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Dear Colin,

Re: Depreciation methods

I understand that you wish to expand your business to incorporate a hire car service. As you are aware that you need to depreciate your fleet, there are a few methods of depreciations, they are Straight Line Method, Reducing Balance Method and Sum of the Year's Digits Depreciation.

Straight Line Method: This spreads the cost of the asset equally over its period of use. G Black (2000: 51) suggested to use the following formula for calculating depreciation under this method:

$$\text{Annual depreciation} = \frac{\text{Cost} - \text{Estimated residual value}}{\text{Useful economic life in years}}$$

Reducing Balance Method: This spreads the cost of the asset over its period of use in a different way. More depreciation is charged in the early periods of use than in the later one. P Cahill (2001) suggested the following formula for calculating depreciation under this method:

$$\text{Net Book Value} = \text{Cost} \times (1-r)^n$$

Where r is depreciation rate (as a decimal) and n is number of year.

These two methods are more commonly used

I did a research on other methods on depreciation, and I found a method called Sum of Year's Digit on the internet, <http://beginnersinvest.about.com/library/lessons/bl-sumoftheyearsdigits.htm>

Sum of the Year's Digits Depreciation: This includes the sum of the year's digit and the reducing balance method. This assumes that the fixed asset loses most of its value in the first few years.

To calculate depreciation charges using the sum of the year's digits method, take the expected life of an asset (in years) count back to one and add the figures together.

i.e. useful economic life of 10 years = 10 + 9 + 8 + 7 + 6 + 5 + 4 + 3 + 2 + 1
Sum of the years = 55

First year the asset will depreciate $10/55 \times 100\% = 18.18\%$
Second year the asset will depreciate $9/55 \times 100\% = 16.36\%$
Third year the asset will depreciate $8/55 \times 100\% = 14.54\%$
Fourth year the asset will depreciate $7/55 \times 100\% = 12.73\%$
Fifth year the asset will depreciate $6/55 \times 100\% = 10.91\%$
Sixth year the asset will depreciate $5/55 \times 100\% = 9.09\%$
Seventh year the asset will depreciate $4/55 \times 100\% = 7.27\%$
Eighth year the asset will depreciate $3/55 \times 100\% = 5.54\%$
Ninth year the asset will depreciate $2/55 \times 100\% = 3.64\%$
Tenth year the asset will depreciate $1/55 \times 100\% = 1.82\%$

Please see examples for each method on the next pages.

Straight Line Method - 2 vehicles cost £20,000 with the estimated residual value is £500, the useful economic life is 10 years. Using the formula it gives a depreciation charge of £1950 p.a.

Year	Net Book Value	Depreciation
2003	20000	1950
2004	18050	1950
2005	16100	1950
2006	14150	1950
2007	12200	1950
2008	10250	1950
2009	8300	1950
2010	6350	1950
2011	4400	1950
2012	2450	1950
2013	500	-

Reducing Balance Method - 2 vehicles cost £20,000 with the useful economic life is 10 years. Using the formula it gives the depreciation charge of 10% p.a.

Year	Net Book Value	Depreciation
2003	20000	2000
2004	18000	1800
2005	16200	1620
2006	14580	1458
2007	13122	1312.20
2008	11809.80	1180.98
2009	10628.82	1062.88
2010	9565.94	956.60
2011	8609.34	860.93
2012	7748.41	774.84
2013	6973.57	-

Sum of the Year's Digits Depreciation – 2 vehicles cost £20,000 with the useful economic life is 10 years. I am using the percentage shown on the first page.

Year	Net Book Value	Depreciation
2003	20000	3636
2004	16364	2677.15
2005	13686.85	1990.07
2006	16696.78	1498
2007	15198.78	1658.19
2008	13540.59	1230.83
2009	12309.76	894.92
2010	11414.84	632.38
2011	10782.46	392.48
2012	10389.98	189.10
2013	10200.88	-

Depreciation is a loss to a business, so the depreciation for the financial period will be included within the profit and loss account. The value of the fixed asset, as adjusted for depreciation will be included on the balance sheet. Effectively the depreciation of a fixed asset will result in a reduction in the balance sheet values of the fixed asset and an increase in an expense. This expense will be charged to the profit and loss account for the appropriate period.

The straight line method is more suitable for leases or buildings, and it is more commonly seen to use the reducing balance and sum of the year's digit on plant, equipment and vehicles. The reason is because the use of the lease or building is likely to be constant over its life so the straight line method would be appropriate as it results in a constant depreciation charge.

The reducing balance and sum of year's digits depreciation are more appropriate on vehicles. The total expense for the vehicles is made up of two elements: a depreciation expense and a maintenance expense. The maintenance charges are likely to rise as the vehicles age. In order for the total expenses to remain constant it is necessary for the depreciation charge to adopt the opposite pattern, as the vehicles are new this will be high and will decrease as the vehicles age.

As you can see the result of each method, reducing balance and sum of the year's digits depreciation shows the depreciation charged in the early years is greater than that charged in the later years. These methods are more realistic as the value of the business is greater when the asset is newer. Although these methods share a pattern of depreciation, the figure in the reducing balance is more realistic than the other. Obviously the vehicles will not be worth £10200.88 at the end of the tenth year, although you can re-value your fixed asset at a later date, but the reducing balance gives a more realistic view.

I hope you have a better understanding of depreciation now, please do not hesitate to contact me if you need further information.

Yours sincerely,

Daisy So

Accounting Conventions

Accounting conventions are rules and guidelines set to produce financial statements with 'true and fair view'. The three key words in the phrase mean:

True – The financial statement is accurate.

Fair – The financial statement is presented in a way which does not mislead the reader, the correct impression of the business is given.

View – This word emphasizes that professional judgment has been used in reaching the opinion in the audit report.

All formal accounting statements should be prepared, created and presented according to the conventions that follow. There is a list of conventions, but the most important conventions are listed below:

Business entity – The business and its owner are separate. This is why owner's capital appears as an item in the balance sheet.

Duality – This states that there are two aspects of every transaction, one represented by the assets of the business and the other by the claims against them. The concept states that these two aspects are always equal to each other. i.e. balance sheet and trial balance always balances.

Money measurement – It only concern with facts that can be measured in financial terms and most people will agree to the financial value of the transaction. i.e. the value of fixed & current assets and liabilities.

Historic cost – An asset is valued at what it cost, less depreciation. i.e. the historic cost of the land at 31/07/2003 is £18791.

Going concern – This implies that the business will continue to operate for the foreseeable future. i.e. profit and loss account shows a profit this financial year and there is no reason for the business to close down.

Stable monetary unit – This means that inflation is ignored when preparing financial statements. Accounting standard permits companies to revalue their long-term assets, such as buildings, to reflect their current market values. i.e. land will be revalued in 10 years time.

Realisation – Sales are normally recognised when the good being sold passes to the customer, or the service is provided and is accepted by the customer. i.e. this includes cash sales and credit sales to debtors.

Accruals – This states that revenue or benefit received should be matched to the expenditure incurred in generating that revenue or benefit. Where expenditure has been incurred during a period for which revenue or benefit has not yet been received, the expenditure should be omitted from the calculation of profit for that period and accrued until the period when the revenue or benefit results. i.e. the prepayment for rate and the accrual for electrics.

Objectivity – Accounting statement should be objective. It should be based on facts, not opinion.

Prudence – Accountants should always be prudent when preparing financial statement. If something is in doubt, plan for the worst and, if a transaction has not yet been completed ignore any possible benefits that may arise from it. i.e. record of the doubtful debts provision.

Consistency – There are a number of ways in which some concepts can be applied. Each business must choose the approach that gives the most reliable picture of the business, not just for this period. This is impossible if the approach is changed every year, the users of the financial statements cannot compare the results. Change of method can take place but if the profit calculated in that year is so affected that some users of the financial statements would take different decisions, the effect of change must be stated at an appropriate point in the financial statements.

Materiality – This is the interest to those who make use of the financial statements.

The financial statements must be compromised to provide a basic minimum of information upon which everyone can rely. If the financial statements could not be relied upon, they would be worthless. If they could only be relied upon by some of the user groups (i.e. customers, owner, banker etc), something else would need to be produced to provide reliable information for the others. Since the financial statements should be as objective as possible, this is the reason why the accounting concepts are introduced.

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