Measurement* was issued in May 2011 with an effective date of January 1, 2013.

2.0   ACCOUNTING BACKGROUND AND OVERVIEW

2.1 Accounting Standards and the Accounting Standards Codification

2.1.1 In 2001, the FASB issued several accounting standards to address business combinations, intangible assets and goodwill, and impairment testing guidance: Statement of Financial Accounting Standards No. 141, *Business Combinations* (FASB Statement No. 141); Statement No. 142, *Goodwill and Other Intangible Assets* (FASB Statement No. 142); and Statement No. 144, *Accounting for the Impairment or Disposal of Long-Lived Assets* (FASB Statement No. 144). FASB Statement No. 141 required that certain assets acquired in a business combination be recorded at fair value. FASB Statement No. 142 and FASB Statement No. 144 address asset impairment.

2.1.2 In 2006, the FASB issued Statement No. 157, *Fair Value Measurements* (FASB Statement No. 157), to provide a uniform definition of fair value and a framework for developing fair value measurements. Subsequently, in 2007, as part of the joint development project between the FASB and the International Accounting Standards Board (IASB), the FASB issued a revised version of FASB Statement No. 141 (FASB Statement No. 141R). FASB Statement No. 141R and International Financial Reporting Standard 3 (revised), *Business Combinations* (IFRS 3R), are largely similar, although some differences exist.

2.1.3 On July 1, 2009, the FASB changed the way accounting standards are organized and accessed. FASB ASC is now the single source of authoritative US GAAP. ASC does not change US GAAP; however, it combines all authoritative accounting standards issued by bodies such as the FASB, the American Institute of Certified Public Accountants (AICPA), and the Emerging Issues Task Force (EITF) into a topically organized database. ASC supersedes all existing US accounting literature (other than additional guidance issued by the Securities and Exchange Commission [SEC]). Primary reference changes relevant to this document due to ASC are as follows:

a. FASB Statement No. 141R → ASC 805, *Business Combinations*

b. FASB Statement No. 142 → ASC 350, *Intangibles—Goodwill and Other*

c. FASB Statement No. 144 → ASC 360, *Property, Plant, and Equipment*

d. FASB Statement No. 157 → ASC 820, *Fair Value Measurement*

2.1.4 With limited exceptions, ASC 805 and IFRS 3R both require that assets and liabilities acquired in a business combination be measured at fair value. As mentioned above, under US GAAP and IFRSs, fair value measurement guidance is addressed in ASC 820 and IFRS 13, respectively.

2.1.5 Both ASC 805 and IFRS 3R pay a significant amount of attention to intangible assets in discussion and examples, particularly for customer-related assets. International Accounting Standard 38, *Intangible Assets* (IAS 38) and the illustrative examples in IFRS 3R address the identification of intangible assets under IFRS and provide guidance on the nature of customer-related assets.

2.1.6 In May 2011, the FASB updated ASC 820, *Fair Value Measurement* via Accounting Standards Update (ASU) 2011-4, in tandem with the IASB issuing, for the first time, IFRS 13 *Fair Value Measurement*. IFRS 13 is virtually identical to ASC 820, although some minor differences exist; however, the principles of measuring fair value are identical between IFRS 13 and ASC 820.

2.2 Business Combinations

2.2.1 In a business combination, ASC 805 and IFRS 3R require the recognition and measurement of the fair value (with limited exceptions) of identifiable assets acquired (including current, financial, fixed, and intangible assets), liabilities assumed (including current and financial liabilities), and consideration transferred (e.g., contingent consideration).

2.2.2 Fair value is defined in the ASC 820 Glossary[2] and IFRS 13 (9)[3] as "the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date."

2.2.3 ASC 805 and IFRS 3R require that identifiable intangible assets be recognized at fair value separately from goodwill. For example, ASC 805-20-20 outlines the following: "An asset is identifiable if it meets either of the following criteria: (a) 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 asset, or liability, regardless of whether the entity intends to do so, or (b) 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." IFRS 3R outlines similar criteria. An asset may also meet the separable criteria if it cannot be sold, licensed, or exchanged individually, but could be when combined with a related contract, asset, or liability (ASC 805-20-55-5). Although ASC 805 and IFRS 3R do not provide specific guidance to determine whether an asset arises from contractual or legal rights, the Working Group believes the criteria for recognition is intended to be broad. Specific examples of intangible assets that meet the recognition criteria are discussed in ASC 805-20-55-11 to 55-45 and 55-52 to 55-57, and in paragraphs IE16-44 of IFRS 3R. It should be noted that these lists, which include customer-related assets, are not intended to be all-inclusive.

2.2.4 Fair values are estimated using three generally accepted valuation approaches that are set out in ASC 820 and IFRS 13 as the income, cost, and market approach. A determination must be made as to the appropriate methodology or methodologies to estimate the fair value of each type of asset, liability, and non-controlling interest and/or previously held equity interest.

2.2.5 In December 2014, FASB issued new accounting guidance for business combinations for private companies. FASB ASU No. 2014-18, *Business Combinations—Accounting for Identifiable Assets in a Business Combination, a Consensus of the Private Company Council*, offers private companies an alternative for the recognition of customer-related assets and non-competition agreements. The accounting alternative applies when an entity within the scope of the ASU is required to recognize or otherwise consider the fair value of intangible assets as a result of certain in-scope transactions, which includes ASC 805 and ASC 852 (fresh-start reporting).

2.2.6 The main provisions of the ASU allow an entity to elect the accounting alternative to no longer recognize separately from goodwill "1) customer-related assets unless they are capable of being sold or licensed independently from the other assets of the business, and 2) noncompetition agreements." [4] An entity that elects the accounting alternative must also adopt the private company alternative to amortize goodwill as set out in FASB ASU No. 2014-12, *Intangibles – Goodwill and Other (Topic 350).* However,

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[2] Financial Accounting Standards Board, *Accounting Standards Codification*™ (2009).

[3] IFRS Foundation, IFRS 13 *Fair Value Measurement* (London: 2011).

[4] Financial Accounting Foundation, *Accounting Standards Update* No. 2014-18 (Norwalk, CT: 2014).

147 an entity that adopts ASU 2014-12 is not required to adopt ASU 2014-18. The ASU, if elected, is effective
148 in fiscal years beginning after December 15, 2015, and early application is permitted for any interim and
149 annual financial statements that have not yet been made available for issuance.

150 2.2.7 The Working Group believes that the election of the ASU will result in companies most likely
151 recording more goodwill than in the past, which would then have to be amortized over a period of ten
152 years or less. In addition, it appears that the entities that are most likely to elect the ASU are entities that
153 do not plan to become publicly traded entities, as upon becoming public the financial statements would
154 have to be restated to reflect the accounting in place had the ASU not been elected.

155 **2.3 Asset Acquisitions**

156 2.3.1 ASC 805-20-20 defines a business as "an integrated set of activities and assets that is capable of
157 being conducted and managed for the purpose of providing a return in the form of dividends, lower costs,
158 or other economic benefits directly to investors or other owners, members or participants."[5] The definition
159 is further outlined in ASC 805-10-55-4 through 55-9 and in IFRS 3R (B7 – B12).

160 2.3.2 ASC 805-50-30-1 to 30-4 addresses the acquisition of assets rather than a business (also addressed
161 in IFRS 3R [2b]). An acquisition of assets or groups of assets that do not meet the definition of a business
162 is initially recognized at its cost to the acquiring entity (it should be noted that the Working Group
163 observes that many acquisitions of groups of assets meet the definition of a business and would therefore
164 be accounted for as a business combination). Acquiring assets in groups requires not only ascertaining the
165 cost of the asset (or net asset) group but also allocating that cost to the individual assets (or individual
166 assets and liabilities) that comprise the group. The cost of a group of assets acquired in an asset acquisition
167 is allocated to the individual assets acquired or liabilities assumed based on their relative fair values and
168 does not give rise to goodwill. Similar to asset valuations performed in relation to a business combination,
169 the fair values of all the individual assets included in an asset acquisition (including customer-related
170 assets) should be estimated according to the fair value principles outlined in ASC 820 and IFRS 13. Since
171 goodwill does not arise in a purchase of assets that are not a business, relative fair value adjustments may
172 be required, resulting in asset values that do not necessarily equal their fair values.

173 **2.4 Goodwill and Indefinite-Lived Asset Impairment Testing**

174 2.4.1 ASC 350 addresses impairment testing under US GAAP of indefinite-lived intangible assets and
175 goodwill.[6] For public entities, ASC 350 outlines a two-step impairment test for goodwill. The first step
176 involves estimating the fair value of a reporting unit. If the test indicates that the fair value of the reporting
177 unit is less than the carrying amount, this indicates that an impairment may exist and that a second step
178 test should be performed. Under the second step, the fair value of goodwill is estimated using the fair
179 value of the reporting unit as previously determined and the guidance set forth in ASC 805 regarding the
180 valuation of the assets and liabilities of the reporting unit. Therefore, the business combination valuation
181 process as outlined in ASC 805 (which may involve the valuation of customer-related assets) is applicable
182 to the ASC 350 step two test for goodwill impairment.

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[5] *Accounting Standards Codification*™ 805-20-20.

[6] FASB issued an Accounting Standards Update (ASU) No. 2014-02 in January 2014 titled *Intangibles-Goodwill and Other (Topic 350) Accounting for Goodwill, a Consensus of the Private Company Council* which deals with the accounting of goodwill for private companies.

183 2.4.2 International Accounting Standard 36, *Impairment of Assets* (IAS 36), addresses impairment testing
184 of certain non-financial assets and goodwill under a model that is different than the model outlined in US
185 GAAP. An asset is tested for impairment either on its own or as part of a cash-generating unit (CGU),
186 which is defined in IAS 36 as the smallest group of assets that generates cash inflows from continuing use
187 that are largely independent of the cash inflows from other assets or groups of assets. Based on the
188 definition, a CGU may be at a different level than a reporting unit. Impairment exists when the carrying
189 amount of an asset or CGU exceeds its recoverable amount. The recoverable amount is the greater of its
190 fair value less costs of disposal and its value in use. The impairment model under IAS 36 is a single step
191 test and accordingly an impairment is recognized as the amount by which the carrying amount of an asset
192 or CGU exceeds its recoverable amount. The impairment model for goodwill under IAS 36 does not
193 include the second step test that is applied under US GAAP when the fair value of a reporting unit is
194 below its carrying amount, nor does it limit the impairment loss to the carrying amount of goodwill. Under
195 IAS 36, an impairment loss is allocated first to reduce goodwill to zero, then, subject to certain limitations,
196 the carrying amount of other assets in the CGU (that are within the scope of IAS 36) are reduced pro rata
197 based on the carrying amount of each asset.

198 2.4.3 While fair value less costs of disposal is a well-understood concept, value in use (VIU) is a
199 measurement basis that is only applied in impairment testing under IFRSs. As an IFRS-specific
200 measurement, IAS 36 prescriptively describes how VIU is to be measured using discounted cash flow
201 techniques. For example, IAS 36 (30-57) states that "estimates of future cash flows include: a) projections
202 of cash inflows from the continued use of the asset; b) projections of cash flows that are necessarily
203 incurred to generate the cash inflows from the continued use of the asset (including cash outflows to
204 prepare the asset for use) and can be directly attributed, or allocated on a reasonable and consistent basis,
205 to the asset; and c) net cash flows, if any, to be received or paid for the disposal of the asset at the end of
206 its useful life."[7] The standard notes that future cash flows should not include cash flows that arise from
207 restructurings that have not yet been committed, improvements or enhancements to the asset, or cash
208 generating unit's performance. VIU uses entity-specific cash flows as opposed to fair value, which uses
209 market participant cash flows.

210 2.4.4 ASC 350 and IAS 36 both address impairment of indefinite-lived intangible assets other than
211 goodwill via a single step test. Impairment arises if the carrying amount of the indefinite-lived intangible
212 asset (or, if applicable, CGU under IAS 36) exceeds the fair value or the greater of fair value less costs of
213 disposal or value in use under IAS 36.[8] Indefinite-lived intangible assets, which typically include certain
214 trade names, trademarks, and brands, as well as in-process research and development (IPR&D) or other
215 intangible assets that are not yet available for use, are required to be tested annually and upon the
216 occurrence of a triggering event.[9] In the Working Group's view, customer-related assets generally would
217 not qualify as an indefinite-lived asset.

2.5 Long-Lived Asset Impairment Testing

219 2.5.1 ASC 360 addresses impairment testing for long-lived assets held and used or assets held for sale or
220 disposal upon a triggering event. ASC 360 uses a recoverability test to determine if the carrying amount of

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7 International Accounting Standards Committee Foundation, *International Accounting Standard 36: Impairment of Assets* (London: 2008).

8 The fair value guidance under IFRS 13 does not apply to the "value in use" measure as described in IAS 36.

9 In-process R&D or intangible assets that are not yet available for use are not indefinite-lived, but are treated in the same manner as indefinite-lived assets.

221 a held and used asset or asset group is recoverable. If the asset or asset group is not recoverable, fair value
222 measurements are used to determine the amount of impairment. ASC 360-10-20 defines an asset group as
223 the unit of accounting for a long-lived asset or assets to be held and used, which represents the lowest
224 level for which identifiable cash flows are largely independent from the cash flows of other groups of
225 assets and liabilities. This is typically measured based on cash flows that the asset or asset group would
226 generate over the remaining useful life of the asset or the primary asset[10] in the asset group. The
227 recoverability test compares the sum of the undiscounted cash flows of the asset or asset group to the
228 carrying amount of the asset or asset group. If the carrying amount exceeds the undiscounted cash flows,
229 there is a second step test in which the fair value of the asset group, which may include customer-related
230 assets, is estimated for the purpose of estimating the amount of impairment. ASC 360-10-35-28 states,
231 "An impairment loss for an asset group shall reduce only the carrying amounts of a long-lived asset or
232 assets of the group. The loss shall be allocated to the long-lived assets of the group on a pro rata basis
233 using the relative carrying amounts of those assets, except that the loss allocated to an individual long-
234 lived asset of the group shall not reduce the carrying amount of that asset below its fair value whenever
235 that fair value is determinable without undue cost and effort."[11]

236 2.5.2 As noted in 2.4.2, IAS 36 covers impairment for both long-lived assets and goodwill using a one-
237 step recoverability test.

238 2.5.3 Under US GAAP, there is an order for impairment testing (assuming the assets are not held for sale)
239 where indefinite-lived assets should be tested under ASC 350 first, then long-lived assets tested under
240 ASC 360, and lastly goodwill tested under ASC 350 (ASC 350-20-35-31). It is important to use the
241 adjusted balance sheet carrying amounts as a result of each preceding test. In other words, if an indefinite-
242 lived asset was impaired, the impairment amount may impact the carrying amount of the ASC 360 asset
243 group and/or the ASC 350 reporting unit carrying amount. Similarly, if a long-lived asset was impaired,
244 the impairment amount may impact the ASC 350 reporting unit carrying amount.

245 2.5.4 Under IAS 36, similar to US GAAP,[12] individual assets (both finite and indefinite-lived) are tested
246 for impairment prior to testing goodwill for impairment. If an asset is impaired, the amount is adjusted in
247 the CGU prior to the goodwill impairment test being applied. In many cases, when an individual asset's
248 recoverable amount cannot be estimated, it is tested as part of the CGU. If there is impairment at the CGU
249 level, the amount is first applied to goodwill with any remaining impairment applied to other assets in the
250 scope of IAS 36 on a pro-rata basis. IAS 36 does not permit an asset's carrying amount to be written down
251 below the higher of fair value less costs of disposal (if determinable), value in use (if determinable), and
252 zero.

253 2.5.5. IAS 36 also requires entities to assess whether there is any indication that an impairment loss
254 recognized in prior periods for an asset other than goodwill or a CGU (not applicable to goodwill) may no
255 longer exist or may have decreased (IAS 36.110-125). If it has been determined that the value of the asset
256 has increased, the previously recognized impairment is required to be reversed in full (which would be
257 unusual) or in part. Where the reversal applies to a CGU, the carrying amounts other than goodwill would
258 be increased on a pro-rata basis, but not to exceed the pre-impairment amount—i.e., the amount at which

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[10] The term "primary asset" as used here is in the context of accounting terminology and guidance and is not necessarily
equivalent to the term as used elsewhere in this Valuation Advisory in the context of the relative value and importance of assets
to a business.
[11] *Accounting Standards Codification*™ 360-10-35-28.
[12] Under US GAAP, finite-lived assets are only tested upon a triggering event.

259 the asset would have been recorded if no impairment was taken. For example, for an asset with a finite
260 life, if impairment was recorded two years prior, one could not write the asset back to the pre-impairment
261 amount, but rather to that amount less two years of additional amortization.
262

3.0 IDENTIFICATION OF CUSTOMER-RELATED ASSETS AND VALUE CONSIDERATIONS

3.1 Introduction

3.1.1 When valuing customer-related assets, the Working Group believes that asset identification and qualitative considerations are equally as important as the selection of valuation methodology and other quantitative factors. This section provides an overview of issues to consider when identifying customer-related assets and qualitative considerations that will assist in assessing the relative importance of customer-related assets compared to other assets present in an entity. These qualitative factors are critical to the valuation process and should be continually revisited throughout the valuation analysis.

3.2 Identification of Customer-Related Assets

3.2.1 Since the issuance of ASC 805's predecessor standard (i.e., FASB Statement No. 141) and ASC 350's predecessor standard (i.e., FASB Statement No. 142), customer-related assets have been the subject of additional guidance from the FASB and SEC. Specifically, the FASB's EITF clarified the identification and recognition criteria for customer-related assets in EITF Issue 02-17, *Recognition of Customer Relationship Intangible Assets Acquired in a Business Combination* (FASB Statement No. 141R nullified the EITF and incorporated the guidance in the standard), and FASB Staff Position (FSP) Financial Accounting Standard (FAS) 142-3, *Determination of the Useful Life of Intangible Assets* (also nullified and incorporated into ASC 350). In addition, the SEC staff has discussed the topic of customer-related assets in speeches. Although not authoritative, these efforts were aimed at clarifying the implementation guidance in the accounting standards as well as addressing interpretation and practice diversity issues.

3.2.2 Customer-related assets, like other intangible assets, must meet certain recognition criteria to be considered identifiable for financial reporting purposes. ASC 805 continues the guidance set forth in prior US GAAP where identifiable assets are recognized if they are contractual, arise from legal rights, or if they are separable and can be separated and sold, rented, or leased (ASC 805-20-25-10, IFRS 3R (Appendix A), and B31). An intangible asset may be separately recognized even if the asset is subject to transfer restrictions or the contract is subject to a cancellation option. However, the impact of these features may affect the fair value of the intangible asset.

3.2.3 Certain customer-related intangible assets may not require recognition separate from goodwill since they fail to meet the contractual-legal or separability criteria. An example of such assets includes walk-in customers (which are described later in paragraph 3.2.14).

3.2.4 ASC 805 and IFRS 3R identify several types of customer-related intangible assets that require separate recognition in a business combination, including customer contracts and related relationships, non-contractual customer relationships, order or production backlog, and customer lists. These customer-related assets are defined and/or described in ASC 805-20-55-20 to 28 and in IFRS 3R (IE23-IE31).

3.2.5 ASC 820 and IFRS 13 specify that fair value should represent the attributes of the asset from the perspective of a market participant. For example, if there is a legal restriction on the use or sale of an asset, those facts should be considered in the measurement. However, if the restriction is an attribute of the holder of the asset rather than of the asset itself, such a restriction would be excluded from the fair value consideration if other potential market participants would be able to access and use the asset without

302 restriction. For example, the holder of an asset may be restricted from fully utilizing it by government
303 regulations driven by competition concerns. However, other market participants with a lesser market share
304 may not be restricted in the same manner and may be able to realize a greater value from the asset.

305 3.2.6 The accounting literature provides guidance related to the different categories of customer-related
306 assets as described in the following paragraphs:

307   a. A *Customer List* "consists of information about customers, such as their names and contact
308   information. A customer list also may be in the form of a database that includes other information
309   about the customers, such as their order histories and demographic information. A customer list
310   generally does not arise from contractual or other legal rights. However, customer lists are
311   frequently leased or exchanged. Therefore, a customer list acquired in a business combination
312   normally meets the separability criterion" IFRS 3R [IE24]).[13] Examples of customer lists may
313   include prescription files, subscriber lists, or frequent flyer/loyalty programs.

314   b. An *Order or Production Backlog* "arises from contracts such as purchase or sales orders. An order
315   or production backlog acquired in a business combination meets the contractual-legal criterion
316   even if the purchase or sales orders can be cancelled" IFRS 3R [IE25]).[14] As described above, the
317   ability to cancel sale or purchase orders does not impact whether the order or production backlog
318   should be recognized separately as an intangible asset, although it may impact its fair value
319   measurement.

320   c. *Customer Contracts and the Related Customer Relationships* are identified because "if an entity
321   establishes relationships with its customers through contracts, those customer relationships arise
322   from contractual rights. Therefore, customer contracts and the related customer relationships
323   acquired in a business combination meet the contractual-legal criterion, even if confidentiality or
324   other contractual terms prohibit the sale or transfer of the contract separately from the acquiree"
325   IFRS 3R [IE26]).[15] As described above, the ability to cancel a contract or the fact that the contract
326   is subject to transfer restrictions does not impact whether the customer contract should be
327   recognized separately as an intangible asset, although it may impact its fair value measurement. It
328   should also be noted that customer contracts that are deemed to be unfavorable to market terms
329   may give rise to a liability (see ASC 805-20-55-31, IFRS 3R [IE34]).

330 3.2.7 The Working Group believes the best practice is the identification of customer-related assets that
331 include the value arising from the existing contractual period as well as any value arising from
332 probability-adjusted post-contract expected renewals. There are situations when it may be more intuitive
333 to measure the two components separately (for example, when a single customer has pre-existing orders as
334 part of a backlog asset and future orders are part of the ongoing customer relationship asset); however,
335 even in cases where the components are measured separately, the combined asset value may be recognized
336 as a single asset (unit of account). It should be noted that certain international and tax reporting guidelines
337 may support the separate recognition of the two components.

338 3.2.8 A *Customer Relationship* is defined as a relationship that

339   exists between an entity and its customer if the entity has information about the customer and has regular
340   contact with the customer, and the customer has the ability to make direct contact with the entity. Customer

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[13] *Accounting Standards Codification*™ 805-20-55-21.
[14] *Accounting Standards Codification*™ 805-20-55-22.
[15] *Accounting Standards Codification*™ 805-20-55-23.

341 relationships meet the contractual-legal criterion if an entity has a practice of establishing contracts with its
342 customers, regardless of whether a contract exists at the acquisition date. Customer relationships also may arise
343 through means other than contracts, such as through regular contact by sales or service representatives. As noted
344 in paragraph 805-20-55-22, an order or production backlog arises from contracts such as purchase or sales
345 orders and therefore is considered a contractual right. Consequently, if an entity has relationships with its
346 customers through these types of contracts, the customer relationships also arise from contractual rights and
347 therefore meet the contractual-legal criterion.[16] (a similar definition is also found in IFRS 3R [IE28]).

348 3.2.9 *Non-Contractual Customer Relationships* are discussed in the following paragraphs, including
349 statements in ASC 805, IFRS 3R, and their respective examples.

350 3.2.10 ASC 805 and IFRS 3R indicate that

351 a customer relationship acquired in a business combination that does not arise from a contract may
352 nevertheless be identifiable because the relationship is separable. Exchange transactions for the same asset or a
353 similar asset that indicate that other entities have sold or otherwise transferred a particular type of
354 noncontractual customer relationship would provide evidence that the noncontractual customer relationship is
355 separable. For example, relationships with depositors are frequently exchanged with the related deposits and
356 therefore meet the criteria for recognition as an intangible asset separately from goodwill.17 Part referenced in
357 IFRS 3R [IE31].

358 3.2.11 An example of non-contractual customer relationships that typically do not meet the recognition
359 criterion are customers who frequent retail stores but do not participate in the loyalty program of the store
360 (i.e., walk-in customers). These customers generally do not meet the definition of a customer-related asset
361 because the entity possesses limited identifying information and the customer does not enter into a
362 contract. These walk-in customers typically are not recognized as assets as they fail to meet the
363 recognition criteria. In some cases, where information is exchanged between the entity and the customer, a
364 customer list may meet the separability criteria and have value. This often occurs with retailers who offer
365 loyalty programs that enable the retailer to retain information about walk-in customers, thus meeting the
366 recognition criteria (separability).

367 3.2.12 Some entities offer loyalty programs to incentivize customers to continue to shop at the store or use
368 services (i.e., airlines and hotels). IFRS Interpretations Committee Interpretation ("IFRIC") 13, *Customer
369 Loyalty Programmes*, addresses customer loyalty programs from the perspective of recognizing revenue or
370 a liability related to an obligation to fulfill the award. However, it does not address whether non-
371 contractual customers of an entity would be recognized as a result of the program.

372 3.2.13 Under US GAAP, there is limited guidance as to whether customers enrolled in loyalty programs
373 represent customer-related assets. The Working Group believes that when the arrangement is with a store,
374 such as a grocery store, the intangible asset would most likely be a customer list. Such lists are generally
375 separable, although each situation should be examined to determine if it meets the appropriate recognition
376 criteria. Other programs that are arranged through credit cards, frequent flyer programs, and hotel
377 programs may meet the contractual-legal criteria to have separate recognition. Such programs appear to
378 represent an asset and a conditional obligation (e.g., liability) on the part of an entity to provide additional
379 economic value to its customers beyond the service or goods purchased by the customers.

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[16] *Accounting Standards Codification*™ 805-20-55-25.
[17] *Accounting Standards Codification*™ 805-20-55-27.

380 3.2.14 Once general categories of customer relationships are identified, it may be necessary to
381 disaggregate them further according to differences in various customer attributes. For example, customer
382 relationships may differ based on the products they purchase or characteristics such as profit margins,
383 attrition patterns, geographic locations, sizes, etc. In these cases, it may be appropriate to value these
384 customer-related assets separately. Such characteristics may also have an impact on the methodology
385 chosen and inputs used in the valuation of the customer-related assets.

3.3 Value Considerations

387 3.3.1 In valuing customer-related assets, the valuation specialist should consider aspects of both the
388 quantitative and the qualitative importance of the customer-related assets, including the importance of the
389 customer-related asset itself, the importance of the customer-related asset to the acquired entity, and the
390 relationship of the customer-related asset with the acquired entity's other assets and liabilities. Such
391 considerations facilitate a better understanding of a market participant's view of the asset.

392 3.3.2 The existing accounting literature does not explicitly address the economic aspects of customer-
393 related or other non-financial assets. Rather, valuation specialists determine how the economics (cash
394 flows or profits) will be allocated among acquired assets including the customer-related assets. At a basic
395 level, the task is to assess the nature and importance of the customer-related asset relative to the other
396 assets of the subject business. In many cases, the importance of the customer-related assets relative to
397 other assets is fairly clear. In other cases, it is more difficult to assess the relative importance of different
398 assets. As an example, for purchase order customers the accounting literature requires recognition of an
399 asset (as purchase orders meet the contractual criteria). However, in certain circumstances it may be
400 reasonable to assume that the customer-related assets are not a significant value driver for the business and
401 their respective fair value presumably is less than the value of other assets. In any case, it is critically
402 important to make reasonable assumptions about how the cash flows are allocated among the different
403 assets of a business.

404 3.3.3 In assessing the relative importance of the various assets of a business, it may be useful to identify
405 the "primary asset(s)." While there are no references to primary assets in FASB literature (aside from ASC
406 360, which uses the term in a different manner), an SEC staff speech[18] noted the importance of assessing
407 the characteristics of customers and referenced the concept of a primary asset. In the Working Group's
408 view, a primary asset of a business is an asset that has significant importance to the business relative to
409 other assets and is a key business driver from an economic perspective (e.g., cash flows).

410 3.3.4 Depending upon the nature of the business, the primary asset(s) may be tangible assets such as real
411 or personal property; identifiable intangible assets such as customers, technology or brands; or other assets
412 or business attributes such as workforce, assemblage of assets, or other elements of goodwill. In addition,
413 it may also be possible for there to be no clear primary asset(s) in a business. Determination of the primary
414 asset(s) assists the valuation specialist in choosing the appropriate methods to use to measure the fair
415 value of the different assets of the business, including customer-related assets.

416 3.3.5 It is important to observe that customer-related assets have characteristics that are different from
417 most other assets of a business. Customer-related assets can be viewed as the result of the business assets

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418 used to create and sell a product or service. Most other assets are typically used to create and sell products
419 or services that are purchased by the customers. In other words, a company assembles fixed assets,
420 working capital, and other intangible assets to produce a product or provide a service. It is important to
421 assess why the customers are paying a company what may appear to be more than a fair return on the
422 assets deployed by the company to create and sell the product or service. This assessment is necessary
423 when considering the relative fair value of the various assets of a business.

424 3.3.6 When measuring the fair value of customer-related assets in the context of a business combination,
425 the valuation exercise is holistic in nature and must keep the relative contributions and values of all the
426 assets of the business in context. The intent of this section is to focus more closely on considerations that
427 affect the valuation of the customer-related assets; however, these considerations could also be applied to
428 other assets acquired in a business combination that do not have a readily observable market value. The
429 relative contribution of all the assets to the total cash flow or profit of the business needs to be understood
430 by the valuation specialist. There are a number of ways a valuation specialist can evaluate the relative cash
431 flow or profit allocation associated with the various assets. For example, some of the assets can be
432 benchmarked to observed royalty data. It may also be possible to view the business as one or more
433 businesses, which may allow the valuation specialist to analyze returns to different peer groups that own
434 different asset mixes. Peer company margin analyses may also provide relative indications of proper
435 return allocations for the assets. These considerations, along with the various qualitative characteristics
436 discussed below, will allow the valuation specialist to make a better informed decision regarding the
437 relative importance of each of the assets acquired to the overall business cash flows and profit.

438 3.3.7 The following are factors to be considered for the purpose of gaining a qualitative understanding of
439 the relative importance of the customer-related assets being valued and subsequently selecting appropriate
440 valuation methodologies. They are grouped into four categories: industry characteristics, business
441 characteristics, product/service characteristics, and customer-related asset characteristics.

442   a. *Industry Characteristics:*

443   i.   Concentration of Firms – Industries can be classified along a continuum, with highly
444   fragmented providers at one end and highly concentrated providers at the other. At one
445   extreme (i.e., in a pure monopoly) customers have no choice but to buy products or
446   services from the sole provider. In the absence of choice of providers, it may be reasonable
447   to conclude customer-related assets have nominal value, or that the value of customer-
448   related assets is limited to a simple calculation of the cost to identify and contract with the
449   customers. In such a case, a different asset (e.g., an exclusive operating right or a unique
450   and protected technology with no meaningful substitutes) is giving rise to excess income in
451   the form of monopoly profits and such income should be recognized in those assets that
452   create the excess profit. At the other extreme (i.e., in a fragmented market), given the
453   ability to choose among multiple providers and all else being equal, customers that
454   repeatedly choose the entity may represent an asset of high relative importance compared
455   to other assets—these customers could have their needs equally met by many providers, yet
456   they choose the entity over the others.

457   ii. Buyer Power – Similar to the factor above, evidence of strong buyer power may indicate
458   the relative importance of customer assets. If customers have power, which is usually a
459   function of choice and/or low switching costs, a demonstrated ability by the subject
460   business to retain these customers suggests they are an important asset. If customers have
461   little power (e.g., less choice and/or high switching costs), the entity's demonstrated ability

462			to retain the customers may be due to a different asset. That said, it may be the nature of the
463			customer contracts that limit choice, which would suggest a higher value for customer-
464			related assets.

465		iii.	Barriers to Entry – Industries with high barriers to entry may enjoy excess economic
466			profits. The source of the barriers to entry should be considered. For example, a unique
467			technology might not be easily replicated, which limits competition and customer choice.
468			This in turn limits customer-related asset value—the valuable asset is the technology.

469   b. *Business Characteristics:*

470		i.	Type of Business – As a simple starting place, the type of business may indicate whether
471			customer-related assets will have significant value. For example, a retail operation with
472			largely walk-in business may not have an identifiable customer base. However, a wireless
473			telecommunications business with mostly long-term contractual subscribers may have
474			significant customer-related assets.

475		ii.	Relative Asset Class Spend – Consideration of relative investments (i.e., operating or
476			capital expenditures) made in different asset classes may indicate the relative importance of
477			those assets, including customer-related assets. For example, a company that spends
478			significantly on development of customer relationships or customer retention (selling,
479			marketing, proposals, customer care, etc.) may have important and valuable customer-
480			related assets. If spending on technology and/or brands is comparable, the asset mix may be
481			well balanced. However, if spending on technology and/or brands is significantly more, the
482			customer-related assets might be less valuable.

483		iii.	Promotional Strategy – The promotional strategy of a business may indicate the importance
484			of customer-related assets. For example, if a company references existing customers in its
485			marketing collateral (e.g., case studies and testimonials), it likely believes those customers
486			are valuable assets that help generate sales to new customers.

487		iv.	Transaction Structure and Strategy – In instances where customer relationships are being
488			valued as part of a transaction, it is important to understand the reasons why the market
489			participant is making the business or asset acquisition and the underlying basis for the
490			pricing. For example, the valuation specialist needs to understand if a significant part of the
491			acquisition rationale is to acquire the existing customer relationships and their related
492			revenues and earnings, if the business purpose is to increase market share, and/or if the
493			business purpose is to increase the acquirer's ability to cross-sell to new customers.
494			Understanding the strategic intent of the transaction may provide insight into the
495			importance of the customer-related assets.

496   c. *Product/Service Characteristics:*

497		i.	Product Differentiation – This is a consideration similar to buyer power and barriers to
498			entry. Highly differentiated products may limit customer choice, which reduces customer-
499			related asset value. At the other extreme, less differentiated products may indicate strong
500			relationships if customers choose one company over others. However, the value of such
501			relationships may be low because profits are low.

502		ii.	Switching Costs – This factor can be thought of as a barrier to exit for the customer. If
503			switching costs are high, customers may be captive. However, the source of the high
504			switching costs may lead to the most valuable asset(s). For example, if switching costs are

505 high because of restrictive contract terms, customer contracts may be valuable. However, if
506 switching costs are high because of geographic proximity issues, the customer contract
507 might have less value.

508 iii. Life Cycle Stage – The life cycle of different products may indicate the relative importance
509 of one asset versus another. A leading-edge technology may indicate an important
510 technology-related asset but a less valuable customer-related asset due to customers having
511 limited choice if they want the leading-edge technology.

512 iv. Protective Rights – All protective rights should be examined: patents, customer contracts,
513 registered brands, etc. The presence of protective rights may have implications on the fair
514 value of any particular asset.

515 d. *Customer-Related Asset Characteristics:*

516 i. Purchase-Order Based vs. Long-Term Contract Based – The nature of customer contracts
517 can range from purchase-order based to long-term contract based. If purchase-order based,
518 buying patterns can be recurring or non-recurring. These distinctions may inform the
519 valuation specialist about, among other things, the relative importance of the customer-
520 related asset and attrition patterns for a customer model. If relationships are long-term
521 contract based, the terms of the contract(s) should be analyzed. These terms include the
522 typical length of a contract and the rights of each party with respect to renewal,
523 termination, price/volume adjustments, take or pay clauses, minimums, etc. This analysis
524 may impact choice of model, likelihood of a customer relationship subsequent to the
525 expiration of the contract term, attrition assumptions, and other valuation inputs.

526 ii. Attrition – Historical and expected attrition patterns and how these patterns may vary
527 according to possible customer relationship cohorts or groupings should also be discussed
528 with management. These discussions will inform the valuation specialist about an
529 appropriate economic life and the relative value of the customer assets to other assets. This
530 is a qualitative analysis used to assess the relative importance of customer-related assets at
531 the outset of an engagement. Quantitative analysis of customer attrition would also be
532 completed as part of the actual valuation, as discussed in more detail in Appendix A of this
533 Valuation Advisory.

534 iii. Depth of Knowledge – Customer relationships should be examined for depth of knowledge
535 possessed by the business about the customers. For example, walk-in customers at a
536 convenience store may not be identifiable nor do they meet the recognition criteria.
537 Conversely, purchase-order based customers in a business-to-business context may be
538 readily identifiable and recurring historical buying patterns may be observable, which
539 would suggest these customer relationships are recognizable for financial reporting
540 purposes and should be considered for valuation.
541

542 **4.0 VALUATION METHODOLOGIES**

543 **4.1 Introduction**

544 4.1.1 When measuring fair value for financial reporting purposes, there are three generally accepted
545 approaches a valuation specialist should consider in the valuation of customer-related assets: the income
546 approach, the cost approach, and the market approach. A general overview of the three approaches (and
547 variations, where applicable) follows below.

548 4.1.2 In the valuation process, methodology or model choice should reflect careful qualitative and
549 quantitative assessment of the asset and the availability of necessary data. Each of these approaches, as
550 well as the inputs used to value the customer-related assets, should be considered from the viewpoint of
551 market participants. The income approach is the most common approach used in the valuation of
552 customer-related assets; therefore, the application of the income approach is the primary focus of this
553 Valuation Advisory.

554 **4.2 Income Approach**

555 4.2.1 The income approach is used to estimate fair value based on the future cash flows that an asset can
556 be expected to generate over its economic life. The theory underlying this approach is that the valuation of
557 an investment in income-producing assets is directly related to the future cash flow generated by such
558 assets or to the cash flow indirectly saved through ownership of the asset. Cash flow represents the
559 recovery of the investment and the receipt of income produced by such an investment (a return on that
560 investment).

561 4.2.2 According to ASC 820, the income approach uses "valuation techniques that convert future
562 amounts (for example, cash flows or income or expenses) to a single current (that is, discounted) amount.
563 The fair value measurement is determined on the basis of the value indicated by current market
564 expectations about those future amounts."[19] A similar definition is included in IFRS 13 (B10).

565 4.2.3 The methods under the income approach that are commonly utilized to value customer-related
566 assets include the following:

567 a. *Multi-Period Excess Earnings Method* – The Multi-Period Excess Earnings Method (MPEEM) is
568   an income approach methodology. It is a broadly used approach and may be employed when the
569   customer-related asset being valued is a primary asset or when a different asset is the primary asset
570   and can be appropriately valued using another valuation methodology. The MPEEM measures
571   economic benefits by calculating the cash flow attributable to an asset after deducting appropriate
572   returns for contributory assets used by the business in generating the customer-related asset's
573   revenue and earnings (commonly referred to as "contributory asset charges" or CACs).

574 b. *Distributor Method* – The Distributor Method (also known as the Distributor Model) is a variation
575   of the MPEEM that may be appropriate when the nature of the relationship between an entity and
576   its customers is similar to that of a distribution company and its customers. Specifically, the
577   Distributor Method is appropriate when the customer-related activities and the value added for the
578   entity by those activities are similar to the value added by distributors. Where intangibles such as

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579   strong brands or unique, high-value technology are driving customer demand and customer
580   specific efforts are limited, the Distributor Method may be an appropriate means of valuing
581   customer-related intangibles. The application of the Distributor Method incorporates distributor-
582   based margins and CACs consistent with a distributor in the valuation of customer-related assets.
583   Using distributor inputs directly isolates the cash flow attributable to the customer-related assets,
584   similar to how the use of a royalty rate isolates cash flow associated with a particular asset.

585   c. *With-and-Without Method* – The With-and-Without Method (see the Premium Profits Method in
586   International Valuation Standard 210, *Intangible Assets*) estimates the value of customer-related
587   assets by quantifying the impact on cash flows under a scenario in which the customer-related
588   assets must be replaced (assuming all of the assets required to operate the business are in place—
589   except the customer-related assets—and have the same productive capacity). The projected
590   revenues, operating expenses, and cash flows are calculated in a "With" and "Without" scenario,
591   and the differential between the cash flows from the two scenarios serves as the basis for
592   estimating the fair value of the customer-related asset.

593   d. *The Cost Savings Method* – The Cost Savings Method is a form of the income approach that
594   directly measures an expected future benefit stream of an asset in terms of the future after-tax
595   costs, which are avoided (or reduced) as a result of owning the asset. Given that the Cost Savings
596   Method is based on a direct measure of future economic benefits that arise from having the asset in
597   place and assumes the subject asset exists at the date of the valuation, the Working Group believes
598   opportunity costs should not be included in this method. The Cost Savings Method may be
599   appropriate when the subject asset results in saving costs, avoiding expenditures, or improving
600   efficiency, etc.

601 **4.3 Cost Approach**

602 4.3.1 The cost approach uses the concept of replacement as an indicator of fair value. The premise of the
603 cost approach is that an investor would pay no more for an asset than the amount for which the utility of
604 the asset could be replaced.

605 4.3.2 According to ASC 820, the cost approach is "a valuation technique that reflects the amount that
606 would be required currently to replace the service capacity of an asset (often referred to as current
607 replacement cost)."[20]A similar definition exists in IFRS 13 (B8).

608 4.3.3 The SEC has indicated that in certain instances when using a replacement cost approach, it may
609 also be appropriate to include opportunity costs incurred.[21] Opportunity costs represent foregone value
610 (measured as returns, profits, cash flows, or a similar metric) during the period that the recreation of the
611 asset has an impact on the business. In the view of the Working Group, the cost approach is best used in
612 circumstances where the customer-related asset can be replaced in a short period of time and is likely to
613 have relatively low opportunity costs or when total replacement costs are easily estimated. In instances
614 where it takes a long time to replace the customer-related asset and opportunity costs may be significant or
615 when replacement costs are not easily estimated, another valuation methodology may be more appropriate.

616 **4.4 Market Approach**

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[20] *Accounting Standards Codification*™ 820-10-20.
[21] Remarks made by SEC professional accounting fellow Sandie Kim at the 2007 AICPA National Conference on Current SEC
and PCAOB Developments.
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617 4.4.1 The market approach is used to estimate fair value based on market prices of comparable assets.
618 The valuation process is essentially that of comparison and correlation between the subject asset and other
619 similar assets. Characteristics of the subject and similar assets and conditions of sale for comparable assets
620 are analyzed and potentially adjusted to indicate a value of the subject asset. The level of activity in the
621 market in which the transaction is observed is a factor that should be considered in assessing the reliability
622 of such an indication.

623 4.4.2 According to ASC 820, the market approach is "a valuation technique that uses prices and other
624 relevant information generated by market transactions involving identical or comparable (that is, similar)
625 assets, liabilities, or a group of assets and liabilities, such a business."[22] A similar reference is included in
626 IFRS 13 (B5).

627 4.4.3 The market approach is used for the valuation of assets when they are exchanged in separate
628 observable transactions. This makes the market approach very difficult to apply to customer-related assets
629 in most industries. However, there are certain types of customer-related assets that may be valued using
630 the market approach. For example, newspaper subscribers, pharmacy prescription data and lists, bank core
631 depositors, loan customers, credit card customers, etc., may be appropriately valued using the market
632 approach.

633 4.4.4 In our view, because transactions of customer-related assets typically are not observable (either
634 because they do not generally occur at all or because specific information relating to transactions that do
635 occur is generally not available), the Working Group believes that use of this approach will be rare.
636 Valuation specialists should attempt to use either the income and/or cost approach when market-based
637 indicators of value do not exist or are perceived to be unreliable.
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[22] *Accounting Standards Codification*™ 820-10-20.
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5.0 APPLICATION OF THE INCOME APPROACH

5.1 Introduction

5.1.1 The income approach is used to estimate fair value based on the future cash flows that an asset can be expected to generate over its economic life. The theory underlying this approach is that the valuation of an investment in cash-generating assets is directly related to the future cash flows generated by such assets or to the cash flow indirectly saved through ownership of the asset.

5.1.2 Generally, the cash flows related to customer-related assets are generated by a group of assets working together (i.e., the customer-related asset together with other assets of the business; for example, working capital, property, plant, equipment, trademarks, and technology). The use of an income approach involves the determination of the following, each of which, as well as the value of the customer-related assets, should be considered from a market participant viewpoint:

    a. The cash flows applicable to the asset being valued;

    b. The economic life of the asset; and

    c. An appropriate discount rate that reflects the risk of the projected cash flows.

5.1.3 The following sections outline key assumptions used in the various income approach methodologies.

5.2 Multi-Period Excess Earnings Method (MPEEM)[23]

5.2.1 The MPEEM is a form of income approach where projected cash flows applicable to the asset being valued are estimated based on prospective revenue and earnings, net of taxes and CACs for other assets used in generating the revenue and earnings and other adjustments as applicable (e.g., deferred revenue adjustment). Each of the major inputs to the MPEEM is described in more detail below. As indicated in other sections of this Valuation Advisory, all inputs should be consistent with market participant assumptions. Because the starting point is commonly the prospective financial information (PFI) prepared by management, care must be taken to ensure this consistency as noted in ASC 820-10-35-54A and IFRS 13 (89). In the following section, inputs most likely to require a market participant adjustment are highlighted.

5.2.2 *Prospective Financial Information* – A financial forecast for the entity should be the starting point for identifying the cash flows associated with customer-related assets. Adjustments to forecasts provided by management may be necessary in order to ensure that the PFI used is consistent with market participant assumptions, as defined by management per ASC 820.

5.2.3 Market participant revenue and operating expense synergies are included in fair value measurements of intangible assets and should be identified in the customer-related asset forecasts. They should also be evaluated against observable market participant data as long as the synergies are related to the identified intangible asset being valued and are assumed to be a component of the consideration

673 exchanged in a hypothetical purchase of the asset by a market participant. Buyer-specific synergies are
674 excluded from fair value measurements and should be identified and excluded from customer-related asset
675 forecasts.

676 5.2.4 *Customer Revenue* – The MPEEM begins with an estimation of the revenues associated with
677 customers present at the measurement date and should not include revenue attributable to future customer
678 relationships. Revenues may be based on the overall forecast or may be segmented in order to give
679 consideration to multiple groups of non-homogeneous customers. Revenues for each customer group are
680 projected over their estimated economic life based on expected growth and attrition (or probability of
681 loss). The following inputs/factors should be considered when assessing customer revenue (customer
682 revenue attrition is discussed separately below).

683   a.   Growth Rate for Existing Customers – Future revenue from existing customers should reflect price
684   and/or volume changes. Price changes represent variation in the price per unit, while volume
685   changes represent variation in the number of units sold. Price and volume projections should be
686   consistent with market participant expectations and based on observable data when possible.

687   b.   Contractual Renewals and Revenue Patterns – When valuing customer contracts, it may be
688   appropriate to focus on revenue patterns associated with contract renewals as opposed to customer
689   attrition patterns. Discrete probabilities may be assigned to future contract renewals beyond the
690   term of the current contracts in place.

691   c.   Revenue Synergies and Dis-Synergies – In some cases, market participants may believe that
692   revenue synergies or dis-synergies may be derived through an acquisition. Potential revenue
693   synergies (e.g., cross-selling opportunities, entrance into new market opportunities, etc.) or dis-
694   synergies (e.g., revenue lost from buyer/target product cannibalization, customers leaving post-
695   acquisition to avoid supplier overconcentration, etc.) should be reviewed to ensure that they are
696   consistent with market participant assumptions. If they are deemed to reflect market participant
697   assumptions, the revenues should be included (for synergies) or excluded (for dis-synergies) in the
698   customer-related asset valuation. The value associated with revenue synergies should reflect an
699   appropriate level of earnings, taxes, and contributory asset charges—which, in certain
700   circumstances, may differ from those of the customer revenues excluding synergies. For example,
701   if a buyer is projecting revenue synergies related to the sale of an acquired company's products
702   through its own existing distribution network, the margin on this incremental revenue may differ
703   from the margin realized by the acquired company's base business. Therefore, the synergistic
704   revenue may require contributory asset charges that are unique to this revenue stream (e.g.,
705   contributory asset charges for the buyer's distribution network, workforce, etc.).

706   d.   Economic Life – An asset's economic life is defined in valuation literature as "the total period of
707   time over which an asset is expected to generate economic benefits" [24] for one or more users. Cash
708   flows are terminated when they or their present values become de minimis and have an immaterial
709   economic value. For order backlog-type assets, contract terms or other reliable estimates of order
710   fulfillment may be available to estimate the economic life. For contractual customer relationships,
711   the economic life is generally based on the contractual term plus any expected renewals, which

[24] International Valuation Standards Council International Valuation Glossary, significantly based on the definition from the International Glossary of Business Valuation Terms, which was adopted by the American Institute of Certified Public Accountants, the American Society of Appraisers, the National Association of Certified Valuation Analysts, the Canadian Institute of Chartered Business Valuators, and the Institute of Business Appraisers.

712   should be consistent with the provisions of the contract and market participant assumptions. For a
713   discussion of the difference between economic life and useful life, see section 9.7 of this Valuation
714   Advisory.

715 5.2.5 For customer-related assets that are not subject to contracts with a defined length, the appropriate
716 economic life is less obvious and typically requires additional analysis. The economic life is a function of
717 the growth of existing customer revenue net of attrition. Frequently, the cash flows related to the projected
718 revenue approach, but never arrive at, zero. Such a result would imply an infinite projection period. As a
719 result, a question arises as to when the projections should be truncated in order to estimate the economic
720 life of the customer relationship. Several common methods used in practice are outlined below:

721   a. Method A: The number of periods in the valuation model should be extended for many years until
722   effectively 100% of the total present value of cash flows is identified. Cash flows are extended
723   until the inclusion of the last discrete projection year does not materially change the fair   value
724   conclusion. An appropriate materiality threshold should be discussed with management before the
725   valuation specialist makes this determination. This method extends the forecast period many years
726   into the future, with no specified guideline for determination of the point at which cash flows
727   should be truncated.

728   b. Method B: Under this view, the valuation specialist determines when to truncate the cash flows.
729   Two approaches generally seen in practice include:

730   i.   Method B1: The number of periods in the valuation model is extended for many years so
731   that effectively 100% of the cash flows are identified, similar to the approach used in
732   Method A. However, unlike Method A, the number of periods in the valuation model is
733   then truncated at the point where the vast majority of the present value of the total cash
734   flows is captured. Common thresholds used for the vast majority of the present value of the
735   total cash flows are 90%, 95%, or 99%. The truncation threshold chosen should be
736   reviewed in relationship to its total impact on the value conclusion.

737   ii.   Method B2: The valuation model is extended until the present value of cash flows
738   occurring in the final year are immaterial to the overall value. As a result, cash flows can be
739   truncated at the point where the present value of cash flow generated in a given year is less
740   than a defined percentage of the cumulative cash flows for all years up to and including
741   that year. Common truncation points are where the present value of the last discrete year of
742   projected cash flows is adding 3%, 2%, or 1% to the present value of the total cash flows
743   captured up to that point. The truncation threshold chosen should be reviewed in
744   relationship to its total impact on the value conclusion.

745 5.2.6   The following example illustrates the use of methods B1 and B2 to truncate cash flows:
746

747 *Example 5.1: Cash Flow Truncation*

Year	Present Value of Cash Flows	Method B1: Cumulative Percent of Present Value Captured	Method B2: Incremental Percent of Present Value Captured
1	65.5	15.9%	15.9%
2	64.2	31.4%	15.6%
3	57.5	45.4%	13.9%
4	50.0	57.5%	12.1%
5	42.7	67.8%	10.3%
6	32.3	75.6%	7.8%
7	24.4	81.6%	5.9%
8	18.5	86.0%	4.5%
9	14.0	89.4%	3.4%
10	10.6	92.0%	2.6%
11	8.0	93.9%	1.9%
12	6.1	95.4%	1.5%
13	4.6	96.5%	1.1%
14	3.5	97.4%	0.8%
15	2.6	98.0%	0.6%
16	2.0	98.5%	0.5%
17	1.5	98.9%	0.4%
18	1.1	99.1%	0.3%
19	0.9	99.3%	0.2%
20	0.7	99.5%	0.2%
21	0.5	99.6%	0.1%
22	0.4	99.7%	0.1%
23	0.3	99.8%	0.1%
24	0.2	99.9%	0.0%
25	0.2	99.9%	0.0%
26	0.1	99.9%	0.0%
27	0.1	100.0%	0.0%
28	0.1	100.0%	0.0%
29	0.1	100.0%	0.0%
30	0.0	100.0%	0.0%
Total	**412.7**		

748

749   a. Method B1 shown above is based on the cumulative percent of present value captured through
750   each year in the projection period, while Method B2 shown above is based on the incremental
751   percent of present value added by each additional year in the projection period.

752   b. In this example, the common truncation points of 90%, 95%, and 99% under Method B1 are
753   achieved in years 10, 12, and 18, respectively. In dollar figures, the example indicates that
754   approximately $379.8, $393.8, and $409.2 of the total cash flow of $412.6 is being captured
755   through years 10, 12, and 18, respectively. Stated another way, by truncating the projections in
756   years 10, 12, and 18, dollar values of $32.9, $18.8, and $3.4, respectively, would not be captured in
757   the concluded value.

758   c. In this example, the common truncation points of 3%, 2%, and 1% under Method B2 are achieved
759   in years 10, 11, and 14, respectively. In dollar figures, the example indicates that an incremental
760        $10.6, $8.0, and $3.5 are being included in years 10, 11, and 14, respectively.

761   d. Although the present value of the cash flows in this example extend for 30 years, it may be
762   reasonable to truncate the cash flows by giving consideration to one or both of the methods
763   discussed above. When determining the appropriate truncation threshold, the impact to the final
764   valuation conclusion of the present value of cash flows beyond the truncation threshold should be
765   taken into consideration. In the above examples, the Working Group notes that certain truncation
766   points may be viewed as excluding an inappropriately high amount of cash flow from the
767   concluded value.

768 5.2.7   *Customer Revenue Attrition* – Attrition is the measurement of the rate of decay/loss of existing
769 customers and is utilized to help forecast the expected future cash flow resulting from the existing
770 customer relationships. Customer count and revenue are often used as a proxy for determining the pattern
771 of attrition. When determining future customer decay/loss patterns, there are two key considerations that a
772 valuation specialist must factor into the analysis. First, the valuation specialist needs to consider the types
773 and quality of data that may be available to make future attrition estimates. Second, the valuation
774 specialist needs to be able to apply various methodologies to determine the future attrition pattern using
775 the given data available.

776 5.2.8   Attrition can be measured by reviewing several data sources including: historical customer count
777 data for customers with similar characteristics; historical customer revenue data for customers with similar
778 characteristics; representative population revenue and/or customer count data; or dollar-weighted revenue.
779 Attrition rates generally are calculated based on an analysis of historical customer revenue or count data.
780 For customers with similar characteristics (e.g., size and profitability), determining an attrition pattern
781 using historical revenue or customer count data is the generally accepted and widely applied methodology
782 used to estimate customer attrition. In situations where the customer-related assets have different size,
783 profitability, or other significant characteristics, it is sometimes necessary to divide the customer-related
784 assets into smaller subsets to get a more closely comparable data set. Table 5.1 below outlines several of
785 the common attrition data sources outlined above and the advantages and disadvantages of using each.
786

787 *Table 5.1: Common Attrition Approaches*

Source	Description	Most Frequently Used When…	Advantages	Disadvantages
Historical Population Revenue	Revenue data for the customer population being valued is available, by customer, for a historical period of time. The revenue data is analyzed and attrition is calculated using revenue gains and losses from the customer population studied.	Historical revenue data by customer has been maintained by the subject company. Future net growth/attrition expectations are expected to be similar to historical population characteristics.	Intuitive. Can be an objective input if complete data is available. Closest proxy for measuring expected changes in cash flow.	Data may not reflect a full business cycle and can be either overly optimistic or pessimistic. Highly dependent on quality of data maintained by the subject company. Revenue attrition and revenue growth may be combined in the attrition metric derived from historical data. Past data may not be reflective of future customer attrition (e.g., in a consolidating industry).
Historical Population Customer Count (also referred to as Customer Churn)	Customer count data for the customer population is available for a historical period of time. Customer data is analyzed and attrition is calculated using customer additions and deletions from the population studied.	Historical customer data has been maintained by the subject company. Revenue per customer is consistent across the population and future revenue per customer can be projected and will be consistent for the population.	Intuitive. Can be a reasonable proxy for future customer attrition especially if customers generate similar revenue amounts.	Revenue attrition may differ significantly from customer count attrition. Applications are limited to instances when individual customers within a population have similar revenue amounts.
Historical Population Subset Revenue and Count	In the absence of sufficient data related to the entire customer population, historical revenue and customer count data related to a subset of the population is used to estimate attrition for the entire population.	Population subset characteristics are consistent with the characteristics of the entire population.	Data sets may be more manageable and easier to analyze.	It may be difficult to determine if the population subset reflects the attrition characteristics of the entire population.
Comparable Customer Population Revenue or Count	Historical customer revenue and count data is unavailable for the population being valued; however, comparable customer population revenue and/or count data is available.	Historical revenue and customer count data is not maintained by the company; however, data is available for a similar customer population. Similar customer population data typically comes from previous acquisitions or perhaps by an acquiring company's own customer population, assuming the population characteristics are similar.	Provides an alternative to quantify attrition patterns in absence of a good population data set.	Customer population comparability may be challenged and needs to be well supported.

788

789 5.2.9   An attrition analysis is used to assist in projecting the expected cash flows relating to existing
790 customer-related assets. The following paragraphs discuss best practices to determine attrition patterns and
791 how to apply them to future revenues or customer count.

792 The most commonly used approaches to conduct an attrition analysis are outlined below and examples are
793 provided in Appendix A:

794   a. *Geometric or Arithmetic Averages Using Historical Customer Population Revenue or Customer*
795   *Count* – These methods typically use a geometric or arithmetic average of historical customer
796   population revenue or customer count loss to project future attrition. The historical data used for
797   these methods come from the same customer group or population being valued. In order to use this
798   method, quality historical data needs to be maintained by management for the same customer
799   relationship population being valued. These methods tend to be relatively easy and straightforward
800   mathematical calculations. A demonstration of this method is outlined in Appendix A, example
801   A.1.a.

802   b. *Geometric or Arithmetic Averages Using Historical Customer Subset or Comparable Population*
803   *Revenue or Customer Count* – This method uses similar techniques as outlined above to analyze
804   data. However, data may not be available for the entirety of the specific customer population being
805   valued and therefore a subset of the population data or comparable customer population data may
806   need to be collected. In the context of a business combination, source data for this method could be
807   previous acquisitions by an acquirer or the acquirer's own customer population data, if similar. In
808   addition, data on customer lives from comparable company public filings or other source data may
809   be used to assist in this method.

810   c. *Customer Attrition Estimates From Third-party Data Sources* – This method uses third-party data
811   sources to estimate future attrition rates or patterns. Third-party data sources are not widely
812   available and this method is also limited by issues of comparability. However, it may be seen as a
813   reliable quantitative source when comparable population data is available.

814   d. *Statistical Techniques* – Statistical techniques study customer account retirement behavior over a
815   fixed historical period in order to estimate customer relationship life characteristics. One of the
816   most widely used statistical techniques is the retirement rate method. The retirement rate method
817   starts by gathering initiation and termination date information for both active and retired customers
818   within a population set. The observed historical retirement rates are calculated for individual
819   customer vintages using a time series analysis. These retirement rates are then combined to
820   construct an observed survivor curve for the customer population. Once the observed survivor
821   curve is calculated, it may be compared to survivor curve models such as Iowa, Weibull, or similar
822   models to smooth the observed retirement pattern and extend the survivor curve. Typically, a least
823   squares regression technique is used to compare the observed curve to the survivor curve models.
824   Using this technique allows the valuation specialist to compare the observed curve to model
825   survivor curves and determine which model best minimizes the squared differences. These
826   statistical methods are widely accepted and the valuation specialist can best fit the observed curve
827   to model expected future decay/loss patterns. These methods require good quality historical data
828   on the customer population in order to conduct the analysis. A demonstration of this method is
829   outlined in Appendix A, example A.2.

830   e. *Management Estimates* – Often, and especially for early-stage companies, revenue and customer
831   count data for the subject company or from other industry sources is difficult to collect or does not
832   exist. In these cases, management may estimate future attrition patterns. These estimates may be
833   based on factors such as the useful life of other assets (e.g., technology), macro-industry trends,
834   etc. The advantage to this method is that these estimates are based on management's educated
835   estimate and reflect their knowledge and experience. However, these estimates lack objective and
836   verifiable supporting evidence. Even when management estimates are used, the valuation specialist

837   should make every attempt to document the rationale for these estimates. A demonstration of this
838   method is outlined in Appendix A, example A.3.

839 5.2.10   Although the Working Group believes that the quality of data should not always be the primary
840 driver of method selection, a reasonable hierarchy of method quality may be as follows (most preferred to
841 least preferred):

842   a. Actual historical revenue and customer count attrition data from the same customer group or
843   population being valued is used to determine future attrition trends. This may take the form of
844   geometric or arithmetic calculations or more sophisticated statistical techniques.

845   b. Actual historical revenue and customer count attrition data from a subset of the customer group or
846   population being valued is used to determine future attrition trends. This may take the form of
847   geometric or arithmetic calculations or more sophisticated statistical techniques.

848   c. If the above is not available, the historical attrition experienced by the acquiring company for a
849   comparable customer group to the population being valued (either from internally-generated
850   customers or from similar customers previously acquired).

851   d. If the above is not available, attrition derived from observed industry or other appropriate third-
852   party data sources.

853   e. If the above is not available, attrition estimates derived through discussions with management.

854 5.2.11   While the above methods of estimating attrition are useful, there are a number of circumstances in
855 which an analysis of historical attrition may be inadequate when projecting future attrition. In all cases,
856 factors that market participants may deem to affect future attrition patterns should be considered in
857 addition to historical attrition data when estimating future revenue attributable to customer-related assets.
858 Examples of potential factors are outlined below:

859   a. *Arbitrary or Random Customer Purchases* – Customers may make purchases in a non-predictable
860   or seemingly arbitrary manner. In these cases, the guiding principle still remains to estimate the
861   cash flow that is attributable to current customers. As such, the analysis should focus on
862   determining a normalized or longer-term expected pattern. It may be that customer purchases are
863   random month-over-month or even year-over-year but exhibit an even longer-term trend, possibly
864   based on economic cycles. In some cases, an analysis of aggregate revenue from a group of
865   customers may be appropriate if the buying patterns are uncorrelated and an increase in purchases
866   by one customer is offset by an unrelated decline in purchases by another customer. Even if
867   purchase levels are considered random, it may be expected that customers would leave over time.
868   A demonstration of the analysis of irregular attrition patterns is outlined in Appendix A, example
869   A.4.

870   b. *Small Number of Customers* – If a small number of historically stable customers account for a
871   significant portion of revenue, historical attrition may understate the true risk of customer loss. In
872   this case, it may be possible to estimate the probability of each customer renewing their purchases
873   using specific customer and contract characteristics. Or, an aggregate customer analysis that views
874   the attrition rate as more of a probability adjustment may be more appropriate.

875   c. *No Observed Historical Attrition* – Sometimes, customers or certain groups of customers have
876   historically exhibited little or no actual revenue or customer count attrition, or possibly even
877   revenue or customer growth. This may occur in industries where each customer is large and the
878   number of customers is small. This pattern may be expected to persist going forward, but it could
879   also be the result of a period of unsustainable growth, a change in customer characteristics, or
880   simply an entity having a very limited number of customers. If the pattern is expected to persist as
881   observed in the past, historical attrition may be used to project future cash flows. However, in most
882   cases it is likely this pattern would no longer hold and normal attrition would occur at some point
883   in the future. Other methods would need to be explored, including an analysis of an alternative
884   period of time, further customer sampling, or an analysis of economic or other external factors.
885   Detailed guidance from management may be required.

886   d. *Customer Retention is Related to Other Assets* – Customer retention may be driven by products,
887   technology, logistics, pricing, or other assets and elements of a business (identifiable or not). If the
888   life of the customer is constrained by an asset with a limited life, this factor should be incorporated
889   into the valuation of the customer-related asset. However, if customer attrition is calculated to be
890   low or even zero due to the presence of another asset in the business, a question arises as to
891   whether future cash flows should be considered attributable to customers. For example, the
892   economic life of a customer may be closely correlated to the lifespan of a technology asset. If the
893   technology becomes obsolete, the customer attrition pattern may be significantly different than
894   historical experience would indicate. During the transition between technologies, customers may
895   effectively make another purchasing decision that will be based on how the new technology meets
896   their needs.

897 5.2.12   For some types of businesses (those providing services to customers at a specific location, for
898 instance), attrition can be bifurcated into migration churn and loss churn. Migration churn is typically
899 applicable in situations where customers are identified by location or address and occurs when a customer
900 changes location and must stop and re-start service (for example, a cable customer moves and disconnects
901 service but re-subscribes from a new location). Loss churn refers to the total loss of a customer. The
902 Working Group believes that the decision as to whether a customer relationship is severed upon the
903 migration of a customer is a subjective one and should be discussed with management. Factors to consider
904 in making this determination include:

905   a. The opportunity of the customer to change providers during the move and the ease of doing so;

906   b. The length of the period between stopping and re-starting the service; and

907   c. Whether the migration is seamless or whether a material selling effort is required to retain the
908   customer.

909 5.2.13   Total business revenue is always derived from two sources: customers that existed at the
910 measurement date and customers added subsequently. Implicit in this, a valuation specialist could also
911 determine attrition of revenues from customers that existed at the measurement date by studying what
912 portion of total forecasted revenue is assumed to be derived from customers who were added
913 subsequently. The reasonableness of attrition assumptions should be assessed in the context of the overall
914 business revenue projection. This can be accomplished by using the existing customer revenue projection
915 and the total customer revenue projection to imply other assumptions that must be made regarding new
916 customers. For example, what is the implied new market share (i.e., share captured) of potential new

917 customers in each period? What is the implied incremental market share captured each year? The answers
918 to these questions should be assessed for reasonableness.

919 5.2.14   When estimating revenue and attrition, care should be taken when applying an attrition rate to
920 partial periods. Example A.5 provides an illustration of how to incorporate a partial period into an attrition
921 calculation to determine the appropriate revenue.

922 5.2.15   After the revenue projection is prepared, the next step in the MPEEM is to estimate the operating
923 margin expected to be earned by the customers being valued.

924 5.2.16   *Expected Profitability/Earnings* – The forecast associated with existing customers should only
925 capture the profit and cash flows related to the customer-related assets being valued. The initial basis for
926 estimating the expected profitability of existing customers should be the PFI. If the PFI includes expenses
927 that are unrelated to the customer relationships being valued, it should be adjusted to exclude these
928 expenses. Examples include (a) the portion of sales and marketing expense associated with the addition of
929 new customers, and (b) the portion of research and development (R&D) expense associated with new
930 products that will only be purchased by new customers. In addition, for entities that have grown through
931 acquisition, valuation specialists should remove any historical amortization expense related to pre-existing
932 intangible assets that may or may not be accounted for through a contributory asset charge. Including the
933 contributory asset charge and the historical intangible amortization expense would "double count" the
934 proxy for return of the intangible assets (one of which may be the customer-related asset being valued).

935 5.2.17   In circumstances where the buyer is projecting market participant revenue synergies or dis-
936 synergies as part of the transaction, the valuation specialist should be consistent when evaluating the
937 incremental profit or loss related to the synergies.

938 5.2.18   When multiple customer groups are present and management does not track operating expenses
939 by customer group, the expenses should be allocated in an economically appropriate manner. Commonly
940 used allocation metrics include customer count, volume, revenue, and gross profit.

941 5.2.19   Certain expense adjustments may also be necessary to be consistent with the CACs being applied.
942 When the assembled workforce CAC is applied such that it captures the initial value of the assembled
943 workforce as well as growth in the workforce over time, the MPEEM should exclude operating expenses
944 related to the growth of the workforce to avoid double counting (see the VFR Valuation Advisory #1 for
945 further discussion and examples of this adjustment). It is noted, however, that future operating expenses
946 should include costs related to maintaining the assembled workforce that existed on the measurement date.
947 While this adjustment is not commonly made in practice, it may be appropriate for high-growth entities
948 where a significant cost of work force expansion may be included in the forecast. These additional
949 expenses related to work force expansion should be excluded from the customer relationship model. This
950 type of expense adjustment may be appropriate for other similar types of expenses.

951 5.2.20   Certain CACs are often applied in the form of a royalty rate (e.g., for trademarks, technology, or
952 other intellectual property). The expenses being applied should be consistent with the assumptions of the
953 selected royalty rate. A royalty rate should be analyzed to determine whether it compensates the licensor
954 for all functions (ownership rights and responsibilities) associated with the asset. Such an analysis would
955 include consideration of expenses recognized by the licensee versus expenses otherwise considered to be
956 the responsibility of the licensor. A royalty rate that is "gross" would consider all functions associated
957 with ownership of a licensed asset to reside with the licensor (and therefore it is likely that R&D expenses

958 should be excluded from the forecast) while a royalty rate that is "net" would consider some or all
959 functions associated with the licensed asset to reside with the licensee (and therefore it may be appropriate
960 to include some or all of the R&D expenses in the forecast).

961 5.2.21 *Taxes* – The tax rate used should reflect the tax implications from a market participant
962 perspective. The tax rate should not include entity-specific considerations (e.g., net operating losses or
963 NOLs, tax credits, etc.). While these tax attributes contribute to the value of the entity, they do not affect
964 the value of the customer relationships. A common starting point is the statutory tax rate, which is the rate
965 the company pays on its income prior to any adjustments for NOLs, tax credits, or other similar items.
966 This generally includes both a federal and state component in the US. For non-US companies or
967 companies that are taxed in multiple jurisdictions, an appropriate tax rate should be determined giving
968 consideration to the various tax jurisdictions in which the company operates.

969 5.2.22 *Contributory Asset Charges* – The application of the MPEEM includes the estimation of CACs
970 (also known as capital charges). A CAC represents the return on investment (ROI) an owner of the asset
971 would require. The ROI is comprised of a pure investment return (commonly referred to as *return on*) and,
972 in cases where the contributory asset deteriorates in value over time, a recoupment of the original
973 investment amount (commonly referred to as *return of*). The distinguishing characteristic of a contributory
974 asset is that it is not the subject income-generating asset itself; rather, it is an asset that is required to
975 support the subject income-generating asset. The CAC represents the charge that is required to
976 compensate for an investment in a contributory asset. In other words, it is a means of allocating a portion
977 of the subject entity's expected cash flow to each of the contributory assets that support that cash flow,
978 giving consideration to rates of return required by market participants investing in such assets. By
979 including CACs in the valuation of the subject asset, the cash flow related to the subject asset can be
980 isolated and discounted at an appropriate rate of return to estimate fair value. Similar to the revenue and
981 earnings, care must be taken to ensure that the CACs are consistent with the market participant synergy-
982 adjusted PFI. This may include CACs on a market participant buyer's assets utilized in generating the
983 projected market participant synergies. Conceptually, the adjustment of earnings for CACs should result in
984 an estimation of the projected cash flows attributable to the subject customer relationships. The issue of
985 preferred methods for determining appropriate CACs for use in the MPEEM is the focus of the VFR
986 Valuation Advisory #1. Please reference this document for a detailed discussion of this MPEEM
987 component.

988 5.2.23 *Discount Rate* – When valuing customer-related assets using the MPEEM, the discount rate
989 chosen should reflect the risk profile of the customer-related assets from a market participant perspective.
990 The estimated weighted average cost of capital (WACC), cost of equity capital, and the internal rate of
991 return (IRR) are reference points to determine the discount rate of a customer relationship asset.

992 5.2.24 The WACC is based on an analysis of current market rates of return in the subject industry and
993 represents the *return on* the investment in the subject entity required by market participants, including
994 both debt and equity investments. The WACC represents the required returns, from a market participant
995 perspective, on interest-bearing debt and equity capital weighted in proportion to their estimated
996 percentages in an observed or selected industry capital structure. The required return on equity capital for
997 an entity is commonly estimated using the capital asset pricing model (CAPM). However, there are other
998 methods that can potentially be utilized to calculate required equity returns, such as the Fama-French
999 three-factor model and the buildup method. Regardless of the method used, the WACC should include risk
1000 elements that a market participant would consider when evaluating the subject company or subject assets

1001 and liabilities. Judgment must be used to ensure the discount rate reflects the asset-specific risk elements
1002 or characteristics of the customer relationship.

1003 5.2.25　An IRR typically is calculated in a business combination and represents the discount rate, which
1004 equates the present value of the PFI to the purchase consideration in a market transaction.[25] The WACC
1005 and the IRR should be compared and reviewed for reasonableness. An IRR that is significantly different
1006 from the WACC may warrant a reassessment of both the PFI and the WACC calculation to determine if
1007 market participant assumptions are being consistently applied or if adjustments need to be made in either
1008 the PFI or WACC. While the purchase consideration is most often the best indication of fair value, the
1009 valuation specialist needs to be alert for circumstances when this is not the case and there is evidence of,
1010 for example, buyer-specific synergies, overpayment, or a bargain purchase.

1011 5.2.26　The VFR Valuation Advisory #1 notes that "typically intangible assets necessitate a higher rate of
1012 return than the WACC, due to the riskier and less liquid nature of intangible assets relative to working
1013 capital and fixed assets…Circumstances can arise where the required return on an intangible asset is at or
1014 below the WACC, depending on the relative asset mix in the entity and the specific nature of the
1015 intangible assets."[26] In deriving an appropriate discount rate for a specific intangible asset, it may be
1016 useful to first calculate the average return to intangible assets and goodwill in aggregate. This approach
1017 still relies on the WACC or IRR but provides additional insight into the risk profile of the goodwill and
1018 intangible assets as a group. Individual intangible asset discount rates can then be determined. Using the
1019 WACC, cost of equity capital, IRR, or the average intangible asset and goodwill discount rate as a starting
1020 point, a number of customer-related risk issues should be analyzed when determining the appropriate
1021 discount rate for customer-related assets relative to these benchmarks, including:

1022　　a. Risk profile of the customer-related asset cash flow (i.e., more or less risky than the overall
1023　　　　company cash flow, more or less risky than other fixed/intangible assets);

1024　　b. Source of future business growth (established customer relationships versus new customers);

1025　　c. If attrition or probability of loss is built into the valuation model then it should not also be
1026　　　　accounted for in the discount rate;

1027　　d. Presence of significant switching costs;

1028　　e. Nature of relationships (presence or lack of a long term contract, dependence on a very small
1029　　　　number of customers, etc.);

1030　　f. If a contract is present, length of the contract, strength/enforceability of the contract, and likelihood
1031　　　　of renewal;

1032　　g. Reasons customers are retained; and

1033　　h. Stability/volatility of individual relationships and the revenue derived from those relationships.

1034 5.2.27　The above is not intended to be an exhaustive list. Further, while certain factors may lead to
1035 increased or decreased risk (and therefore higher or lower discount rates), these factors should not be
1036 viewed from a mechanical checklist or build-up perspective. Rather, these factors should assist the

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[25] "Purchase consideration" as used in this document refers to the consideration transferred (including contingent consideration) plus the fair value of debt assumed.
[26] The Appraisal Foundation, VFR Valuation Advisory #1 - Best Practices for Valuations in Financial Reporting: Intangible Asset Working Group – Contributory Assets, *The Identification of Contributory Assets and Calculation of Economic Rents* (Washington, DC: The Appraisal Foundation, 2010), 25.

1037 valuation specialist in choosing an appropriate discount rate by enabling a more complete understanding
1038 of the valuation.

1039 5.2.28   Once the fair value of the assets and liabilities has been estimated, an analysis is performed to
1040 evaluate whether the rates of return (i.e., discount rates) used to estimate the fair values of the individual
1041 assets that were valued using an income approach and the implied return on goodwill are reasonable in the
1042 context of the IRR and the WACC. This analysis is known as the weighted average return on assets
1043 (WARA). The WARA is calculated as the sum of the required rates of return for normal working capital,
1044 fixed assets, and intangible assets, weighted by each asset's proportionate share of the total value of the
1045 entity (where "total value of the entity" means the combined value of debt and equity investment required
1046 in the subject entity). When calculating the WARA, it may be appropriate to make certain adjustments to
1047 ensure consistency in the tax assumptions used in the entity value and asset values.

1048 5.2.29   The returns indicated by the three analyses (IRR, WACC, and WARA) should be reviewed for
1049 reasonableness and any material differences should result in additional analysis. The additional analysis
1050 may include material revisions to the selected discount rates and the fair values that were originally
1051 estimated or revisions to the PFI used in the analysis. If the PFI is determined to reflect market participant
1052 assumptions, buyer-specific synergies are not included, and the WACC and IRR still do not reconcile, it
1053 may indicate overpayment or underpayment for the acquired entity. There is additional discussion
1054 regarding the WARA analysis and the estimation of asset discount rates in the VFR Valuation Advisory
1055 #1.

1056 5.2.30   *Tax Amortization Benefit* – A Tax Amortization Benefit (TAB) reflects the present value of tax
1057 savings relating to the amortization of the intangible asset over its tax life. The TAB is included in the
1058 value conclusion, whether the actual or hypothetical transaction is taxable or non-taxable, for all
1059 intangible assets that are valued using an income-based technique (including the MPEEM). There may be
1060 instances (e.g., in certain countries where a TAB is unavailable under current tax law or in certain
1061 instances when the market participant for an asset is a non-profit) where the addition of a TAB may not be
1062 warranted. In instances such as those, the valuation specialist may want to consider specific advice from a
1063 tax specialist.

1064 5.2.31   Accounting guidance in US GAAP (such as ASC 740, *Income Taxes*) requires that fair value
1065 should not be net of any deferred tax liability or asset. It is generally believed that the fair value of an asset
1066 should not differ because the tax structure of a transaction differed. Generally accepted valuation
1067 methodology follows this guidance. The inputs to the TAB calculation include an appropriate discount
1068 rate, the tax rate used in the model, and the number of years for which the tax deduction is effective.

1069 5.2.32   The Working Group notes that there is some discussion in the valuation profession regarding what
1070 the appropriate discount rate should be for a TAB calculation. The discount rate used should be aligned
1071 with the risk associated with the TAB itself. Many valuation specialists argue that the risk of the TAB is
1072 closely aligned with the risk of the underlying asset that generates the TAB. Others argue that the risk of
1073 the TAB is more closely aligned with the risk of the profit of a market participant that would realize the
1074 TAB (i.e., a market participant WACC). For the examples in this Valuation Advisory, the Working Group
1075 has used a discount rate equal to the rate used to value the intangible asset itself. However, this should not
1076 be viewed as an endorsement by the Working Group of this method versus the other.

1077 5.2.33   In the US, there is a 15-year statutory life for most intangible assets. In other jurisdictions around
1078 the world, there are a variety of conventions ranging from a statutory life to the estimated useful life. In

1079 some countries, the amortization of intangible assets for tax purposes is not permitted. The valuation
1080 specialist should be aware of tax regulations and tax jurisdictions around the world and whether those
1081 factors will impact the use of the TAB.

1082 5.2.34   The following example outlines how to calculate a TAB (assuming US tax law):

1083 *Example 5.2: TAB Calculation*

Assumptions

Present Value of Asset Cash Flows (PVCF)	100.0
Tax Amortization Period (years)	15.0
Tax Rate (t)	40.0%
Discount Rate	12.5%

Year	Period	Midpoint of Period	Present Value Factor	1 / Period	Present Value of Amortization
1	1.0000	0.5	0.9428	0.067	0.0629
2	1.0000	1.5	0.8381	0.067	0.0559
3	1.0000	2.5	0.7449	0.067	0.0497
4	1.0000	3.5	0.6622	0.067	0.0441
5	1.0000	4.5	0.5886	0.067	0.0392
6	1.0000	5.5	0.5232	0.067	0.0349
7	1.0000	6.5	0.4651	0.067	0.0310
8	1.0000	7.5	0.4134	0.067	0.0276
9	1.0000	8.5	0.3675	0.067	0.0245
10	1.0000	9.5	0.3266	0.067	0.0218
11	1.0000	10.5	0.2903	0.067	0.0194
12	1.0000	11.5	0.2581	0.067	0.0172
13	1.0000	12.5	0.2294	0.067	0.0153
14	1.0000	13.5	0.2039	0.067	0.0136
15	1.0000	14.5	0.1813	0.067	0.0121

Present Value of the Annuity (PVA)	**0.4690**
Tax Amortization Benefit (TAB) (1)	**23.09**

(1) Calculated as: TAB = PVCF x [1 / (1 - PVA * t) - 1]

1084 5.2.35   The value of the TAB can also be calculated using the following equation, with "PV" meaning
1085 present value:

1086   TAB = PV of Cash Flows Excluding TAB * (n / (n - (Annuity Factor * Mid-Year Convention
1087   Adjustment Factor * t)) - 1), where:

1088   Annuity Factor = $(1 / r) - ((1 / r) / (1 + r)^n)$ = PV(r, n, -1)

1089   Mid-Year Convention Adjustment Factor = $(1 + r)^{0.5}$

1090 Where: n = Straight Line Annual Tax Amortization Period in Years
1091   t = Tax Rate
1092   r = Discount Rate
1093

1094   Applied to the example above, the TAB equation would be:

1095 $TAB = 100 * (15 / (15 - (PV(0.125,15,-1) * (1 + 0.125)^{0.5} * 0.4)) - 1) = 23.09$

1096 5.2.36   For specific examples of the application of the MPEEM, see Appendix B, Examples B.2 and B.3.

1097 **5.3   Distributor Method**

1098 5.3.1   The Distributor Method, a variant of the MPEEM, relies upon market-based distributor data or
1099 other appropriate market inputs to value customer relationships. It may also be viewed as a profit split
1100 method, in which function-specific profit is allocated to the identified assets. The underlying theory is that
1101 a business is composed of various functional components (such as manufacturing, distribution, and
1102 intellectual property) and that, if available, market-based data may be used to reasonably isolate the
1103 revenue, earnings, and cash flow related to these functional areas. Using distributor inputs assists with
1104 isolating cash flow attributable to the customer-related assets. A benefit of using the Distributor Method is
1105 that it uses market-based data to support the selection of profitability and other inputs related to customer-
1106 related activities (similar to the selection of a royalty rate in the relief from royalty method), thereby
1107 allowing the potential use of the MPEEM to value other assets of the business if appropriate.

1108 5.3.2   The Distributor Method may be applied to many different industries, such as a wide range of
1109 manufacturing, technology, and branded consumer products industries, among others. For example, in the
1110 branded consumer products industry, customer relationships generally have a supporting role and in many
1111 cases are extremely stable due to end consumer demand for the company's products. Distributor inputs
1112 may serve as a reasonable proxy for the inputs used to value customer relationships because the customer
1113 relationships of manufacturing companies in the consumer products industry may be similar to the
1114 relationships that distributors have with their customers. The relationships are generally transactional in
1115 nature with minimal switching costs.

1116 5.3.3   Distributors are typically low value added providers with limited intangibles and low profit
1117 margins. As such, the profit margins of a distributor would be expected to require fewer adjustments to
1118 estimate the profit margin of low value added customer relationships as other intangible assets would have
1119 limited impact on profit margins.

1120 5.3.4   Using distributor inputs is appealing when valuing certain customer relationships because it
1121 disaggregates the cash flow that can be used to value customer assets based on a MPEEM. For example,
1122 the cash flows related to product technology or brand are included in the distributor's cost of goods sold
1123 (i.e., product cost). Contributory charges for the use of the distributor's assets (e.g., fixed assets, working
1124 capital) would also apply. The use of this methodology gives the valuation specialist the option to use the
1125 MPEEM to value another asset of the business (e.g., brand or technology) without the challenges caused
1126 by multiple MPEEMs with circular cross-charges.

1127 5.3.5   Key inputs to the Distributor Method are described below. These inputs should be considered
1128 from a market participant perspective.

1129   a.   *Comparable Companies* – When applying the Distributor Method, the valuation specialist should
1130   select a group of comparable distributors such that the nature of the relationship between the entity
1131   and its customers is similar to that of the distribution comparables and their customers. Several

1132   types of distributors are typically observed in the marketplace. For example, distributors of
1133   branded consumer products have limited margins and although they can distinguish themselves in
1134   the marketplace through pricing and service, they have no ability to differentiate through the goods
1135   they sell because typically other distributors are selling the exact same products. In contrast,
1136   industrial distributors may be able to differentiate based on pricing and service as well as breadth
1137   of inventory and the related ability to provide specialized products demanded by customers.
1138   Finally, value added distributors/resellers may realize higher margins because they are providing
1139   additional value in the form of services.

1140   b. There may be additional situations where a selected group of companies provides an appropriate
1141   proxy for the customer relationship function. An example would be an industry in which certain
1142   companies have proprietary intellectual property (IP) and others do not. Those that do not have
1143   proprietary IP would likely have lower margins and may, for purposes of valuing the customer-
1144   related asset, provide reasonable inputs in the same manner as a distributor.

1145   c. There may be additional situations where a selected group of companies provides an appropriate
1146   proxy for the customer relationship function. An example would be an industry in which certain
1147   companies have proprietary intellectual property (IP) and others do not. Those that do not have
1148   proprietary IP would likely have lower margins and may, for purposes of valuing the customer-
1149   related asset, provide reasonable inputs in the same manner as a distributor.

1150   d. *Revenue* – Similar to the earlier description for the MPEEM, revenues projected in the Distributor
1151   Method should reflect revenue expected from the acquired customers and should include expected
1152   growth and attrition for the existing customer relationships, as described previously in Section 5.2
1153   of this Valuation Advisory.

1154   e. *Expected Profitability/Earnings* – When valuing customer-related assets under the Distributor
1155   Method, margins used in the MPEEM should be consistent with those realized by distributors or
1156   other businesses that share characteristics similar to the customer-related assets being valued. It is
1157   important to understand the nature of the customer relationship so that an appropriate market-based
1158   margin may be applied. For instance, if the relationships are purchase order-based (and similar to
1159   those of a distributor), a distributor-type margin may be most appropriate. On the other hand, if the
1160   company's relationships with its customers are stronger and the company provides additional
1161   services, a value added reseller margin may be more appropriate. The selection of the appropriate
1162   margin requires an understanding of the nature of the company's relationships with its customers
1163   and involves judgment in determining the appropriate group of comparable companies and where
1164   the subject relationships fit within that group.

1165   f. *Contributory Asset Charges* – The CAC assumptions utilized in the application of the Distributor
1166   Method should be consistent with the selection of the distributor margin and will include CACs for
1167   assets utilized by a distributor. These assets typically include working capital, fixed assets,
1168   corporate trademarks, and workforce at levels of investment consistent with a distributor. CACs
1169   should not be included for assets not typically used by distributors, such as product trademarks,
1170   technology, or manufacturing assets. CACs for these assets are not required because their value is
1171   captured in the distributor's cost of goods sold. The Working Group notes that, in aggregate, CACs
1172   for a distributor are typically lower than the CACs for an integrated entity that also performs other
1173   non-distribution activities. Please reference VFR Valuation Advisory #1 - *Best Practices for*

1174   *Financial Reporting: Intangible Asset Working Group – Contributory Assets, The Identification of*
1175   *Contributory Assets and Calculation of Economic Rents* for a detailed discussion of CACs.

1176   g. *Discount Rate* – The appropriate discount rate is generally calculated in a similar manner as
1177   described above for the MPEEM, but with one potential additional consideration. In addition to the
1178   market-based WACC or transaction-based IRR, it is also possible to support a discount rate for the
1179   asset by calculating a WACC using distributor inputs. The distributor WACC calculation would
1180   incorporate distributor betas and capital structures. As there are typically more publicly traded
1181   companies in a given industry than publicly traded distributors in the same industry, the
1182   information required for the distributor WACC calculation may be limited and the result should be
1183   viewed as an additional or corroborating input rather than a primary input. Regardless of the
1184   method used, the selected discount rate should appropriately match the risk characteristics of the
1185   customer-related asset being valued and should be reasonable in the context of the WARA.

1186   h. *Other Considerations* – Other considerations, such as treatment of revenue synergies and dis-
1187   synergies, calculating the TAB, determining the economic life, etc., are consistent with the general
1188   form of the MPEEM as described earlier.

1189 5.3.6   Given generally accepted viewpoints on CACs including returns on components of goodwill
1190 (especially in the context of a purchase price allocation), the Working Group believes that in most
1191 situations the MPEEM should be used to value the primary asset of the business when the Distributor
1192 Method is used to value the customer-related asset. If the MPEEM is not utilized together with the
1193 Distributor Method, the valuation specialist should comment on and/or consider why this is appropriate.
1194 Some examples of this are as follows:

1195   a. The subject company is generating profit margins well in excess of what is expected by market
1196   participants and above levels expected by reviewing reasonable returns on assets. This may exist
1197   due to the following:

1198   i.   The company operates in a monopoly or similar environment thereby allowing significant,
1199   non-normal returns on assets.

1200   ii. The company operates in a niche market, thereby achieving monopoly type returns.
1201   Although the subject company is enjoying excess returns, others may not be willing to
1202   enter the market as the same level of earnings may not be available to them as the second
1203   or third entrant.

1204   b. The subject company is operating at a loss, which may in part be due to non-normal expenses
1205   (such as S&M or R&D) or allocations that suppress profitability. The valuation specialist believes
1206   that there is value to the customer relationship assets that can be expressed through the Distributor
1207   Method and conversely that there is value to the trademark or technology that is better expressed
1208   through an approach other than the MPEEM.

1209   c. There is strong evidence for inputs and alternative methods involving the identical assets in the
1210   identical markets (e.g., a direct indication of value from a third-party transaction or a strong
1211   royalty rate comparable data point).

1212 5.3.7   For a specific example of the application of the Distributor Method, see Appendix B, Example
1213 B.1.

1214 **5.4   With-and-Without Method**

1215 5.4.1   The With-and-Without Method is an application of the income approach. This method estimates
1216 the value of customer-related assets by quantifying the impact on cash flows under a scenario in which the
1217 customer-related assets must be replaced and assuming all of the existing assets are in place except the
1218 customer-related assets. As the time period required to re-create the customer-related asset increases, the
1219 subjectivity of the required assumptions increases, which may limit the practicability of this approach.
1220 Additionally, a significant re-creation period for the customer-related asset may create difficulties in
1221 developing appropriate without scenario financial projections due to the impact of lost customers on other
1222 business activities and assets.

1223 5.4.2   This method requires two models to be used to value the customer-related asset. The "With
1224 Scenario" (also referred to as the "Base Case") captures the estimated cash flows from the business if all
1225 of the existing assets were in place *including* the customer-related assets. In forecasting the cash flows of
1226 the business with the customer-related assets in place (the With Scenario), the information used should be
1227 consistent with or a component of the overall PFI for the business. The "Without Scenario" captures the
1228 estimated cash flows from the business if *all* of the existing assets were in place *except* the customer-
1229 related assets. The forecasted cash flow includes the impact of re-establishing the customer-related assets
1230 (i.e., the cost to re-create the customer-related assets). The key adjustments made in developing the
1231 Without Scenario are detailed below.

1232   a. *Revenue* – The Without Scenario revenue projection involves estimating the sales levels generated
1233   if the customer-related assets did not exist at the measurement date and had to be established with
1234   the benefit of all other assets in place. To estimate the impact on revenue, factors including the
1235   following should be considered:

1236   i.   Expected time to re-create customer-related assets and achieve revenue levels projected in
1237   the With Scenario;

1238   ii.   Historical time it took to build the customer-related assets to current revenue levels;

1239   iii. Typical sales cycle;

1240   iv.   Length of time it takes to establish a new relationship with a prospect;

1241   v.   Typical length of time between a sales proposal and a customer placing an order;

1242   vi.   Level of competition in the industry; and

1243   vii. Switching costs for the customer once they have accepted and started using the vendor's
1244   product. For example, if products are typically designed into a customer's end product
1245   specifications for an entire product cycle, it may take more time to establish the initial
1246   customer relationship.

1247   b. *Cost of Goods Sold* – A reduction in pricing might be required to gain market share, which might
1248   drive gross profit margins lower. Further, high fixed cost of goods sold associated with
1249   manufacturing/servicing the product may also drive margins lower. Thus, the valuation specialist
1250   should develop a thorough understanding of the variable and fixed components of cost of goods
1251   sold and how this may impact cost of goods sold during the re-creation period.

1252   c. *Operating Expenses/Replacement Costs* – The PFI also should be adjusted to include the additional
1253   direct and indirect costs that would be incurred to reestablish the customer-related assets.
1254   Examples of replacement costs that may be required to establish relationships include:

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1255   i.   Additional selling costs associated with headcount, travel, etc., that would be required to
1256   re-establish customer relationships. As a benchmark, it is helpful to understand what
1257   portion of the subject business headcount and expenses support the generation of new
1258   customers; and

1259   ii.   R&D and other engineering costs associated with customizing products to re-establish
1260   customer relationships.

1261   d. *Additional Assets and Expenditures* – The PFI should also consider the impact of any additional
1262   assets or expenditures necessary above and beyond the assets existing at the date of value to
1263   achieve the incremental cash flow associated with re-building the existing customer base.

1264   e. *Fixed versus Variable Costs* – If the time period to rebuild the customer-related asset is relatively
1265   short, one would expect a business would not change its expense structure and most of the
1266   operating expenses would be fixed. If the time period to rebuild the customer-related asset is
1267   longer, a business may modify its expense structure during the time necessary to re-create the
1268   asset. These costs should be viewed from a market participant perspective.

1269   f. *Depreciation and Capital Expenditures* – If the time period to rebuild the customer-related asset is
1270   relatively short, one would expect a business would not change its level of capital investment since
1271   projected capital outlays will be needed in a short time period once the customer-related asset is
1272   fully re-created. If the time period to rebuild the customer-related asset is longer, a business may
1273   modify its capital investment outlay during the time necessary to re-create the asset. This change in
1274   capital investment would also affect the forecasted depreciation.

1275   g. *Working Capital* – It is important to assess the impact of the rebuilding process on working capital
1276   in the Without Scenario. Certain working capital components (such as accounts receivable and
1277   payable) may scale quickly with changes in revenue. Other working capital components (such as
1278   inventory) may be more fixed in nature due to the inability to sell off inventory to customers at the
1279   onset of the Without Scenario.

1280   h. *Discount Rate* – The Working Group believes that the discount rate used should be commensurate
1281   with risks inherent in the projected cash flows and that the discount rates used in the With Scenario
1282   and the Without Scenario should be the same, as differences in risk between the two scenarios
1283   should be reflected in the undiscounted expected cash flows.

1284   i. *Economic Life* – The total period of time over which an asset is expected to generate economic
1285   benefits for one or more users. As such, the economic life is based on the attributes of the asset and
1286   is estimated in a manner consistent with that used in an MPEEM as described earlier. The rebuild
1287   period utilized in the without model is not indicative of economic life.

1288 5.4.3   The fair value of the customer-related asset is estimated as follows:

1289   a. Estimate the With Scenario fair value;

1290   b. Develop the Without Scenario fair value;

1291   c. Subtract the With Scenario fair value from the Without Scenario fair value; and

1292   d. Add the TAB to conclude on the fair value for the customer-related asset.

1293 5.4.4   For a specific example of the application of the With-and-Without Method, see Appendix B,
1294 Example B.4. Additionally, an example is included below.

1295 *Example 5.3: With-and-Without Method*

1296 Company A acquires Company B, a developer of software technology solutions. Company A acquired
1297 Company B primarily for its technology and all other assets were thought to be easily replaceable.
1298 Company B's customer-related assets were valued using the With-and-Without Method. Based on a
1299 review of Company B's operations, it is believed that the customer-related assets could be replaced ratably
1300 over a period of two years. The discount rate is 12.5% and the tax rate is 40%. The fair value of the
1301 customer-related assets is estimated to be $463.0 million, as calculated below:

With-and-Without Method (Without Scenario)

	Year 0	Year 1	Year 2	Year 3	Year 4
Revenue Without Existing Customers	$ 750.0	$ 1,000.0	$ 1,200.0	$ 1,350.0	$ 1,450.0
Less: Cost of Goods Sold	(375.0)	(500.0)	(600.0)	(675.0)	(725.0)
Gross Profit	375.0	500.0	600.0	675.0	725.0
Less: Fixed Operating Expenses	(90.0)	(120.0)	(144.0)	(162.0)	(174.0)
Less: Variable Operating Expenses	(60.0)	(80.0)	(96.0)	(108.0)	(116.0)
Less: Incremental "Re-Creation" Expenses	-	-	-	-	-
Pre-tax Income	225.0	300.0	360.0	405.0	435.0
Less: Income Taxes (40.0%)	(90.0)	(120.0)	(144.0)	(162.0)	(174.0)
Net Income	135.0	180.0	216.0	243.0	261.0
Plus: Depreciation		50.0	60.0	67.5	72.5
Less: Changes in Working Capital		(20.0)	(16.0)	(12.0)	(8.0)
Less: CAPEX		(50.0)	(60.0)	(67.5)	(72.5)
Net Returns on Customer-related Assets		$ 160.0	$ 200.0	$ 231.0	$ 253.0
Midpoint		0.5	1.5	2.5	3.5
Present Value Factor		0.9428	0.8381	0.7449	0.6622
Present Value of Cash Flows		$ 150.8	$ 167.6	$ 172.1	$ 167.5

Sum of Present Value of Cash Flows (With Scenario)	$ 658.1	
Sum of Present Value of Cash Flows (Without Scenario)	281.9	See schedule on next page.
Difference Between Scenarios	376.2	
TAB	86.9	
Fair Value	**$ 463.0**	

TAB Calculation:

Tax Life (n)	15	
Tax Rate (t)	40.0%	
Discount Rate (r)	12.5%	
Annuity Factor	6.63	= PV(r, n, -1)
Mid-Year Adj Factor	1.06	= (1 + r) ^ 0.5
TAB Factor	23.1%	= (n / (n - (Annuity Factor * Mid-Year Adj Factor * t)) - 1)

Working Capital (WC) Calculation

		Year 0	Year 1	Year 2	Year 3	Year 4
Accounts Receivable (% of Rev.)	7.5%	56.3	75.0	90.0	101.3	108.8
Inventory (% of COGS)	15.5%	58.1	77.5	93.0	104.6	112.4
Accounts Payable (% of COGS)	14.5%	54.4	72.5	87.0	97.9	105.1
Total WC		60.0	80.0	96.0	108.0	116.0
WC / Revenue		8.0%	8.0%	8.0%	8.0%	8.0%
WC Investment			20.0	16.0	12.0	8.0

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With-and-Without Method (Without Scenario)

	Year 0	Year 1	Year 2	Year 3	Year 4
Revenue Without Existing Customers	$ 750.0	$ 200.0	$ 800.0	$ 1,350.0	$ 1,450.0
Less: Cost of Goods Sold	(375.0)	(100.0)	(400.0)	(675.0)	(725.0)
Gross Profit	375.0	100.0	400.0	675.0	725.0
Less: Fixed Operating Expenses	(90.0)	(120.0)	(144.0)	(162.0)	(174.0)
Less: Variable Operating Expenses	(60.0)	(16.0)	(64.0)	(108.0)	(116.0)
Less: Incremental "Re-Creation" Expenses	-	(100.0)	(100.0)	-	-
Pre-tax Income	225.0	(136.0)	92.0	405.0	435.0
Less: Income Taxes (40.0%)	(90.0)	54.4	(36.8)	(162.0)	(174.0)
Net Income	135.0	(81.6)	55.2	243.0	261.0
Plus: Depreciation		50.0	60.0	67.5	72.5
Less: Changes in Working Capital		1.4	(5.4)	(44.0)	(8.0)
Less: CAPEX		(50.0)	(60.0)	(67.5)	(72.5)
Net Returns on Customer-related Assets		$ (80.2)	$ 49.8	$ 199.0	$ 253.0
Midpoint		0.5	1.5	2.5	3.5
Present Value Factor		0.9428	0.8381	0.7449	0.6622
Present Value of Cash Flows		$ (75.6)	$ 41.8	$ 148.2	$ 167.5
Sum of Present Value of Cash Flows (Without Scenario)		$ 281.9			

Working Capital (WC) Calculation

		Year 0	Year 1	Year 2	Year 3	Year 4
Accounts Receivable (% of Rev.)	7.5%	56.3	15.0	60.0	101.3	108.8
Inventory (Max of % of COGS & Starting Inv.)	15.5%	58.1	58.1	62.0	104.6	112.4
Accounts Payable (% of COGS)	14.5%	54.4	14.5	58.0	97.9	105.1
Total WC		60.0	58.6	64.0	108.0	116.0
WC / Revenue		8.0%	29.3%	8.0%	8.0%	8.0%
WC Investment			(1.4)	5.4	44.0	8.0

Comments:

> Cost of Goods Sold (COGS) are a stable % of revenue. As such, their levels reflect revenue levels.

> Operating Expenses are assumed to be 20% of revenue in the With scenario, with 60% fixed (i.e., unchanged in the Without scenario) and 40% variable (i.e., a function of revenue levels in the Without scenario).

> The Incremental "Re-Creation" Expenses are those required to re-create the lost customer relationships.

> The Pre-tax Income reflects the offsetting effects of lower COGS and Operating Expenses in conjunction with higher Re-Creation expenses.

> Working capital was projected by modeling accounts receivable (A/R), Inventory and accounts payable (A/P).
  A/R is modeled as a constant percent of revenue, as such it declines when revenue declines.
  Inventory is modeled as the greater of a % of COGS or starting Inventory. This reflects the expectation management would not liquidate inventory they could sell after a modest period of time.
  A/P is modeled as a constant percent of COGS, as such it declines when COGS declines.
  The overall working capital source/use reflects the contrasting impacts of these items.

> Depreciation is the same as the With scenario as it is assumed there are no changes to the fixed asset base or capex.

> Capex is assumed to be the same as in the With scenario.

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5.5   Cost Savings Method

5.5.1   The Cost Savings Method is a form of the income approach and is used to estimate the value of customer-related assets based on costs/expenses avoided via ownership of the asset. In the context of an operating entity, costs saved or avoided implicitly result in positive cash flows relating to the asset being valued. In this way, it is a form of the income approach in that the conclusion is based on the present value of future cash flows.

5.5.2   It should be noted that there is a distinction between a Cost Savings Method as described herein and a cost approach. The cost approach uses the concept of replacement as an indicator of fair value. The premise of the cost approach is that an investor would pay no more for an asset than the amount for which the utility of the asset could be replaced. Alternatively, the Cost Savings Method considers future or forecasted cost savings through ownership of the asset.

5.5.3   The following sections outline key assumptions used in the Cost Savings Method:

   a. *Operating Expenses/Replacement Costs Avoided* – Central to the valuation of an asset via this method is an estimate of the hypothetical costs saved or expenses avoided due to the existence of the customer-related asset, such as marketing expenses. As this method estimates costs saved rather than revenue/costs incurred, the PFI that was developed in support of the transaction may not directly provide the information required for this approach. However, an estimate may be obtainable by comparing the PFI with a baseline projection that assumes the subject asset is absent.

   b. *Discount Rate* – The Working Group believes that the discount rate used should be commensurate with risks inherent in the projected cash flows. Using this method, the risk is associated with the cost savings being achieved—e.g., the level of uncertainty surrounding the ability to achieve the projected savings. In many cases, there is greater certainty about cost savings than revenue growth, synergies, etc. As such, it may be appropriate for the discount rate to be less than the overall company discount rate. However, the selection of the discount rate should reflect asset-specific facts and circumstances.

   c. *Economic Life* – The total period of time over which an asset is expected to generate economic benefits for one or more users. As such, the economic life is based on the attributes of the asset and is estimated in a manner consistent with that used in an MPEEM as described earlier.

   d. *Other Considerations* – Other considerations include taxes and TAB and are consistent with the general form of the MPEEM as described earlier.

5.5.4   The fair value of the customer-related asset is estimated as follows:

   a. Estimate the cost savings for each projected year (or other period);

   b. Adjust the sum of the cost savings and related profit for taxes;

   c. Calculate the present value of the tax-affected cost savings; and

   d. Add the TAB (based on the rules of the appropriate tax jurisdiction) to conclude the fair value for the customer-related asset.

1338 5.5.5   An example of the application of the Cost Savings Method is below:

1339 *Example 5.4: Cost Savings Method*

1340 Company A acquires Company B, a manufacturer of consumables for the life sciences industry. Company
1341 A acquired Company B primarily for its technology and all other assets were thought to be easily
1342 replaceable. Company B's customer-related assets are largely wholesalers and manufacturer
1343 representatives and were valued using the Cost Savings Method. Types of costs typically investigated
1344 include avoided sales and marketing efforts, administration related to contracting, and other customer
1345 acquisition-related expenses. Based on a review of Company B's operations, it is believed that the
1346 customer-related assets would generate economic benefits over a period of three years. The discount rate
1347 is 12.5% and the tax rate is 40%. The fair value of the customer-related assets is estimated to be $77.5
1348 million, as calculated below:

Cost Savings Method		Year 1	Year 2	Year 3
Annual Cost Savings		$ 60.0	$ 40.0	$ 20.0
less: Income Taxes (40.0%)		(24.0)	(16.0)	(8.0)
After-Tax Cost Savings		36.0	24.0	12.0
Midpoint		0.5	1.5	2.5
Present Value Factor		0.9428	0.8381	0.7449
Present Value of Cash Flows		$ 33.9	$ 20.1	$ 8.9
Sum of Present Value of Cash Flows		$ 63.0		
TAB		14.5		
Fair Value		**$ 77.5**		
TAB Calculation:				
Tax Life (n)	15			
Tax Rate (t)	40.0%			
Discount Rate (r)	12.5%			
Annuity Factor	6.63	= PV(r, n, -1)		
Mid-Year Adj Factor	1.06	= (1 + r) ^ 0.5		
TAB Factor	23.1%	= (n / (n - (Annuity Factor * Mid-Year Adj Factor * t)) - 1)		

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6.0 APPLICATION OF THE COST APPROACH

6.1 Introduction

6.1.1   The cost approach uses the concept of replacement as an indicator of fair value. The premise of the cost approach is that an investor would pay no more for an asset than the amount for which the utility of the asset could be replaced.

6.1.2   The application of the cost approach to value customer-related assets should consider the following items:

    a.   Direct costs (e.g., materials, labor, advertising, direct selling, etc.);

    b.   Indirect costs (e.g., general and administrative overhead);

    c.   Developer's profit;

    d.   Opportunity costs; and

    e.   Obsolescence.

6.1.3   The exclusion of indirect costs, developer's profit, opportunity costs, and/or obsolescence may be appropriate or inappropriate based on the specific facts and circumstances and appropriate valuation methodology for the customer-related asset. The goal is to factor in all costs (direct, indirect, opportunity), profit, and obsolescence that a market participant would consider in the valuation of the customer-related asset.

6.1.4   The Working Group believes the use of a cost approach to value customer-related assets may be appropriate under certain fact patterns, including but not limited to the following:

    a.   Customer relationships are not a primary asset of the business;

    b.   There are very few identified customer relationships;

    c.   There is limited or no sales history with existing customers;

    d.   There is limited or poor ability of management to forecast cash flows associated with existing customers;

    e.   Management's projection for existing customers suggests negative cash flow for the foreseeable future, but nonetheless customers are viewed as having some value for other reasons;

    f.   The customer relationships do not convey significant rights or obligations—i.e., they are non-exclusive; and

    g.   There are no significant barriers to entry or switching costs.

6.1.5   The time period required to re-create the asset(s) (i.e., re-establish the customer relationship) is an important consideration because a significant re-creation period may suggest that significant opportunity costs exist. As it may be difficult to reliably estimate the magnitude of these opportunity costs, another valuation technique, such as an income-based methodology, may be more appropriate.

6.1.6   The following sections outline key assumptions used in the cost approach.

6.2 Cost Approach

1385

1386 6.2.1 Key inputs to the cost approach are described below:

1387   a. *Direct Costs* – Direct costs are expenses that can be directly linked to the creation of the existing
1388   customer-related asset (e.g., materials, labor, or other asset-specific expense). Examples may
1389   include sales staff time, company-specific marketing expenses, and customer entertainment.
1390   Although direct costs should reflect the current costs that would be incurred to re-create customer-
1391   related assets of equal utility, historical costs adjusted for inflation and/or other factors may be a
1392   reasonable proxy.

1393   b. *Indirect Costs* – Indirect costs are expenses that cannot be directly linked to the creation of a
1394   specific existing customer-related asset (e.g., overhead). These costs are typically proportionally
1395   allocated to all the customer-related assets. Examples include advertising campaign costs, public
1396   relations expenses, broad media campaigns, and general printing costs. Indirect costs generally
1397   also include general and administrative costs that were needed to oversee the creation of the
1398   customer-related asset. Similar to direct costs, historical indirect costs should be stated on a current
1399   cost basis (i.e., adjusted for inflation and/or other factors).

1400   Direct and indirect costs should be inclusive of all costs associated with re-creating the customer
1401   base at the date of valuation, including those costs that did not result in the successful addition of a
1402   new customer. Inefficient efforts that are deemed to be irrelevant to the creation of the customer-
1403   related asset should be excluded from the total cost build-up analysis. Examples of these costs may
1404   include marketing expenditures related to unsuccessful sales channels, unsuccessful advertising
1405   campaigns, etc. However, certain inefficiencies may be appropriate to include in a cost build-up
1406   because they are inherent to the nature of acquiring customers and cannot be avoided even with
1407   knowledge of the most productive marketing strategy. Examples of these costs may include
1408   marketing costs directed toward the solicitation of a potential customer base that do not result in
1409   successful customer additions (i.e., the "fully-loaded" cost per customer should include
1410   unsuccessful solicitation attempts). Inclusion of only costs related to successfully developing an
1411   existing customer relationship would lead to survivorship bias.

1412   c. *Developer's Profit* – Developer's profit reflects the expected return on the investment (direct plus
1413   indirect costs). Developer's profit can be calculated based on a reasonable profit margin on the
1414   development activities. This profit margin should include both the profit related to re-creation
1415   efforts as well as a return on the assets employed in the efforts, and should reflect a market
1416   participant perspective, using observable data, as available. Some estimated costs (e.g., costs paid
1417   to an outside marketing or staffing firm) may already be inclusive of a developer's profit.

1418   The developer's profit can be estimated by reviewing market participant margins on similar
1419   activities. For instance, in deriving the developer's profit on sales and marketing activities, a
1420   reasonable metric may be to review margins of value added resellers or value added distributors.
1421   The actual margins of the subject business may also be reflective of an appropriate margin.

1422   d. *Opportunity Costs* – Opportunity costs represent foregone returns during the period that the re-
1423   creation of the asset has an impact on the business. The premise behind this concept is that the
1424   costs incurred to re-create the asset could have otherwise been invested, which would have resulted
1425   in a return on a similar alternative investment. These costs are only present if the asset cannot be
1426   utilized while being created. If opportunity costs are significant, application of the cost approach
1427   might not be applicable.

1428 Opportunity costs may be calculated based on a reasonable rate of return on the expenditures
1429 (including developer's profit) while the asset is being created. For example, a reasonable rate of
1430 return on the costs may be estimated similar to the rates of return estimated for customer-related
1431 assets or other assets with a similar risk profile that would be valued using an income approach.
1432 Although consistent with deriving market rates of return on other intangible assets, direct market
1433 evidence typically is not available. A reasonable rate of return may be estimated by reviewing the
1434 WACC, IRR and other similar metrics.

1435 Opportunity costs can also be measured as lost profits or lost cash flows that occur as a result of
1436 not having the asset in place. For example, revenue and related profit is not received from existing
1437 customers while the customer-related asset is being re-created. The amount of profit lost is a
1438 function of the amount of time required to re-create the asset and the impact that the asset has on
1439 the business.

1440 Although developer's profit and opportunity costs both reflect an element of profit while the
1441 customer asset is being constructed, they relate to different elements. From a practical perspective,
1442 the developer's profit is the level of profit required on capital employed in the creation of the
1443 customer asset—i.e., the level of profit a third party would require if they were engaged in the
1444 activities of creating the customer-related assets. In contrast, opportunity costs reflect the cash flow
1445 foregone while the asset is being (re)created.

1446 e. *Obsolescence* – In order to estimate the value of the customer-related assets, it is important to
1447 consider various forms of obsolescence. Forms of obsolescence regularly considered in a cost
1448 approach include physical deterioration, incurable functional and technological obsolescence, and
1449 economic or external obsolescence. Due to the nature of customer-related assets, it is very unlikely
1450 that physical deterioration or any form of incurable functional and technological obsolescence
1451 would be present.

1452 Economic obsolescence may be evident if the customer-related asset cannot generate a fair rate of
1453 return over its remaining useful life based on the indication of value. Economic obsolescence can
1454 be calculated as the present value of the economic shortfall measured as the difference between the
1455 market participant forecasted return on the customer-related asset versus the owner's required
1456 return or demonstrated historical return. Alternatively, economic obsolescence can be calculated as
1457 the present value of the economic shortfall measured as the difference between the forecasted
1458 profit margin on the asset versus the owner's required profit margin or demonstrated historical
1459 margin on the asset. If it appears likely that economic obsolescence is present and significant, a
1460 different valuation approach may be more appropriate.

1461 Obsolescence due to age/life of the customer group being valued should only be done in limited
1462 circumstances when the remaining life of the customer group is certain and known to be shorter
1463 than the life that was expected for the customer group when initially created. In situations where
1464 there is no clear relationship between an individual customer age and remaining life, an adjustment
1465 to the aggregate customer group value is likely not appropriate.

1466 f. *Taxes* – The costs estimated in this method are investment costs and not period costs, and therefore
1467 the conclusion of the cost approach should not be tax affected. Nor should the conclusion be
1468 adjusted for the TAB, as a pre-tax conclusion is consistent with an exit price that a market
1469 participant would receive for the asset.

1470 6.2.2   An example of the application of the Cost Approach is below:

1471 ***Example 6.1: Cost Approach***

1472 Company A acquires Company B, a manufacturer of branded consumer electronics. Company A acquired
1473 Company B primarily for its brand and all other assets were thought to be easily replaceable. The purchase
1474 consideration is $500 million (on a cash-free, debt-free basis). There are 1,000 customers. Company B's
1475 customer-related assets were valued using a cost approach. Based on a review of Company B's operations,
1476 the customer-related assets were created ratably over the past three years at an historic cost of $21 million
1477 (direct costs of $15 million and indirect costs of $6 million).

1478 The historical costs are deemed to be representative of direct and indirect costs as of the date of value (i.e.,
1479 they are current costs and do not need to be adjusted for inflation). The developer's profit margin was
1480 estimated based on market observations of profit margins earned by companies that perform similar
1481 activities. Opportunity costs were calculated using a 12% rate of return and an average three-month lead
1482 time between when the company first invests in a new customer and when the first purchase is made. This
1483 reflects the profit that could otherwise be earned on an investment of commensurate risk during the three-
1484 month period. There are various metrics that may be appropriate indications of required return for
1485 purposes of calculating an opportunity cost; in this case, the WACC was viewed to be the most
1486 appropriate as it reflects the overall risk-adjusted rate of return for the business. For the purposes of this
1487 analysis, no obsolescence was determined to be present.

1488 The fair value of the customer-related assets is estimated to be $27.0 million, as calculated below:

Cost Approach
Figures in Actuals

		% of Total Value
Direct & Indirect Costs		
Direct Costs	$ 15,000,000	55.5%
Indirect Costs	6,000,000	22.2%
Total Costs	21,000,000	
Developer's Profit		
Developer's Profit Margin	20% (1)	
Developer's Profit	5,250,000	19.4%
Opportunity Cost		
# of Customers	1,000	
Average Lead Time (years)	0.25	
Required Return	12%	
Investment per Customer	26,250 (2)	
Opportunity Cost per Customer	787.5 (3)	
Total Opportunity Costs	787,500 (4)	2.9%
Total Cost	**$ 27,037,500**	100.0%

(1) Calculated as: (Cost / (1 - Margin) * Margin), such that the margin earned on the
    the cost is 20%. In this case, (Developer's Profit) / (Developer's Revenue consisting
    of Costs plus Developer's Profit) = 20% margin.
(2) Calculated as: Total Costs (including Developer's Profit) / # of Customers
(3) Calculated as: Lead Time in Years * Required Return * Investment per Customer
(4) Calculated as: Opportunity Cost per Customer * # of Customers

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7.0   APPLICATION OF THE MARKET APPROACH

7.1   Introduction

7.1.1   The market approach is used to estimate fair value based on market prices of comparable assets. The valuation process is essentially that of comparison and correlation between the subject asset and similar assets. Characteristics and conditions of sale for comparable assets are analyzed and potentially adjusted to indicate a value of the subject asset. For this approach to be reliable, customer-related assets need to be exchanged in separate observable transactions.

7.1.2   Because transactions of customer-related assets typically are not observable (either because they do not generally occur at all or because specific information relating to transactions that do occur is generally not available), the Working Group believes that use of this approach will be rare. Customer-related assets are rarely transacted on a stand-alone basis; rather, they are typically acquired as part of a business or group of assets. Therefore, information on market transactions of customer-related assets generally is not available. A further limitation of the market approach is that if observable transactions exist, the uniqueness of customer-related assets typically results in a lack of comparability with the subject asset. However, this approach may be appropriate for certain types of customer lists such as prescription files, subscriber lists, or frequent flyer/shopper lists when comparable transaction data exists and the buyer is realizing full ownership rights to the asset versus simply a right to use the asset.

7.2   Methodology

7.2.1   *Valuation Multiples* – Similar to conducting a market approach for the purpose of valuing a business or an equity interest in a business, a valuation multiple should be derived based on comparable market transaction information. To the extent possible, the valuation multiple should be adjusted for differences between the subject asset and the comparable assets. The related rights, obligations, and risk profiles of the assets should also be considered when selecting an appropriate multiple. For example, a customer list rental rate may not reflect the fair value of the customer list asset and adjustments may be necessary to this market indication to arrive at its fair value that would be measured because the rental rate may not include full ownership rights.

7.2.2   *Taxes* – Market approach estimates of value are typically not adjusted for taxes, nor is a TAB typically applied, as the price paid in a market transaction theoretically includes consideration of relevant tax issues.

7.2.3   An example of the application of the Market Approach is below:

Example 7.1: Market Approach

Company A acquires Company B, a regional pharmacy chain. Company B generates $1.0 million in revenue per year and has 20,000 individual records. Market transactions indicate that pharmacy records sell for $5 per record. The comparable pharmacy records are sufficiently similar to the records of Company B that no adjustments to the observed valuation multiple are necessary. The value of the customers is $100,000, as calculated below:

20,000 records x $5 per record = $100,000

8.0 VALUATION METHODOLOGY SELECTION

1528

1529 8.1.1   The choice of an appropriate valuation methodology is critical to appropriately valuing customer-
1530 related assets. As previously indicated, there are a number of methodologies that may be used. While
1531 certain approaches are more commonly used and/or more broadly appropriate than others, all approaches
1532 have positive and negative attributes. The facts and circumstances specific to the customer-related asset
1533 being valued drive the selection of the appropriate valuation methodology.

1534 8.1.2   The valuation specialist should choose the methodology that is most appropriate and provides the
1535 best indication of fair value. The following paragraphs provide information to help the valuation specialist
1536 in this respect.

1537   a. *MPEEM* – The MPEEM is a broadly used method and may be employed when the customer-
1538   related asset being valued is a primary asset or when a different asset is the primary asset and can
1539   be appropriately valued using another valuation methodology. While the MPEEM is commonly
1540   used because it incorporates PFI, there are a number of limitations as well as advantages to the
1541   method. In instances where the elements of goodwill (such as assemblage value) of a business are
1542   believed to have significant value, the propensity of the MPEEM to include goodwill elements in
1543   the cash flows attributed to the customer-related assets becomes greater. This is commonly viewed
1544   to be an acceptable limitation of the method; however, consideration of other valuation
1545   methodologies may be appropriate in such circumstances. Additionally, use of the MPEEM
1546   requires a number of assumptions and valuation judgments, including attrition analyses, lifing, and
1547   the development of CACs, among others. In the Working Group's view, the MPEEM is a useful
1548   valuation method and its limitations are widely known and accepted and typically do not become
1549   problematic so long as the analysis and underlying assumptions are well supported.

1550   b. *The Distributor Method* – A benefit of using the Distributor Method is that it uses market-based
1551   data to support the selection of profitability and other inputs related to customer-related activities
1552   (similar to selection of a royalty rate in a relief-from-royalty model), thereby allowing the potential
1553   use of the MPEEM to value other assets of the business if appropriate. In situations where market-
1554   based information for distributor inputs is not available, an alternative method should be used.
1555   Using distributor inputs is appealing when valuing certain customer-related assets because it
1556   assists with isolating cash flow attributable to the customer-related assets; however, similar to the
1557   MPEEM, these cash flows may also contain some elements of goodwill (although not to the same
1558   magnitude as what may be captured through the MPEEM). This method is often appropriate when
1559   customer-related assets are generally transactional in nature with minimal switching costs. In order
1560   to effectively utilize this method, market data must be available for distributors that have
1561   relationships with their customers that are similar to the relationships the subject entity has with its
1562   customers. The use of this methodology gives the valuation specialist the option to use the
1563   MPEEM to value another asset of the business (e.g., brand or technology) without the challenges
1564   caused by multiple MPEEMs with circular cross-charges. In addition, similar to the MPEEM, this
1565   method requires a significant number of assumptions and subjective judgments including selection
1566   of distributor comparables and profit margin, CACs, attrition, and lifing, among others.

1567   c. *The With-and-Without Method* – The With-and-Without Method is most likely to be considered
1568   when the customer-related assets are not the primary asset. The method works best when
1569   reasonable estimates can be made for the time and resources required to re-create the asset, which
1570   is more likely to be the case when the re-creation period is short. However, in some cases, use of
1571   the With-and-Without Method may produce asset cash flows that include elements of goodwill.

1572   Since the method presumes that the differential cash flow results in the customer value, one could
1573   argue that the differential relates to other assets as well, including elements of goodwill. While the
1574   method is logical in theory, it requires significant information and judgment in quantifying the
1575   impact of the absence of the subject asset upon the cash flows of the business. For instance,
1576   because the revenues of a business are sourced from its customers, there could be unanticipated
1577   effects of not having customers in place (e.g., effects on future customer's patronage and
1578   longevity, the effect of having to win back customers from the competition, or the effect on future
1579   investment). By using the With-and-Without Method to value customer-related assets, the
1580   MPEEM may then be used to value another intangible asset (e.g., brand or technology).

1581   d. *The Cost Savings Method* – The Cost Savings Method is a form of the income approach that
1582   directly measures an expected future benefit stream of an asset in terms of the future after-tax
1583   costs, which are avoided (or reduced) as a result of owning the asset. The Cost Savings Method is
1584   not a re-creation analysis and is based on a direct measure of future economic benefits as opposed
1585   to returns on past investments. The Cost Savings Method may be appropriate when the subject
1586   asset results in saving costs, avoiding expenditures, or improving efficiency, etc. This method can
1587   be used when the customer assets are not the primary asset and the costs saved can be estimated in
1588   a straightforward manner. Unlike the With-and-Without Method, this approach allows for the
1589   valuation specialist to directly forecast and measure incremental costs avoided due to the existence
1590   of the asset versus the With-and-Without Method, which requires a forecast of all business
1591   economics (revenues, operating expenses, etc.) under two scenarios.

1592   Another issue to consider in relation to intangible assets in general is whether assemblage or going
1593   concern value (both elements of goodwill) is embedded in the fair value of the asset and whether
1594   or not it should attach to the asset. Many believe that use of an excess earnings method (including
1595   the Distributor Method) or With-and-Without Method can lead to assemblage value or going
1596   concern value being included in the residual cash flows because contributory charges or other
1597   adjustments for those elements of goodwill are not generally determinable. Please see the VFR
1598   Valuation Advisory #1 for further discussion related to this topic. The Working Group
1599   acknowledges that it is possible that elements of goodwill may be included in asset values based
1600   on the aforementioned valuation techniques; however, in most cases, it is difficult to measure how
1601   much goodwill-related value may be included, and it is not generally accepted for a going
1602   concern/goodwill CAC to be applied. The Working Group notes that this has commonly been
1603   viewed as an acceptable limitation of the MPEEM that is outweighed by the method's many
1604   advantages.

1605   e. *The Cost Approach* – The Working Group believes the use of a cost approach to value customer-
1606   related assets may be appropriate under certain fact patterns as discussed in 6.1.4. Although
1607   intuitive and objective, the Working Group believes that the cost approach suffers from a number
1608   of limitations that restrict its usefulness. The cost approach may understate the fair value of
1609   customer-related assets that are not easily replaceable or create an economic benefit that exceeds
1610   the historical cost of developing the relationship. Additionally, due to survivorship bias and other
1611   challenges in estimating the required inputs, the cost approach may not yield a reasonable value.
1612   There are limited situations where other approaches may be considered too difficult, inappropriate,
1613   or subjective, and in these cases a cost approach may provide a reasonable indication of fair value.

1614   f. *The Market Approach* – The market approach is most appropriate for valuing customer-related
1615   assets when there have been market transactions of comparable assets and the market data is
1616   available. Although intuitive and objective, the Working Group believes that the market approach

1617   suffers from a number of limitations that restrict its usefulness. Customer-related assets are rarely
1618   transacted on a standalone basis, and in most cases, any observable historical transactions will not
1619   be comparable. However, in limited situations, such as when valuing certain types of customer
1620   lists, historical transactions may exist and provide an objective indication of value.
1621

9.0   OTHER CONSIDERATIONS

9.1   Introduction

9.1.1   This section addresses other technical issues not previously covered in this document that, depending on the facts and circumstances, may be relevant to the valuation of customer-related assets.

9.2   Backlog

9.2.1   Backlog typically represents a subset of the customer-related asset. As previously defined, backlog represents products or services that have been contracted but have not been delivered or invoiced as of the measurement date. The value of customer relationships is affected by revenues and earnings that arise from future orders placed by existing customers. In estimating the fair value of customer relationship assets, backlog (if significant and deemed to have different life, risk profile, and/or profitability characteristics) may be valued separately.

9.2.2   When backlog is valued separately from the customer relationship asset, care must be taken to ensure that customer value is not double counted. When backlog is separately valued, its value should be excluded from the value of the customer relationship asset. The valuation of both assets using an MPEEM approach is commonly accomplished by excluding backlog revenue and operating profit from the customer relationship valuation. An additional consideration (though it is an accounting consideration rather than a valuation consideration) is the post-transaction amortization. When straight-line amortization is used rather than the pattern of economic benefit, it is common to begin amortizing all assets in the first period. This will lead to concurrent amortization in periods where both backlog and other customer-related assets exist. As a result, it is not uncommon to group backlog and customer relationship value estimates into a single valuation model.

9.3   Deferred Revenue

9.3.1   Deferred revenue is a liability (either current or non-current) that arises from the accounting for transactions in which a customer pays for goods or services in advance of the delivery of such goods or services and there is a remaining performance obligation. The undelivered performance obligation becomes a liability at the time of the transaction and is recognized as revenue once the performance obligation is fulfilled. Common examples are computer service contracts, software maintenance contracts, or other extended service contracts where the contract is paid at inception but the performance obligation will be delivered over the term of the contract, which causes the entity to defer recognition of revenue.

9.3.2   The presence of deferred revenue when valuing an intangible asset such as customer-related assets or technology-related assets can create the need for adjustments to the cash flows to ensure there is not double counting. Specifically, the valuation of the deferred revenue (which typically arises in a business combination or a goodwill impairment step two analysis) considers the costs to fulfill the performance obligation and the related profit on those efforts. It is important to make sure that those costs and profits are not measured in another intangible asset such as customer-related or technology-related assets so that the liability is not netted with an asset.

9.3.3   In most cases, the PFI prepared by management is developed on an accrual basis. In the presence of deferred revenue, this can create the need for adjustments to be made because a portion of the projected

1660 revenue will have already been received in cash. The Working Group believes there are generally three
1661 alternatives for making deferred revenue-related adjustments:

1662   a. In Method 1, the accrual PFI can be converted to a cash-basis PFI. Using a cash-basis PFI would
1663   not require a need for any adjustments because revenue is not deferred in cash-basis accounting.

1664   b. In Method 2, adjust the accrual-based PFI in a MPEEM to exclude the book value of deferred
1665   revenue,[27] and remove the fulfillment cost from the Cost of Goods Sold (COGS) and operating
1666   expenses. By eliminating the deferred revenue and the fulfillment cost from the MPEEM, double
1667   counting is avoided.

1668   c. In Method 3, in situations where the amount of revenue from existing customers that is deferred
1669   each year is expected to be relatively consistent or the amount of revenue deferred each year is
1670   minimal as compared with total annual revenue, as a practical expedient no adjustments for
1671   deferred revenue or related fulfillment expenses are made in the customer-related asset valuation
1672   model. The timing impact on cash flows is considered to be de minimis.

1673 9.3.4   The Working Group believes that Methods 2 and 3 are more practical expedients, as converting
1674 accrual accounting PFI to cash basis may be a complex task. Key adjustments in Method 2 include:

1675   a. Projected revenue should represent revenue from future sales only (i.e., revenue that has not yet
1676   been received). Thus, the amount of revenue that is deferred (book value) should be excluded from
1677   the MPEEM because it has already been received and the cost associated with fulfilling the
1678   performance obligation associated with the deferred revenue is valued as a liability.

1679   b. The cost of goods sold should be based on the revenue from future sales only.

1680   c. The working capital CAC should reflect debt-free working capital, including deferred revenue and
1681   the related cash.

1682 9.3.5   Example 9.1 below is a simplified example that highlights the important consideration of the
1683 relationship between the customer relationship asset and deferred revenue liability values.

1684 *Example 9.1: Adjustments for Deferred Revenue*

1685 9.3.6   A basic bottom-up valuation of deferred revenue is shown below. The full-year revenue for the
1686 entity is forecast to be $5,000 and $1,000 is deferred revenue as of the valuation date.

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[27] Excluding the book value of the deferred revenue means that the MPEEM should include only the revenue that was not deferred in year one (or more years if deferred revenue is long term).

Valuation of Deferred Revenue		
	Bottom-Up Approach	**Percentage of Book Value**
Book Value	1,000	100%
COGS (Fulfillment)	700	70%
Selling & Marketing (1)	-	10%
R&D	-	0%
Cost to Fulfill	700	80%
Profit on Fulfillment	175	18%
Fair value	875	88%
Assumptions:		
EBITA Margin	20%	
Convert to Profit on Cost	25%	

Comments:

(1) Selling & Marketing is not considered a fulfillment-related cost.

1687

1688 9.3.7   Below is an illustration of the adjustments discussed above using a one-year MPEEM model.

1689 a. The MPEEM only includes the revenue from future sales.

1690 b. COGS and Selling & Marketing are based on the $4,000 revenue from future sales.

1691 c. In the profit and loss statement, total revenue equals the fair value of the deferred revenue plus the
1692 revenue from future sales.

1693 The COGS is $2,800, which is the $3,500 in COGS prior to adjustment less the fulfillment cost in
1694 the deferred revenue valuation ($700).

MPEEM Adjustments - Correct		
		Customer MPEEM
	Year 1	Year 1
Revenue Deferred at Book Value	1,000	-
Revenue from Future Sales (1)	4,000	4,000
Total Revenue	5,000	4,000
COGS (2)	(3,500)	(2,800)
Selling & Marketing (S&M) (3)	(500)	(400)
R&D (4)	-	-
EBITA	1,000	800
EBITA Margin	20%	20%

Comments:

(1) Deferred revenue at book value is excluded from the customer asset model.

(2) COGS in the MPEEM are based on the revenue from future sales only (70%*4,000).

(3) S&M in the MPEEM are based on the revenue from future sales only (10%*4,000).

(4) There are various practices regarding the inclusion of R&D expense in deferred revenue valuations. For the purposes of this example, R&D has not been included in the deferred revenue valuation.

1695

1696 9.3.8   Below is a second commonly used calculation for adjusting the same one-year MPEEM model
1697 that the Working Group does not believe to be correct.

1698   a.   Revenue appropriately excludes the deferred revenue.

1699   b.   COGS are calculated as the deferred revenue fulfillment costs plus the COGS on revenue from
1700   future sales. This is a double count because the fulfillment costs are already measured in the
1701   deferred revenue liability (or fair value). The result is an understated value of the asset being
1702   valued with the MPEEM (note that the adjusted Earnings Before Interest, Taxes and Amortization
1703   [EBITA] margin is below the unadjusted base margin), which will have the effect of overstating
1704   the profit in the income statement.

MPEEM Adjustments - Incorrect		
	Year 1	**Customer MPEEM Year 1**
Revenue Deferred at Book Value	1,000	-
Revenue from Future Sales (1)	4,000	4,000
Total Revenue	5,000	4,000
COGS (2)	(3,500)	(3,500)
Selling & Marketing	(500)	(400)
R&D	-	-
EBITA	1,000	100
EBITA Margin (2)	20%	3%

Comments:
(1) Deferred revenue at fair value is excluded from the customer asset model.
(2) COGS are based on total revenue, inclusive of deferred revenue. Profit related
   to the asset is reduced significantly because the fulfillment cost is double-counted.

1705

1706 9.3.9   Method 1 is obtaining a cash-based PFI from management or converting the accrual-based cash
1707 flows to cash basis for use in the MPEEM. Conversion of accrual-based revenue may not be overly
1708 complicated, but management would likely have to provide a number of key data points. The advantages
1709 of using a cash-basis PFI are:

1710   a. There is no need to make any adjustments for deferred revenue because in cash-basis accounting,
1711   deferred revenue would not exist.

1712   b. The CAC for working capital would only include operating cash and inventory.

1713 9.3.10   The disadvantages of using this approach include:

1714   a. The appropriate information must be obtained to make the conversion, assuming management does
1715   not have a cash-basis PFI readily available.

1716   b. Customer attrition is based on historical revenue data that is most likely recorded based on the
1717   subject company's accrual accounting. The result may be that attrition rates are not appropriately
1718   matched to the revenue projections being used.

1719 9.3.11 The Working Group believes that Method 2 above is a more practical expedient and more
1720 commonly used in the valuation profession.

1721 **9.4   Step-Up Considerations for Inventory**

1722 9.4.1   When valuing customer-related assets using the MPEEM, the valuation specialist must often
1723 consider how to account for the fair value of inventory and its associated step-up in determining the
1724 appropriate earnings and cash flow, as well as the CAC related to working capital. It is generally accepted
1725 practice to calculate CACs based on the fair value of the contributory assets used in generating the

1726 revenue, earnings, and cash flows relating to the asset being valued. According to VFR Valuation
1727 Advisory #1, valuation specialists should not only exclude one-time adjustments from market participant
1728 levels of working capital used in the CAC calculation, but should also make sure to adjust for the effects
1729 of any one-time modifications of the PFI utilized in the valuation of the subject intangible asset to avoid
1730 double counting profit or expense. More specifically, the profit included in the inventory step-up (if
1731 applied) would need to be removed from the PFI of the subject intangible asset so that the profit is not
1732 recognized more than once.[28]

1733 9.4.2   In practice, the Working Group has found that the statement above can be interpreted in multiple
1734 ways. It is the Working Group's view that, in valuing the customer-related assets, the inventory step-up
1735 should be included as an expense in the PFI used in the MPEEM and related adjustments should be made
1736 to the level of contributory asset charges. Furthermore, the CACs should be based on market participant
1737 levels and exclude the impact of one-time adjustments.

1738 9.4.3   Example 9.2 below outlines a calculation to incorporate the inventory step-up in an MPEEM. The
1739 inventory step-up is the difference between the fair value and book value of the inventory. For illustration
1740 purposes, it was assumed there is no work-in-process (WIP) inventory and that last-in first-out (LIFO)
1741 accounting is used.

1742 *Example 9.2: Adjustment for Inventory Step-up*

Inventory Summary				
	Book Value	Fair Value	Step-up	Step-up (%)
Inventory - Finished Goods	160.0	170.0	10.0	6.3%
Inventory - Raw Materials	10.0	10.0	-	0.0%
Total	170.0	180.0	10.0	5.9%

Comments:

> The fair value of finished goods inventory reflects its net realizable value, which equals net selling price less disposition costs
  and profit on disposition activities.

1743 > Raw materials inventory is valued based on its replacement cost.

1744 9.4.4   It is important to understand that the inventory step-up reflects costs and profits associated with
1745 manufacturing of inventory and that in a MPEEM, the profits on these activities are also reflected as
1746 CACs in the forms of returns on and of Property, Plant & Equipment (PP&E), working capital, workforce,
1747 and potentially other assets.

1748 9.4.5   The table below shows the impact of the inventory step-up on a MPEEM under several common
1749 scenarios. For simplicity, it is assumed that the inventory step-up only impacts year 1 of the MPEEM.
1750 Each method is described below:

1751   a. "Year 1 No Step-up" scenario – Shows the cash flow derived from customer-related assets without
1752   the impact of the inventory step-up. The CACs are also not adjusted. It is assumed that the entity is
1753   operating in a normal fashion and the profit associated with the manufacturing operation is already
1754   embedded in the CACs. Because the profit associated with manufacturing operations is captured in

---

1755   both the inventory and the CACs, the Working Group believes this approach may be inappropriate
1756   for use in situations where the step-up in inventory is not completely offset by the CACs.

1757   b. "Year 1 Step-up" scenario – Shows the cash flow derived from customer-related assets with the
1758   impact of the inventory step-up. The CACs are not adjusted. The Working Group believes that this
1759   approach double counts the manufacturing-related profit as it is included in the inventory step-up
1760   and in the manufacturing-related CACs. Therefore, the cash flow in the MPEEM is incorrectly
1761   understated.

1762   c. "Blended" scenario – Shows the aggregate cash flow derived from customer-related assets (i.e., it
1763   is a summation of the "Existing Inventory" and "Future Inventory" columns). This scenario can be
1764   compared with the "Year 1 No Step-up" and "Year 1 Step-up" scenarios. It is the Working
1765   Group's view that the "Blended" scenario best reflects the expected future cash flow resulting
1766   from the customer-related assets since revenues related to finished goods inventory have the
1767   appropriate adjustments for the inventory step-up and CACs ("Existing Inventory" column) and
1768   revenue associated with future inventory is reflective of the levels of CACs needed to support it
1769   ("Future Inventory" column). Additional detail on the "Existing Inventory" and "Future Inventory"
1770   columns is below:

1771   i. "Existing Inventory" column – Shows the cash flow derived from customer-related assets
1772   relating only to revenue from the sale of finished goods inventory (i.e., depreciation,
1773   PP&E, and assembled workforce requirements as a percentage of revenue are reduced to
1774   reflect the fact that the inventory has already been manufactured—these adjustments are
1775   based on an assessment of the amount of PP&E and other assets that are utilized for non-
1776   manufacturing activities). The MPEEM is adjusted for the impact of the inventory step-up
1777   (the step-up is applied as an expense) and CACs are adjusted to reflect non-manufacturing
1778   activities to avoid a double counting of profit. In the example below, 20% of PP&E and
1779   workforce are associated with the distribution effort and therefore in the "Existing
1780   Inventory" column, depreciation and the PP&E and workforce CACs (as a percentage of
1781   revenue) reflect 20% of the respective total company assumptions.

1782   ii. "Future Inventory" column – Shows the cash flow derived from customer-related assets
1783   relating only to revenue from the sale of inventory not yet manufactured. The MPEEM has
1784   no adjustment for the inventory step-up and CACs are also unadjusted, other than to be
1785   scaled for their utilization (on a percentage of revenue basis).

Inventory Step-up Adjustment

	Year 1 No Step-up Scenario	Year 1 Step-up Scenario	Blended Scenario		
			Existing Inventory	Future Inventory	Blended
Revenue by Inventory Type	1,000.0	1,000.0	200.0	800.0	1,000.0
COGS	(800.0)	(800.0)	(160.0)	(640.0)	(800.0)
Inventory Step Up	-	(10.0)	(10.0)	-	(10.0)
Gross Profit	200.0	190.0	30.0	160.0	190.0
SG&A	(100.0)	(100.0)	(20.0)	(80.0)	(100.0)
EBITDA	100.0	90.0	10.0	80.0	90.0
Depreciation	(30.0)	(30.0)	(1.2)	(24.0)	(25.2)
EBITA	70.0	60.0	8.8	56.0	64.8
EBITA Margin	7.0%	6.0%	4.4%	7.0%	6.5%
Income Taxes	(28.0)	(24.0)	(3.5)	(22.4)	(25.9)
Debt-Free Net Income	42.0	36.0	5.3	33.6	38.9
	4.2%	3.6%	2.6%	4.2%	3.9%
After-Tax Return on Supporting Assets					
Working Capital	(6.0)	(6.0)	(1.2)	(4.8)	(6.0)
Property, Plant & Equipment	(15.0)	(15.0)	(0.6)	(12.0)	(12.6)
Assembled Workforce	(10.0)	(10.0)	(0.4)	(8.0)	(8.4)
Total After-Tax Returns	(31.0)	(31.0)	(2.2)	(24.8)	(27.0)
Net Cash Flow to Customer Relationships	11.0	5.0	3.1	8.8	11.9
Implied Royalty Rate	1.10%	0.50%	1.54%	1.10%	1.19%

Assumptions

(As as percentage of revenue)	Year 1 No Step-up Scenario	Year 1 Step-up Scenario	Blended Scenario		
			Existing Inventory	Future Inventory	Blended
COGS	80.0%	80.0%	80.0%	80.0%	80.0%
COGS (with Inventory Step Up)	80.0%	81.0%	85.0%	80.0%	81.0%
SG&A	10.0%	10.0%	10.0%	10.0%	10.0%
EBITDA Margin	10.0%	9.0%	5.0%	10.0%	9.0%
Depreciation	3.0%	3.0%	0.6%	3.0%	2.5%
Tax Rate	40.0%	40.0%	40.0%	40.0%	40.0%
Working Capital to Revenue	10.0%	10.0%	10.0%	10.0%	10.0%
Return on Working Capital	6.0%	6.0%	6.0%	6.0%	6.0%
PP&E to Revenue	15.0%	15.0%	3.0%	15.0%	12.6%
Return on PP&E	10.0%	10.0%	10.0%	10.0%	10.0%
Assembled Workforce CAC	1.0%	1.0%	0.2%	1.0%	0.8%
PP&E Allocation					
Manufacturing Function	20.0%				
Distribution Function	80.0%				

1786

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9.5 Overlapping Customers

9.5.1   Overlapping customers exist when an acquirer purchases an acquiree that has many of the same customers. For example, Company A sells football equipment to Retailers L, M and O. Company A acquires Company B, a maker of soccer equipment, in a business combination and Company B also sells its products to L, M and O. Historically, some entities argued that Company B's customers should not be recognized at fair value because Company A already had established relationships with L, M and O and it did not gain new customer relationships. The counterargument that was highlighted in an SEC speech[29] stated that Company A had likely gained shelf space at the retailers and enhanced its economic relationships as it would now receive incremental cash flows resulting from Company B's relationships. The key take away from the speech is that the economics of customer-related assets from a market participant perspective are the most important consideration (assuming they meet the contractual-legal or separable criteria) rather than the nature of the relationships on an entity-specific basis.

9.6   Pre-Existing Relationships in a Business Combination

9.6.1   ASC (equivalent discussion in IFRS 3R [B51-B53]) states that an

> acquirer and the acquiree may have a preexisting relationship or other arrangement before negotiations for the business combination began, or they may enter into an arrangement during the negotiations that is separate from the business combination. In either situation, the acquirer shall identify any amounts that are not part of what the acquirer and the acquiree (or its former owners) exchanged in the business combination, that is, amounts that are not part of the exchange for the acquiree. The acquirer shall recognize as part of applying the acquisition method only the consideration transferred for the acquiree and the assets acquired and liabilities assumed in the exchange for the acquiree. Separate transactions shall be accounted for in accordance with the relevant generally accepted accounting principles (GAAP).[30]

9.6.2   In addition to the language above, ASC 805 and IFRS 3R provide the following example for the effective settlement of a supply contract as a result of a business combination (use of the word "Target" in the quote below indicates the acquiree):

> Acquirer purchases electronic components from Target under a five-year supply contract at fixed rates. Currently, the fixed rates are higher than rates at which Acquirer could purchase similar electronic components from another supplier. The supply contract allows Acquirer to terminate the contract before the end of the initial 5-year term only by paying a $6 million penalty. With 3 years remaining under the supply contract, Acquirer pays $50 million to acquire Target, which is the fair value of Target based on what other market participants would be willing to pay.[31] (similar language is found in IFRS 3R [IE54])

> Included in the total fair value of Target is $8 million related to the fair value of the supply contract with Acquirer. The $8 million represents a $3 million component that is at-market because the pricing is comparable to pricing for current market transactions for the same or similar items (selling effort, customer relationships, and so forth) and a $5 million component for pricing that is unfavorable to Acquirer because it exceeds the price of current market transactions for similar items. Target has no other identifiable assets or liabilities related to the

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[29] Remarks made by SEC professional accounting fellow Pamela Schlosser at the 2005 AICPA National Conference on Current SEC and PCAOB Developments.
[30] *Accounting Standards Codification*™ 805-10-25-20.
[31] *Accounting Standards Codification*™ 805-10-55-30.

1823   supply contract, and Acquirer has not recognized any assets or liabilities related to the supply contract before
1824   the business combination.[32] (similar language is found in IFRS 3R [IE55])

1825 9.6.3   "In this Example, Acquirer recognizes a loss of $5 million (the lesser of the $6 million stated
1826 settlement amount and the amount by which the contract is unfavorable to the acquirer) separately from
1827 the business combination. The $3 million at-market component of the contract is part of goodwill."[33]
1828 (similar language is found in IFRS 3R [IE56])

1829 9.6.4   The Working Group believes that although this example discusses customer contracts, non-
1830 contractual customer relationships would be treated similarly and would not lead to the recognition of an
1831 identifiable intangible asset because customer relationships do not meet the definition of a reacquired
1832 right.

1833 **9.7   Asset Life and Amortization**

1834 9.7.1   The life of an asset can be defined in two ways: economic life and useful life. Economic life is a
1835 valuation concept, while useful life is an accounting estimate. Economic life and useful life are discussed
1836 further below.

1837   a. *Economic Life* – Economic life has various (albeit similar) definitions in existing valuation
1838   literature. For the purposes of this document, economic life is defined as "the total period of time
1839   over which an asset is expected to generate economic benefits for one or more users."[34] In an
1840   income approach, the economic life is equal to the period over which cash flows are projected and
1841   are based on a perspective of a market participant. The fair value of an asset is equal to the sum of
1842   the present value of cash flows expected to be generated by the asset over its economic life.

1843   For backlog-type assets, management will often have contract terms or other reliable estimates of
1844   order fulfillment to estimate the economic life. For contractual customer relationships, the
1845   economic life is generally based on the contractual term plus any expected renewals, which should
1846   be consistent with the provisions of the contract and market participant assumptions. For non-
1847   contractual relationship assets, the economic life is less obvious and its determination typically
1848   requires further analysis, such as an attrition analysis.

1849   b. *Useful Life* – ASC 350 (and IAS 38 [88-96]) states that "the accounting for a recognized intangible
1850   asset is based on its useful life to the reporting entity" (ASC 350-30-35-1). ASC 350 defines the
1851   useful life of an intangible asset as "the period over which the asset is expected to contribute
1852   directly or indirectly to the future cash flows of that entity" (ASC 350-30-35-2). While this
1853   definition is similar to that of economic life, the Working Group believes there could be
1854   differences between economic life and useful life since the useful life determination is an entity-
1855   specific determination and the economic life relates to market participant assumptions contained in
1856   the valuation model. ASC 350 provides additional guidance for evaluating useful life by stating
1857   that "The useful life of an intangible asset to an entity is the period over which the asset is
1858   expected to contribute directly or indirectly to the future cash flows of that entity. The useful life is

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[32] *Accounting Standards Codification*™ 805-10-55-31.

[33] *Accounting Standards Codification*™ 805-10-55-32.

[34] International Valuation Standards Council International Valuation Glossary, significantly based on the definition from the
International Glossary of Business Valuation Terms, which was adopted by the American Institute of Certified Public
Accountants, the American Society of Appraisers, the National Association of Certified Valuation Analysts, the Canadian
Institute of Chartered Business Valuators, and the Institute of Business Appraisers.

1859	not the period of time that it would take that entity to internally develop an intangible asset that
1860	would provide similar benefits" (ASC 350-30-35-2). ASC 350 also provides guidance on what
1861	factors one should consider when determining the useful life of an asset for a given entity (ASC
1862	350-30-35-3).

1863	The useful life of an intangible asset is categorized as either finite or indefinite. An indefinite-lived
1864	intangible asset is not amortized; rather, it is tested annually for impairment. Intangible assets with
1865	a finite life are amortized. ASC 350 specifies that "the method of amortization shall reflect the
1866	pattern in which the economic benefits of the intangible asset are consumed or otherwise used up.
1867	If that pattern cannot be reliably determined, a straight-line amortization method shall be used"
1868	(ASC 350-30-35 and IAS 38 [97]).

1869	Depending on the methodology used to select a useful life, the useful life may differ significantly
1870	from the economic life. Example 9.3 illustrates the relationship between the economic life and
1871	potential useful lives of an asset and the resulting possible annual amortization schedules based on
1872	the pattern of benefits and straight-line methodologies. The pattern of benefits amortization is
1873	based on the pattern of annual undiscounted cash flows relative to the sum of all undiscounted cash
1874	flows over the economic life of the asset. The straight line amortization is based on the value of the
1875	asset, a qualitative assessment of the useful life, and constant annual amortization through the
1876	useful life of the asset. The Working Group notes that although the following example utilizes
1877	undiscounted cash flows to estimate the pattern of benefits, the selection of cash flows utilized to
1878	make this estimation is an accounting policy determination.

1879 *Example 9.3: Amortization Patterns*

1880 9.7.2   Company A, an international manufacturer and marketer of widgets, acquires Company B, a
1881 regional marketer of widgets. The primary acquisition rationale is access to the target's customers.
1882 Company B has significant market penetration in the southeastern US. The customer relationships are
1883 transactional (i.e., purchase order-based and no long-term contracts exist). The value of the customer
1884 relationships, assuming a 15% discount rate, is $480.47 million over a 20-year economic life. The
1885 economic life ends when the discounted cash flows occurring after the economic life are immaterial to the
1886 fair value conclusion.

1887 9.7.3   Based on guidance provided in ASC 350, the customer relationships would be amortized in a
1888 manner that would reflect the pattern in which the economic benefits of the intangible asset are consumed
1889 or otherwise used up. However, in practice many companies use a straight-line amortization method that
1890 approximates the effect of an amortization technique based on the pattern of benefits. The table below
1891 summarizes the undiscounted cash flow, discounted cash flow, amortization over the expected pattern of
1892 benefits, and the straight-line amortization over 12, 14, and 16 years. This table is intended to show the
1893 differences between possible amortization techniques. Although the table below displays a comparison of
1894 the different amortization techniques, the method selected is an accounting issue that is determined by
1895 management and reviewed/discussed with their auditors.

1896 *Table 9.1: Economic versus Useful Life (in \$millions)*

	Economic Life		Useful Life			
			Pattern of Benefits Amortization (1)	Straight-Line Amortization (2)(3)		
	Undiscounted Cash Flows	Discounted Cash Flows		12 Years	14 Years	16 Years
Year 1	100.00	93.25	43.92	40.04	34.32	30.03
Year 2	93.00	75.41	40.85	40.04	34.32	30.03
Year 3	86.49	60.98	37.99	40.04	34.32	30.03
Year 4	80.44	49.32	35.33	40.04	34.32	30.03
Year 5	74.81	39.89	32.86	40.04	34.32	30.03
Year 6	69.57	32.25	30.56	40.04	34.32	30.03
Year 7	64.70	26.08	28.42	40.04	34.32	30.03
Year 8	60.17	21.09	26.43	40.04	34.32	30.03
Year 9	55.96	17.06	24.58	40.04	34.32	30.03
Year 10	52.04	13.79	22.86	40.04	34.32	30.03
Year 11	48.40	11.16	21.26	40.04	34.32	30.03
Year 12	45.01	9.02	19.77	40.04	34.32	30.03
Year 13	41.86	7.30	18.38		34.32	30.03
Year 14	38.93	5.90	17.10		34.32	30.03
Year 15	36.20	4.77	15.90			30.03
Year 16	33.67	3.86	14.79			30.03
Year 17	31.31	3.12	13.75			
Year 18	29.12	2.52	12.79			
Year 19	27.08	2.04	11.89			
Year 20	25.18	1.65	11.06			
Total	1,093.94	480.46	480.49	480.48	480.48	480.48

1897 Notes:

1898 (1) Pattern of Benefits = Undiscounted Cash Flow in Year / Total Undiscounted Cash Flow x Total
1899   Present Value. Year 1 example calculation: 100.00 / 1,093.94 x 480.47 = 43.92.

1900 (2) Straight-Line Amortization = Total Present Value / Number of Years of Straight-Line
1901   Amortization. Year 1 example calculation (assuming a 12-year straight-line amortization period):
1902   480.47 / 12 = 40.04.

1903 (3) Years 12, 14, and 16 are included only for illustrative purposes.

1904 9.7.4   The graph below (based on the table above) illustrates the total cumulating amount amortization
1905 using (a) the pattern of benefits technique and straight-line techniques with lives of (b) 12, (c) 14, and (d)
1906 16 years. In this example, a 12-year straight-line amortization appears to be the closest proxy to the pattern
1907 of benefits in the earlier years while the 16-year straight-line amortization appears to be the best proxy in

1908 the later years. This chart indicates that certain amortization techniques may be more appropriate than
1909 others depending on facts and circumstances. For instance, straight-line amortization patterns are shown
1910 here as an example, but other techniques such as declining balance or sinking-fund may also be
1911 appropriate to consider. As mentioned above, this determination should be made by management and
1912 reviewed/discussed with their auditors.

1913 *Figure 9.1: Amortization Patterns*
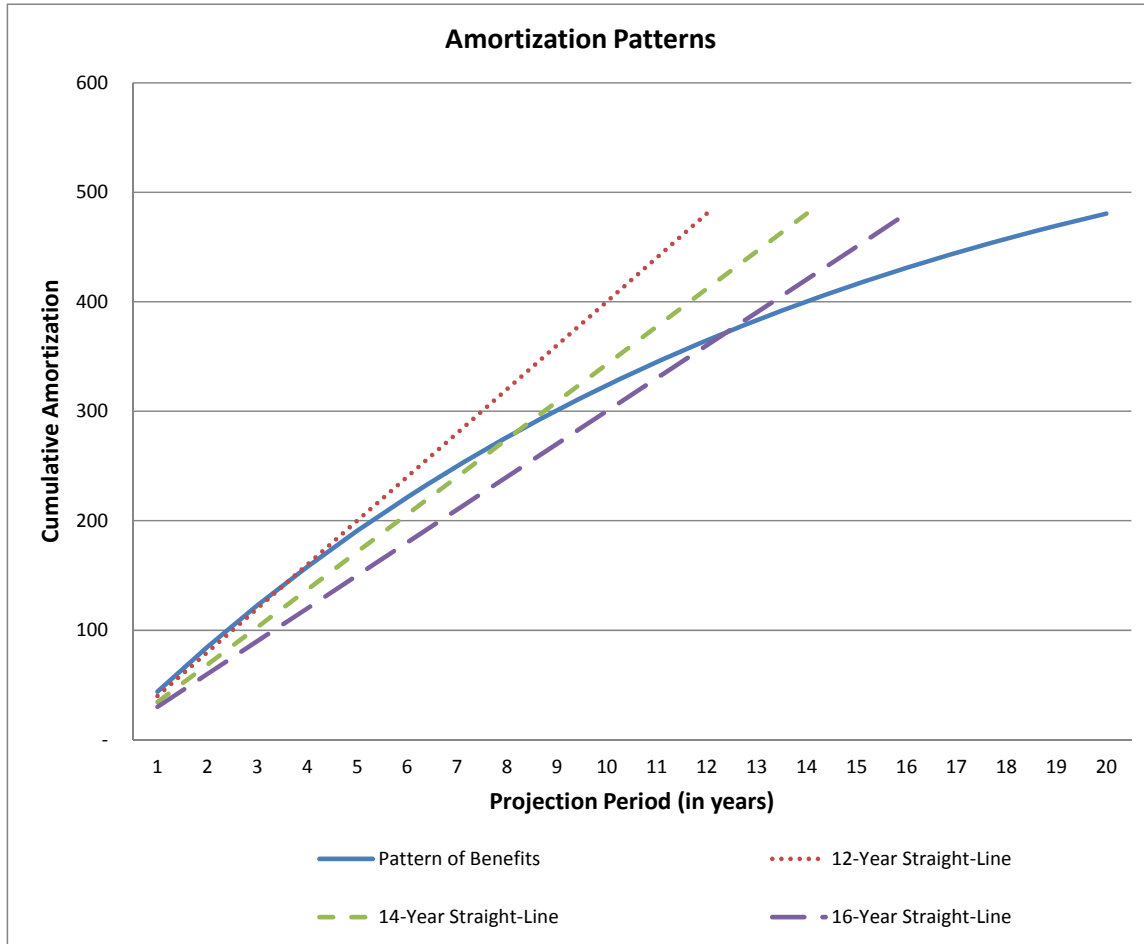
1914 9.7.5   It is generally straightforward to identify economic and useful life patterns when an income
1915 approach is used to value customer-related assets. However, when other approaches are used, such as a
1916 cost approach, the issue can be more difficult to assess. When using a cost approach, the historical
1917 expense or cost pattern relied upon does not have any correlation to the life of the customer-related asset
1918 itself. Initial costs, as well as any ongoing maintenance costs, both need to be considered when
1919 determining the economic life of the customer-related asset. When using a with and without approach, the
1920 rebuild period in the without approach does not have any correlation to the life of the customer-related
1921 asset itself.

1922 **9.8   Testing Outputs**

1923 9.8.1   In the context of the estimation of asset values in a business combination, there are several ways
1924 to "test" the output of a customer-related asset valuation for reasonableness. The following high-level
1925 procedures can be helpful in assessing the value of customer relationships.

1926   a. *Output versus Expectation* – Customer value should be assessed relative to qualitative expectations
1927   at the outset of an engagement. Given our qualitative view, does the quantitative answer make
1928   sense? Can we compare the output to prior experience (i.e., customer value as a percentage of
1929   purchase consideration and/or total intangible asset value including goodwill)? How does the
1930   customer value compare to the value of other assets in the context of the qualitative considerations
1931   discussed above? Is the value derived for the customer-related asset consistent with the importance
1932   of the asset and language used to describe the asset in any press releases discussing the
1933   transaction? Is it a primary or secondary asset and are the approaches used consistent with
1934   management's view of the customer relationship asset?

1935   b. *Implied New Customer Assumptions* – Given forecasts of overall revenue for the subject business
1936   and forecasts of revenue attributable to existing customers, a forecast of revenue attributable to
1937   future customers can be implied. This future customer revenue forecast should be assessed for
1938   reasonableness. For instance, are implied growth rates realistically attainable given the sales and
1939   marketing expense assumptions? The total industry customer population can be used to calculate
1940   implied incremental market share captured each year. Are these results reasonable?

1941   c. *Reconciliation* – A number of reconciliation tests can be performed, which will assist with the
1942   assessment of customer value and, in some cases, other asset values. Profit margins for existing
1943   and new customers should reconcile to the margins associated with the business. Does the profit
1944   margin reconciliation make sense and tie back to the total? Sales and marketing expenses for
1945   existing and new customers should tie to the total sales and marketing expense assumptions used
1946   by the business. Are these assumptions consistent with each other?

1947   d. *Other Assumptions* – Certain other assumptions in a customer model may infer information about
1948   the value of existing customers, and the resulting customer value should be assessed relative to
1949   these inferences. For example, in the MPEEM it may be appropriate to add back expenses
1950   associated with new customer acquisitions (see discussion above). All else equal, if new customer
1951   acquisition costs are relatively high, it may be reasonable to expect a higher value for existing
1952   customers because of the implied investment required to have attracted them. Given new customer
1953   acquisition costs, does the value for existing customers make sense? Does the revenue contribution
1954   or profit contribution from existing versus new customers make sense?

1955 9.8.2   When testing outputs, a valuation specialist may also need to address the existence of significant
1956 negative cash flows in the customer relationship model. This may result in very little or no value being
1957 assigned to the customer relationship asset. In cases where this occurs, the valuation specialist should
1958 attempt to ascertain the driver of this result—for example, perhaps the valuation specialist should revisit
1959 the CACs applied in the model. Alternatively, perhaps the company is investing in a new business
1960 ecosystem that is expected to lead to value creation beyond the life of the existing customer base (e.g.,
1961 through incremental future customers or profitability) and therefore the expected negative cash flows in
1962 the model are justified from an operational perspective. In any case, the valuation specialist should ensure
1963 that there is adequate support and/or justification for significant negative cash flows in the MPEEM, or
1964 alternatively perhaps reconsider the appropriateness of the MPEEM as a valuation methodology given the
1965 facts and circumstances.

1966 9.8.3   The financial overlay presented in the VFR Valuation Advisory #1 toolkit may be helpful to a
1967 valuation specialist when assessing the consistency and output of asset valuations in the context of a
1968 business combination.
1969

1970 **10.0 Summary**

1971 10.1.1   There are multiple situations that require the valuation of customer-related assets for financial
1972 reporting purposes, including:

1973   a. Business combinations;

1974   b. Asset acquisitions;

1975   c. Goodwill impairment testing;

1976   d. Long-lived asset impairment testing; and

1977   e. Reorganizations.

1978 10.1.2   The Working Group believes that asset identification and qualitative considerations are equally as
1979 important as the selection of valuation methodology and quantitative factors.

1980 10.1.3   Customer-related assets, like other intangible assets, must meet certain criteria to be recognized
1981 for financial reporting purposes. ASC 805 continues the guidance set forth in prior US GAAP where
1982 identifiable assets are recognized if they are contractual, arise from legal rights, or are separable and can
1983 be sold, rented, or leased (ASC 805-20-55, IFRS 3R [Appendix A]).

1984 10.1.4   There are three standard approaches a valuation specialist may consider in the valuation of
1985 customer-related assets: the income approach, the cost approach, and the market approach. The income
1986 approach is the most common approach used in the valuation of customer-related assets and is viewed by
1987 the Working Group as the preferred methodology in most situations. However, in the valuation process,
1988 the methodology selected or the model chosen should reflect careful qualitative and quantitative
1989 assessment of the asset.

1990 10.1.5   Factors to consider for the purpose of gaining a qualitative understanding of the customer-related
1991 asset include: industry, company, product/service, and customer-related asset characteristics.

1992 10.1.6   The income approach is used to estimate fair value based on the cash flows that an asset can be
1993 expected to generate over its economic life. The most commonly used income approach methods include
1994 the MPEEM, the Distributor Method (a variant of the MPEEM), the With-and-Without Method, and the
1995 Cost Savings Method.

1996 10.1.7   Many implementation issues arise in the valuation of customer-related assets. This document
1997 seeks to highlight these issues and set forth the Working Group's view of best practices. The Working
1998 Group notes that professional judgment is necessary in the valuation of any asset and that the purpose of
1999 this document is to assist in reducing diversity of practice in the specific topics addressed by the Valuation
2000 Advisory. It is the goal of the Working Group that the guidance set forth in this Valuation Advisory,
2001 combined with the application of professional judgment, will result in measurements of fair value that
2002 represent the highest level of professional practice and that are consistent with the goals of fair value
2003 measurement for financial reporting.
2004

2005 11.0 LIST OF ACRONYMS USED

2006	AICPA	American Institute of Certified Public Accountants
2007	A/P	Accounts Payable
2008	A/R	Accounts Receivable
2009	ASC	Accounting Standards Codification^{TM}
2010	ASU	Accounting Standards Update
2011	CAC	Contributory Asset Charge
2012	CAGR	Compound Annual Growth Rate
2013	CAPEX	Capital Expenditure
2014	CAPM	Capital Asset Pricing Model
2015	CGU	Cash-Generating Unit
2016	COGS	Cost of Goods Sold
2017	EBITA	Earnings Before Interest, Taxes and Amortization
2018	EBITDA	Earnings Before Interest, Taxes, Depreciation and Amortization
2019	EITF	Emerging Issues Task Force
2020	FAS	Financial Accounting Standard
2021	FASB	Financial Accounting Standards Board
2022	FSP	FASB Staff Position
2023	GAAP	Generally Accepted Accounting Principles
2024	IAS	International Accounting Standard
2025	IASB	International Accounting Standards Board
2026	IFRIC	International Financial Reporting Standards Interpretations Committee
2027	IFRSs	International Financial Reporting Standards
2028	IP	Intellectual Property
2029	IPR&D	In-Process Research & Development
2030	IRR	Internal Rate of Return
2031	IVS	International Valuation Standards
2032	IVSC	International Valuation Standards Council
2033	MPEEM	Multi-Period Excess Earnings Method
2034	NOL	Net Operating Loss
2035	PCAOB	Public Company Accounting Oversight Board
2036	PFI	Prospective Financial Information
2037	PP&E	Property, Plant & Equipment
2038	PV	Present Value
2039	R&D	Research and Development
2040	ROI	Return on Investment
2041	RUL	Remaining Useful Life
2042	SEC	Securities and Exchange Commission
2043	SG&A	Selling, General & Administrative
2044	S&M	Selling & Marketing
2045	TAB	Tax Amortization Benefit
2046	VIU	Value in Use
2047	WACC	Weighted Average Cost of Capital
2048	WARA	Weighted Average Return on Assets

2049	WC	Working Capital
2050	WIP	Work-in-Process
2051		

12.0 REFERENCES

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2093

13.0 GLOSSARY

13.1 Glossary of Terms

Backlog
Arises from contracts such as purchase or sales orders. An order or production backlog acquired in a business combination meets the contractual-legal criterion even if the purchase or sales orders are cancelable.
(Source: Financial Accounting Standards Board *Accounting Standards Codification Topic 805, Business Combinations* [formerly Statement of Financial Accounting Standards No. 141 (Revised 2007)])

Capital Charge
A fair return on an entity's *contributory assets*, which are tangible and intangible assets used in the production of income or cash flow associated with an intangible asset being valued. In this context, *income or cash flow* refers to an applicable measure of income or cash flow, such as net income or operating cash flow before taxes and capital expenditures. A capital charge may be expressed as a percentage return on [sic][35] an economic rent associated with, or a profit split related to, the contributory assets.
(Source: AICPA Statement on Standards for Valuation Services, Appendix C, Glossary of Additional Terms)

Contributory Asset Charge (CAC)
See Capital Charge.

Customer List
Consists of information about customers, such as their names and contact information. A customer list also may be in the form of a database that includes other information about the customers, such as their order histories and demographic information. A customer list generally does not arise from contractual or other legal rights. However, customer lists are frequently leased or exchanged. Therefore, a customer list acquired in a business combination normally meets the separability criterion.
(Source: Financial Accounting Standards Board *Accounting Standards Codification Topic 805, Business Combinations* [formerly Statement of Financial Accounting Standards No. 141 (Revised 2007)])

Customer Relationship
A relationship that exists between an entity and its customer if the entity has information about the customer and has regular contact with the customer, and the customer has the ability to make direct contact with the entity.
(Source: Financial Accounting Standards Board *Accounting Standards Codification Topic 805, Business Combinations* [formerly Statement of Financial Accounting Standards No. 141 (Revised 2007)])

Deferred Revenue
Deferred revenue is a liability that is created when monies are received by a company for goods and services not yet provided. Revenue will be recognized, and the deferred revenue liability eliminated, when the services are performed. Deferred revenue stems from the accounting concept of revenue recognition,

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[35] The word "or" would be more appropriate.

2131 under which revenues are recognized only when the earnings process is complete. If funds are received
2132 and no goods or services have yet been provided, the process is not complete; thus revenue cannot be
2133 recognized, and a deferred revenue liability is recorded. Specifically, the deferred revenue account is
2134 credited, and cash (or other assets) are debited. Deferred revenue is recorded in specific industries under
2135 particular circumstances. For instance, a software company might post deferred revenue for a maintenance
2136 agreement under which services will be provided over several years.
2137 (Source: www.investorglossary.com)

Economic Life
2139 The total period of time over which an asset is expected to generate economic benefits for one or more
2140 users.
2141 (Source: International Valuation Standards Council International Valuation Glossary, based on the
2142 definition in the International Glossary of Business Valuation Terms)

Fair Value
2144 Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly
2145 transaction between market participants at the measurement date.
2146 (Source: Financial Accounting Standards Board *Accounting Standards Codification Topic 820, Fair Value*
2147 *Measurement* [formerly Statement of Financial Accounting Standards No. 157])

Fixed Asset
2149 Assets with a physical manifestation. Examples include land and buildings, plant and machinery, fixtures
2150 and fittings, tools and equipment, and assets in the course of construction and development.
2151 [Source: International Valuation Standards, 7th Ed]

Going Concern
2153 A business enterprise that is expected to continue operations for the foreseeable future.
2154 (Source: International Valuation Standards Council International Valuation Glossary, based on the
2155 definition in the International Glossary of Business Valuation Terms)

Goodwill
2157 An asset representing the future economic benefits arising from other assets acquired in a business
2158 combination that are not individually identified and separately recognized.
2159 (Source: Financial Accounting Standards Board *Accounting Standards Codification Topic 805, Business*
2160 *Combinations* [formerly Statement of Financial Accounting Standards No. 141 (Revised 2007)])

In-Process Research and Development Project (IPR&D)
2162 Intangible asset that is to be used or is used in R&D activities, including a specific IPR&D project. In
2163 other words, an IPR&D project is an example of an IPR&D asset. However, in some cases, an IPR&D
2164 project may comprise several IPR&D assets.
2165 (Source: AICPA Accounting and Valuation Guide – *Assets Acquired to Be Used in Research and*
2166 *Development Activities*, 2013)

In-Process Research and Development (IPR&D) Project
2168 R&D project that has not yet been completed. IPR&D project is an example of an IPR&D asset.
2169 (Source: AICPA Accounting and Valuation Guide – *Assets Acquired to Be Used in Research and*
2170 *Development Activities*, 2013)

2171 **Intangible Assets**
2172 An intangible asset is an asset (not including a financial asset) that lacks physical substance. As used in
2173 *ASC 805*, the term intangible asset excludes goodwill.
2174 (Source: Financial Accounting Standards Board *Accounting Standards Codification Topic 805, Business*
2175 *Combinations* [formerly Statement of Financial Accounting Standards No. 141 (Revised 2007)])

2176 **Internal Rate of Return (IRR)**
2177 A discount rate at which the present value of the future cash flows of the investment equals the acquisition
2178 cost of the investment.
2179 (Source: International Valuation Standards Council International Valuation Glossary, based on the
2180 definition in the International Glossary of Business Valuation Terms)

2181 **Market Participant**
2182 Buyers and sellers in the principal (or most advantageous) market for the asset or liability that have all of
2183 the following characteristics:
2184   a. They are independent of each other; they are not related parties, although the price in a related-
2185   party transaction may be used as an input to a fair value measurement if the reporting entity has
2186   evidence that the transaction was entered into at market terms.
2187   b. They are knowledgeable, having a reasonable understanding about the asset or liability and the
2188   transaction using all available information, including information that might be obtained
2189   through due diligence efforts that are usual and customary.
2190   c. They are able to enter into a transaction for the asset or liability.
2191   d. They are willing to enter into a transaction for the asset or liability; they are motivated but not
2192   forced or otherwise compelled to do so.
2193 (Source: Financial Accounting Standards Board *Accounting Standards Codification Topic 820, Fair Value*
2194 *Measurement* [formerly Statement of Financial Accounting Standards No. 157])

2195 **Non-Contractual Customer Relationship**
2196 A customer relationship acquired in a business combination that does not arise from a contract but may
2197 nevertheless be identifiable because the relationship is separable.
2198 (Source: Financial Accounting Standards Board *Accounting Standards Codification Topic 805, Business*
2199 *Combinations* [formerly Statement of Financial Accounting Standards No. 141 (Revised 2007)]

2200 **Prospective Financial Information (PFI)**
2201 Any financial information about the future. The information may be presented as complete financial
2202 statements or limited to one or more elements, items, or accounts. A forecast of expected future cash
2203 flows.
2204 (Source: AICPA Accounting and Valuation Guide – *Assets Acquired to Be Used in Research and*
2205 *Development Activities*, 2013)

2206 **Rate of Return**
2207 An amount of income (loss) and/or change in value realized or anticipated on an investment, expressed as
2208 a percentage of that investment.
2209 (Source: International Valuation Standards Council International Valuation Glossary, based on the
2210 definition in the International Glossary of Business Valuation Terms)

2211 **Remaining Useful Life**
2212 For the purposes of this Valuation Advisory, see Useful Life.

2213 **Tax Amortization Benefit**
2214 Tax relief available on amortization of the capitalized asset.
2215 (Source: International Valuation Standards Council International Valuation Glossary)

2216 **Useful Life**
2217 The period over which the asset is expected to contribute directly or indirectly to the future cash flows of
2218 an entity.
2219 (Source: Financial Accounting Standards Board *Accounting Standards Codification Topic 350,*
2220 *Intangibles—Goodwill and Other*)

2221 **Weighted Average Cost of Capital (WACC)**
2222 A discount rate estimated by the weighted average, at market values, of the cost of all financing sources in
2223 a business enterprise's capital structure.
2224 (Source: International Valuation Standards Council International Valuation Glossary)
2225

13.2 Glossary of Entities Referred to in Document

American Institute of Certified Public Accountants (AICPA)
The national, professional organization for Certified Public Accountants in the US. Provides members with resources, information, certification, and licensing. Established in 1887.
(Source: Derived from the AICPA's website, www.aicpa.org)

Emerging Issues Task Force (EITF)
Assists the FASB in improving financial reporting through the timely identification, discussion, and resolution of financial accounting issues within the framework of the FASB ASC. Task Force members are drawn from a cross section of the FASB's constituencies, including auditors, preparers, and users of financial statements. Established in 1984.
(Source: Derived from the FASB website, www.fasb.org)

Financial Accounting Standards Board (FASB)
The designated organization in the private sector for establishing standards of financial accounting and reporting. Those standards govern the preparation of financial reports and are officially recognized as authoritative by the SEC and AICPA.
(Source: Derived from the FASB's website, www.fasb.org)

IFRS Interpretations Committee
Interpretive body with mandate to review on a timely basis widespread accounting issues that have arisen within the context of current IFRSs. Work is aimed at reaching consensus on the appropriate accounting treatment (IFRIC Interpretations) and providing authoritative guidance on those issues.
(Source: Derived from the IFRS Foundation website, www.ifrs.org)

International Accounting Standards Board (IASB)
London-based independent standard-setting body responsible for the development and publication of IFRSs and for approving Interpretations of IFRSs as developed by the IFRS Interpretations Committee.
(Source: Derived from the IFRS Foundation website, www.ifrs.org)

International Valuation Standards Council (IVSC)
An independent, not-for-profit, private sector organization based in London, UK. The IVSC is a membership organization and is open to a wide range of stakeholders including professional institutes, valuation providers, standard setters, regulators of valuation services, and academia. Members are provided with a forum for participation in the work of the IVSC, which can advise the Boards on agenda priorities. The IVSC currently has 74 member bodies from 54 countries.
(Source: Derived from the IVSC website, www.ivsc.org)

US Securities and Exchange Commission (SEC)
Mission is to protect investors, maintain fair, orderly, and efficient markets, and facilitate capital formation in the United States. Established in 1934.
(Source: Derived from the SEC website, www.sec.gov)

APPENDIX A: ATTRITION RATE CALCULATION EXAMPLES

2263 **APPENDIX A: ATTRITION RATE CALCULATION EXAMPLES**

2264 Attrition is discussed in Section 5.0 (Application of the Income Approach). Please note that the following
2265 examples (A.1 through A.4) are separate and no numerical comparisons should be made between the
2266 various examples. The data and years used in each example do not relate to one another.

2267 *Example A.1: Historical Population Revenue and Customer Count Calculations*

2268 Attrition analyses using historical customer or revenue data begin with the collection of historical
2269 customer population count or revenue losses or gains over a historical period of time. Since the attrition
2270 data determined through the historical analysis is considered to be consistent across relationship vintages
2271 and year groups, the survivor curve developed has the general characteristics of an exponential
2272 distribution. When an exponential decay pattern is assumed, the assumed decay pattern for the current
2273 customers is the same as that historically observed for the old customers. When estimating appropriate
2274 customer attrition curves, it is important not only to develop a quantitative analysis but also to understand
2275 the qualitative characteristics of the current customer group (average age, groups/vintages, etc.),
2276 particularly as they compare to the historical customer population analyzed.

2277 The following basic examples demonstrate the calculation of an attrition rate using historical customer
2278 count data as well as customer revenue data. Revenue attrition incorporates two factors: the level of
2279 revenue lost due to customer attrition and the level of revenue growth that occurs from retained customers.
2280 As such, it can be measured in an aggregated or disaggregated manner. The disaggregated method
2281 measures the customer attrition and revenue growth aspects separately. The aggregated method views
2282 them together by measuring the level of revenue attributable to customers present at the start of the
2283 measurement period.
2284

2285 *Table A.1.a: Historical Customer Population Data*

Customer #	Time -5	Time -4	Time -3	Time -2	Time -1
1	$ 50,689	$ 51,196	$ 53,244	$ 54,575	$ 55,667
2	25,896	24,601	25,339	-	-
3	14,589	14,881	15,030	14,729	-
4	5,452	5,507	5,397	5,613	5,781
5	9,416	9,887	-	-	-
6	9,256	-	-	-	-
7	22,902	23,589	23,825	22,634	23,087
8	14,580	14,872	15,169	15,624	16,249
9	987	-	-	-	-
10	11,569	10,412	-	-	-
11	9,856	9,659	9,369	9,837	-
12	8,905	9,350	9,537	9,442	-
13	2,774	2,885	2,972	3,031	3,061
14	12,683	13,063	13,324	13,724	14,136
15	4,914	4,963	5,062	5,011	4,811
16	13,498	-	-	-	-
17	11,782	12,489	13,113	13,900	14,456
18	-	33,569	32,898	31,582	32,214
19	-	-	30,569	61,138	67,252
20	-	-	-	-	40,618
Total Revenue	$ 229,748	$ 240,923	$ 254,848	$ 260,840	$ 277,332

2286 *Table A.1.b: Aggregated Lost Customer Revenue and Growth*

2287 The following table shows how total customer attrition can be determined by aggregating historical
2288 customer attrition and growth into one calculation. This allows the valuation specialist to project future
2289 attrition and growth as a single input in a valuation analysis.

2290 The total revenue in each historical year from the customers' existing in vintage year Time -5 is
2291 determined for each subsequent year. The revenue losses, or growth, are determined for each historical
2292 year.

Aggregate Revenue Attrition					
	Time -5	Time -4	Time -3	Time -2	Time -1
Revenue from Initial Customers	$ 229,748	$ 207,354	$ 191,381	$ 168,121	$ 137,247
Revenue Losses with Attrition (as % of prior year)		-9.7%	-7.7%	-12.2%	-18.4%
Geometric Average	= 1 - ((137,247 / 229,748) ^ (1/4)) = 12.1%		Arithmetic Average		= 12.0%

2293 Note: "Revenue from Initial Customers" refers to total revenue received in each year from customers #1
2294 through #17 shown in Table A.1.a.

2295 *Table A.1.c: Forecast Using Historical Revenue Attrition – Aggregated Components*

2296 The above calculation can be used to forecast future attrition and revenue. Note that there is no separate
2297 revenue growth added to the forecast. It is already included in the 12.1% attrition calculation as explained
2298 above.

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Prior Year Annual Revenue (A)	$ 277,330	$ 243,751	$ 214,238	$ 188,298	$ 165,499	$ 145,460	$ 127,848
Aggregate Revenue Attrition (B)	12.1%	12.1%	12.1%	12.1%	12.1%	12.1%	12.1%
Current Year Annual Revenue = A x (1 - B)	$ 243,751	$ 214,238	$ 188,298	$ 165,499	$ 145,460	$ 127,848	$ 112,368

2299 The example above assumes that the customer attrition behavior and the customer population
2300 characteristics are calculated on the same basis in the forecast period as in the historical period. However,
2301 the attrition rate utilized in Year 1 should consider additional factors such as material customer gains or
2302 losses that might impact the projection of Year 1 revenue. For example, it may be appropriate for Year 1
2303 revenues to reflect the current run-rate or projected Year 1 revenue and, as a result, the attrition rate
2304 utilized in Year 1 may need to be adjusted.

2305 *Tables A.1.d and A.1.e: Disaggregated Lost Customer Revenue and Growth*

2306 Using the same data as outlined in Table A.1.a, the following tables show how total customer revenue
2307 attrition can be determined by disaggregating customer revenue and growth. This allows the valuation
2308 specialist to project future attrition and growth as two separate inputs in a valuation analysis. The
2309 following table calculates the lost revenue without any growth.

2310 The lost revenue can be calculated using any base vintage year. In the following example, the attrition,
2311 inclusive of revenue growth, is determined for the Time -5 vintage customer population. For example, the
2312 Time -4 lost revenue of $23,741 represents the amount of Time -5 revenue lost from customers not
2313 existing in year Time -4 (customer 6 [$9,256] plus customer 9 [$987] plus customer 16 [$13,498]). The
2314 Time -3 lost revenue of $20,985 represents the amount of Time -5 revenue lost from customers not
2315 existing in year Time -3 (customer 5 [$9,416] plus customer 10 [$11,569]). This lost revenue calculation
2316 is determined in a similar manner for each year.

2317 *A.1.d*

Revenue Attrition - Lost Revenue					
	Time -5	Time -4	Time -3	Time -2	Time -1
Total Revenue Remaining from Existing Customers (Vintage Time -5)	$ 229,748	$ 206,007	$ 185,022	$ 159,126	$ 125,776
Lost Revenue	N/A	23,741	20,985	25,896	33,350
Lost Revenue Attrition		= 23,741 / 229,748	= 20,985 / 229,748	= 25,896 / 229,748	= 33,350 / 229,748
		= 10.3%	= 9.1%	= 11.3%	= 14.5%
Geometric Average	= 1 - ((125,776 / 229,748) ^ (1/4)) = 14.0%		Arithmetic Average	= 11.3%	

2318 The next step is the determination of historical revenue growth. The starting point for this analysis is the
2319 determination of revenue in Time -5 from customers existing at the date of value (in this example defined
2320 as Time -1 existing customers). The $125,776 represents the total revenue in year Time -5 from customers
2321 that exist at Time -1 (customers 1, 4, 7, 8, 13, 14, 15, and 17). The revenue in each successive year is the
2322 revenue remaining each year from this same customer group. From this revenue, annual growth and losses
2323 can be determined. Note that the final revenue conclusion in this example at Time -1 of $137,247 is the
2324 same as in the combined calculation above shown in Table A.1.b.

2325 *A.1.e*

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Revenue Attrition - Revenue Growth					
	Time -5	Time -4	Time -3	Time -2	Time -1
Revenue from Retained Customers	$ 125,776	$ 128,564	$ 132,106	$ 134,112	$ 137,247
Revenue Growth		2.2%	2.8%	1.5%	2.3%

Geometric Average	= ((137,247 / 125,776) ^ (1/4)) - 1 = 2.2%	Arithmetic Average	= 2.2%

2326 *Table A.1.f: Forecast Using Historical Revenue Attrition – Disaggregated Components*

2327 The above calculations shown in Tables A.1.d and A.1.e can be used to forecast future attrition. Note that
2328 there are two separate inputs: one for lost revenue and one for revenue growth. In this example, please
2329 note that the estimated revenue in each year matches the revenue shown in the aggregated example above
2330 in Table A.1.c.

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Prior Year Annual Revenue (A)	$ 277,330	$ 243,751	$ 214,238	$ 188,298	$ 165,499	$ 145,460	$ 127,848
Revenue Growth (B)	= 2.2%	= 2.2%	= 2.2%	= 2.2%	= 2.2%	= 2.2%	= 2.2%
Lost Revenue Attrition (C)	= 14.0%	= 14.0%	= 14.0%	= 14.0%	= 14.0%	= 14.0%	= 14.0%
Current Year Annual Revenue = A x (1 + B) x (1 - C)	$ 243,751	$ 214,238	$ 188,298	$ 165,499	$ 145,460	$ 127,848	$ 112,368

2331 The example above assumes that the customer attrition behavior and the customer population
2332 characteristics are calculated on the same basis in the forecast period as in the historical period. However,
2333 the growth and attrition rates utilized in Year 1 should consider additional factors such as material
2334 customer gains or losses that might impact the projection of Year 1 revenue. For example, it may be
2335 appropriate for Year 1 revenues to reflect the current run-rate or projected Year 1 revenue and, as a result,
2336 the growth and/or attrition rate utilized in Year 1 may need to be adjusted.

2337 *Table A.1.g and A.1.h: Forecast Using Historical Customer Count*

2338 The following table shows a similar approach to calculate attrition using customer count data versus
2339 customer revenue data. The data used to calculate the attrition in the following table is from Table A.1.a.

2340 *A.1.g*

Customer Attrition	Time -5	Time -4	Time -3	Time -2	Time -1
Total Customers	17	15	14	13	11
Total Remaining Existing Customers (Vintage Time -5)	17	14	12	11	8
Customer Losses	N/A	3	2	1	3
Customer Loss Attrition		= 3 / 17 = 17.6%	= 2 / 17 = 11.8%	= 1 / 17 = 5.9%	= 3 / 17 = 17.6%

Geometric Average	= 1 - ((8 / 17) ^ (1/4)) = 17.2%	Arithmetic Average	= 13.2%

2341 The associated revenue forecast using the disaggregated attrition and growth is shown below.

2342 *A.1.h*

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Prior Year Annual Revenue (A)	$ 277,330	$ 234,681	$ 198,591	$ 168,051	$ 142,208	$ 120,338	$ 101,832
Revenue Growth (B)	= 2.2%	= 2.2%	= 2.2%	= 2.2%	= 2.2%	= 2.2%	= 2.2%
Lost Revenue Attrition (C)	= 17.2%	= 17.2%	= 17.2%	= 17.2%	= 17.2%	= 17.2%	= 17.2%
Current Year Annual Revenue = A x (1 + B) x (1 - C)	$ 234,681	$ 198,591	$ 168,051	$ 142,208	$ 120,338	$ 101,832	$ 86,172

2343 The example above assumes that the customer attrition behavior and the customer population
2344 characteristics are calculated on the same basis in the forecast period as in the historical period. However,
2345 the growth and attrition rates utilized in Year 1 should consider additional factors such as material
2346 customer gains or losses that might impact the projection of Year 1 revenue. For example, it may be
2347 appropriate for Year 1 revenues to reflect the current run-rate or projected Year 1 revenue and, as a result,
2348 the growth and/or attrition rate utilized in Year 1 may need to be adjusted.
2349

2350 *Example A.2: Statistical Techniques*

2351 Using an analysis of historical customer count survival data, the following renewal probabilities and
2352 expected survivor curve by survival age vintage year have been calculated. Developing a renewal
2353 probability distribution by age vintage requires a large amount of quality data in order to estimate the
2354 renewal probabilities by age vintage. It is possible to develop a similar analysis using management
2355 estimates of renewal probabilities by age vintage.

2356 *Table A.2.a: Renewal Probabilities by Age Vintage*

Age	Renewal Probability %	Expected Survivor Curve %
0	0%	100.0%
1	70%	70.0%
2	74%	51.8%
3	78%	40.4%
4	82%	33.1%
5	86%	28.5%
6	90%	25.6%
7	90%	23.1%
8	90%	20.8%
9	90%	18.7%
10	90%	16.8%
11	90%	15.1%
12	90%	13.6%
13	90%	12.3%
14	90%	11.0%
15	90%	9.9%
16	90%	8.9%
17	90%	8.0%
18	90%	7.2%
19	90%	6.5%
20	90%	5.9%

2357 Statistical analysis applied to the customer population data above can identify a survivor curve that
2358 describes customer life expectancy. The Weibull distribution is one example that has historically been
2359 used to describe life characteristics. There are many other statistical techniques and variations of the
2360 Weibull distribution that can be applied to customer analysis and are outside the parameters of this
2361 Valuation Advisory. However, this example is meant to demonstrate how statistical analyses may be used
2362 in the valuation of customer relationships.

2363 The Weibull distribution is described mathematically as:

2364 $\qquad S(t) = e \wedge -((t/a)^\wedge b)$ with $t > 0$

2365 $\qquad$ Where:

2366 $\qquad\qquad S(t)$ = survival percentage at time t

2367 $\qquad\qquad t$ = time or duration of the customer relationship

2368 $\qquad\qquad e$ = exponential function

2369 $\qquad\qquad a$ = scale parameter

2370 $\qquad\qquad b$ = shape parameter

2371 Linear regression techniques are used to compare the expected renewal probability survivor curve with the
2372 Weibull distribution survivor curve through a curve-fitting comparison process that solves for the shape
2373 and scale parameters that are unique to the Weibull survivor curve that best fits the expected survival
2374 curve. Alternatively, if spreadsheet software is unavailable, probability paper can be used to manually
2375 develop the Weibull distribution curve with the best fit. In this example, it was determined that a scale
2376 parameter (a) of 3.957 and a shape parameter of 0.643 created the Weibull curve with the best fit. Given
2377 these scale and shape parameters, the Weibull percent survival curve percentages are compared to the
2378 expected survival curve percentages from Table A.2.a above.
2379

2380 *Table A.2.b: Survival Curve Comparisons*

Age	Renewal Probability %	Expected Survivor Curve %	Weibull Percent Surviving %
1	70%	70.0%	66.2%
2	74%	51.8%	52.5%
3	78%	40.4%	43.3%
4	82%	33.1%	36.5%
5	86%	28.5%	31.3%
6	90%	25.6%	27.1%
7	90%	23.1%	23.6%
8	90%	20.8%	20.8%
9	90%	18.7%	18.3%
10	90%	16.8%	16.3%
11	90%	15.1%	14.5%
12	90%	13.6%	13.0%
13	90%	12.3%	11.7%
14	90%	11.0%	10.5%
15	90%	9.9%	9.5%
16	90%	8.9%	8.6%
17	90%	8.0%	7.8%
18	90%	7.2%	7.1%
19	90%	6.5%	6.5%
20	90%	5.9%	5.9%

2381 The above expected survival curve and Weibull percent surviving curves are plotted below to show the
2382 curve fit.
2383

2384 *Chart A.2.a: Survival Curve Comparisons*
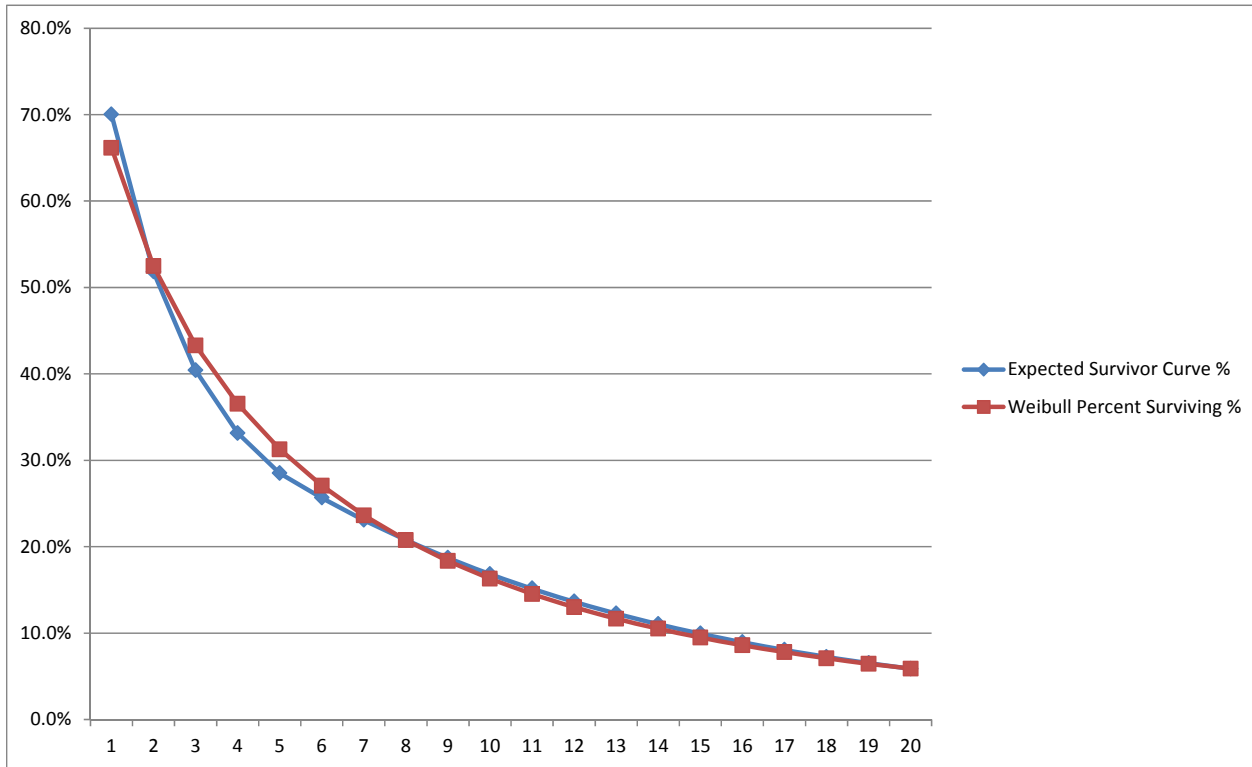
2385 The average life expectancy for the customer population is solved using the gamma function and the scale
2386 and shape parameters from the Weibull distribution. Most spreadsheet software allows for the
2387 computation using the gamma function:

2388 Life Expectancy = a * e ^ (gammaln (1 + (1/b))

2389 Life Expectancy = 5.5 years

2390 The average life expectancy is a key metric that defines a particular Weibull distribution. It does not
2391 represent the life for the total customer population, as many customers will have lives beyond the
2392 expectation of any given random customer.

2393 *Example A.3: Management Estimates*

Attrition analyses using management estimates generally take two forms: management's estimation of
future attrition or management's direct estimate of future revenues from the existing customer base. Care
should be taken using these methods to understand exactly what information management is including in
their forecast. For example, if management is providing attrition estimates, does the estimate include or
exclude expected revenue growth from the existing customer base? The following examples demonstrate
the calculation of an attrition rate using the two primary forms of management estimates: management's
estimation of future attrition and management's direct estimate of future revenues from the existing
customer base.

2394

2395 *Table A.3.a: Using Management Provided Revenue Attrition*

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Prior Year Annual Revenue (A)	$ 277,330	$ 242,803	$ 212,574	$ 186,108	$ 162,938	$ 142,652	$ 124,892
Attrition per Management (B)	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%
Growth in Sales from Existing Base (C)	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Current Year Annual Revenue $= A \times (1 - B) \times (1 + C)$	$ 242,803	$ 212,574	$ 186,108	$ 162,938	$ 142,652	$ 124,892	$ 109,343

2396 The example above assumes that the customer attrition behavior and the customer population
2397 characteristics are calculated on the same basis in the forecast period as in the historical period. However,
2398 the growth and attrition rates utilized in Year 1 should consider additional factors such as material
2399 customer gains or losses that might impact the projection of Year 1 revenue. For example, it may be
2400 appropriate for Year 1 revenues to reflect the current run-rate or projected Year 1 revenue and, as a result,
2401 the growth and/or attrition rate utilized in Year 1 may need to be adjusted.

2402 *Table A.3.b: Using Management Estimate of Total Revenues*

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Total Revenue (A)	$ 285,650	$ 294,220	$ 303,047	$ 312,138	$ 321,502	$ 331,147	$ 341,082
Percentage from Existing Base per Management (B)	90.0%	80.0%	70.0%	60.0%	50.0%	40.0%	30.0%
Total Revenue from Existing Base $= A \times B$	$ 257,085	$ 235,376	$ 212,133	$ 187,283	$ 160,751	$ 132,459	$ 102,324

2403 The valuation specialist may choose to perform certain assessments of the data provided by management.
2404 For instance, what annual attrition rate is implied by the run-off of the existing base of customers? What is
2405 the implied total market share gain in any given year indicated by the new customer additions projected by
2406 management?

2407 *Example A.4: Irregular Attrition Patterns*

2408 The valuation specialist should take care in measuring the rate of decay relating to the customer
2409 relationships. Frequently, customer relationship attrition patterns demonstrate irregular patterns that are
2410 not linear or do not demonstrate a "smooth" geometric pattern. In some cases, customer-related revenue,
2411 and in turn cash flow, may initially increase before decreasing. In other cases, customer revenue, and in

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2412 turn cash flow, may decline significantly before leveling off to a normalized rate. The table below presents
2413 one baseline attrition scenario and two scenarios where attrition rates change over time. In each of these
2414 scenarios, attrition rates are calculated based on historical customer data and are applied to future time
2415 periods.

2416 *Table A.4.a: Irregular Attrition Patterns*

Attrition Rate By Year	Scenario 1 - Base Case	Scenario 2 - Growth Then Decline	Scenario 3 - Significant Decline Then Stable
Year 1	-10.0%	20.0%	-50.0%
Year 2	-10.0%	-20.0%	-10.0%
Year 3	-10.0%	-20.0%	-10.0%
Year 4	-10.0%	-20.0%	-10.0%
CAGR	-10.0%	-11.5%	-22.3%

2417 Scenarios 1 and 3 are commonly used methods in applying historical customer data based attrition rates.
2418 Scenario 2 shows negative attrition (or growth) from existing customers in the first projected year (in this
2419 example, growth in Year 1 is intended to apply to all customers as of the valuation date as opposed to only
2420 those customers added within the year prior to the valuation date). Growth in existing customers reflects
2421 revenue growth since addition of new customers would not be included in the valuation of existing
2422 customer relationships. The modeling of growth in existing customer revenue either as revenue growth or
2423 as negative attrition should not result in a different value conclusion.

2424 The valuation specialist needs to adjust the calculated attrition rates to account for differing perspectives
2425 between the data used to calculate the rate and where the data is applied. For instance, the attrition rate and
2426 percent surviving for Scenario 1 could be viewed as follows:

2427 *Table A.4.b: Percent Surviving Attrition Calculation – Scenario 1*

	Attrition Rate	Percent Surviving	Calculation
Year 1	-10.0%	90.0%	Prior year = 100.0%; current year = 90.0%
Year 2	-10.0%	81.0%	Prior year = 90.0%; current year = 81.0%
Year 3	-10.0%	72.9%	Prior year = 81.0%; current year = 72.9%
Year 4	-10.0%	65.6%	Prior year = 72.9%; current year = 65.6%

2428 The percent surviving in Year 1 reflects the attrition rate of 10% because the data used in deriving the
2429 attrition rate is determined based on an entire fiscal year. In the Working Group's experience, customer
2430 attrition statistics are calculated by comparing customer data over multiple fiscal years as opposed to
2431 comparing customers that existed at the beginning of a fiscal year with those at the end of the fiscal year.

2432 The attrition rate and percent surviving for Scenario 2 could be viewed as follows:

2433 *Table A.4.c: Percent Surviving Attrition Calculation - Scenario 2*

	Attrition Rate	Percent Surviving	Calculation
Year 1	20.0%	120.0%	Prior year = 100.0%; current year = 120.0%
Year 2	-20.0%	96.0%	Prior year = 120.0%; current year = 96.0%
Year 3	-20.0%	76.8%	Prior year = 96.0%; current year = 76.8%
Year 4	-20.0%	61.4%	Prior year = 76.8%; current year = 61.4%

2434 Note: Year 1 percent surviving exceeds 100% due to expected growth in revenue from existing customers
2435 exceeding expected attrition of existing customers during the first projected year.

2436 The table above is reflective of a revenue-based attrition calculation because the application of negative
2437 attrition using a customer count-based attrition rate would be reflective of new customer additions. The
2438 value associated with new customer additions is not included in the value associated with existing
2439 customer-related assets.

2440 The attrition rate and percent surviving for Scenario 3 could be viewed as follows:

2441 *Table A.4.d: Percent Surviving Attrition Calculation - Scenario 3*

	Attrition Rate	Percent Surviving	Calculation
Year 1	-50.0%	50.0%	Prior year = 100.0%; current year = 50.0%
Year 2	-10.0%	45.0%	Prior year = 50.0%; current year = 45.0%
Year 3	-10.0%	40.5%	Prior year = 45.0%; current year = 40.5%
Year 4	-10.0%	36.5%	Prior year = 40.5%; current year = 36.5%

2442 *Example A.5: Partial Period and Mid-Year Convention Issues Related to Attrition*

2443 Care should be taken in applying an attrition rate to partial periods. Table A.5.a below provides an
2444 example of estimated attrition rates and percent surviving for a scenario where the attrition rate is
2445 estimated to be 10% and there is no adjustment needed for a partial period in year 1. Table A.5.b below
2446 shows the percent surviving calculations assuming that year 1 of the forecast is a partial period with 25%
2447 of year 1 cash flows used to value the customer relationships.

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2448 *Table A.5.a: Percent Surviving Assuming No Partial Period*

Scenario 1 - No Partial Period			
	Annualized Attrition Rate (A)	Average Percent Surviving - Prior Year (B)	Average Percent Surviving - Current Year C = B * (1 - A)
Year 1	10.0%	100.0%	90.0%
Year 2	10.0%	90.0%	81.0%
Year 3	10.0%	81.0%	72.9%

2449 *Table A.5.b: Percent Surviving Assuming Partial Period Adjustment*

Scenario 2 - Partial Period when 25% of Fiscal Year 1 remains (75% of the fiscal year is complete)				
	Annualized Attrition Rate (A)	Partial Period Percentage (B)	Average Percent Surviving - Prior Year (C)	Average Percent Surviving - Current Year D = C * (1 - B * A)
Year 1	10.0%	25.0%	100.0%	97.5%
Year 2	10.0%	100.0%	97.5%	87.8%
Year 3	10.0%	100.0%	87.8%	79.0%

2450 The Working Group believes that the above attrition calculations represent average annual loss. The
2451 notion of average losses is already captured in the attrition calculation and any adjustments related to a
2452 partial period are only necessary to fit the selected attrition curve to the appropriate time period.

2453 It should also be noted that the analysis in this section is based on the latest fiscal year and/or current
2454 fiscal year revenue that are consistent with market participant PFI. If the base revenue used in the
2455 customer analysis is adjusted to reflect significant gains or losses in revenue over the prior period, the
2456 attrition rate will also need to be adjusted because it will no longer need to reflect the average annual loss.
2457

APPENDIX B: CASE STUDY EXAMPLES

2459 The following examples were developed to illustrate a set of facts and circumstances and the related
2460 valuation of the customer relationship asset. Professional judgment must be utilized in the valuation
2461 process. Additionally, as the case studies are simplified examples, in practice a full analysis would be
2462 substantially more robust and would include the valuation of other assets and liabilities, supporting
2463 exhibits, and a comprehensive narrative. The Working Group notes that the application of attrition in the
2464 following case studies is meant to be illustrative and, as outlined previously in this Valuation Advisory, is
2465 not intended to represent the only acceptable applications.

2466 The following assumptions relate to each of the examples:

2467   a. As a simplifying assumption, depreciation is considered to be a reasonable estimate of the *return*
2468   *of* capital related to fixed assets.

2469   b. The determination of contributory asset charges is consistent with the methodology in the VFR
2470   Valuation Advisory #1. In some cases, practical expedients outlined in the VFR Valuation
2471   Advisory #1 are used. For instance, in these examples, the Working Group notes that the mid-
2472   period adjustment to CACs is not applied for practical expediency purposes.

2473   c. Certain inputs, such as the Return on Working Capital, normally have supporting calculations.
2474   These calculations are outside the scope of this document.

2475 *Example B.1: Consumer Branded Product Company*

2476 *Transaction*

2477 On December 31, 2015, AcquireCo purchased TargetCo for a purchase consideration of $500 million in
2478 cash in a stock deal. The transaction was competitive with two additional companies interested in
2479 purchasing TargetCo.

2480 AcquireCo's rationale for undertaking the transaction included the following:

2481   a. Immediate entry into TargetCo's markets.

2482   b. TargetCo's portfolio of regionally dominant brands.

2483   c. Significant cost synergies.

2484   d. The ability to sell TargetCo's brands in adjacent regions.

2485   e. Prevent AcquireCo's competitors from obtaining TargetCo's brands and market dominance.

2486 *Acquirer Profile*

2487 AcquireCo is a publicly-held multi-national food and beverage producer. Its strategy is to maintain a
2488 portfolio of strong brands catering to various segments of the market. The brands are typically
2489 longstanding brands with strong market share and superior brand equity in their respective markets and
2490 regions. Some brands were developed in-house over a period of many decades while others are long-
2491 standing brands that were acquired. In recent years, the company has refocused its strategy and exited
2492 non-core areas.

2493 *Target Description*

2494 TargetCo is a leading producer of branded snack products in the Southeast. Founded in 1905, its brands
2495 have achieved near iconic status and virtually all consumers in its region are familiar with them. TargetCo
2496 is headquartered in Atlanta and conducts business in the surrounding region. The company differentiates
2497 itself by producing fresh products using high-quality ingredients.

2498 *Assets Acquired*

2499 Assets acquired as a part of the transaction included working capital and fixed and intangible assets. Fixed
2500 assets consisted largely of machinery. Intangible assets consisted of trademarks and related recipes
2501 (collectively referred to as brands) and customer relationships.

2502 *Customer Characteristics*

2503 Customers consist of wholesalers and retailers of the company's products. While the wholesalers and
2504 retailers enable TargetCo to reach its end (consumers) customers, they are not a key business driver. The
2505 key driver of revenue is consumer demand for the product. The strength of this consumer demand is
2506 witnessed in a recent event. One retailer, a supermarket, decided to stop carrying the brands after a
2507 disagreement over pricing. Two days later, the supermarket decided to resume selling TargetCo brands as
2508 those sales had largely been lost rather than transitioned to other brands and private label products as
2509 expected.

2510 An analysis of historical customer sales indicated annual customer attrition of approximately 7.6% and
2511 annual revenue attrition (due to loss of customers) of approximately 4.1% (based on geometric average
2512 calculations). Based on the expectation that historical results are indicative of future attrition, the
2513 estimated attrition rate is 5.0%. Revenue growth of retained customers is expected to be approximately 1%
2514 per year.

2515 *Facts and Circumstances Leading to the Methodology Selection*

2516 Based on discussions with management, it was determined that there are two intangible assets present:
2517 brands and customer relationships. The brands were determined to be the company's primary asset. The
2518 brands have dominant positions and strong brand equity. The retailer carries the brand based on the
2519 knowledge that there is significant customer demand. As such, the relationships with the wholesaler or
2520 retailer enable the company to reach the consumer but are not primary drivers of the consumer purchasing
2521 decision.

2522 Based on the factors above, the valuation specialist determined that the MPEEM was most appropriately
2523 used to value the brands and the Distributor Model was most appropriate to value the customer
2524 relationships.

2525 The rationale for the selected method is that the customer-related activities and the value added by those
2526 activities are similar for the entity and distributors. TargetCo and distributors maintain end customer
2527 relationships by providing the desired product in a cost effective and timely manner. As such, distributors,
2528 which have economic characteristics that are representative of the relationship between the company and
2529 its customers, were chosen to serve as a proxy for the valuation of the customer-related assets. In
2530 particular, the selected companies distribute food products to various retail establishments including

2531 grocery, discount, and convenience stores. The operating margin is believed indicative of the margin
2532 earned by the customer relationship function and the contributory asset charges reflect the assets required
2533 to service the distribution function.

2534 *Table B.1: Consumer Branded Product Company*

		Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Revenue at Acquisition	(1)	357,081					
Revenue Adjusted for Growth	(1)		360,652	364,259	367,901	371,580	375,296
Remaining After Attrition	(2)		95.0%	90.3%	85.7%	81.5%	77.4%
Revenue After Attrition			342,619	328,743	315,429	302,654	290,397
EBITA	(3)		14,047	13,478	12,933	12,409	11,906
Less: Income Taxes			(5,619)	(5,391)	(5,173)	(4,964)	(4,763)
Debt Free Net Income			8,428	8,087	7,760	7,445	7,144
Debt Free Net Income Margin			2.5%	2.5%	2.5%	2.5%	2.5%
Returns on Contributory Assets							
Normal Working Capital	(4)		(2,467)	(2,367)	(2,271)	(2,179)	(2,091)
Property, Plant & Equipment	(4)		(857)	(822)	(789)	(757)	(726)
Workforce	(4)		(343)	(329)	(315)	(303)	(290)
Return on Contributory Assets			(3,666)	(3,518)	(3,375)	(3,238)	(3,107)
% of Revenue			-1.1%	-1.1%	-1.1%	-1.1%	-1.1%
Net After Tax Cash Flow to Customer Relationships			4,762	4,570	4,384	4,207	4,037
Partial Period Adjustment			1.000	1.000	1.000	1.000	1.000
Period			0.500	1.500	2.500	3.500	4.500
Discount Factor	(5)		0.933	0.811	0.705	0.613	0.533
PV of Cash Flow			4,441	3,705	3,092	2,579	2,152
PV of Cash Flows		26,092					

Tax Benefit=L/(L-(Fa*T))							
Tax Life	15 Years						
Tax Rate	40.0%						
Discount Rate	15.0%						
Annuity Factor	5.8474						
Mid-Year Adj Factor	1.0724						
Tax Benefit	20.1%	5,239					
Fair Value		31,332					
Fair Value (Rounded)	(6)	**31,000**					

Assumptions		Year 1	Year 2	Year 3	Year 4	Year 5
Growth of Retained Customers		1.0%	1.0%	1.0%	1.0%	1.0%
Attrition	(2)	5.0%	5.0%	5.0%	5.0%	5.0%
EBITA Margin	(3)	4.1%	4.1%	4.1%	4.1%	4.1%
Tax Rate		40.0%	40.0%	40.0%	40.0%	40.0%
WC to Revenue Ratio	(4)	9.0%	9.0%	9.0%	9.0%	9.0%
Return on WC	(4)	8.0%	8.0%	8.0%	8.0%	8.0%
PP&E to Revenue Ratio	(4)	2.5%	2.5%	2.5%	2.5%	2.5%
Return on PP&E	(4)	10.0%	10.0%	10.0%	10.0%	10.0%
Assembled Workforce CAC	(4)	0.1%	0.1%	0.1%	0.1%	0.1%
Discount Rate	(5)	15.0%				

2535 Notes:

2536   (1) Revenue at acquisition is based on last fiscal year results. Forecasts reflect market participant PFI.

2537   (2) Attrition is based on the historical attrition analysis.

2538 (3) EBITA margin is based on observed margins for distributors that have economic characteristics
2539   that are representative of the relationship between the subject company and its customers
2540   ("comparable distributors").

2541 (4) The fixed asset and working capital levels are based on observable market inputs for comparable
2542   distributors. The workforce CAC is based on the value of the workforce. The workforce was
2543   valued based on its cost to re-create. A low workforce CAC is consistent with the expectation that
2544   a distributor would achieve significant revenue per employee.

2545 (5) The selected discount rate is based on the valuation specialist's assessment of risk. Though not
2546   displayed, it is assumed the discount rate is reasonable when viewed within the context of the
2547   overall analysis.

2548 (6) The customer relationship asset was valued over its 20-year life. Five years are shown for display
2549   purposes. For purposes of this example, no material customer relationship value was assumed to
2550   exist after year 20.

2551 *Testing Outputs*

2552 As part of a standard customer relationship valuation, it is important that valuation specialists test the
2553 outputs of their analysis. The Working Group believes that this is a critical step that needs to occur in
2554 order for the valuation to be considered complete. The following paragraph is an example of some of the
2555 elements that can be addressed as it pertains to the case study. It exists as an illustration of a simple
2556 example; application in a valuation engagement would likely need to be more robust.

2557 The value of the customer relationships was estimated to be $31 million or approximately 6.2% of the
2558 total purchase consideration. Additionally, when valuing the customer relationships, the cash flow
2559 attributed to the customer relationships is a small portion of the total margin. This is reasonable given the
2560 following factors: the customers are highly transactional and driven by a need to provide consumers with
2561 the desired product; the brands owned by the company are the key driver of sales and were the primary
2562 acquisition rationale; and they are iconic in their region and consumers seek out retailers that carry the
2563 brands.

2564 ***Example B.2: Defense Company***

2565 *Transaction*

2566 On December 31, 2015, AcquireCo purchased TargetCo for a purchase consideration of $85 million in
2567 cash in a stock deal. AcquireCo approached TargetCo with an offer. While the transaction was not
2568 competitive, investment bankers reached out to other potential acquirers. The transaction occurred at a
2569 multiple that appears in-line with other transactions within the industry.

2570 AcquireCo's rationale for undertaking the transaction included the following:

2571 a. TargetCo has approximately 15 long-standing relationships with agencies and departments within
2572   the US military and defense communities.

2573 b. TargetCo has a highly qualified workforce consisting of engineers and programmers, most of
2574   whom have security clearances.

Acquirer Profile

2576 AcquireCo is a mid-cap publicly traded defense firm. It provides information technology, information
2577 systems, systems integration, and related engineering services to the military and intelligence
2578 communities. It enters into multi-year contracts that often have multiple potential extensions. AcquireCo
2579 was founded 30 years ago and is headquartered in Falls Church, Virginia.

2580 *Target Description*

2581 TargetCo is a provider of information technology and related services to certain intelligence-related
2582 agencies and offices. The company was founded 15 years ago by a former intelligence officer and has
2583 achieved rapid growth since its founding. It currently has nearly 30 customers, approximately half of
2584 whom have been customers for at least five years. TargetCo is located in Fairfax, Virginia.

2585 *Assets Acquired*

2586 Assets acquired as a part of the transaction included working capital, fixed and intangible assets. Fixed
2587 assets were minimal and consisted mainly of furniture and computers. The only identifiable intangible
2588 acquired was customer relationships. Another key acquisition rationale, the assembled workforce, is not a
2589 recognized intangible asset.

2590 *Customer Characteristics*

2591 TargetCo enters into multi-year contracts with customers. These contracts may be cost-plus, time-and-
2592 materials, or firm fixed price. The company earns margins that are higher than typically observed among
2593 its competitors. There are several factors driving the higher margins. First, the company has a higher
2594 portion of contracts that are fixed price than most market participants. Since these contracts offer a fixed
2595 price for the service performed, they are higher risk but also potentially higher margin. Additionally,
2596 TargetCo performs primarily high-end work. While publicly traded market participants are sufficiently
2597 large that they have both high- and low-margin contracts, TargetCo has limited low-margin contracts.

2598 A five-year revenue forecast was provided on a customer-by-customer basis. Management estimated the
2599 revenue by customer by adjusting for expected pricing and contract renewals. Low attrition has been
2600 experienced previously and is expected in the future. Long-standing relationships between multiple
2601 individuals at TargetCo and its customers, as well as engineers who are "embedded" at customer sites,
2602 lead to strong retention rates. While all contracts and extensions are cost competitive, management
2603 indicates they are typically the preferred provider.

2604 *Facts and Circumstances Leading to the Methodology Selection*

2605 Based on discussions with management, it was determined that the only identifiable intangible asset
2606 present is the customer relationship asset. As the unique asset, the value of the customer relationship asset
2607 was estimated utilizing the MPEEM. Company specific inputs were utilized as the above average margins
2608 reflect the profitability of the contracts and relationships in place. A market participant would obtain the
2609 same level of profitability from these relationships.

2610 *Table B.2: Defense Company*

		Year 1	Year 2	Year 3	Year 4	Year 5
Revenue After Attrition	(1)	100,000	99,132	95,532	86,679	85,985
EBITA	(2)	12,000	11,896	11,464	10,402	10,318
Adjustments						
Sales & Marketing Add-Back	(3)	1,000	991	955	867	860
Adjusted EBITA		13,000	12,887	12,419	11,268	11,178
Less: Income Taxes		(5,200)	(5,155)	(4,968)	(4,507)	(4,471)
Debt Free Net Income		7,800	7,732	7,452	6,761	6,707
Debt Free Net Income Margin		7.8%	7.8%	7.8%	7.8%	7.8%
Returns on Contributory Assets						
Normal Working Capital	(4)	(1,200)	(1,190)	(1,146)	(1,040)	(1,032)
Property, Plant & Equipment	(4)	(150)	(149)	(143)	(130)	(129)
Workforce	(5)	(3,000)	(2,974)	(2,866)	(2,600)	(2,580)
Return on Contributory Assets		(4,350)	(4,312)	(4,156)	(3,771)	(3,740)
% of Revenue		-4.4%	-4.4%	-4.4%	-4.4%	-4.4%
Net After Tax Cash Flow to Customer Relationships		3,450	3,420	3,296	2,990	2,966
Partial Period Adjustment		1.000	1.000	1.000	1.000	1.000
Period		0.500	1.500	2.500	3.500	4.500
Discount Factor	(6)	0.933	0.811	0.705	0.613	0.533
PV of Cash Flow		3,217	2,773	2,324	1,834	1,582

PV of Cash Flows		18,814

Tax Benefit=L/(L-(Fa*T))		
Tax Life	15 Years	
Tax Rate	40.0%	
Discount Rate	15.0%	
Annuity Factor	5.8474	
Mid-Year Adj Factor	1.0724	
Tax Benefit	20.1%	3,778
Fair Value		22,592
Fair Value (Rounded) (7)		**23,000**

Assumptions		Year 1	Year 2	Year 3	Year 4	Year 5
EBITA Margin	(2)	12.0%	12.0%	12.0%	12.0%	12.0%
Sales & Marketing Add-Back	(3)	1.0%	1.0%	1.0%	1.0%	1.0%
Tax Rate		40.0%	40.0%	40.0%	40.0%	40.0%
WC to Revenue Ratio	(4)	15.0%	15.0%	15.0%	15.0%	15.0%
Return on WC	(4)	8.0%	8.0%	8.0%	8.0%	8.0%
PP&E to Revenue Ratio	(4)	1.5%	1.5%	1.5%	1.5%	1.5%
Return on PP&E	(4)	10.0%	10.0%	10.0%	10.0%	10.0%
Assembled Workforce CAC	(5)	3.0%	3.0%	3.0%	3.0%	3.0%
Discount Rate	(6)	15.0%				

2611 Notes:

2612   (1) Year 1 revenue reflects expected full-year results as of the valuation date.

2613   (2) The margin is based on the projected margin. It is believed to be representative of the margin
2614   market participants would earn through use of the customer relationship asset.

2615   (3) Sales and marketing expenses related to the addition of new customers were added back.

2616   (4) The fixed asset and working capital levels are based on historical levels and assumed to be
2617   consistent with market participant expectations for future levels.

2618   (5) The workforce CAC is based on the value of the workforce. The workforce was valued based on
2619   its cost to re-create. A significant workforce CAC is viewed as reasonable. The workforce is highly
2620   sophisticated and substantial time and effort would be required to reassemble it. The VFR
2621   Valuation Advisory #1 outlines potential adjustments to the valuation related to the workforce,
2622   such as an addback of expenditures related to growth of the workforce and the addition of a
2623   hypothetical tax benefit from amortization of the workforce asset. Consistent with the practical
2624   expedient methodology in the VFR Valuation Advisory #1, these adjustments have not been
2625   included in this example.

2626   (6) The selected discount rate is based on the valuation specialist's assessment of risk. Though not
2627   displayed, it is assumed the discount rate is reasonable when viewed within the context of the
2628   overall analysis.

2629   (7) The customer relationship asset was valued over its 20-year economic life. Five years are shown
2630   for display purposes.

2631 *Testing Outputs*

2632 The value of the customer relationships was estimated to be $23 million or approximately 27.1% of the
2633 total purchase consideration. Additionally, the cash flow margin attributed to the customer relationships is
2634 approximately half of the tax affected EBITA margin. This is reasonable given the following factors: the
2635 customer relationships, in conjunction with the workforce, were the primary acquisition rationale; and, the
2636 company has multi-year contracts with government agencies. Additionally, due to the skill set of its
2637 workers and its understanding of customer needs, it has a strong track record of winning contract
2638 extensions. Externally, the importance of the customer relationships is emphasized in that the company
2639 publishes a press release when it wins significant contracts.

2640 ### Example B.3: Packaging Solutions Provider

2641 *Transaction*

2642 On September 30, 2015, FinancialBuyer partnered with key members of management to undertake a
2643 management buyout of TargetCo. The purchase consideration was $200 million and the transaction was
2644 structured as a stock purchase. The transaction was competitive with multiple financial buyers bidding.

2645 FinancialBuyer's rationale for undertaking the transaction included the following:

2646   a. FinancialBuyer co-invests with management in well-run, mid-size companies.

2647   b. TargetCo is the leading packaging solutions provider in its region.

2648   c. The company is well known and respected within its market niche. Its reputation for high-quality
2649   products and timely service drives strong sales.

2650   d. The company's customers are highly recurring and stable. They are recurring due to high-quality
2651   products provided in a timely and cost-effective manner.

2652 *Acquirer Profile*

2653 FinancialBuyer is a private equity firm investing in family- and management-owned businesses. It
2654 typically co-invests with management in mid-sized specialty firms that operate in defensible niches having
2655 high barriers to entry. It seeks to acquire strong operating companies with management that have
2656 demonstrated a commitment to growth and profitability.

2657 *Target Description*

2658 TargetCo is a leading provider of packaging solutions in its region. Founded 28 years ago, it has highly
2659 recurring relationships with a variety of companies that utilize its packaging solutions. The company has
2660 several national competitors and one regional competitor. Due to the scale necessary to operate profitably,
2661 competition from new entrants is considered unlikely. The company is highly regarded in its market niche
2662 for providing high-quality products in a timely and cost-effective manner.

2663 *Assets Acquired*

2664 Assets acquired as a part of the transaction included fixed and intangible assets. Fixed assets consist
2665 largely of machinery and working capital. Intangible assets consist largely of customer relationships and
2666 the corporate trade name. Additionally, there is an assembled workforce and limited proprietary
2667 technology.

2668 *Customer Characteristics*

2669 Customers consist of a variety of companies which utilize TargetCo's packaging solutions. The customers
2670 have historically been highly recurring. The recurring nature of the customers is based on the quality of
2671 products and service provided. Management believes that were the company to deliver lower quality
2672 service or raise prices significantly, customers would be lost to competitors. The company is a preferred
2673 provider to its customer base and though customers have several choices for their packaging needs, they
2674 prefer to utilize TargetCo.

2675 An analysis of historical customer sales indicated average customer attrition of approximately 6.8% and
2676 revenue attrition of approximately 4.5%. Observations indicate that customer behavior, regardless of
2677 customer size, is similar across the customer population. Based on the expectation that historical results
2678 are indicative of future attrition, the estimated attrition rate is 5.0%. Revenue growth of retained customers
2679 is expected to be approximately 1% per year.

2680 *Facts and Circumstances Leading to the Methodology Selection*

2681 Based on discussions with management, it was determined that there are four intangible assets present:
2682 backlog, customer relationships, the corporate trade name, and proprietary technology. Backlog and
2683 customer relationships are the primary assets and the corporate name and proprietary technology are
2684 contributory assets. As such, the MPEEM was utilized to value the backlog and customer relationships
2685 and contributory asset charges were taken for use of the working capital, fixed assets, corporate trade
2686 name, and proprietary technology.

2687 *Table B.3-a: Packaging Solutions Provider (Backlog)*

		Year 1
Backlog at Acquisition	(1)	20,000
Probability of Cancellation	(2)	0.0%
Revenue After Attrition		20,000
EBITA	(3)	3,860
Pretax Returns on Contributory Assets		
Trademark	(4)	(400)
Technology	(4)	(100)
Adjusted EBITA		3,360
Less: Income Taxes		(1,344)
Debt Free Net Income		2,016
Debt Free Net Income Margin		10.1%
Returns on Contributory Assets		
Normal Working Capital	(5)	(240)
Property, Plant & Equipment	(5)	(400)
Workforce	(5)	(100)
Return on Contributory Assets		(740)
% of Revenue		-3.7%
Net After Tax Cash Flow to Backlog		1,276
Period		0.125
Discount Factor	(7)	0.983
PV of Cash Flow		1,254
PV of Cash Flows		1,254

Tax Benefit=L/(L-(Fa*T))		
Tax Life	15 Years	
Tax Rate	40.0%	
Discount Rate	15.0%	
Annuity Factor	5.8474	
Mid-Year Adj Factor	1.0724	
Tax Benefit	20.1%	252
Fair Value		1,506
Fair Value (Rounded)		**1,500**

Assumptions		Year 1	
		Ongoing Assumptions	Backlog Assumptions
Growth of Retained Customers	(2)	1.0%	1.0%
Attrition	(2)	5.0%	5.0%
EBITA Margin	(3)	14.3%	19.3%
Royalty Rate - Trademark	(4)	2.0%	2.0%
Royalty Rate - Technology	(4)	0.5%	0.5%
Tax Rate		40.0%	40.0%
WC to Revenue Ratio	(5)	15.0%	15.0%
Return on WC	(5)	8.0%	8.0%
PP&E to Revenue Ratio	(5)	20.0%	20.0%
Return on PP&E	(5)	10.0%	10.0%
Assembled Workforce CAC	(5)	0.5%	0.5%
Discount Rate	(7)	15.0%	

2688

Notes: See Table B.3-b.

2689 *Table B.3-b: Packaging Solutions Provider (Customer Relationships)*

		Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Revenue at Acquisition	(1)	247,525					
Revenue Adjusted for Growth	(1)		250,000	252,500	255,025	257,575	260,151
Less: Backlog			(20,000)				
Revenue Adjusted for Backlog			230,000	252,500	255,025	257,575	260,151
Remaining After Attrition	(2)		98.8%	93.8%	89.1%	84.7%	80.4%
Revenue After Attrition			227,125	236,877	227,283	218,078	209,246
EBITA	(3)		32,479	33,873	32,501	31,185	29,922
Pretax Returns on Contributory Assets							
Trademark	(4)		(4,543)	(4,738)	(4,546)	(4,362)	(4,185)
Technology	(4)		(1,136)	(1,184)	(1,136)	(1,090)	(1,046)
Adjusted EBITA			26,801	27,951	26,819	25,733	24,691
Less: Income Taxes			(10,720)	(11,181)	(10,728)	(10,293)	(9,876)
Debt Free Net Income			16,080	16,771	16,092	15,440	14,815
Debt Free Net Income Margin			7.1%	7.1%	7.1%	7.1%	7.1%
Returns on Contributory Assets							
Normal Working Capital	(5)		(2,726)	(2,843)	(2,727)	(2,617)	(2,511)
Property, Plant & Equipment	(5)		(4,543)	(4,738)	(4,546)	(4,362)	(4,185)
Workforce	(5)		(1,136)	(1,184)	(1,136)	(1,090)	(1,046)
Return on Contributory Assets			(8,404)	(8,764)	(8,409)	(8,069)	(7,742)
% of Revenue			-3.7%	-3.7%	-3.7%	-3.7%	-3.7%
Net After Tax Cash Flow to Customer Relationships			7,677	8,006	7,682	7,371	7,073
Partial Period Adjustment	(6)		0.250	1.000	1.000	1.000	1.000
Period			0.125	0.750	1.750	2.750	3.750
Discount Factor	(7)		0.983	0.900	0.783	0.681	0.592
PV of Cash Flow			1,886	7,210	6,015	5,019	4,188
PV of Cash Flows		44,015					

Tax Benefit=L/(L-(Fa*T))			
Tax Life	15 Years		
Tax Rate	40.0%		
Discount Rate	15.0%		
Annuity Factor	5.8474		
Mid-Year Adj Factor	1.0724		
Tax Benefit	20.1%	8,838	
Fair Value		52,853	
Fair Value (Rounded)	(8)	**53,000**	

Assumptions		Year 1	Year 2	Year 3	Year 4	Year 5
Growth of Retained Customers	(2)	1.0%	1.0%	1.0%	1.0%	1.0%
Annualized Attrition	(2)	5.0%	5.0%	5.0%	5.0%	5.0%

Calculation of Year 1 Attrition: Annualized attrition multiplied by partial period factor (= 5.0% * 0.25)

		Year 1	Year 2	Year 3	Year 4	Year 5
EBITA Margin	(3)	14.3%	14.3%	14.3%	14.3%	14.3%
Royalty Rate - Trademark	(4)	2.0%	2.0%	2.0%	2.0%	2.0%
Royalty Rate - Technology	(4)	0.5%	0.5%	0.5%	0.5%	0.5%
Tax Rate		40.0%	40.0%	40.0%	40.0%	40.0%
WC to Revenue Ratio	(5)	15.0%	15.0%	15.0%	15.0%	15.0%
Return on WC	(5)	8.0%	8.0%	8.0%	8.0%	8.0%
PP&E to Revenue Ratio	(5)	20.0%	20.0%	20.0%	20.0%	20.0%
Return on PP&E	(5)	10.0%	10.0%	10.0%	10.0%	10.0%
Assembled Workforce CAC	(5)	0.5%	0.5%	0.5%	0.5%	0.5%
Discount Rate	(7)	15.0%				

2690

2691 Notes:

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2692   (1) Initial revenue is based on the market participant PFI, adjusted for backlog.

2693   (2) Attrition is based on the historical attrition analysis. Backlog is assumed to have realization
2694   probability of 100%.

2695   (3) The margin is based on the market participant PFI for existing customers (i.e., inclusive of
2696   appropriate adjustments for expenses associated with new customer acquisition). For backlog, the
2697   margin has been adjusted to add back certain sales and marketing costs that have already been
2698   incurred (in this example, assumed to be 5% of revenue).

2699   (4) The corporate trade name and the proprietary technology were valued utilizing the relief from
2700   royalty approach and the royalty rate was used as the pre-tax CAC. The selected royalty rate
2701   reflects the relative importance of the intangible asset to the business and market transaction data
2702   obtained from a third-party source.

2703   (5) The fixed asset and working capital levels are based on the company's historical and expected
2704   fixed asset and working capital requirements. Additionally, they appear reasonable when viewed
2705   relative to comparable companies. The workforce charge is based on the value of the workforce.
2706   The workforce was valued based on its cost to re-create.

2707   (6) The partial period assumes the first period is one quarter of a year.

2708   (7) The selected discount rate is based on the valuation specialist's assessment of risk. Though not
2709   displayed, it is assumed the discount rate is reasonable when viewed within the context of the
2710   overall analysis.

2711   (8) The customer relationship asset was valued over its 20-year life. Five years are shown for display
2712   purposes.

2713 *Testing Outputs*

2714 The value of the backlog and customer relationships was estimated to be $54.5 million or approximately
2715 27% of the total purchase consideration. Additionally, the cash flow margin attributed to the customer
2716 relationships is approximately 40% of the tax affected EBITA margin. This is reasonable given the
2717 following factors: (1) the customer relationships were a primary acquisition rationale; (2) customers are
2718 highly recurring and it has taken a number of years for the company to develop the level of relationships it
2719 has in place; and (3) though the market is highly cost competitive, customers prefer to use the TargetCo as
2720 their packaging provider.

2721 ***Example B.4: Hardware Company***

2722 *Transaction*

2723 On January 1, 2011, TechCo purchased TargetTechCo for a purchase consideration of $2.1 billion and the
2724 transaction was structured as a stock purchase. The transaction was competitive with multiple strategic
2725 buyers bidding.

2726 TechCo's rationale for undertaking the transaction included the following:

2727   a. Strong existing technology platform.

2728   b. Strong development pipeline of new projects.

2729   c. Ongoing and recurring purchases of components by manufacturers integrating them into larger
2730   systems.

2731 *Acquirer Profile*

2732 TechCo is a publicly traded technology company that focuses on developing hardware and software
2733 products. They are considered by many to be one of the largest market participants in their industry
2734 segment and have traditionally made acquisitions a large part of their growth strategy. Acquisitions are
2735 considered by TechCo management as a necessary way to accelerate their technology roadmap.

2736 *Target Description*

2737 TargetTechCo is a leading provider of hardware components that other manufacturers integrate into
2738 assembled systems. They spend a significant amount each year on research and development and their
2739 management philosophy has always been to develop state-of-the-art technologies that would "speak for
2740 themselves" in the marketplace. They, unfortunately, have spent too little on sales and marketing and,
2741 consequently, sales have dropped in recent years, even though many of their competitors agree that they
2742 develop a high-quality solution.

2743 *Assets Acquired*

2744 Assets acquired as a part of the transaction included fixed and intangible assets. Fixed assets are relatively
2745 immaterial to the total purchase consideration. Intangible assets consist largely of technology, in-process
2746 research and development, and customer relationships.

2747 *Customer Characteristics*

2748 Customers consist of a variety of companies that utilize TargetTechCo's hardware components. While
2749 market participants would likely also expect to leverage the acquired business's established customer
2750 relationships to sell existing and new products, the continuation of the customer relationships is largely
2751 dependent on the technological capabilities offered by the business's products.

2752 *Facts and Circumstances Leading to the Methodology Selection*

2753 Based on discussions with management, it was determined that there are three intangible assets present:
2754 customer relationships, existing technology, and in-process research and development. Technology and in-
2755 process research and development were the primary assets identified. Customer relationships were
2756 determined to be a secondary asset. As such, the MPEEM was utilized to value the technology and in-
2757 process research and development. A with-and-without model was used to value the customer
2758 relationships. Based on discussions with management, it was determined that the customer relationship
2759 could be re-created in three years. Please note, however, that the useful life of the asset was determined to
2760 be six years based on an analysis of historical customer attrition rates.

2761 *Table B.4.a: Hardware Company With Approach*

	2010	2011	2012	2013
Revenue With Existing Customers	$ 600.0	$ 750.0	$ 1,000.0	$ 1,200.0
Less: Cost of Goods Sold	(300.0)	(375.0)	(500.0)	(600.0)
Gross Profit	300.0	375.0	500.0	600.0
Less: Fixed Operating Expenses	(72.0)	(90.0)	(120.0)	(144.0)
Less: Variable Operating Expenses	(48.0)	(60.0)	(80.0)	(96.0)
Less: Incremental "Re-Creation" Expenses	-	-	-	-
Pre-tax Income	180.0	225.0	300.0	360.0
Less: Income Taxes (40.0%)	(72.0)	(90.0)	(120.0)	(144.0)
Net Income	108.0	135.0	180.0	216.0
Plus: Depreciation		37.5	50.0	60.0
Less: Changes in NWC		(6.0)	(10.0)	(8.0)
Less: CAPEX		(37.5)	(50.0)	(60.0)
Cash Flows		$ 129.0	$ 170.0	$ 208.0
Midpoint		0.5	1.5	2.5
Present Value Factor		0.9325	0.8109	0.7051
Present Value of Cash Flows		$ 120.3	$ 137.8	$ 146.7
Sum of Present Value of Cash Flows (With Scenario)		$ 404.8		
Sum of Present Value of Cash Flows (Without Scenario)		290.5	See schedule on next page.	
Difference Between Scenarios		114.3		
TAB		23.0		
Fair Value		**$ 137.3**		

TAB Calculation:

Tax Life (n)	15	
Tax Rate (t)	40.0%	
Discount Rate (r)	15.0%	
Annuity Factor	5.85	= PV(r, n, -1)
Mid-Year Adj Factor	1.07	= (1 + r) ^ 0.5
TAB Factor	20.1%	= (n / (n - (Annuity Factor * Mid-Year Adj Factor * t)) - 1)

Working Capital (WC) Calculation

		2010	2011	2012	2013
Accounts Receivable (% of Rev.)	5.0%	30.0	37.5	50.0	60.0
Inventory (% of CoGS)	10.0%	30.0	37.5	50.0	60.0
Accounts Payable (% of CoGS)	12.0%	36.0	45.0	60.0	72.0
Total WC		24.0	30.0	40.0	48.0
WC / Revenue		4.0%	4.0%	4.0%	4.0%
WC Investment			6.0	10.0	8.0

2762

2763 *Table B.4.b: Hardware Company Without Approach*

	2010	2011	2012	2013
Revenue Without Existing Customers	$ 600.0	$ 400.0	$ 900.0	$ 1,200.0
Less: Cost of Goods Sold	(300.0)	(200.0)	(450.0)	(600.0)
Gross Profit	300.0	200.0	450.0	600.0
Less: Fixed Operating Expenses	(72.0)	(90.0)	(120.0)	(144.0)
Less: Variable Operating Expenses	(48.0)	(32.0)	(72.0)	(96.0)
Less: Incremental "Re-Creation" Expenses	-	(10.0)	(10.0)	(5.0)
Pre-tax Income	180.0	68.0	248.0	355.0
Less: Income Taxes (40.0%)	(72.0)	(27.2)	(99.2)	(142.0)
Net Income	108.0	40.8	148.8	213.0
Plus: Depreciation		37.5	50.0	60.0
Less: Changes in WC		(2.0)	(10.0)	(12.0)
Less: CAPEX		(37.5)	(50.0)	(60.0)
Cash Flows		$ 38.8	$ 138.8	$ 201.0
Midpoint		0.5	1.5	2.5
Present Value Factor		0.9325	0.8109	0.7051
Present Value of Cash Flows		$ 36.2	$ 112.5	$ 141.7
Sum of Present Value of Cash Flows (Without Scenario)	$ 290.5			

Working Capital (WC) Calculation		2010	2011	2012	2013
Accounts Receivable (% of Rev.)	5.0%	30.0	20.0	45.0	60.0
Inventory (Max of % of COGS & Starting Inv.)	10.0%	30.0	30.0	45.0	60.0
Accounts Payable (% of COGS)	12.0%	36.0	24.0	54.0	72.0
Total WC		24.0	26.0	36.0	48.0
WC / Revenue		4.0%	6.5%	4.0%	4.0%
WC Investment			2.0	10.0	12.0

Comments:

> Cost of Goods Sold are a stable % of revenue. As such, their levels reflect revenue levels.

> Operating Expenses are assumed to be 20% of revenue in the With scenario, with 60% fixed (i.e., unchanged in the Without scenario) and 40% variable (i.e., a function of revenue levels in the Without scenario).

> The Incremental "Re-Creation" Expenses are those required to re-create the lost customer relationships.

> The Pre-Tax Income reflects the offsetting effects of lower COGS and Operating Expenses in conjunction with higher Re-Creation expenses.

> Working capital was projected by modeling A/R, Inventory and A/P.
  A/R is modeled as a constant percent of revenue, as such it declines when revenue declines.
  Inventory is modeled as the greater of a % of COGS or starting Inventory. This reflects the expectation management would not liquidate inventory they could sell after a modest period of time.
  A/P is modeled as a constant percent of COGS, as such it declines when COGS declines.
  The overall working capital source/use reflects the contrasting impacts of these items.

2764 > Depreciation and capex are the same as the With scenario as it is assumed there are no changes to the fixed asset base.

2766 The value of the customer relationships was estimated to be $137.3 million, or approximately 6.5% of the
2767 total purchase consideration. This is reasonable given the following factors:

    a. 2768 The customers are attracted and retained due to the technology (i.e., valuation specialist
    2769 determined that the technology is a primary asset and the customers are not a primary asset).

    b. 2770 The technology asset value conclusions were significantly higher than the customer relationship
    2771 value conclusion and were determined by management to be a primary rationale of the transaction.

    c. 2772 Manufacturers purchase these components due to their quality and ability to meet rigorous
    2773 specifications, suggesting more value emphasis on the product/technology versus customer
    2774 relationships.

2775 In a hypothetical scenario where the company no longer has its customers, it would quickly regain them
2776 due to the need for its hardware components. Use of the With-and-Without Method is consistent with the
2777 nature of these relationships. It appears reasonable in that it returns a value that is a relatively small
2778 portion of the purchase consideration. A customer-relationship asset that has a longer life may be
2779 considered a more significant asset to the business economics. A more substantial portion of the purchase
2780 consideration was ascribed to the technology, both developed and in-process, which is consistent with the
2781 business drivers and the purchase rationale.