

CHAPTER THREE

ACCOUNTING AND FINANCIAL STATEMENTS

The purpose of this chapter is to provide a basic knowledge of the double entry system and of how accounts are constructed so as to enable you to understand financial statements and to make better decisions.

The basis for financial accounting is the double entry system. This system was first described in a work entitled *Summa de arithmetica, geometrica, proportioni et proportionali* compiled by the monk Luca Pacioli. It is a marvellous system that, if mastered, will make your understanding of financial management and business a whole lot easier.

The double entry system, like many good ideas, is very simple and it is my intention to enable you to grasp the basics that will help you understand financial statements. As this is a text for non-financial managers we will not be covering advanced financial accounting or international accounting standards and regulations. We will focus on the basics and what is generally accepted accounting practice throughout the world.

Double entry system and ledgers

The double entry system is so named because it recognizes that every financial transaction has two aspects: receiving and giving. So, if I were to receive €200 of cash from a customer I would record both aspects of the transaction in my accounts. I would show that I had received cash

into my cash account and I would also show that my customer had paid me and record this in my customer accounts. Details of accounts are kept in ledgers that, of course, are now computerized. As another example, if I were to start a business with €100 I would record that the business now had €100 cash and that it owed me (the proprietor) €100.

So far so good?

Now here comes the tricky bit – the bit where some of you readers might think I have gone wrong!

To record the above €200 transaction I would make the following entries in my accounting system:

Debit	Cash Account	€200
Credit	Customer Account	€200

Note that I have debited my Cash Account with the €200 received and that I have credited my Customer Account with the €200 he has given. This is because under the double entry system you always:

- Debit the account that receives.

&

- Credit the account that gives.

Now, I know what you might be thinking: this is different from what you expected because when you view a bank statement cash received is always shown on the statement as a credit. It is! But this is because when the bank receives a deposit from you it will debit its cash account and credit its customer's account (you) – just as I have done above. When you receive your bank statement it is a picture of the bank's account with you showing the credit. So, the bank operates the same system and performs the same entries as I have outlined above. Many people new to accounts struggle with this at first. However, you need to grasp this fundamental point before going any further. If you can understand and accept it the rest will be plain sailing!

Let's now look at some further examples:

Case 1

If a farmer buys a tractor for €25,000 from a dealer, the initial entries in the farmer's accounts will be:

Debit	Asset (Tractor)	€25,000
Credit	Dealer	€25,000

When the farmer actually pays the dealer, the entries in the farmer's accounts will be:

Debit	Dealer	€25,000
Credit	Cash	€25,000

Note that after this transaction is posted to the accounts the balance on the 'Dealer' account will be zero. This is because he has now been paid.

Case 2

If a business sells a service for €5,000 to a customer, the entries in the businesses accounts will be:

Debit	Customer	€5,000
Credit	Sales	€5,000

When the customer actually pays the business the €5,000, the entries in the businesses accounts will be:

Debit	Cash	€5,000
Credit	Customer	€5,000

Note that after this entry the balance on the 'Customer' account is zero. This is because the customer has now paid.

The above are basic examples showing how the double entry system works. In the example that follows you will see that:

- Accounts are debited with: assets, services received, expenses, losses.
- Accounts are credited with: payments made, services rendered, income and profit.

Example

Now work slowly through the following example showing basic accounting entries:

Tom, a sole trader, started business on 1 January 2012 as 'TJ Gardening'. To start the business he opened a business bank account and paid in €3,000 as the opening capital of the company. During the year ended 31 December 2012 the following transactions took place:

20/1/12	Purchased plants 20 plants @ €10 each cash	€200
15/3/12	Sells 10 plants @ €90 each to Mr Brown	€900
14/4/12	Receives cash from Mr Brown	€900
16/6/12	Pays rent/rates/services	€800
18/8/12	Purchases plant and equipment with cash	€300
25/11/12	Charged depreciation* on plant and equipment	€100

*Plant and equipment have been used and depreciated in value.

Show all of the above entries in the accounts, take out a trial balance and prepare financial statements (profit-and-loss account and balance sheet) as at 31/12/12.

The entries to be posted in the accounts are:

1/1/12	Debit	Bank account	€3,000
1/1/12	Credit	Capital account	€3,000
20/1/12	Debit	Plants account	€200
20/1/12	Credit	Bank account	€200
15/3/12	Debit	Debtor, Mr Brown	€900
15/3/12	Credit	Sales	€900
15/3/12	Debit	Cost of sales (10×€10)	€100
15/3/12	Credit	Plants account	€100
14/4/12	Debit	Bank account	€900
14/4/12	Credit	Debtor, Mr Brown	€900
16/6/12	Debit	Rent/rates/power account	€800
16/6/12	Credit	Bank account	€800
18/8/12	Debit	Plant and equipment account	€300
18/8/12	Credit	Bank account	€300
25/11/12	Debit	Depreciation expenses account	€100
25/11/12	Credit	Depreciation provision account	€100

When you have understood the above entries see below how they are recorded in the accounts – debits on the left and credits on the right:

Debits				Credits		
Bank Account:	1/1/12	Capital account	£3,000	20/1/12	Plants account	£200
	14/4/12	Mr Brown	£900	16/6/12	Rent/Rates/Power	£800
				18/8/12	Plant and equipment	£300
Capital Account:				1/1/12	Bank account	£3,000
Plants Account:	20/1/12	Cash Account	£200	15/3/12	Cost of sales	£100
Cost of sales account:	15/3/12	Plant Account	£100			
Sales Account:				15/3/12	Mr Brown	£900
Debtors Account (Mr Brown):	15/3/12	Sales account	£900	14/4/12	Bank account	£900
Rent/Rates/ Power Expense Account:	16/6/12	Bank account	£800			
Plant and equipment account:	18/8/12	Bank account	£300			
Depreciation Expenditure Account:	25/11/12	Depn. provision	£100			
Depreciation Provision Account:				25/11/12	Depn. Expenditure	£100

Follow the above entries one step at a time. Note that debit entries are always on the left and credits are on the right. This is the standard form. Note also that the corresponding entry is shown in each account description of the transaction. For the sake of simplicity I have not totalled the above accounts. There are few entries in this example and it is easy enough to see what the balance values are. For example, the balance of the cash account is €2,600 debit (cash in the bank).

We will now prepare a trial balance and you can see the balances of the accounts and this will also prove the arithmetic accuracy.

Trial balance

Trial balance as at 31/12/12

Debit balances		Credit balances	
Cash	€2,600	Capital account	€3,000
Plants account	€100	Sales account	€900
Cost of sale account	€100	Depreciation povision	€100
Rent/Rates/Power Exp	€800		
Plant and equipment account	€300		
Depreciation expenses	€100		
Total debits	€4,000	Total credits	€4,000

The above trial balance is just a list of balances of all the accounts. It only provides proof of the arithmetical accuracy of the accounting entries. We can now use this to prepare the final accounts – a profit-and-loss account and a balance sheet.

Profit-and-loss account

Sales	900
Cost of sales	100
Gross profit margin	800
Rent/Rates/Power Expense	800
Depreciation expense	100
Net profit/(loss)	(100)

Note that the trader has actually made a loss during the first year of trading. He still has plenty of cash in the bank, but after all costs including depreciation he has made a loss.

The next stage is to prepare a balance sheet to show the overall financial position.

Balance sheet

Liabilities:

Capital account	3,000
Profit-and-loss account	(100)
Proprietor's equity	2,900

Assets:

Fixed Assets:

Plant and Equipment	300
Less Depreciation Provision	(100) – 200

Current Assets:

Plant stock account	100
Cash account	2,600 – 2,700
Total Assets	2,900

Notes to the accounts:

- 1 The accounts show a gross profit of €800. However, after expenses of €900 (€800+€100) the final result was a net loss of €100.
- 2 The proprietor's equity has been reduced to €2,900. This is because the initial equity/capital has been partially offset by the loss of €100 (€3,000–€100). Had the trader made a profit then his equity would have increased.

- 3 Note that proprietor's equity/capital is shown as a liability. This is because the business unit has a liability to the proprietor for the initial capital injected plus any retained profits or, in this case, less any losses.
- 4 Note that the value of fixed assets has been reduced by the depreciation provision.

We have shown above a simple profit-and-loss account and a balance sheet. A third type of financial statement you might see is a funds statement. This is simply a statement that shows where funds have been sourced from and how they have been applied. An example is given below.

The basic accounting equation is:

Equity = Assets less External Liabilities

(external liabilities include items such as creditors and bank loans)

In our case $\text{€}2,900 = \text{€}2,900 - \text{€}0$ (there being no external liabilities)

Classification of assets and liabilities

When reading financial statements you will note that assets and liabilities are classified into various categories. The usual classifications are listed below.

Fixed assets

These include items such as machinery, equipment, vehicles, buildings, furniture and other items of a permanent nature that will not be consumed within the accounting period. Of course, an asset may be used in the accounting period and may depreciate in value. This is why we allow for depreciation and reduce the value of an asset.

Current assets

These include cash or items that can be readily converted into cash such as debts or stock.

Assets are normally shown in the balance sheet at cost less any depreciation. It is not prudent to show them at a higher value that has/may not be realized. For example, stocks are normally shown at the lower of cost or net realizable value.

Long-term liabilities

These are liabilities (amounts owing by the business) that are not due for repayment within one year from the accounting date. Examples are equity and term loans.

Current liabilities

These are liabilities that are repayable immediately or within one year of the accounting date. Examples are bank overdrafts (repayable on demand) and trade creditors.

Summary of profit-and-loss account and balance sheet

The above example of a profit-and-loss account and balance sheet together with their underlying accounting entries is highly simplified and is designed to help your understanding of financial statements. We will cover the analysis of financial statements in the next chapter.

Profit-and-loss accounts and balance sheets are the basic financial statements. There is another statement that helps users of financial statements understand how funds have been sourced and applied. This is called a Source and Application of Funds Statement and is described briefly below.

Source and application of funds statements

The purpose of these statements is to show where a company has sourced its funds from and how it has applied them. Since funds statements are only concerned with items involving the movement

of funds, depreciation is added back to net profits. This is best explained by an example shown in the table below.

	2012	2011
	£m	£m
Sources of funds:		
Profit before tax	40.5	10.5
Depreciation (add back)	30.5	28.5
	<u>71.0</u>	<u>39.0</u>
Shares issued for cash	10.0	10.0
Proceeds from sale of assets	12.0	11.0
	<u>93.0</u>	<u>60.0</u>
Application of funds:		
Dividends paid	5.0	5.0
Taxes paid	15.0	10.0
Movement in working capital	5.0	5.0
	<u>25.0</u>	<u>20.0</u>
Movement in borrowing:	68.0	40.0
	<u>93.0</u>	<u>60.0</u>

This statement shows that during 2012 the company sourced €71.0m of funds from profits, €10.0m from a share issue and a further €12.0 million from selling off assets. This totalled €93m and this sum was applied to paying dividends and taxes, and to changes in working capital and borrowing balances. Some investors find this statement useful whilst others simply read the P&L and balance sheet. It is a useful statement in that it shows at a glance where funds have come from and where they have been used.

Principles: matching, accruals, deferrals, consistency, conservatism, accounting periods, materiality, going-concern concept, form and substance, full disclosure and clarity

There are some basic principles that need to be adhered to when preparing accounts. Some of the more fundamental ones are listed below.

Matching

This principle requires that expenditure of one period is matched with income of the same period.

An invoice may be paid in one financial year that relates to services spread over several years. For example an annual insurance premium paid on 30 September 2011 might relate to cover for three months in 2011 and nine months in 2012. It would be entirely wrong to charge all of the 2011 year with the total amount paid on 30 September 2011. Some of the charge should be deferred to the following year and matched with income of that year.

This is best explained by means of an example:

During the year ended 31 December 2013 sales were €30,000 and the cost of those sales was €18,000.

Rent was paid annually in advance on 30 June and was €4,000 in 2012 and €6,000 in 2013. What is the net profit for the year ended 31 December 2013?

Sales	€30,000
Cost of sales	€18,000
Gross profit	€12,000
Rent 1 January 2013 to 30 June 2013 is €4,000/2	€2,000
Rent 1 July 2013 to 31 December 2013 is €6,000/2	€3,000
Net profit	€7,000

Note that the rent applicable to 2013 and charged in the accounts was €5,000 and not the €6,000 that was actually paid. €2,000 of the rent actually paid in 2012 related to 2013 and only €3,000 of the rent paid in 2013 actually related to 2013. This is the concept of matching income and expenditure in the same accounting period. It is achieved through the accounting processes of accruals and deferrals, which are explained below.

Accruals

When a cost has been incurred but the invoice for it has not been received it will be necessary to accrue for the cost in the accounting period it was incurred. For example if electricity is invoiced quarterly in arrears then it will be necessary to read the amount of electricity used and estimate the value of this. An entry is made in the accounts to recognize this. For example, if it is estimated that €500 of electricity has been used but not invoiced then the accounting entry in the period it was used would be:

Debit	Electricity expenditure	€500
Credit	Accrued creditors	€500

This entry will ensure that the cost is taken up in the correct period and matched with income of that same period. It will also reflect an accrued liability in the balance sheet.

In the subsequent period when the actual invoice is received (let's assume it was for €510) then the entry in the accounts would be:

Debit	Accrued creditors	€500
Debit	Electricity expenditure	€10
Credit	Creditors	€510

The accrued creditors account will now have a zero balance, electricity expenditure for the new period will only be charged with €10 (being the underestimate) and creditors will show a balance of €510, as the actual amount owing to the electricity supply company.

Deferrals

Sometimes costs are paid in advance. For example, insurance premiums are often paid annually in advance. If this is the case then the amount

paid in advance will need to be deferred to the next period in order to ensure that costs and income are matched.

Consistency

Transactions and valuations need to be treated in a consistent way in order to avoid confusing fluctuations in profit. A good example of this is in the case of stock valuations, where a change in the method of valuation such as the amount of overheads absorbed into stock/work in progress can have a dramatic effect on the level of profitability reported. For this reason valuation methods need to be consistently applied from one accounting period to the next. If it is necessary to change a method of valuation (for example) then the effect of this change must be clearly reported.

Conservatism

This means taking a cautious approach in calculating the level of profits. Bring in all costs as soon as they are incurred and recognized. Only recognize income when it is certain.

Accounting periods

Divide the business reporting up into consistent accounting periods, usually 12-month periods for annual accounts and six-month periods for interim accounts. Don't change periods so that comparisons become confusing. If it is essential to change periods, bring together different periods or report different periods, then full explanations need to be given and proper comparative statements need to be prepared. This may happen for a number of reasons such as a merger or a start up, and as a reader of accounts you will need to be aware that you will need to compare like with like periods.

Materiality

Don't worry too much if accounting mistakes are so small as to have no material effect on the overall impression that the accounts give. Of course,

all mistakes need to be rectified but as a reader of financial statements you need to be aware of what is and is not material. A misstatement or omission is said to be material if it influences the overall view provided in the accounts.

Going-concern concept

The value of a business will depend upon whether or not it is considered to be a continuing going concern. A business that is folding will have a break-up value that is different from its going-concern value. This is an important concept in many ways. For example, the directors of a company must not take on more debt once they are aware that the company has ceased to be a going concern and will cease trading. Allowing a company to take on more debt when knowing that it is no longer a going concern is fraud.

Form and substance

This principle requires that financial statements should show the true view and not just the strict legal view.

Full disclosure and clarity

All relevant facts need to be disclosed in a clear way. Important facts must not be omitted and financial statements must not provide a mass of confusing information that hides important items that need to be disclosed.

These basic accounting principles have been applied to many types of business transaction and have formed the basis of detailed accounting standards that are published internationally. A detailed analysis of these accounting standards is beyond the scope of this book. However, if you are interested in finding out more, simply search for 'accounting standards' on your web browser and you will find that standards have been written to cover many accounting issues. The basic accounting principles discussed above have been incorporated into what are known as GAAP (Generally Accepted Accounting Principles).

Accounting and the environment

Accountants are increasingly recognizing their role in helping to provide information that enables people to understand the broader environmental and social consequences of organizational activity. Sustainability accounting is at varying stages of development throughout the world and there are developing tools that attempt to incorporate sustainability considerations into organizational decision making. Increasingly you may notice sustainability statements within conventional financial statements. These may include reports on:

- carbon emissions;
- social responsibility;
- environmental impacts;
- sustainability of operations.

The purpose of these reports is to consider the impact of organizational activity on the broader external environment, economy and society.

Neuroscience and accounting

When you start to think in accounting terms you might find that business life becomes easier and more comfortable! Strange as it might seem, some academics believe that accounting may have evolved from the way the brain thinks about exchange opportunities. Emerging research suggests that the evolution of accounting practice can be traced to neuronal processes.

The assumption is that human economies are built on reciprocal exchanges and accounting concepts such as double entry, matching and conservatism are believed to be in harmony with the way the brain functions. An example is the concept of conservatism where gains are not anticipated but losses are. Neuroscience research suggests that the brain reacts differently to gains and losses. Brain scans have shown that areas of the brain that are related to reward and conflict resolution are activated more by losses than by gains. The findings show that subjects require 1.97 units of gain to compensate for 1 unit of loss.

These findings were published in the *Chartered Accountants Journal* (NZ) in May 2011 in an article by Steven Cahan, FCA. The article might

help explain why accounting makes business easier. The article is based upon work published by J de Quervain, U Fishbacher, V Treyer, M Schellhammer, U Schyder, A Buck, E Fehr, S Basu, J Dickhaut, G Hecht, K Towry, G Waymire, M Kirk, F Castelli, F Happe, U Frith, C Frith, K McCabe, S Toms, C Fox, C Trespel and R Poldrack.

Summary

As a non-financial manager it is unlikely that you will need a detailed technical knowledge of accounting or of the double entry system. It is most likely that you will be reading completed financial statements or attending to your departmental budget statements. However, having a basic knowledge of the double entry system and of how accounts are constructed will enable you to understand financial statements and to make better decisions.

In this chapter we have explained the basics of how accounts are prepared, including accounting entries, trial balances, profit-and-loss accounts and balance sheets. We have completed the chapter with an overview of important accounting principles.

In the chapters that follow we will learn how to interpret financial statements and manage finances. Underlying this will be the basics covered in this chapter, so it is important that you have understood it. Accountancy is, perhaps, like riding a bike in that it is easier learned than taught! Practice makes perfect and if you are having any doubts go through the chapter again and work through the examples.

This short chapter is based upon the Generally Accepted Accounting Principles of the UK. To bring countries into line with each other, international financial reporting standards have been developed. Details of these can now be searched on the web for those readers that have an interest.