PART I – UNDERTAKING A PURCHASE PRICE ALLOCATION

JAMES P. CATTY OF COUNSEL, HMG P.S.
WILLIAM A. HANLIN SENIOR PARTNER, HMG P.S.

INAA GROUP
INTERNATIONAL NETWORK OF ACCOUNTANTS AND AUDITORS

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Introduction

- Mergers are ubiquitous
- Nearly every business in history has been involved in one or more, as an Acquirer or Target
- A lot has been published on making mergers happen
- Quite a lot on their successes and failures

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Introduction

- Yet, according to KPMG, only 17% of the over 700 they studied, created real value
- More than half destroyed it
- There is virtually nothing written on the numerous endeavours that have to occur immediately afterwards

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Introduction

- One of the most complex of those is the Purchase Price Allocation ("PPA") process which is required by SFAS 141 (US), Handbook Sec 1581 (Can) and IFRS 3, to be undertaken for every Business Combination.

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Introduction

- In this, the Fair Value of the consideration paid, be it cash, notes, shares or anything else, is allocated between the various recorded and un-recorded assets of all kinds – financial, physical and intangible – of the Target, as well as the liabilities assumed

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Introduction

- Everything involved, both known, and known unknown (contingencies and the like), assets have to be valued, as well as the liabilities
- Any unallocated balance representing, the unknowable assets, as well as by definition the assembled workforce, is recorded as Goodwill

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The Process

- The PPA process has five, interconnected phases
  1. Determining the Acquirer
  2. Establishing the Fair Value of the Purchase Price (consideration)

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The Process

3. Identifying the various assets, liabilities, technologies and contingencies involved
4. Selecting appropriate valuation techniques
5. Estimating their Fair Values and reconciling the rates of return

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The Process

- Several (3, 4 & 5), of these complex activities must be undertaken for each Reporting Unit into which the acquired assets and activities of the Target, as well as the liabilities assumed, are transferred to establish the appropriate amounts of Goodwill

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The Process

- This process is a source of potential problems for Auditors
- They believe, often rightly, that it can give management opportunities for shenanigans similar to those that sometimes occurred in the past with one-time-charges

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The Process

- In some cases, after a bad quarter or poor year, management has taken a "big bath" to "clear the decks" and remove some "bad stuff" from the Balance Sheet
- Not only do future profits appear greater, but the apparent Return-on-Equity jumps substantially

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The Process

- The numerator (profits) is higher
- The denominator (equity) lower
- Some managements are tempted to follow that path with Impairment Tests

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Example

- A business has two Reporting Units, one of which is doing well and the other poorly
- After an acquisition, management will lean towards assigning as much Goodwill as possible to the one that is doing well

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Example

- Its Fair Value is likely to increase
- Thereby avoiding any potential impairment losses
- A loss as a result of the initial Impairment Test is reported as a change in accounting principles

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Example

- Instead of risking significant write-downs in the future, management might be well advised to allocate as much Goodwill as supportable against the poorly performing Unit

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Example

- Incur the impairment loss in the first fiscal year as an accounting change rather than having a future impact on reported earnings-per-share

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Who does the work

- Financial Statements, including the PPA, are management's responsibility
- A PPA can be performed in-house but the organisation may not have the required expertise
- The Auditors may be qualified but are prohibited for reasons of independence

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Who does the work

- The best option is normally outside experts, another accounting firm or independent valuator
- This provides greater certainty
- More importantly, it allows management to focus on more strategic post-acquisition challenges

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Who is the Acquirer

- Who is the Acquirer?
- Is it actually a Business Combination?
- The answer is not as easy as it looks
- Recently a holding company (HoldCo) acquired through share exchanges, Taiwanese and Californian entities in the business

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Who is the Acquirer

- The accounting was unusual
- In the Taiwanese case, as its shareholders were substantially the same as those HoldCo both before and afterwards, it was accounted for as a pooling of interests
- Even though this was eliminated, by IFRS 3

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Who is the Acquirer

- The California merger had:
  - A lower Fair Value
  - Occurred several months later
  - Involved fewer shares

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Who is the Acquirer

- Therefore, one would have expected it to be the Target
- Not so ! !
- It was 5% owned by Taiwan and 95% by an existing 25% Shareholder of HoldCo, which after the transaction, owned just over 50%

Who is the Acquirer

- Therefore even though Taiwan's management continued to run both entities, the accounting rules determined that it was a reverse merger
- California was the "deemed Acquirer" and HoldCo the Target
- The exact opposite of the legal situation

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Who is the Acquirer

- To complicate matters further California had to adopt “push down” accounting
- It was required to restate all assets and liabilities at Fair Values
- The Equity became $130 million, the original purchase price by Taiwan and Shareholder

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Fair Value of the Purchase Price

- The next step in a PPA
- Determine Fair Value of the purchase price
- "the amount of the consideration that would be agreed upon in an arm's length transaction between knowledgeable, willing parties under no compulsion to act" - a cash equivalent concept

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Fair Value of the Purchase Price

- In most deals there are several components
- Typically cash, notes and shares
- “cash is cash”
- Other elements normally need adjustment

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Fair Value of the Purchase Price

- A note bearing interest at 5%, due two years after closing, must be discounted at the appropriate market rate, say 8.5%, to a Fair Value of 93.8%
- If a portion is paid in shares the quoted market price is not Fair Value if there are trading restrictions

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Fair Value of the Purchase Price

- The discount is normally calculated by an Option Pricing Model
- With typical parameters (volatility 40% and risk-free rate 5.0%) this would be 18%

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Fair Value of the Purchase Price

	Nominal Consideration	Discount	Fair Value
	Euro '000	%	Euro '000
Cash	5,000	-	5,000
Note	3,000	6.20	2,814
Shares	2,000	18.00	1,640
	10,000	94.54	9,454

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Fair Value of the Purchase Price

- Judgment is most important when determining the Fair Value of any contingent consideration
- Revised IFRS 3 now requires contingent consideration to be recorded when its outcome can be determined beyond a reasonable doubt

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Fair Value of the Purchase Price

- If not, details of the contingency must be disclosed in the notes to the financial statements
- The Note might stipulate that in each of the two years following the transaction EBITDA must exceed a specified level, say Euro 2,000,000

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Fair Value of the Purchase Price

- If not, its principal is reduced Euro for Euro by the shortfall
- Assume the probability of success is 85% in the first year and 95% for the second
- The Fair Value of the Note is reduced by Euro 600,000

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Fair Value of the Purchase Price

- Sometimes an earn-out clause provides for a higher price should certain EBITDA targets be exceeded
- These must be added on a probability basis

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Fair Value of the Purchase Price

- Up to now, the various transaction costs of the Acquirer have been included in the purchase price
- Under the revised IFRS 3 they are to be charged against Income
- This includes:

Fair Value of the Purchase Price

- Fees and commissions paid to lawyers, accountants, appraisers, consultants, finders and investment bankers to effect the transaction
- Fees for bank loans and costs of issuing the securities involved have always been excluded from the purchase price

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Fair Value of the Purchase Price

- For our reverse merger the first thing to look at is the legal consideration
- HoldCo issued 27.1 million shares to Shareholder at $123.5 million ($4.56 each) for 95% of California's Fair Value
- Giving it a Fair Value of $130 million

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Fair Value of the Purchase Price

- Therefore the 54.5 million existing HoldCo shares were worth $248.3 million
- The Auditors reading of IFRS 3 is that the measurement of what is given up by Shareholders is more reliable than what is received by the other investors

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Fair Value of the Purchase Price

- This is $58.5 million on HoldCo's value
  - It gave up 45% of California (95%-50%)
  - $58 million for 54.5 million shares
  - $1.07 compared with a $1.66 book value
  - Immediately creating negative Goodwill
- The $4.56 a share involved a control premium

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Fair Value of the Purchase Price

- They were overruled by a regulator
- The compromise purchase price was the Business Enterprise Value of $165 million
- Didn't I say that the process is complex, frustrating and expensive
- At least six figures in $ or €

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Identifying the Items Involved

- Many companies making an acquisition do not know exactly what they are getting
- The consideration is normally based on historic earnings, projected future cash flows and the expected benefits of syzygies (unions of two related things)

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Identifying the Items Involved

- In every case, a rigorous analysis of what the Acquirer has actually received is essential

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Identifying the Items Involved

- The first step again is fairly simple
  - Identify the tangible assets
  - Normally recorded on the Balance Sheet
  - Classify everything else as an intangible

Identifying the Items Involved

- Then determine the Fair Values of the tangibles
- Adjustment may be needed for receivables
- Typically required for inventories
- All capital assets require restatement

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Valuing Receivables

- Fair Value is usually lower than cost
- It is the present value, at current borrowing rates, of the amounts expected to be received
- Including a full provision for difficult to collect

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Inventories

- Obtaining their Fair Value is somewhat counterintuitive
- Normally they are carried at the lower of cost or net realizable value
- For finished goods, the excess of selling price over incurred cost is not recognized until a sale

Inventories

- In an acquisition the inventory is sold
- Not to a customer but to the Acquirer
- Accordingly, some of the value-added is recognised

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Inventories

- The Fair Value of finished goods is therefore
- Estimated selling prices less the sum of the costs of disposal and a reasonable profit allowance
- This will have a negative short-term impact on the post-acquisition reported gross margin

Inventories

- While the inventory will be sold at normal prices, its Fair Value will be significantly higher than its previous historic cost
- Fair Values of raw materials are their current replacement costs
- Work in progress is at incurred costs

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Properties Plant & Equipment

- Independent real estate and technical appraisers are recommended to determine Fair Values
- They should apply the “highest and best use” concept
- For lands and buildings this may not necessarily be what is actually happening

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Capital Assets

- For the plant and equipment it will normally be their present functions
- It is important to include all fully written off but still useful items
- moulds, tools, jigs and dies

Liabilities

- Assume all liabilities
- Loans or pension obligations restated to Fair Values
- This is to create a Fair Value tangible Balance Sheet can be created

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Benefit Plans

- Benefit Plans can be net assets or liabilities
- The liability is the actuarial present value of promised benefits
- Fair Values are calculated for related assets

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Benefit Plans

- An asset can be recognized only to the extent that it would be available to the enterprise as a refund or by reductions in future contributions

Tax Balances

- Debits are the undiscounted benefits arising from available tax losses
- Credits are the amounts due re timing differences, affecting future profits or losses
- Both are net of the tax effect of restating other identifiable assets and liabilities to Fair Values

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Other Identifiable Liabilities

- The present values, at current interest rates, of the amounts to be paid
- Discounting is not required for short-term liabilities where the effect is immaterial

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Contingent Liabilities

- The amount that a third party would charge to assume them
- This must reflect expectations about the timing of cash flows rather than the single most likely outcome

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Intangible Assets

- After dealing with the financial and physical (tangible) items (both assets and liabilities), the focus shifts to the most difficult arena
- Intangible Assets
- They are normally divided into five categories:

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Intangible Assets

- Marketing related – trademarks, Internet domain names, non-compete agreements, etc.
- Customer-related – customer lists, contract and relationships, order backlogs, etc.
- Contract-based – licenses, royalties, service/supply contracts, leases, franchises, etc.

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- Technology-based – technology, software, databases, trade secrets, etc.
- Artistic-related – literary works, musical works, pictures, videos, etc.

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Intangible Assets

- An “assembled workforce” is deemed to be part of Goodwill
- But its Fair Value has to be calculated in applying several of the accepted methodologies

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Intangible Assets

- The goal is to establish each of the identifiable intangible assets involved
- Then determine their Fair Values
- Any residual intangible value is Goodwill
- In every case the three traditional approaches (Cost, Market and Income) are considered

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Intangible Assets

- Do not forget the developing fourth (Formula Approach – option pricing models, real options, etc.)
- The market approach is preferable; however, reliable information is not always available

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Selecting Appropriate Methodologies

- Many companies have similar identifiable intangibles:
  - *Customer relationships* – All Acquirers must recognise any customer relationships, from contracts or otherwise
  - Normally valued using the Income Approach
  - Attributable cash flows are estimated and discounted

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Selecting Appropriate Methodologies

- Key assumptions required:
  - Attrition rate – how fast would someone expect sales from the customer relations to erode
  - Expected (EBIT or EBITDA) margins
  - Contributory asset charges – the notional costs for use of other necessary assets (tangible, intangible & assembled workforce)

Selecting Appropriate Methodologies

- *Trademarks and Technologies* –typically valued using the relief from royalty method
- Based on the concept that if the entity did not own the item, how much would it be willing to pay to use it?

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Selecting Appropriate Methodologies

- The assessment of expected sales focuses on the Company
- The determination of an appropriate royalty rate looks to available market-based information

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Selecting Appropriate Methodologies

- *Non-compete agreements* – typically part of most transactions
- Valued using an income approach
- Expected cash flows are estimated
- With and without the agreement in place

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Selecting Appropriate Methodologies

- The probabilities of competition actually occurring are also assessed
- The more likely the employee would compete without the agreement, the higher its Fair Value

Selecting Appropriate Methodologies

- *In-process research & development* - Often part of the consideration is payment for an ongoing product development effort by the Target
- IFRS requires immediate expensing of internally incurred research costs but capitalization and amortization of development expenditures

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Selecting Appropriate Methodologies

- Purchased IPR&D is recorded as a separate intangible asset
- Normally a Discounted Cash Flow method is applied using probabilities

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December 2007 Balance Sheet

		Book Value		Purchase Price Allocation: Fair Value	WARA Rate	Return
		S' 000		*S' 000*	%	*S' 000*
Purchase Price				165,000		
Assets Acquired						
Current						
	Cash & equivalents	35,122		35,122	1.50%	527
	Receivables	4,227		4,185	6.00%	251
	Inventories	3,241		3,354	6.50%	218
	Other	726		726		-
Liabilities Assumed						
	Notes and accounts payables	-621		-621	1.50%	-9
	Other Payables	-923		-923	1.50%	-14
	Advance receipts for common stock	-2,662		-		
Working Capital		39,110		41,843	2.30%	974

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December 2007 Balance Sheet

		Book Value	Purchase Price Allocation Fair Value	WARA Rate	Return
		$ '000	$ '000	%	$ '000
Equity in Affliliate		4,798	4,798	21.00%	1,008
Fixed					
	Property and Equipment	1,311	16,809		
	Accumulated Depreciation	-98			
	Prepayment--Equipment	3,121	3,121		
		4,334	19,930	9.00%	1,794
Other					
	Purchased Intangibles				
	Ul Listing	851	851	16.60%	141
	Know-how	122	122	22.00%	27
	Trade-name	2,771	2,771	25.00%	693
	Miscellaneous	155	155		-
		3,899	3,899	22.10%	861
Net recorded position		52,141	70,470	6.60%	4,636

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December 2007 Balance Sheet

- The difference of €113 million between:
  - consideration of €165 million
  - reported equity of €52 million
- Suggests a significant unrecorded Intangible Assets

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December 2007 Balance Sheet

- Discussions with management determined at least the following:
  - Customer Relationships
  - Low cost furnaces (in Property & Equipment)
  - Trade-name
  - Assembled Workforce
  - Tools, Jigs, Dies and Moulds (in Property & Equipment)

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December 2007 Balance Sheet

					Purchase Price Allocation		
			Book Value		Fair Value	WARA Rate	Return
			$ '000		$'000	%	$'000
Unrecorded Intangible Assets							
	Customer relationships				6,700	25.00%	1,675
	Assembled Workforce				670	20.00%	134
	Trade-name				26,000	25.00%	6,500
	Goodwill - Other				61,160	35.50%	21,705
					94,530	31.80%	30,014
					165,000	21.00%	34,650

Current Assets

- The cash is simple
- Receivables a bit more complicated
- Their fair value is obtained by deducting a discount to reflect when, if at all, payment is likely to arrive

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Current Assets

- This will vary a lot between customers
  - Many government agencies, with no credit risk, often pay in 120 days compared with the standard 30
  - For them, a deduction of 2.0%

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Current Assets

- The time value of money on the receivables (3/12 x say 8%) must be made
- For a 90 day delinquency the discount is as high as 20%
- Inventories were discussed previously

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Property Plant and Equipment

- California's assets included a great deal of unrecorded know-how
- Some relating to its major plant
- When bought in 2000 it had 48 non-functioning specialized furnaces

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Property Plant and Equipment

- Half are now in service
- Their replacement cost is about $600,000 each
- The know-how allows them to be rehabilitated for only $150,000

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Property Plant and Equipment

- After they are rebuilt, they are effectively as good as new
- Engineering studies indicate the rehabilitated furnaces have as an economic/physical life of 25 years

Property Plant and Equipment

- Substantially the same as the 30 years specified for new units
- The increase to depreciated replacement cost of the 24 operating units is $9,617,000

Property Plant and Equipment

- The present value of the future savings from rebuilding is $4,671,000
- The total increase is $14,288,000

Tools, Jigs, Dies & Moulds

- Another significant part of the know-how relates to casting technology
- Obtaining particular physical properties for which customers pay a premium

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Tools, Jigs, Dies & Moulds

- Necessary moulds, with an indefinite physical life, had been written-off
- The are recorded at replacement cost of $1,210,000

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Customer Relationships

- This industry functions as if the European and American markets are totally different
- In reality both are mainly supplied by Asian producers

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Customer Relationships

- From 2004 to 2008 the unit price in Euros (unconverted) differed by less than 5% from the similar dollar cost in the US
- In April 2004, European sales were €46.40 (US$56.50) a unit, US $43.00 in the US

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Customer Relationships

- Three years later the Euro price was €47.10 ($73.30) compared with US $47.10 in America
- In 2007 European gross margins were about 26.3% compared with 10.2% for the US

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Customer Relationships

- Management expects this benefit to continue for a number of years
- Based on reversion to the mean over 10 years

Customer Relationships

- Present value at 25% of the net benefits from sales to European customers was $6,700,000
- Reflected contributory charges for capex, working capital, assembled work force & trade-name

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Assembled Workforce

- The assembled workforce of 113 employees, with 12 managers - annual payroll is $1.692,000
- Headhunter fees are
  - 8.5% for production workers
  - 20.0% for managers

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Assembled Workforce

- Learning curves is between 3 and 10 months
- The fair value of the assembled workforce is $670,000 (40% of payroll)

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Trade Name

- Valued by the relief from royalties method
- At a royalty rate of 2.75%
- Present value of ten years projected profits add 3% at 25% of the after tax savings from ownership is $26 million

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Conclusion

- Preparing a PPA is a complex technical process
- In many ways more difficult than valuing an overall business
- Performing a PPA management and Valuators must asses numerous cash flows and establish rates of return applicable to each of them

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Conclusion

- At the same time they have to ensure that their asset specific analyses are consistent not only with each other but also with the entity's expected overall results
- Intangible Assets are among the most important features of most firms

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Conclusion

- Their valuation by the PPA process not only sheds light on the "value drivers" of the business but also forces management to explicitly assess why it paid a particular price for the Target

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