MFA2021 – Analysis of Financial Statements

Assignment #1

Study Group A15

Part 1: Cost Capitalisation (2.5 marks)

1. If Eli Lilly capitalized research and development costs and amortized these costs over **3 years** (instead of expensing them immediately), how much would be capitalized (recorded as an asset on the balance sheet) as of December 31st, 2014? Assume that Eli Lilly pays for all Research and Development Costs **at the end** of each fiscal year. **(1.25 marks)**

If we assume that all R&D is not in process and that the asset created can be used immediately (and for 3 years) :

in $m	2010	2011	2012	2013	2014
R&D balance - beginning of the year	0.0	4,884.2	8,276.9	10,253.4	10,723.6
New R&D	4,884.2	5,020.8	5,278.1	5,531.3	4,733.6
Yearly Amortisation - 2010 R&D	0.0	-1,628.1	-1,628.1	-1,628.1	0.0
Yearly Amortisation - 2011 R&D	0.0	0.0	-1,673.6	-1,673.6	-1,673.6
Yearly Amortisation - 2012 R&D	0.0	0.0	0.0	-1,759.4	-1,759.4
Yearly Amortisation - 2013 R&D	0.0	0.0	0.0	0.0	-1,843.8
Total Depreciation Expense	0.0	-1,628.1	-3,301.7	-5,061.0	-5,276.7
R&D balance - end of the year	**4,884.2**	**8,276.9**	**10,253.4**	**10,723.6**	**10,180.5**

The remaining capitalised R&D balance at the end of 2014 is 10,180.5 M$.

2. What would be the change in Eli Lilly's 2014 income before income taxes if the research and development costs were capitalized? **(1.25 marks)**

in $m	2010	2011	2012	2013	2014
Income before income taxes - Old	6,525.2	5,349.5	5,408.2	5,889.3	3,000.3
Add-back R&D Expense	4,884.2	5,020.8	5,278.1	5,531.3	4,733.6
Substract Depreciation Expense	0.0	-1,628.1	-3,301.7	-5,061.0	-5,276.7
Income before income taxes - New	**11,409.4**	**8,742.2**	**7,384.6**	**6,359.6**	**2,457.2**

If R&D costs were capitalised, Eli Lilly's 2014 income before income taxes would be 2457.2 M$.

Part 2: Cost Capitalisation & Long-Term Assets (3.5 marks)

1. Calculate the 2020 & 2021 end-of-year balance of goodwill and other intangible assets assuming Blue Star capitalised research and development costs and amortized these costs over 3 years (instead of expensing them immediately). Also assume that Blue Star pays for all Research and Development Costs **at the beginning each fiscal year**. **(1 mark)**

in $m	**2018**	**2019**	**2020**	**2021**
R&D - Ending balances to add		4,000.0	5,000.0	10,000.0
Yearly R&D	6,000.0	4,500.0	12,750.0	9,750.0
Yearly Amortisation - 2018 R&D	-2,000.0	-2,000.0	-2,000.0	0.0
Yearly Amortisation - 2019 R&D	0.0	-1,500.0	-1,500.0	-1,500.0
Yearly Amortisation - 2020 R&D	0.0	0.0	-4,250.0	-4,250.0
Yearly Amortisation - 2021 R&D	0.0	0.0	0.0	-3,250.0
Total new R&D	4,000.0	5,000.0	10,000.0	10,750.0
Former Goodwill & Intangibles to add	0.0	0.0	50,000.0	62,500.0
Goodwill & Intangibles - Ending balance			**60,000.0**	**73,250.0**

2020's Goodwill & Intangibles Ending Balance would be 60,000 $M and 2021's would be 73,250 M$.

2. Calculate the 2021 earnings (loss) before interest and income taxes assuming Blue Star capitalised research and development costs as stated above (in question 1). **(1 mark)**

	2021
Earnings before Interest & Tax - Old	34,250.0
Amortisation Expense	-9,000.0
R&D expense add back	9,750.0
Earnings before Interest & Tax - New	35,000.0

Earnings before Interest & tax are now 35,000.0 M$.

3. Assuming that Blue Star has not revalued or impaired any of their existing fixed assets, how much did Blue Star originally pay for all the fixed assets that it owned on 31 December, 2021? **(0.5 marks)**

Blue Star paid a total of 300,000 M$.

4. Assume that during 2021 Blue Star purchased £80,000 in fixed assets, and received £11,500 from the sale of fixed assets. How much of a gain or loss (if any) did Blue Star record on the sale of the fixed assets? **(1 mark)**

Closing Balance Fixed Assets = Opening Balance Fixed Assets + Purchases of fixed Assets – Sales of Assets

300,000 = 240,000 + 80,000 – Sales of Assets

Sales of Assets = 20,000

65000 + 22000 – depreciation = 75000

Depreciation = 12000

Net book value = 20,000 – 12,000 = 8,000

gain = Sale proceeds - Net book value = 11500 – 8000 = 3,500.0 £

So the gain on the sale of fixed asset is 3,500.0 £

Part 3: Long-Term Assets (4 marks)

1. What kind of assets are "brands", how is their value calculated, and where do they appear on Merlin's financial statements? **(0.5 marks)**

Brands are considered to be intangible assets because they are not a physical asset but they are valuable property of a company. They appear on the Non-Current Assets side in the Goodwill and intangible entry on- Balance Sheet.

There are several ways to calculate the 'brand' value.

First, cost-based valuation. This uses the all the cost to build the brand since its beginning, including registration cost, promotion cost, etc.

Second, market-based valuation, which is used the market price you can sell your brand as their value.

Third, income-based valuation. This method uses the future net earnings directly to the brand and discount those earnings to get the brand's present value.

2. What is the recorded value of Merlin's brands? **(0.5 marks)**

The recorded value of Merlin's brands is 170 M£ in 2015.

3. Merlin would like to build a new rollercoaster at their Alton Towers theme park, financing the construction with a loan. How will they record expenditures related to the development of this new ride, and what expenditures should be expensed or capitalised? **(0.5 marks)**

All expenses necessary to place the rollercoaster (which will be an asset) in its intended location and condition for use should be capitalised. This includes for example:

- **Permits**
- **Site preparation**
- **Construction fees**
- **Professional fees incurred (architect, engineering…)**
- **Interest cost occurred**
- **…**

4. What are the amounts Merlin records for both the *gross* and *net* balance of "Plant and equipment"? **(0.5 marks)**

Net PP&E include the value of all the building net of accumulated depreciation expenses.

According to p. 126 of Merlin's Financial Statements:

PP&E Balance as of 26/12/2015 = 2,135 M£

Depreciation Balance as of 26/12/2015 = 640 M£

Gross PP&E = 2,135.0 M€

Net PP&E = 2,135 – 640 = 1,495.0 M£

Net PP&E is also stated on the balance sheet (p.110).

5. £stimate the average age of plant and equipment at Merlin **(1 mark)**

Accumulated Depreciation / Annual Depreciation = 640 / 110 = 5.8 years

The average age of PP&E at Merlin is 5,82 years.

6. On January 1, 2016, assume Merlin purchased a delivery vehicle costing £40,000. The vehicle has an estimated 6-year life and a £4,000 residual value. Use the units-of-production depreciation method and estimate that the vehicle will be driven 100,000 miles. What is the vehicle's book value as of December 31, 2017 assuming the vehicle was driven 10,000 miles during 2016 and driven 18,000 miles during 2017? **(1 mark)**

Depreciation Expense 2016 : $\left[\frac{Original\ Value - Residual\ Value}{Estimated\ production\ capability}\right] * Units\ produced\ in\ 2016$

$$\left[\frac{40{,}000 - 4{,}000}{100{,}000}\right] * 10{,}000 = £3{,}600$$

Depreciation Expense 2017 : $\left[\frac{Original\ Value - Residual\ Value}{Estimated\ production\ capability}\right] * Units\ produced\ in\ 2017$

$$\left[\frac{40{,}000 - 4{,}000}{100{,}000}\right] * 18{,}000 = £6{,}480$$

Vehicle's book value as of 31/12/2017 = 40,000 – 3,600 – 6,480 = 29,920