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How Much is your Innovation Worth

Valuation of Intellectual Property

CA. Vaibhav Jain

B.Com (Hons), FCA, ACS, LLB, DISA (ICAI), MBF (ICAI), FAFD (ICAI), CCIDT (ICAI), CCCA (ICAI), ID (MCA-IICA), Registered Valuer (SFA) (IBBI)

fcavaibhavjain

How Much is your Innovation Worth ?

- The value of an innovation is not a single number but is determined by a combination of factors, including
  - its potential revenue,
  - the costs of development, and
  - strategic impact.
- To assess its worth, companies can perform a cost-benefit analysis, consider revenue forecasts, evaluate the innovation's impact on their competitive advantage and market position, and analyze strategic value.
- Metrics like the simple payback period or more complex discounted cash flow analysis are used, along with qualitative factors like market demand and risk reduction.

Financial and cost-benefit analysis

- **Revenue Potential:** Project the potential income the innovation could generate, considering its price point and sales volume.
- **Initial and Recurring Costs:** Calculate the money and time spent on development, testing, and future maintenance.
- **Payback Period:** For smaller projects, the payback period can show the time it takes for the innovation to recoup its costs.
- **Discounted Cash Flow (DCF):** For larger, more complex innovations, a DCF analysis is used to account for initial costs, ongoing costs, and future income streams, factoring in risk and uncertainty.

STRATEGIC AND MARKET VALUE

- **Market Position:** Assess how the innovation will distinguish the company from competitors and its potential to create new markets or dominate existing ones.
- **Risk Reduction:** Evaluate the innovation's role in mitigating business risks and its adaptability to future challenges.
- **Long-Term Growth:** Consider the innovation's contribution to sustained growth and survival in a competitive landscape.
- **Innovation Metrics:** Use metrics like the "innovation rate" (number of innovations / total number of products) to gauge a company's innovation activity in relation to its overall portfolio.

Intangible and operational value

- **Operational Improvement:** For process innovations, measure the value derived from improved efficiency, reduced costs, and better operations.
- **Intellectual Property:** Value intangible assets like patents, trade secrets, and the company's know-how that are associated with the innovation.
- **Societal Impact:** Consider non-financial benefits, such as improvements in quality of life or societal well-being, which are harder to quantify but are part of a comprehensive evaluation.

VALUATION OF INTELLECTUAL PROPERTY

INTELLECTUAL PROPERTY ASSETS - INTRODUCTION

- Intellectual property (IP) is an **intangible asset** with special **legal recognition** and protection, usually granted by statute.
- IP is created through deliberate, creative, and identifiable intellectual effort by an inventor, author, or developer.
- IP results in new and unique creations, either artistic (e.g., books, images) or technological (e.g., chemical processes, software code).
- **IP transforms ideas into assets**.

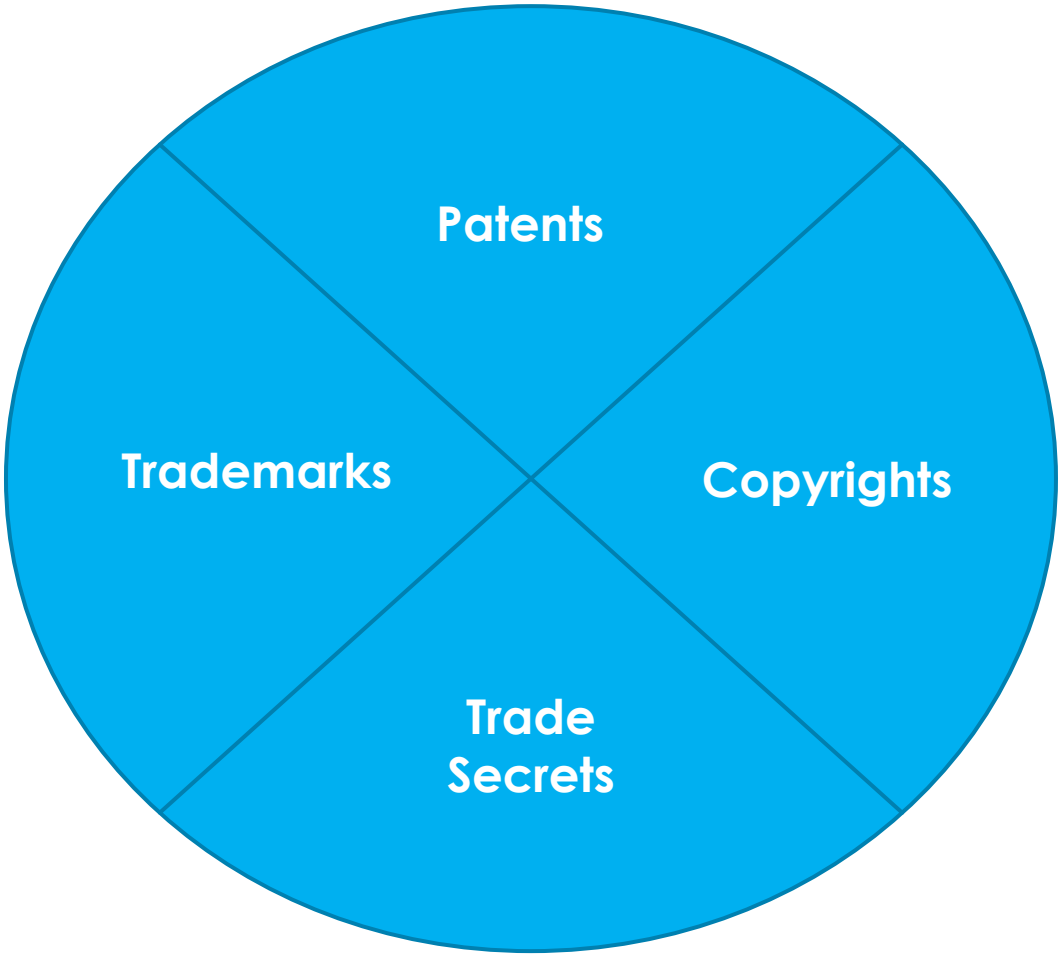
TYPES OF INTELLECTUAL PROPERTY

🔬 **Patents** → inventions, processes, technology

📖 **Copyrights** → books, music, software code

™ **Trademarks** → logos, brand names, distinctive signs

🔒 **Trade Secrets** → confidential formulas, strategies



TYPES OF INTELLECTUAL PROPERTY

Patents
Legal protection granted for inventions or innovative technology, giving the owner exclusive rights to make, use, and commercialize the invention for a limited period.

Copyrights
Protect creative expressions like books, music, and software code, preventing unauthorized reproduction or distribution of the original work.

Trademarks
Safeguard brand identifiers such as names, logos, symbols, or taglines that distinguish goods or services in the marketplace.

Trade Secrets
Confidential information (e.g., formulas, processes, strategies) that provides a competitive advantage and is protected through secrecy, not registration.

IP VALUATION

- Determines the **fair value** of patents, trademarks, copyrights, and brands during M&A, sale, and strategic transactions.
- Key Methods: **Income** (future cash flows), **Market** (comparable deals), **Cost** (creation/replacement).
- Enables informed deal pricing, regulatory compliance, and strategic planning.
- Value depends on legal rights, market potential, enforceability, and financial impact.

REASONS TO ANALYZE INTELLECTUAL PROPERTY

- **Valuation Purposes**
  - Fair value for acquisitions and impairment (financial reporting)
  - FMV for tax compliance — contributions, PPA, solvency, donations
  - Determine if IP is taxable/exempt (property tax)
  - Fresh start accounting and collateral valuation (bankruptcy)
  - Assess price fairness in related-party or third-party transactions

REASONS TO ANALYZE INTELLECTUAL PROPERTY

- **Economic Damages Assessment**
  - IP infringement and business interference (tort claims)
  - Breach of license or confidentiality (contract disputes)
  - Government acquisition of IP rights (expropriation)
  - Disputes over IP ownership or commercialization (JV/partners)

REASONS TO ANALYZE INTELLECTUAL PROPERTY

- **Transfer Pricing**
  - Arm's-length pricing for international transfers
  - Pricing of controlled domestic transactions
  - Pricing of IP transfers within corporate groups
  - Fair royalty value for independent licensing

INTELLECTUAL PROPERTY–RELATED INTANGIBLE ASSETS – KEY DIFFERENCE

Aspect	IP-Related Intangible Assets	General Commercial Intangible Assets
How They Are Created	Consciously, creatively produced through innovation or design	Develop naturally through normal business operations
Examples	Patents, trademarks (logo/brand), copyrights (designs), trade secrets (formulas, know-how)	Customer relationships, customer contracts, supplier relationships, goodwill
Nature of Work	Involves artistic, inventive, or technical creativity	No specific artistic or creative design effort
Legal Protection	Protected under IP laws (patent, trademark, copyright.)	Not protected by IP laws; supported by contracts, business practices, or economic value
Classification	All IP assets are intangible assets	Not all intangible assets are IP
Value Source	Innovation, brand identity, unique creation	Business operations, reputation, market presence

WHAT FOUNDERS NEED TO CHECK FOR IP VALUATION

Factor	Key Considerations	Explanation
1. Determining if an intangible asset is an Intellectual Property (IP)	Check if it fits into one of the four IP categories	Intellectual property legally includes only: **patents, copyrights, trademarks, trade secrets**. IP refers to the right itself (e.g., a patent document), *not* the product (e.g., a patented device).
2. Determining if the IP is valuable	Value comes from exclusivity	An IP is valuable because it gives the owner exclusive rights to use, make, sell, or license the creation.
3. Impact of Legal Protection Period	Value reduces as expiry nears	At the beginning of its legal life, IP is most valuable due to long exclusivity. As expiration approaches, future royalty and operating income potential decreases. Value decline is **not linear**.
4. Income Expectation	Royalty income, operating income	IP value is linked to income streams that the exclusivity can generate, such as licensing fees and business operations based on the IP.

METHODS OF IP VALUATION

Method	Description	Typical Contexts
Income Approach	Estimates the present value of future economic benefits (e.g., royalties, incremental profits)	Intangible assets generating cash flow; M&A; licensing
Market Approach	Benchmarks value against comparable IP transactions or licensing deals in the market	When comparable transactions are available
Cost Approach	Calculates value based on cost to create or replace the IP asset	Early-stage/development IP, difficult-to-value assets

METHODS OF IP VALUATION

Cost Approach

- Value = Cost to **recreate or replace** the asset today
- Adjust for **physical wear** and **obsolescence**
- Used when **market data** or **income information** is limited

Simple idea: *"What does it cost to build it again?"*

Market Approach

- Compare to recent sale prices of similar assets
- Uses observable market multiples or comparable transactions
- Reflects current market behaviour and trends

Simple idea: *"What are others paying for similar assets?"*

Income Approach

- Value based on future earnings or cash flows generated by the asset
- Convert those future benefits into present value
- Applied when the asset is expected to generate income

Simple idea: *"What will it earn for me in the future?"*

COST APPROACH

- Best for **Early-stage/development IP**, difficult-to-value asset.
- Used when comparable market data or specific income streams are hard to identify.

Examples valued using cost approach:

- Procedure manuals, training manuals
- Technical drawings, internal training films
- Confidential records, source code for internal-use software

Two primary methods under the cost approach:

- **Reproduction Cost Method** – Cost to recreate identical asset with same materials and standards
- **Replacement Cost Method** – Cost to replace with modern equivalent providing similar utility

GENERALLY ACCEPTED COST COMPONENTS

- **Direct costs**: Material, labor, and overhead costs incurred directly by the intangible asset creator.
- **Indirect costs**: Material, labor, and overhead costs incurred indirectly (includes contractors, consultants, advertising firms, legal, software, engineering, and testing agencies).
- **Developer's profit**: Expected reasonable profit on both direct and indirect development costs, similar to the profit earned by building contractors or intangible asset developers.
- **Entrepreneurial incentive**: Economic benefit required to motivate the creator to enter the development process; often seen as opportunity cost.

Example – Replacement Cost Method

The Company developed a core semiconductor platform (Phase II: Apr–Dec 2022) used for future product development. Product-specific R&D was scrapped due to lack of approvals and technological obsolescence; hence only the core platform cost is considered for valuation.

R&D Cost Considered: INR 192 Mn

Adjustments Applied:
- Inflation to current cost levels
- Developer's Profit @ 15%
- Opportunity Cost for replacement period

Particulars	INR Mn
Core Platform R&D Cost	192
Inflation Adjustment	24
Developer's Profit (15%)	32
Opportunity Cost	13
Fair Value of IP	**261**

Conclusion:
Based on the Replacement Cost Method, the fair value of the Company's core platform IP is estimated at **~INR 261 Mn**.

MARKET APPROACH

- The market approach provides an indication of the fair value by comparing the asset under review to similar assets that were bought and sold in **recent market transaction**.
- A fair value estimate is generally derived from the transaction price for an asset or a number of similar assets for which observable market data is available.

Market Approach – Two Key Methods

Sales Comparison Method

- Compares prices of similar IP transactions, with adjustments for differences.
- Prices already reflect market participant assumptions.

Market Multiples Method

- Uses observable multiples (e.g., Price/Revenue, Price/Earnings) when strong correlation exists between value and financial metrics.

MARKET APPROACH

Market Approach is generally **not preferred** or often **not feasible**, because:

- **Unique / proprietary** technology means no true comparable assets
- **No active market** with transparent price data
- IP transactions are often **confidential**
- Commercial terms vary widely (territory, exclusivity, stage of development, etc.)

INCOME APPROACH

- Used when IP generates **measurable incremental revenue**, cost savings, or royalty income.

- Examples:
  - Patented product enabling higher sales or premium pricing
  - Trade secret process reducing operating costs
  - Copyrighted books, films, music with clear income streams

- Applicable to patented/unpatented technologies, trade secrets, and certain trademarks and copyrights.

INCOME APPROACH

Two primary methods under the income approach for IP valuation:

- **Relief from Royalty Method** – values intangible assets by estimating hypothetical royalty savings from owning rather than licensing the asset.
- **Multi-Period Earnings Excess Method** – Determines value by isolating and discounting the excess earnings attributable to the asset over multiple periods.

INCOME APPROACH
RELIEF FROM ROYALTY METHOD (RFR)

- RFR is frequently used for intangible assets that are legally protected and which could be licensed to or from a third party.
- Patents and trademarks are examples of intangible assets that are commonly valued under the relief-from-royalty method.
- The RFR values the intangible asset by reference to the amount of **royalty** the acquirer would have had to pay in an **arms length licensing arrangement** to secure access to the same rights.
- The approach is based on the concept an owner of an intangible asset does not have to "rent" one and is therefore "relieved" from paying a royalty.

INCOME APPROACH
RELIEF FROM ROYALTY METHOD (RFR)

Key Assumptions

Revenues

- Net revenue should reflect all revenues associated with the intangible asset
- Net revenue should be forecasted over the estimated remaining useful life of the intangible asset

Other considerations

- Prevailing royalty rates for similar intangible assets in the industry. **Recommended sources – RoyaltyStat, RoyaltySource, RoyaltyRange, ktMINE, DataAlchemist, Markables**
- Prospective profits to be realised, costs to be saved, or return on assets to be used in the business
- Advantages over existing products in the marketplace

Discount rate

- Discount rate will be based on the riskiness of the intangible asset considered in isolation.

INCOME APPROACH
RELIEF FROM ROYALTY METHOD (RFR)

main activities	specialty chemicals; polymeric flame retardants; bromine;
year	2005
country	United States (US)
revenue type	revenues from sales of products or services
size of business (revenues in USD)	USD 1562 million
goodwill margin (in % of revenues)	5% < x <= 10%
reasons for valuation	PPA - share deal public
classification of products (CPC code)	347 Plastics in primary forms
3549 Other chemical products n.e.c.	35322 Hair care, grooming and depilatory products

Markables™ provides industry-based royalty rate ranges from comparable transactions. These benchmarks help determine a realistic and supportable royalty rate for the **Relief-from-Royalty Method** in IP valuation.

AS shown in the above screenshot the range for royalty rate has been given for US market specialty chemical.

Example - Relief from Royalty Method

Trademarks and Trade Names

Market Approach

Relief from Royalty Method

Valuation Summary as of January 1, 2023

Particulars	2023	2024	2025	2026
Projected Revenue	90,37,000	88,91,000	88,07,000	87,52,000
Royalty Rate	2%	2%	2%	2%
Gross Avoided Royalty Expense	**1,80,740**	**1,77,820**	**1,76,140**	**1,75,040**
Less: Trademark Maintenance Expense	13,740	13,540	13,380	13,300
Net Pretax Avoided Royalty Expense	**1,67,000**	**1,64,280**	**1,62,760**	**1,61,740**
Less: Tax Rate (41%)	41%	41%	41%	41%
After-Tax Avoided Royalty Expense	**98,530**	**96,925**	**96,028**	**95,427**
Discounting Periods	0.5	1.5	2.5	3.5
PV Factor @ 11%	0.9492	0.8551	0.7704	0.694
Present Value (Rounded)	**94,000**	**83,000**	**74,000**	**66,000**

Terminal Period (2027)

Description	Value
2027 Normalized After-Tax Avoided Royalty Expense	94,482
Direct Capitalization Rate	12%
Terminal Value	7,87,350
PV Factor @ 11%	0.694
Present Value of Terminal Value (Rounded)	**5,46,000**

Final Valuation Summary

Component	Value (₹000)
Present Value of Discrete Period Avoided Royalty Expense	3,17,000
Present Value of Terminal Value	5,46,000
Indicated Fair Market Value of Upsilon Trademarks & Trade Names	**8,60,000**

INCOME APPROACH
MULTI PERIOD EXCESS EARNINGS METHOD

- The MPEEM (Multi-Period Excess Earnings Method) **isolates** cash flows associated with a single intangible asset, rather than evaluating the entire entity.
- Typically applied when one asset is the main value driver and its specific cash flows can be separated from the overall business.
- The "primary asset" is the one most responsible for generating revenues and profits. This varies by sector:
- For consumer product firms, primary assets are often brands or trade names.
- For service companies, primary assets are typically customer relationships.

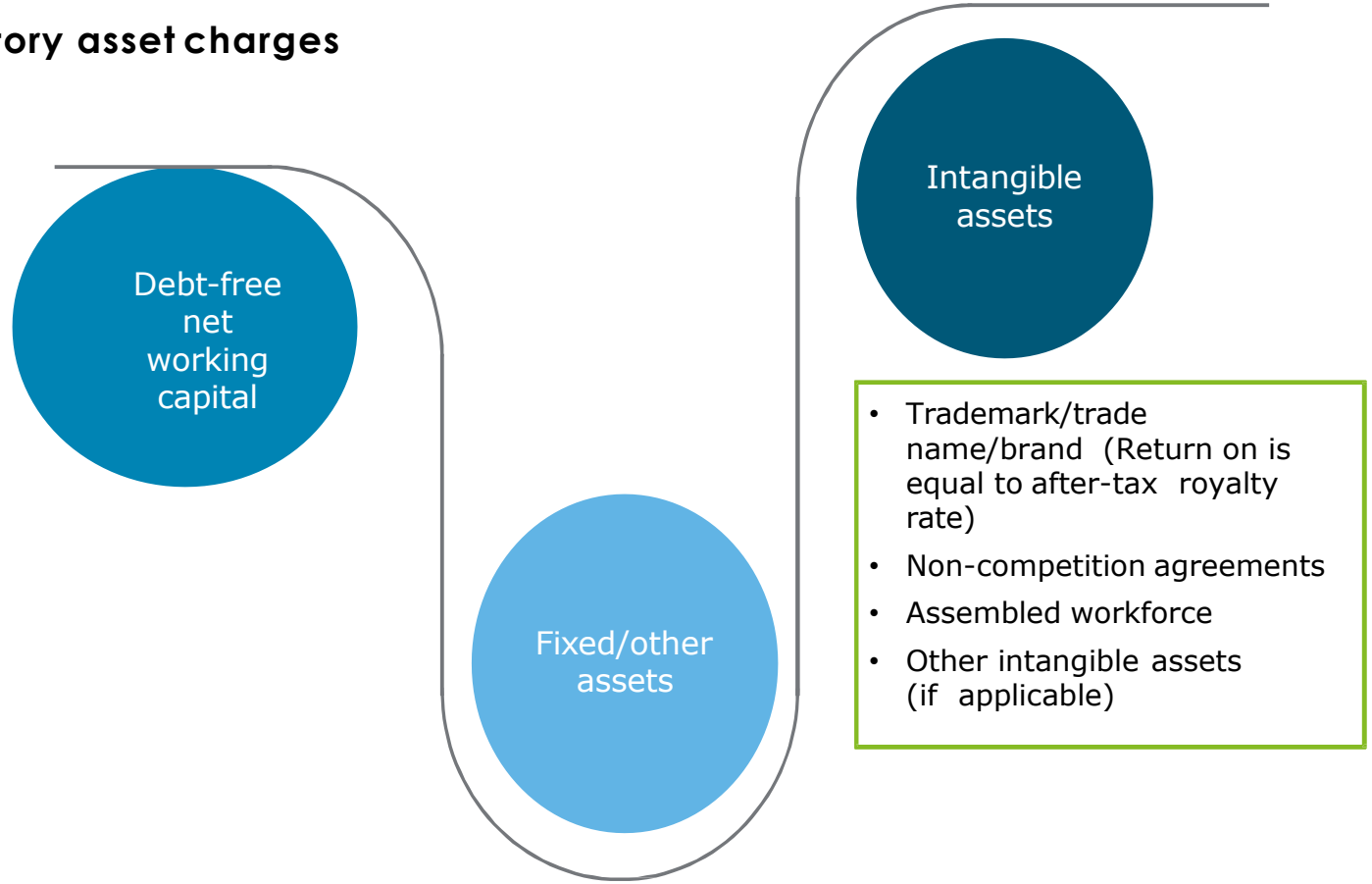
INCOME APPROACH
MULTI PERIOD EXCESS EARNINGS METHOD

MPEEM – Key Steps

- Start with PFI for the business owning the intangible asset.
- Identify revenues and expenses linked to the intangible and contributory assets.
- Deduct **Contributory Asset Charges (CACs)** to isolate **excess earnings** attributable to the intangible
- Discount excess earnings to present value to determine the intangible asset's **fair value**.

INCOME APPROACH
MULTI PERIOD EXCESS EARNINGS METHOD

Contributory asset charges



Currency: INR Lacs

Particulars	Rates	Mar-24	Mar-25	Mar-26	Mar-27	Mar-28	Mar-29	Mar-30	Mar-31	Terminal Value
Months		**6.00**	**12.00**	**12.00**	**12.00**	**12.00**	**12.00**	**12.00**	**12.00**	
Total Revenue		**40,658.05**	**1,20,042.27**	**1,27,999.65**	**1,36,030.64**	**1,43,043.21**	**1,50,856.63**	**1,54,637.62**	**1,58,565.80**	**1,64,908.44**
Brand Revenue		**1,654.59**	**5,829.22**	**6,383.59**	**6,820.33**	**7,226.62**	**7,630.11**	**7,799.01**	**7,972.75**	**8,291.66**
Revenue		1,654.59	5,829.22	6,383.59	6,820.33	7,226.62	7,630.11	7,799.01	7,972.75	8,291.66
Operating Expenses		1,503.33	4,314.49	4,587.20	4,814.72	4,980.05	5,188.82	5,261.60	5,352.73	
EBITDA		**151.3**	**1,514.7**	**1,796.4**	**2,005.6**	**2,246.6**	**2,441.3**	**2,537.4**	**2,620.0**	**2,711.3**
Less: Depreciation		50.54	173.87	149.25	150.64	152.40	153.18	153.35	153.48	153.48
EBIT		**100.7**	**1,340.9**	**1,647.1**	**1,855.0**	**2,094.2**	**2,288.1**	**2,384.1**	**2,466.5**	**2,557.8**
Tax	33.38%	(33.6)	(447.6)	(549.8)	(619.2)	(699.0)	(763.8)	(795.8)	(823.3)	(853.8)
DFNI , Debt Free Net Income (11-12)		**67.1**	**893.3**	**1,097.3**	**1,235.8**	**1,395.1**	**1,524.3**	**1,588.3**	**1,643.2**	**1,704.0**
Add: Depreciation		50.5	173.9	149.2	150.6	152.4	153.2	153.3	153.5	153.5
Less: Return on NWC		45.2	143.2	139.6	140.1	141.1	141.3	141.4	141.0	174.3
Return On FA		(147.3)	(399.2)	(293.6)	(230.5)	(218.7)	(205.4)	(191.2)	(177.0)	(353.6)
Return Of FA		(50.5)	(173.9)	(149.2)	(150.6)	(152.4)	(153.2)	(153.3)	(153.5)	(153.5)
Return On AWF		(4.7)	(11.1)	(7.9)	(7.9)	(7.9)	(7.9)	(7.8)	(7.8)	(11.7)
Excess Earnings		**(39.7)**	**626.1**	**935.4**	**1,137.5**	**1,309.6**	**1,452.3**	**1,530.7**	**1,599.5**	**1,512.9**
										14,777.5
WACC		**14.24%**	**14.24%**	**14.24%**	**14.24%**	**14.24%**	**14.24%**	**14.24%**	**14.24%**	**14.24%**
Time Period		0.50	1.50	2.50	3.50	4.50	5.50	6.50	7.50	
Mid year-PV Factor		0.97	0.88	0.77	0.67	0.59	0.51	0.45	0.39	0.39
PV Excess Earnings		**(38.4)**	**548.1**	**716.8**	**763.0**	**769.0**	**746.4**	**688.7**	**629.9**	**5,820.0**

Total Present Value of Excess Earnings before mid-year adjustment		4,823.4
Terminal Value		5,820.0
PV of Brands		**10,643.4**
Fair value of Brands		**-**
TAB (Tax Amortization Benefits) with mid-year adjustment		1.22
Fair value of Brands after Tab		**12,953.0**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Please feel free to reach out to me at +91 97113 10004
vaibhavjain@mehragoelco.com | vaibhavjain@inmacs.com