

Question 11.14 Research and development

Stellenbosch Laboratories Ltd manufactures and distributes a wide range of general pharmaceutical products. Selected audited data for the reporting period ended 31 December 2014 are as follows:

Gross profit	\$ <u>17 600 000</u>
Profit before income tax	<u>1 700 000</u>
Income tax expense	<u>500 000</u>
Profit for the period	<u>1 200 000</u>
Total assets:	
Current	7 300 000
Non-current	11 500 000

The company uses a standard mark-up on cost.

From your audit files, you ascertain that total research and development expenditure for the year amounted to \$4 700 000. This amount is substantially higher than in previous years and has eroded the profitability of the company. Mr Bosch, the company's finance director, has asked for your firm's advice on whether it is acceptable accounting practice for the company to carry forward any of this expenditure to a future accounting period.

Your audit files disclose that the main reason for the significant increase in research and development costs was the introduction of a planned 5-year laboratory program to attempt to find an antidote for the common cold. Salaries and identifiable equipment costs associated with this program amounted to \$2 350 000 for the current year.

The following additional items were included in research and development costs for the year:

- (a) Costs to test a new tamper-proof dispenser pack for the company's major selling line (20% of sales) of antibiotic capsules — \$760 000. The new packs are to be introduced in the 2015 financial year.
- (b) Experimental costs to convert a line of headache powders to liquid form — \$590 000. The company hopes to phase out the powder form if the tests to convert to the stronger and better handling liquid form prove successful.
- (c) Quality control required by stringent company policy and by law on all items of production for the year — \$750 000.
- (d) Costs of a time and motion study aimed at improving production efficiency by redesigning plant layout of existing equipment — \$50 000.
- (e) Construction and testing of a new prototype machine for producing hypodermic needles — \$200 000. Testing has been successful to date and is nearing completion. Hypodermic needles accounted for 1% of the company's sales in the current year, but it is expected that the company's market share will increase following introduction of this new machine.

Required

Respond to Mr Bosch's question for each of these items.

The outlays must be analysed using para 57 of AASB 138:

Technical feasibility:

Intention to complete and sell:

Ability to use or sell:

Existence of a market:

Availability of resources:

Ability to measure costs reliably:

- (a) Dispenser pack: As the dispenser pack was a new product, costs incurred until the pack developed met the para 57 tests are expensed. In this case, determining the technical feasibility of the pack and developing a cost effective product would have been two key issues.
- (b) Converting powders to liquid form: The tests have not yet proven successful, therefore the technical feasibility test would not be met and the \$590 000 must be expensed.
- (c) Costs of quality control: These costs relate to products being produced and hence can be capitalised into the products produced. No separate intangible such as “Superior Quality” could be raised as such an asset is not identifiable.
- (d) Costs of time and motion study: As the equipment is being used in current production, the costs could be capitalised into the cost of the equipment.
- (e) New prototype machine: This is a difficult one to classify. The question hinges on the “nearing completion” statement. It is a question of what has yet to be done. Questions relating to the para 57 criteria need to be asked. For example: has technical feasibility been established, and is it only minor adjustments that are being made? Do any minor adjustments have a material effect on the determination of the costs of the machine?

Question 11.15 Recognition of intangibles

Ladysmith Ltd has recently diversified by taking over the operations of Kimberley Ltd at a cost of \$10 million. Kimberley Ltd manufactures and sells a cleaning cloth called the ‘Supaswipe’, which was developed by Kimberley Ltd’s highly trained and innovative research staff. The unique nature of the coating used on the ‘Supaswipe’ has resulted in Kimberley Ltd acquiring a significant share of the South African market. A recent expansion into the Equatorial African market has proved successful. As a result of the takeover, Ladysmith Ltd acquired the following assets:

		Fair value	(at date of acquisition)
Land and buildings	\$	3 200 000	
Production machinery		2 000 000	
Inventory		1 800 000	
Accounts receivable		<u>700 000</u>	
	\$	<u>7 700 000</u>	

In addition to the above, Kimberley Ltd owned, but had not recognised, the following:

- trademark — ‘Supaswipe’
- patent — formula for the special coating.

The research staff of Kimberley Ltd have agreed to join the staff of Ladysmith Ltd and will continue to work on a number of projects aimed at producing specialised versions of the ‘Supaswipe’.

The directors have requested your assistance in accounting for the acquisition of Kimberley Ltd. In particular, they are uncertain as to the treatment of the \$2.3 million discrepancy between the assets recorded by Kimberley Ltd and the price paid for the company.

Required

Write to the directors outlining the alternative courses of action available in relation to the \$2.3 million discrepancy. Your reply should cover the issues of asset recognition, measurement, classification and subsequent accounting treatment.

Asset recognition:

The trademark and the patent are intangible assets, meeting the definition in relation to identifiability as the company has legal rights to both. As the assets are acquired as part of a business combination, recognition of the assets comes under AASB 3, in particular paras 11-12 and AASB 138 para 33 which state that no recognition criteria need be applied. Provided the assets meet the definition of an intangible asset, they must be recognised as separate assets based on their fair values at acquisition date.,

Initial Measurement:

Measurement of the fair value of the assets is based on paras. 39-41 of AASB 138, and may be determined by:

- quoted market prices in an active market – unlikely in this case;
- recent transactions: unlikely in this case; or
- measurement techniques, using valuers to measure the fair values of the assets.

As the worth of the trademark is related to the owner of the trademark also having the patent to be able to use the formula for the special coating, it is doubtful whether the two assets can be separately valued. However, the value of the trademark may relate to the customer awareness and appeal of the current product in comparison to having to sell a new brand name.

Classification

The assets when recognised are classified as non-current intangible assets.

Subsequent measurement

Having initially recognised the assets, the company can choose to use the cost or the revaluation models. However, use of the revaluation model is subject to their being an active market to determine subsequent fair values of the assets.

Any subsequent outlays in relation to the assets are subject to the criteria in relation to para 57 of AASB 138 prior to capitalisation of the outlays.

The useful lives of the assets need to be determined to see whether they need to be amortised. If an asset has an indefinite life no amortisation is required. However, an annual impairment test in relation to such an asset is necessary.

Other assets: goodwill

If the fair values of the patent and the trademark are less than the \$2.3 million, then goodwill is recognised. This is also subject to an impairment test annually, but is not required to be amortised. If other intangible assets exist they should also be separated out of goodwill.

Case Study 8 Identification of CGUs

Burger Queen is a chain of fast-food restaurants — most reasonably sized towns in the country have a Burger Queen outlet. The key claim to fame of the Burger Queen restaurants is that their fried chips are extra crunchy. Also, to ensure that there is a consistent standard of food and service across the country, the management of the chain of restaurants conducts spot checks on restaurants. Failure to provide the high standard expected by Burger Queen management can mean that the franchise to a particular location can be taken away from the franchisee. Burger Queen management is responsible for the television advertising across the country as well as the marketing program, including the special deals that may be available at any particular time.

Each restaurant is responsible for its own sales, cooking of food, training of staff, and general matters such as cleanliness of the store. However, all material used in the making of the burgers and other items sold are provided at a given cost from the central management, which can thereby control the quality and the price.

Required

Identify the cash-generating unit(s) in this scenario. Give reasons for your conclusions.

Each Burger Queen restaurant should be treated as a separate CGU as the cash flows are largely independent of the other stores. The only exception to this is advertising.

Although the ingredients for making the burgers are supplied at a set cost, the amount of materials used is specific to an individual restaurant.

Whether a specific restaurant remains in existence is based on an analysis of the performance of that restaurant – an analysis that is independent of the other restaurants.

Internal management reporting would be organized to measure performance on a restaurant-by-restaurant basis.

The restaurants are in different neighbourhoods and probably have different customer bases.

Case Study 10 Identification of CGUs

Fad Furniture Ltd has three separate operating divisions. The first, the timber division, is in charge of producing milled timber. This division manages a number of timber plantations and timber mills from which the finished timber is produced. The majority of the timber is sold, at an internal transfer price, to the second area of operations in Fad Furniture, the parts division. Any excess timber is sold to external parties. The parts division is responsible for turning the timber into parts for the making of timber furniture, both indoor and outdoor. These parts are suitable only for the manufacture of the furniture produced by Fad Furniture. The parts are then transferred at internal transfer prices to the third area of operations, the furniture division. This division assembles the furniture and delivers it to the various outlets that retail Fad Furniture's products.

Required

- A. Identify the cash-generating unit(s) in this scenario, giving reasons for your conclusions.**
- B. Would the determination of the cash-generating units be affected if the parts division was also responsible for kit furniture, where the parts are made available to customers for self-assembly?**

- A. There are two CGUs, namely the timber division and the combination of the parts division and the furniture division.

The parts division is not a separate CGU as it cannot sell its products in an external market – the parts are only suitable for the manufacture of the furniture produced by Fad Furniture. Its cash flows are then dependent on the furniture division.

Internal transfer prices do not reflect market prices for outputs. In undertaking an impairment test for the timber division, arm's length prices should be used.

In determining whether the timber division is a separate CGU the question is whether the timber is saleable externally i.e. an ability to generate independent cash flows. Even if all the timber were used internally, if it could all be sold externally, the timber division would be a separate CGU.

- B. An assessment would have to be made on the viability of the kit furniture industry. If the kit furniture industry is purely an offshoot of the furniture industry, and is viable only because it relies on cost savings on manufacturing the parts for the furniture industry, then there is no change in the CGUs from (A).

If the kit furniture industry was independently viable, then it is possible that the parts division could be broken down into two parts, one part is combined with the furniture division while the other is that dedicated to the kit furniture industry. The key question is whether the kit furniture section is the smallest identifiable group of assets that generates cash inflows that are largely independent.

Question 13.6 Cash-generating unit, reversal of impairment loss

Mace Ltd manufactures glass and glass products. Mace Ltd has organised itself into a number of divisions each of which has a different function. For example, one division deals with the manufacture of glass bottles for containing various drinks such as water and wine while another division produces bottles associated with the perfume industry. Each of these divisions is regarded as a separate cash-generating unit (CGU) for accounting purposes.

One of the divisions of Mace Ltd is associated with the production of glass used for the bottling of fruit products. At 30 June 2015, the carrying amounts of the assets of this division were as follows:

<i>Non-current assets</i>	
Glass bottling factory	\$336 000
Accumulated depreciation — buildings	(144 000)
Equipment	176 000
Accumulated depreciation — equipment	(32 000)
Goodwill	12 000
<i>Current assets</i>	
Inventory	64 000
Receivables	28 000
Cash	16 000

At 30 June 2015, Mace Ltd was concerned that the assets of this division were impaired. Many fruit products were now being bottled in plastic rather than glass meaning that the demand for glass bottles for bottling fruit had suffered a decline. Subsequent to assessing the indicators of impairment, Mace Ltd believed that the assets of the division were impaired. Mace Ltd calculated the recoverable amount of the fruit-bottling division to be \$428 000.

In preparing the financial statements at 30 June 2015 Mace Ltd allocated the impaired loss to the relevant assets, assuming the receivables were collectable. Mace Ltd also changed its method of measuring the depreciation of the factory and equipment for the 2015–16 period, increasing the depreciation charge on the factory from \$48 000 to \$52 000 p.a., and from \$36 000 to \$40 000 p.a. for equipment.

During the 2015–16 period, the market experienced dissatisfaction with the use of plastic for the bottling of fruit as users were worried about contamination if held for long periods. As a result the market demand for glass bottles increased. Mace Ltd believed that it could reverse the previous impairment and assessed the recoverable amount of the division at \$24 000 greater than the carrying amount of the assets of the unit. For the 2015–16 financial statements, Mace Ltd accounted for a reversal of the previous impairment loss.

Required

- A. Prepare the journal entry(ies) for Mace Ltd at 30 June 2015 for the impairment of the assets.
- B. (i) Prepare the journal entry(ies) for Mace Ltd at 30 June 2016 for reversal of the prior impairment loss.
 - (ii) What differences would occur in this entry(ies) if the recoverable amount at 30 June 2016 was \$16 000 greater than the carrying amount of assets of the division?
 - (iii) If the recoverable amount of the factory at 30 June 2016 was \$140 000, how would this change the entry(ies) in B(ii)?

A.

Carrying amount of assets:

Factory	\$192 000
Equipment	144 000
Goodwill	12 000
Inventory	64 000
Receivables	28 000
Cash	<u>16 000</u>
	456 000
Recoverable amount	<u>428 000</u>
Impairment loss	<u>\$28 000</u>

Goodwill is written down by \$12 000, and the balance of the impairment loss, namely \$16,000 is written off across the other relevant assets:

	Carrying Amount	Proportion	Allocation of Loss	Net Carrying Amount
Factory	192 000	192/336	9 143	182 857
Equipment	<u>144 000</u>	144/336	<u>6 857</u>	137 143
	<u>336 000</u>		<u>16 000</u>	

The impairment journal entry at 30 June 2015 is:

Impairment loss	Dr	28 000	
Goodwill	Cr		12 000
Accumulated depreciation and impairment losses – factory	Cr		9 143
Accumulated depreciation and impairment losses – equipment (Allocation of impairment loss)	Cr		6 857

B (i)

At 30 June 2016, the two assets are reported as follows:

Factory	\$336 000	
Accumulated depreciation and impairment losses	<u>205 143</u>	<i>[144 000 + 9 143 + 52 000]</i>
	<u>130 857</u>	
Equipment	\$176 000	
Accumulated depreciation and impairment losses	<u>78 857</u>	<i>[32 000 + 6 857 + 40 000]</i>
	<u>97 143</u>	

The carrying amounts of these assets if no impairment loss had occurred would have been:

Factory	\$336 000	
Accumulated depreciation and impairment losses	<u>192 000</u>	[144 000 + 48 000]
	<u>144 000</u>	
Equipment	\$176 000	
Accumulated depreciation and impairment losses	<u>68 000</u>	[32 000 + 36 000]
	<u>108 000</u>	

The differences between the carrying amounts recorded at 30 June 2016 and the carrying amounts if no impairment losses had been recorded are:

Factory	\$13 143	[144 000 – 130 857]
Equipment	<u>\$10 857</u>	[108 000 – 97 143]
	<u>\$24 000</u>	

As the recoverable amount at 30 June 2016 exceeds the carrying amount by \$24 000, then the total differences can be recognised as:

Accumulated depreciation and impairment losses – factory	Dr	13 143	
Accumulated depreciation and impairment losses – equipment	Dr	10 857	
Income: reversal of impairment loss (Reversal of impairment loss)	Cr		24 000

B (ii)

If the excess of the recoverable amount over carrying amounts at 30 June 2016 was only \$16,000, then the reversal would be based on a pro rata allocation based on carrying amounts at time of reversal:

	Carrying Amount	Proportion	Allocation of Excess	Net Carrying Amount
Factory	130 857	130 857/228000	9 183	140 040
Equipment	<u>97 143</u>	97 143/228000	<u>6 817</u>	103 960
	<u>228 000</u>		<u>16 000</u>	

The entry would be:

Accumulated depreciation and impairment losses – factory	Dr	9 183	
Accumulated depreciation and Impairment losses – equipment	Dr	6 817	
Income: reversal of impairment loss (Reversal of impairment loss)	Cr		16 000

B (iii)

If the recoverable amount of the factory at 30 June 2016 was only \$140 000, then the reversal of the impairment for the factory could only be \$9 143 (i.e. \$140 000 less \$130 857). Hence the balance of \$40 (i.e. \$9 183 - \$9 143) could be allocated to equipment.

The journal entry is:

Accumulated depreciation and impairment losses – factory	Dr	9 143	
Accumulated depreciation and impairment losses – equipment	Dr	6 857	
Income: reversal of impairment loss (Reversal of impairment loss)	Cr		16 000

The \$6 857 allocated to equipment still does not exceed the carrying amount if the asset had never been impaired. The equipment will now be shown as:

Equipment	\$176 000
Accumulated depreciation and impairment losses	<u>72 000</u> [32 000 + 6 857 + 40 000 – 6 857]
	\$104 000

Question 13.9 Cash-generating units, reversal of impairment losses

The two cash-generating units of Dark Forest Ltd are referred to as the Lady CGU and the Lake CGU. At 31 July 2015, the carrying amounts of the assets of the two divisions were:

	Lady CGU	Lake CGU
Equipment	\$9000	\$7 200
Accumulated depreciation	(3900)	(2 250)
Brand	1440	—
Inventory	324	450
Receivables	450	492
Goodwill	150	120

The receivables were regarded as collectable, and the inventory was measured according to AASB 102 *Inventories*. The brand had a fair value less costs of disposal of \$1320. The equipment held by the Lady CGU was depreciated at \$1800 p.a., and the equipment of Lake CGU was depreciated at \$1500 p.a.

Dark Forest Ltd undertook impairment testing in July 2015, and determined the recoverable amounts of the two CGUs at 31 July 2015 to be:

Lady CGU	\$6264
Lake CGU	5940

The relevant assets were written down as a result of the impairment testing affecting the financial statements of Dark Forest Ltd at 31 July 2015. As a result of the impairment testing management re-assessed the factors affecting the depreciation of its non-current asset. The depreciation of the equipment held by the Lady CGU was increased from \$1800 p.a. to \$2100 p.a. for the year 2015–16.

By 31 July 2016, the performance in both divisions had improved, and the carrying amounts of the assets of both divisions and their recoverable amounts were as follows:

	Lady CGU	Lake CGU
Carrying amounts of assets	\$7932	\$8598
Recoverable amount of CGU	9012	9120

Required

Determine how Dark Forest Ltd should account for the results of the impairment tests at both 31 July 2015 and 31 July 2016.

	Lady CGU	Lake CGU
Equipment	\$5100	4950
Brand	1440	0
Inventory	324	450
Receivables	450	492
Goodwill	<u>150</u>	<u>120</u>
	7464	6012
Recoverable amount	<u>6264</u>	<u>5940</u>
Impairment loss	<u>(1200)</u>	<u>(72)</u>

In relation to the **Lake CGU**, write goodwill down by \$72:

Impairment loss	Dr	72	
Accumulated impairment losses - goodwill		Cr	72

In relation to the **Lady CGU**, reduce goodwill by \$150 and allocate the remaining \$1050 impairment loss to applicable assets:

	Carrying Amount	Proportion	Allocation of Excess	Net Carrying Amount
Equipment	5100	510/654	816	4284
Brand	<u>1440</u>	144/654	<u>234</u>	1206
	<u>6540</u>		<u>1050</u>	

As the brand has a fair value less costs of disposal of \$1320, only \$120 of the impairment loss can be allocated to it, so the equipment must be reduced by a further \$114, to \$4170.

The journal entry to record the impairment loss at **31 July 2015** is:

Impairment loss	Dr	1200	
Goodwill		Cr	150
Accumulated depreciation and impairment losses – equipment		Cr	930
Accumulated impairment losses – brand	Cr		120

(Allocation of impairment loss)

At **31 July 2016**, the equipment and brand are recorded as follows:

Equipment	\$9000	
Accumulated depreciation and impairment losses	<u>(6930)</u>	[3900 +930 +2100]
	<u>2070</u>	
Brand	\$1440	
Accumulated impairment losses	<u>(120)</u>	
	<u>1320</u>	

At **31 July 2016**:

In relation to the **Lake CGU**, there can be no reversal of the prior goodwill impairment.

In relation to the **Lady CGU**, the equipment would have had the following carrying amount if the impairment loss had not occurred:

Equipment	\$9000	
Accumulated depreciation and impairment losses	<u>(5700)</u>	[3900 + 1800]
	<u>3300</u>	

Hence, the maximum reversal of impairment in relation to equipment is \$1230 (ie \$3300 - \$2070). The maximum reversal for the brand is \$120.

As the recoverable amount for the Lady CGU's assets exceed the carrying amount by \$1080 [ie \$9012 – 7932], the whole of this amount can be allocated on a pro rata basis as a reversal of impairment losses:

	Carrying Amount	Proportion	Allocation of Excess	Net Carrying Amount
Equipment	2070	207/339	660	1410
Brand	<u>1320</u>	132/339	<u>420</u>	900
	<u>3390</u>		<u>1080</u>	

As the brand can only be reversed to the extent of \$120, then \$300 can be allocated to equipment. The adjusted allocation for equipment is now \$960 which is less than the maximum adjustment amount of \$1230.

The entry for the reversal of the impairment loss is:

Accumulated depreciation and impairment losses – equipment	Dr	960	
Accumulated impairment losses – brand	Dr	120	
Income: reversal of impairment loss (Reversal of impairment loss)	Cr		1080