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Accounting

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Accounting

The *Accounting* programme is written by Niall Lothian, formerly Professor at Edinburgh Business School, Heriot-Watt University, and John Small, Professor Emeritus at Heriot-Watt University. Both have previously occupied chairs in the University's Department of Accountancy and Finance.

Professor Lothian has taught at IMEDE (now IMD) in Lausanne and is currently a member of the visiting faculty of INSEAD, Fontainebleau; the European School of Management and Technology, Berlin; and Duke Corporate Education. He has conducted seminars and managerial briefings in Europe, Africa and China, the latter under the auspices of the United Nations Industrial Development Organisation.

Professor Lothian has been consultant to British government agencies such as the Ministry of Defence and the Cabinet Office and to numerous international companies.

His current research and consulting interests include the study of managerial controls over R&D expenditure, a field in which he has published widely, and the accounting implications of flexible manufacturing systems. A chartered accountant by professional training, he is a Past President of the Institute of Chartered Accountants of Scotland. He was the inaugural chairman of the audit advisory board of the Scottish Parliamentary Corporate Body and is chairman of Inspiring Scotland, a venture philanthropy trust. Professor Lothian was made an Officer of the Order of the British Empire in the New Year's Honours 2012.

Professor Small was Chairman of the Accounts Commission in Scotland from 1982 to 1991. The Accounts Commission is responsible for arranging the audit of local government in Scotland and ensuring the proper steps are taken to achieve economy, efficiency and effectiveness. He has recently served on the board of Scottish Homes.

He is a member of the Council of the Chartered Association of Certified Accountants and was its President in 1982/83. He has been Chairman of the Education Committee of the International Federation of Accountants and a member of the executive Board of the Union Européenne des Experts Comptables, Economiques et Financiers. He is an honorary member of the Arab Society of Certified Accountants. He has also held visiting professorships and external examinerships at various universities and business schools.

His special interest is in the use of financial information in decision making for planning and control. In this area he is a consultant to a number of organisations and has advised companies and government agencies in the UK and abroad.

Professor Small was made a Commander of the Order of the British Empire in the Queen's Birthday Honours, 1991.

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Learning Objectives

By the end of this module you should understand:

- the value to various groups in society of a knowledge of accounting;
- the role of accounting in management;
- the need for, and use of, accounting information in decision making within any organisation;
- the accounting equation;
- the basic layout of the income statement (sometimes called the profit and loss account), the balance sheet and the cash flow statement;
- the distinction between financial accounting and management accounting.

1.1 Approaching Accounting

Few subjects in a master's degree course in Business Administration are approached by students with a greater sense of awe than accounting. Put another way, of all the subjects typically on offer in an MBA programme, accounting is the one that students would most prefer to avoid! Why should this be? Here are some reasons that may reflect the reader's thinking as he or she embarks on this course.

- Unlike many other MBA disciplines, such as marketing, economics and organisational behaviour, which are viewed as being intuitive – that is, the reader has a fairly good idea of what the subject is about without prior study – accounting is non-intuitive, requiring the mastery of rules from the outset.
- Accounting is seen to deal exclusively with numbers; many people prefer to deal with words and ideas.
- Because of its concentration on numbers, accounting is considered to be concerned with precision and accuracy, both of which require a highly developed mathematical mind.
- Accounting is solely concerned with applying arbitrary rules and conventions, such as International Accounting Standards, and is therefore mechanistic and requires only good memory.
- Readers know friends and relatives who have studied for a degree or professional qualification in accounting; since these people spent many years studying, how can an MBA course deal with complexities so quickly?
- Accounting and accountants are treated by society as being dull and boring! The image, bolstered by the perceived obsession with numbers and accuracy, is picked up by TV scriptwriters and producers, who stereotype the accountant as being humourless, repetitive, pedantic, unimaginative and incapable of forming close personal relationships!

In an effort to put the reader's mind at ease at the outset of the course, two points should be made.

1. Virtually everyone (whether studying for an MBA or not) who is not a trained accountant views accounting and accountants as set out above.
2. They are all wrong!

1.2 The Reality of Accounting

All business disciplines, including marketing, economics and organisational behaviour, are based on fundamental concepts and relationships that must be appreciated from an early stage. The fact that a novice believes he knows what is involved in these subjects does not remove the need to study the underlying principles in as rigorous a manner as he would be required to do in accounting.

Accounting is indeed concerned with numbers, but it is concerned with many more aspects besides; the presentation and communication of financial information is just as important as the numbers themselves. More attention is being paid today to the use of accounting numbers in the decision-making process than ever before.

Major companies currently issue to shareholders an abbreviated set of annual accounts (perhaps only a few pages) instead of the full set; companies' websites often display shortened versions of their annual reports as well as the full version. Indeed, an increasing number of companies have stopped circulating automatically their annual reports to shareholders; instead, shareholders are supplied with the web address at which they can access the main features of the year's results. They are doing this not to save money but in recognition of the fact that the important accounting numbers, such as turnover, profit for the year and dividends payable, are not easily discernible in the full set. Shareholders need this information so that they can assess the performance of the company in which they have a stake. A simple presentation and the medium of communication are as important to accounts as the financial message.

Accounting numbers attempt to reflect economic activity in an organisation. But there is no one given view of this activity; two people can form different views. It follows that there can be no one given set of accounting numbers that must be used. Choice, judgement and the reconciliation of vested interest prevent the accountant from ever becoming dull and boring.

Example

A company purchased a residential house in 19x1 in the Georgian New Town of Edinburgh for use by its senior executives when on company business in Scotland. It cost £100 000. In 20x1 the company's property advisers consider the house would sell for £1 500 000. The company's insurers require buildings insurance to be based on its replacement value of £2 000 000. Which value should the company's accountant select for recording the asset in the 20x1 accounts?

Precision, accuracy and the need for a mathematical turn of mind may be desirable but not essential. So often these attributes are confused with numeracy, the skills of reading and handling numbers and applying to them the basic arithmetical rules of addition and subtraction. A modestly priced calculator will prove to be invaluable! This course is written not only for those studying for a degree by distance learning but also for managers and others who need to use accounting numbers in their work. The underlying methodology of accounting will be explained only where it is essential to the reader's understanding of the concepts and his or her appreciation of how to apply the techniques in the world of business.

1.3 What Accounting Is

Accounting may be defined as a series of processes and techniques used to identify, measure and communicate economic information that users find helpful in making decisions.

A definition is like a completed jigsaw: the whole picture is readily visible, but it is not nearly as interesting as the process of fitting all the pieces together. What are the constituent pieces of the definition?

1.3.1 Accounting Is a Service Function

Accounting is not an end in itself: it provides information to decision makers. Whether an entity is oriented towards making profits, such as a company, a partnership or a sole trader, or towards meeting goals other than profits, such as a political party, a charity, a club or a church, accounting information is universally employed by decision makers.

Example

A cathedral is planning to replace its organ. The organ committee has asked the treasurer for the following financial information: the range of competitive tenders in money terms; the potential impact of exchange rates on overseas organ builders' tenders; the cost of old organ removal and preparatory site works; and the impact on power and maintenance costs as compared with the existing organ. But this information is only one factor in the committee's decision-making process; ultimately the decision will also take into account musical and liturgical issues.

1.3.2 Accounting Deals with Economic Information

Within organisations there exists a bewildering range of information on all sorts of subjects. Accounting confines itself to economic information and is usually expressed in money values. However, accountants also deal with such things as tons of raw materials used, number of hours worked, capacity of machinery used and units of output produced.

Example

The government's defence procurement establishment is weighing up the potential of placing a long-term contract with one of three civilian suppliers of laser equipment. Alongside the results of the military's experiences with the prototypes under simulated battlefield conditions, the accountants will lay their estimates of costs of production, the suppliers' requirements for capital equipment to build the production models, the rate at which equipment will depreciate and the pricing formulae being used by the suppliers.

1.3.3 Economic Activity Must Be Identified, then Measured

Some economic events, like the sale of a unit of production, e.g. a car, are relatively easy to identify and to measure. Others are easy to identify but are difficult to measure: the robotic equipment used in the car-assembly process depreciates through use and the passage of time, but accountants can only guess at how quickly this cost should be recognised; each guess produces a different cost figure, which, in turn, produces a different profit figure. Of course, the range of guesses is curtailed by the exercise of commercial judgement and professional precedent. Some events may have an economic impact on the organisation that is so difficult to identify and measure that it escapes the accountant's attention.

Example

The charismatic founder and chief executive of a recently stock-exchange-quoted company suffered a near-fatal coronary thrombosis while golfing two weeks before the financial year-end. On the same day, one of the company's sales reps replaced the two

rear tyres on his company car. Because the accountant can identify and measure the economic impact of the latter event, it is accounted for, while the former event, one that could have a long-term negative effect on the performance of the company, escapes recording.

1.3.4 Accounting Is a Communication Device

Accounting information can help decision makers reach their objectives. It follows that accountants must know what sort of economic information decision makers want: accounting information must be relevant for the purposes for which it is designed. Then, of course, the accountant must communicate the information in such a way that the users can understand it.

Example

A national charity is about to launch a fund-raising campaign. The financial controller compiles financial information in a pie-chart format, which reveals that all but a small percentage of income is spent directly on the charity's objectives; on the other hand the information required by the government's tax authorities requires accounting numbers to be presented in a totally different manner. It would not be unfair to say that accountants have a lot of work still to do to improve their communication skills: too often accountants forget that users cannot understand accounting numbers as easily as they can.

1.4 Focus on Profit-Seeking Businesses

What do the following persons have in common?

- The chairman of a football club
- A chief executive in the local brewery
- A minister of finance
- A financial controller of a university
- The senior partner of a law firm
- The medical director of a hospice

The answer is that they are all concerned with the raising and spending of money and the control of scarce resources through budgets. To this extent, accounting is a universally applicable management tool employing universally applicable principles. But the detailed procedures and rules governing, say, a brewery and a government department are so diverse that it would be wise to focus on only one sector during this course. We have selected the profit-seeking private sector, and specifically the manufacturing industry within this sector. We do this for three reasons.

1. Managers and other readers who work for the not-for-profit sector very often have personal investments in profit-seeking private sector companies and are interested in tracking the performance of their investments.
2. The thrust of governments' financial management in many countries today is towards 'privatisation', i.e. adopting the techniques and performance measures of the private sector.

3. We believe that a manufacturing industry setting enables students to grasp the principles and procedures of accounting more easily than any other. Once these principles are understood, they can be applied in other commercial and social settings. Reference will be made to other settings where appropriate.

1.5 Who Are the Users of a Company's Accounting Information?

Take MBA as an example of an industrial company. We will use the fictitious financial statements of MBA throughout the text for analytical use and for illustration. MBA is based on one of the world's largest engineering companies. It has a presence in every continent and its activities span every aspect of technology; it also provides financial services to its distributors and customers. Who are the users of MBA's accounting information? They can be grouped as internal users and external users.

Internal users

- Directors
- Senior executives
- Managers
- Employees (and trade unions)

External users

- Shareholders
- Analysts
- Creditors
- Tax authorities
- The public

1.6 For What Sort of Decisions Do these Users Value Accounting Information?

All the users of company accounting information are faced with choices between alternative courses of action. If they make decisions without adequate information (which happens all too often), they are likely to find that their expectations are not fulfilled.

Directors	'Has the company been employing its resources in the most effective way to maximise the profit earned for our shareholders? Is it maximising shareholder value?'
	'Has the company been a good corporate citizen, i.e. have all our industrial processes been friendly to the environment? If not, how much is being spent on improving the flawed processes?'

Senior executives	'Are we managing our money efficiently? For example, are we confident that a subsidiary company in Australia is not borrowing money at 20 per cent to fund an expansion when the subsidiary in Japan is building up a cash balance in the bank earning 12 per cent interest?'
	'Is our manager-remuneration scheme sufficiently rigorous to promote effort and commitment while at the same time being competitive with other multinationals?'
Managers	'Would it be cheaper to make a component ourselves or buy it in from an outside supplier?'
	'Are all our lines profitable?'
Employees	'How much should we claim in the next wage round?'
	'What are the security and prospects of employment in this company?'
Shareholders	'Should we buy (or sell or hold) shares in this company?'
	'How much dividend has been paid last year compared with profits earned?'

MBA provides a breakdown of its shareholders in 20x2 as follows.

Size of holding	Number of ordinary shareholders' accounts	Number of shares (millions)	Percentage of issued share capital
1–100	4 770	2	0.3
101–1000	41 386	5	0.8
1001–100 000	69 002	66	10.6
100 001–250 000	475	17	2.7
250 001–500 000	275	23	3.7
500 001–1 000 000	187	31	5.0
Over 1 000 000	335	478	76.9
All holdings	116 430	622	100.0

The law recognises all shareholders as being equal, but note that the 335 shareholders (institutional investors like pension funds) who own over one million shares each combine to own just under 77 per cent of the entire share capital, while the 4770 shareholders who each own fewer than 100 shares possess just 0.3 per cent on this scale!

Analysts	'Should we advise shareholders and potential shareholders to buy, sell or hold shares in the company?'
	'Is the performance of the company this year superior to that of its competitors?'
	'Should we advise a switch of holding to a company with a more promising prospect?'
Creditors	'Should we extend our credit to this company, or should we press to recover our debts?'
	'In the longer term will the company be able to supply us with business?'
Tax authorities	'How much tax can we expect to receive from the company?'
	Note that a multinational company will file tax returns in every country in which it operates.
The public	'The public' is a loose phrase that includes, inter alia, environmental pressure groups and consumer groups. Such parties ask a variety of questions, including ones directed at a company's profitability, efficiency, contributions to political organisations and transactions with overseas governments.
	'Is the company fulfilling its obligations to society by, for instance, minimising environmental pollution, or by abiding by international guidelines for trading in Third World countries?'

Sound answers to these questions require accounting information, sometimes of a most sophisticated kind.

1.7 Common Information Requirements among Users

Answers to all the questions above require knowledge of a company's *profits* and *cash position*. Providing information about profitability and liquidity (the professional jargon for cash position) is seen by many to be the goal of the accounting system.

Although the emphasis in this course will be on the informational requirements of managers, a good manager should be concerned with all the questions posed by all the interest groups set out above. He or she should be as concerned with shareholder value as the shareholders, as aware of the company's debt-paying abilities as the creditors and as sensitive to environmental matters as either the directors or the external consumer lobby. The course is designed to assist the manager in interpreting and understanding accounting information, not to instruct him or her in how to prepare it. However, each manager should be familiar with the basic mechanics of the accounting process before he or she tries to gain an appreciation of what the accounting numbers mean.

1.8 The Accounting Equation

Before proceeding to a more detailed analysis of the concepts and objectives of accounting, we will examine the accounting recording system, which produces information on profits and cash.

The accounting recording system is based on the simple, not to say self-evident, notion that all economic resources acquired by an entity must be funded from somewhere. Entities do not simply acquire resources out of thin air: resources must be provided by someone (usually the owner) in the first instance. Later, other people such as creditors or banks may put up money to provide further resources for the company.

The relationship between resources and the funds provided to acquire these resources is expressed in accounting like this:

Assets = Owners' equity + Liabilities

or

Assets – Liabilities = Owners' equity

This accounting equation underpins the entire accounting recording system. A simple example will show how this equation works, by examining a series of actions through a period of time. For illustration, we use the economic events associated with an individual starting up in business rather than using the more complex world of companies like MBA. But exactly the same accounting equation would be used to record the activities of MBA or any company or partnership as the one we will employ below.

Action 1 An individual commences his business on 1 January with €20 000 cash. The accounting equation of the business would record:

Assets (Cash) €20 000 = Owners' equity €20 000

The amount of owners' equity signifies the owners' claim over the assets of the enterprise. At the conclusion of this action, the individual's stake in the business is worth €20 000, represented by cash of €20 000.

Action 2 Out of these cash resources he purchases plant and equipment for €12 000. Only one side of the equation needs adjustment:

Cash €8000 + Plant €12 000 = Owners' equity €20 000

Action 3 Inventories of raw materials are purchased on credit for €6000.

Cash €8000 + Plant €12 000 + Raw material inventories €6000 = Owners' equity €20 000 + Creditors €6000

Here we see an acquisition of another asset, inventories, financed by the suppliers of the inventories. Eventually the business will have to pay this amount in cash; until

it does, the creditors remain a liability. How much is the owner now worth? Still €20 000, represented by assets totalling €26 000 less €6000 owed to his creditors.

Action 4 €500 worth of inventory is processed at a labour cost of €20 to form finished goods inventory.

Cash €7980 + Plant €12 000 + Raw material inventory €5500 + Finished goods inventory €520	=	Owners' equity €20 000 + Creditors €6000

Here, the €20 cash spent on labour is assumed to add value to the raw material inventory of €500, all of which the business would hope to recover in the eventual selling price.

Action 5 The accountant, an employee of the business, is paid his wage of €10 in cash.

Cash €7970 + Plant €12 000 + Raw material inventories €5500 + Finished goods inventories €520	=	Owners' equity €19 990 + Creditors €6000

It is important to distinguish between the wages paid to production workers in Action 4 (which increase the value of the inventory to be sold) and those of an administrative nature (which do not increase the value of assets and which do not vary with output). This overhead is a charge against profits that have not yet been earned, so it is deducted from the original capital in the interim. At the end of this action the individual's stake in his business has been reduced by €10 to €19 990. When profit is made, it will be added to the owners' equity.

Action 6 The entire finished goods inventory is sold for €750 on credit.

Cash €7970 + Plant €12 000 + Raw material inventories €5500 + Debtors €750	=	Owners' equity €20 220 + Creditors €6000

The finished goods inventory has been reduced to zero. The company has made €230 profit on this transaction, which increases the owner's equity. An asset called 'Debtors' is created because cash has not yet been received for the sales. On its own the above transaction looks like this:

Change in finished goods inventories (−€520) + Change in debtors (+€750) = Change in owners' equity (+€230)

Action 7 €3000 of the amount due to suppliers is paid along with an advertising bill of €10.

Cash €4960 + Plant €12 000 + Raw material inventories €5500 + Debtors €750 = Owners' equity €20 210 + Creditors €3000

The payments to suppliers are a straightforward matter, reducing cash and creditors by the amount of €3000 paid over. The advertising bill is paid in cash too and must reduce the owners' equity – this is an expense of being in business, just like the accountant's fee.

At this stage, or any earlier one for that matter, it is possible to determine the profit made by comparing the owners' equity at the beginning of the period under review with the balance on the owners' equity at the end of the period. If it has increased, the owner has made a profit; if it has decreased, he has made a loss. In the example the profit is €210 (€20 210 less €20 000).

The accounting equation is a collection of balances after each transaction has been completed and recorded. Note that the accounting entries involve a mixture of cash-driven items and judgement-driven items. This equation can also be laid out in a more meaningful fashion, called a *balance sheet*.

Students may find a spreadsheet approach to the accounting equation more flexible. A worked solution is also provided.

Action	Plant and equipment	Raw material inventory	Finished goods	Debtors	Cash	Owners' equity	Creditors
1							
2							
3							
4a							
4b							
5							
6a							
6b							
7a							
7b							
Totals	0	0	0	0	0	0	0
		Total assets:	0			**Equity & debt:**	0

Worked Solution

Action	Plant and equipment	Raw material inventory	Finished goods	Debtors	Cash	Owners' equity	Creditors
1					20 000	20 000	
2	12 000				–12 000		
3		6 000					6 000
4a		–500	500				
4b			20		–20		
5					–10	–10	
6a			–520			–520	
6b				750		750	
7a					–3 000		–3 000
7b					–10	–10	
Totals	12 000	5 500	0	750	4 960	20 210	3 000
		Total assets:	**23 210**			**Equity & debt:**	**23 210**

1.9 The Accounting Statements

Balance sheet at the end of Action 7

Assets	**€**	**Owners' equity**	€20 210
Cash	4 960		
Plant and equipment	12 000		
Inventories	5 500		
Debtors	750	**Creditors**	3 000
	€23 210		€23 210

The layout of this balance sheet could be improved to give a clearer picture of the financial position of the company at the end of Action 7:

Non-current assets	**€**	**€**
Plant and equipment at cost		12 000
Current assets		
Inventories	5 500	
Debtors	750	
Cash	4 960	
	11 210	
Less: **Current liabilities**		
Creditors	3 000	8 210
Net assets of the company		€20 210
Represented by:		
Capital introduced	20 000	
Profits earned	210	
Owners' equity		€20 210

This layout highlights some fundamental points that should be noted.

1. The owners' equity of a company is represented by the *net assets* (non-current assets + net current assets) of the company; the original cash introduced by the owners is consumed in the purchase of assets and in the trading activities for which the company was set up. (NB: net current assets are defined as current assets less current liabilities.)
2. Assets of the company can be split into *non-current assets*, which are of relatively long life and are generally used in the production of goods and services rather than being held for resale (some companies refer to non-current assets as 'fixed assets'), and *current assets*, which are either currently in the form of cash or are close to being converted into cash within a short period of time, usually a year. *Current liabilities* are those obligations that a company must meet, in cash, within a short time, again usually one year.

The straight comparison of owners' equity figures provides an arithmetically accurate figure of profit, but it does not tell how that profit was made, i.e. how many sales were recorded, what the cost of these sales was or what expenses were incurred in the accounting period.

The detailed items that affected owners' equity were:

Action		**€**
5	Accountant's wage	−10
6	Profit on sale of finished goods	+230
7	Advertising bill	−10
Net increase in equity		+210

An accounting statement, which is more meaningful than the accounting equation, is constructed. This accounting statement is called the *income statement* (or the profit and loss account) for an accounting period:

Income statement for the period Actions 1–7

		€	€
Sales			750
Less: Cost of sales	Materials	500	
	Labour	20	520
Gross profit			230
Less: Selling and administrative costs			
	Advertising	10	
	Salaries	10	20
Net profit			€210

As can be seen, profit is simply the excess of sales revenue over costs incurred in generating the revenue. Items of expenditure accounted for via the income statement we call *revenue* expenditure; items of expenditure accounted for via the balance sheet we call *capital* expenditure. In the example the income statement has been created from the preceding data relatively easily. However, this procedure can become very complex in a multi-product, multi-plant company engaging in thousands of transactions daily. Accountants have therefore devised a continuous recording system – based on the double-entry procedure encountered in the previous section – which eliminates the need to calculate the effect on profit and owners' equity after every transaction but which will continue to provide the useful information in income statement format whenever it is required. These detailed procedures of bookkeeping are the job of the accountant, not of the manager.

So far the two accounting statements have produced information on:

(a) the profitability of the company for the seven actions listed; and
(b) the financial position of the business at the end of Action 7.

Neither statement, however, reveals anything about the cash position, which is important to many users of financial information:

Directors	Money spent on major process improvements
Senior executives	Cross-national money switching
Managers	Cash saved in buying in components
Employees	Wage increases
Shareholders	Dividends
Creditors	Payment of debts
Tax authorities	Payment of taxes

Profit is not the same as cash. There are many reasons for this: one such reason can be readily understood by considering the nature of the sales figure of €750,

which gives rise to the reported profit. The business has not received payment for the sales at the time the income statement is drawn up, but, provided the owner believes the debtors will pay the amount shortly, it is an accounting convention that recognises this figure *as if* the money has been received when calculating profit. Also, depreciation is a deduction from sales revenue before profit is determined but has no effect on cash.

A third accounting statement, the *cash flow statement*, portrays only those economic events of a business that affect cash flows. For the example above the cash flow statement would be as follows:

Cash flow statement for the period to Action 7

	€	€
Net profit		210
Changes in working capital:		
Increase in debtors	–750	
Increase in inventories	–5 500	
Increase in creditors	+3 000	–3 250
Cash from operating activities		–3 040
Purchase of non-current assets		–12 000
Cash from investing activities		–12 000
Equity injection from owners		20 000
Cash from financing activities		20 000
Change (increase) in cash between Actions 1 and 7		4 960

The figure of €4960 can be checked by subtracting the balance of cash at the end of Action 7 (€4960) with the opening balance of cash (€0) when the business started.

Note the following points.

1. The first source of cash should always be the operations of the business. (If it is not so, then sooner rather than later the business will go bust!) In a start-up situation, such as in the example, the main source of cash is usually by way of original capital injection or by bank borrowings.
2. The profit figure is the most useful starting point for determining the amount of cash generated by operations. Changes in working capital are then calculated. Working capital is the cash required to keep a business running until the customers pay for the goods and services they have received. Working capital typically comprises debtors, creditors and inventories.
3. An increase of creditors is a source of cash. For the short period the business is owing the money, it is able to use the money for other business purposes. Therefore the business's creditors can be seen to provide cash to the business.
4. The reverse is true with the increase in debtors. When customers don't pay cash for goods and services, this weakens the financial state of the business for a

short period. The business is therefore paying out cash to support its credit customers' businesses for a short period of time. Similarly, with inventories, if a company builds its inventory levels during a period it consumes cash to do so.

5. The significance of the cash flow statement is that it breaks down the accounting conventions that separate economic events into either the balance sheet or the income statement. Cash is cash whether the event affects the balance sheet or the income statement. In another situation a company can report healthy profits in the income statement but the cash flow statement can reveal a rapidly deteriorating liquidity position.
6. Despite the emphasis on the income statement and balance sheet, many managers and analysts consider the cash flow statement to be equally informative.

Note that the layouts of the cash flow statement above, and the income statement and balance sheet before it, are skeletal and simplistic. Readers will be guided through more realistic layouts of the three financial statements in the next three modules.

DIY Example

For each action for Forth Enterprises below you should construct the accounting equation that reflects the transaction(s). At the end of Action 12 draw up a balance sheet, income statement and cash flow statement, adopting the layouts given in the text.

Students may find a spreadsheet format useful instead of writing out a fresh accounting equation each time. A pro forma spreadsheet with all relevant accounting headings inserted is laid out at the end of this example.

Action 1

Fred Forth commences business with €40 000 from his own savings and a further €10 000 cash from his cousin as a loan. His cousin informs Forth that he is not looking for interest or early repayment.

Action 2

Forth buys the following assets: plant and equipment €5000 cash, factory and warehouse €25 000 cash, and raw materials €8000 (half by cash, half by credit).

Action 3

Before the equipment can function properly, it requires a post-installation lubrication costing €200. Forth pays for this in cash. Raw materials worth €4000 are then processed into finished goods at a labour cost of €400.

Action 4

Forth pays his creditors in full and sells half of the finished goods (recorded at cost of €2200) for €4000 credit.

Action 5

Forth buys a second-hand delivery van for €3000 on credit and a desktop computer for his secretary for €200 cash.

Action 6

Forth sells the remainder of the finished goods (recorded at a cost of €2200) for €4000 cash, and receives payment of €3900 from his earlier debtors.

Action 7

The delivery van breaks down and requires €100 of repairs, which Forth pays for in cash. He buys further raw materials for €6000 cash and processes the remainder of his first batch of raw materials (which had cost €4000) at a cash cost for labour of €300.

Action 8

At Christmas, Forth buys his wife a food mixer costing €100 and his secretary a designer evening gown costing €1200. He pays for both items using his personal credit card.

Action 9

He sells his second batch of finished goods (which are recorded at a cost of €4300) for €6000, receiving half of the money in cash and giving credit for the other half. He pays off his creditors.

Action 10

Forth pays €400 cash for advertising and €200 cash for audit fees; he also has all his raw materials (cost €6000) processed, his labour force incurring €1000 wages in so doing.

Action 11

His auditors advise him that he should write off the debt of €100 that has been outstanding since Action 4; in their opinion this debt is now irrecoverable.

Action 12

Forth considers that one-fifth of his factory and warehouse space is excessive for his needs; he sells that part for €7000 in cash. He withdraws €3000 in cash for personal needs.

Action	F&W	P&E	MV	RMI	FGI	Debtors	Cash	OE	Creditors	LTL
1										
2										
3a										
3b										
3c										
4a										
4b										
4c										
5a										
5b										
6a										
6b										
6c										
7a										
7b										
7c										
7d										
8										
9a										
9b										
9c										
10a										
10b										
10c										
10d										
11										
12a										
12b										
12c										
Totals	0	0	0	0	0	0	0	0	0	0
	Total assets:		**0**					**Owners' equity and debt:**		**0**

F&W = Factory and warehouse; P&E = Plant and equipment; MV = Motor vehicle; RMI = Raw material inventory; FGI = Finished goods inventory; OE = Owners' equity; LTL = Long-term loan.

Worked Solution

Action 1

Cash €50 000 = Owners' equity (OE) €40 000 + Long-term loan (LTL) €10 000.

Action 2

Plant and equipment (P&E) €5000 + Factory and warehouse (F&W) €25 000 + Raw material inventory (RMI) €8000 + Cash €16 000 = OE €40 000 + LTL €10 000 + Creditors €4000.

Action 3

P&E €5200 + F&W €25 000 + RMI €4000 + Finished goods inventory (FGI) €4400 + Cash €15 400 = OE €40 000 + LTL €10 000 + Creditors €4000.

Note that the post-installation lubrication has been 'capitalised'. We can gather from the action that the equipment would not work without this lubrication, and so we can add this cost to the original purchase price. Any further maintenance on this equipment would be 'expensed', i.e. written off against owners' equity.

Action 4

P&E €5200 + F&W €25 000 + RMI €4000 + FGI €2200 + Debtors €4000 + Cash €11 400 = OE €41 800 + LTL €10 000 + Creditors €0.

Action 5

P&E €5400 + F&W €25 000 + Motor vehicles (MV) €3000 + RMI €4000 + FGI €2200 + Debtors €4000 + Cash €11 200 = OE €41 800 + LTL €10 000 + Creditors €3000.

Action 6

P&E €5400 + F&W €25 000 + MV €3000 + RMI €4000 + FGI €0 + Debtors €100 + Cash €19 100 = OE €43 600 + LTL €10 000 + Creditors €3000.

Action 7

P&E €5400 + F&W €25 000 + MV €3000 + RMI €6000 + FGI €4300 + Debtors €100 + Cash €12 700 = OE €43 500 + LTL €10 000 + Creditors €3000.

Action 8

No change from Action 7. This action represents personal expenditure and does not affect Fred's business records.

Action 9

P&E €5400 + F&W €25 000 + MV €3000 + RMI €6000 + FGI €0 + Debtors €3100 + Cash €12 700 = OE €45 200 + LTL €10 000 + Creditors €0.

Action 10

P&E €5400 + F&W €25 000 + MV €3000 + RMI €0 + FGI €7000 + Debtors €3 100 + Cash €11 100 = OE €44 600 + LTL €10 000.

Action 11

P&E €5400 + F&W €25 000 + MV €3000 + FGI €7000 + Debtors €3000 + Cash €11 100 = OE €44 500 + LTL €10 000.

Action 12

P&E €5400 + F&W €20 000 + MV €3000 + FGI €7000 + Debtors €3000 + Cash €15 100 = OE €43 500 + LTL €10 000.

Action	F&W	P&E	MV	RMI	FGI	Debtors	Cash	OE	Creditors	LTL
1							50 000	40 000		10 000
2	25 000	5 000		8 000			–34 000		4 000	
3a		200					–200			
3b				–4 000	4 000					
3c					400		–400			
4a							–4 000		–4 000	
4b						4 000		4 000		
4c					–2 200			–2 200		
5a			3 000						3 000	
5b		200					–200			
6a							4 000	4 000		
6b					–2 200			–2 200		
6c						–3 900	3 900			
7a							–100	–100		
7b				6 000			–6 000			
7c				–4 000	4 000					
7d					300		–300			
8										
9a						3 000	3 000	6 000		
9b					–4 300			–4 300		
9c							–3 000		–3 000	
10a							–400	–400		
10b							–200	–200		
10c				–6 000	6 000					
10d					1 000		–1 000			
11						–100		–100		
12a							7 000	7 000		
12b	–5 000							–5 000		
12c							–3 000	–3 000		
Totals	20 000	5 400	3 000	0	7 000	3 000	15 100	43 500	0	10 000
		Total assets:	**53 500**					**Owners' equity and debt:**		**53 500**

Income statement for the period to Action 12

		€	€
Sales			14 000
Less: Cost of sales	Raw materials	8 000	
	Labour	700	8 700
Gross profit			5 300
General expenses	Motor repairs	100	
	Advertising	400	
	Bad debt	100	
	Audit	200	800
Net profit from operations			4 500
Profit from sale of factory (see note)			2 000
Net profit			€6 500

Note: The sale of a non-current asset produces a gain (or loss) when the proceeds received by the business exceed (or are less than) net book value – that is, purchase price less depreciation charged to date. Such gains (or losses) are not part of the normal profits from operations and should be shown separately in the income statement.

Balance sheet at the end of Action 12

	€	€	€
Non-current assets			
Factory and warehouse		20 000	
Plant and equipment		5 400	
Motor vehicles		3 000	28 400
Current assets			
Finished goods	7 000		
Debtors	3 000		
Cash	15 100	25 100	
Less: **Current liabilities**		–	25 100
Net assets of the company			53 500
Represented by:		€	€
Capital introduced		40 000	
Profit		6 500	
		46 500	
Less: Drawings		3 000	
Owners' equity		43 500	
Long-term loan		10 000	53 500

Cash flow statement for the period to Action 12

	€	€
Net profit from operations		4 500
Changes in working capital:		
Increase in inventories (0–7 000)	–7 000	
Increase in debtors (0–3 000)	–3 000	–10 000
Cash from operating activities		–5 500
Purchase of non-current assets	–33 400	
Sale of surplus factory space	7 000	
Cash from investing activities		–26 400
Equity injection from investors		40 000
Less drawings		–3 000
		37 000
Long-term loan		10 000
Cash from financing activities		47 000
Change in cash during the year (0–15 100)		15 100

1.10 Sole Trader versus MBA

Businesses can be set up in a number of forms. Each is different, but all use the same accounting equation.

1.10.1 Sole Trader

A *sole trader* like the individual in the example (Actions 1 to 7) can start trading at any time with assets at his disposal. He must, however, distinguish between the transactions that pertain to his business and those that are domestic in nature. For example he would record as business expenditure petrol for his delivery van, but his weekly groceries would not go through his books of account. The link between the two would be the drawings or salary he paid himself out of the business profits.

In law he has unlimited liability. This means that, if a customer or supplier or other person connected with his business sues him for poor workmanship or providing goods that are dangerous, not only are his business assets at risk but so too are his personal assets, such as his home and domestic possessions. Because his creditors can pursue him beyond the limit of his business, there is no requirement for him to make public his income statement and balance sheet each year. He will, of course, make an annual tax return to the tax authorities and be taxed on his yearly profit.

1.10.2 Partnership

A *partnership* is very similar to the situation of a sole trader. Here a number of individuals agree to set up business together, bringing to the partnership assets in varying proportions. Before they start trading, they will normally draw up a partnership agreement that sets out, inter alia, how they will share the annual profit. As with the sole trader, a partnership need not make public its annual results, because its creditors can pursue the partners beyond the limit of their equity in the partnership. Some worldwide accounting partnerships are facing legal actions from clients that, if successful, may put in jeopardy the continuance of the partnerships. One such firm, Arthur Andersen, has already gone out of business over its work with Enron. Various defences are currently being mounted by the Big Four accounting firms, including pressing governments to permit proportional liability and limited liability partnerships.

1.10.3 Company

A *company* structure avoids the risk of unlimited liability described above by limiting the liability of the owners (called shareholders) to the amount of equity (called share capital) paid into the company. In the event of legal action being taken against the company, shareholders cannot lose any more money than the sum paid for the shares (provided the full face value of the shares has been called up by the company).

To protect creditors and others against abuse of this legal privilege, companies must make public their annual accounts, which must be audited by a registered firm of auditors. This is an expensive procedure and forces disclosure of business activities, which sole traders and partnerships do not experience.

A company's 'owners' equity' is termed 'share capital' and is split into individual shares usually expressed in small units of, say, €1. This small amount is the face value of the share, called the *par* value, or *nominal* value (MBA's nominal value is €1). When a company grows in size and number of shareholders, its accounting equation is unaffected by any market transaction in its shares, even though the price struck between buyer and seller is considerably in excess of par value. The company still has access to the original paid-in capital.

1.11 Accounting: The External and Internal Functions

The accounting statements depicted in the previous section report the total picture of the firm for an accounting period: total sales, total costs, total profits and total asset structure. This information is compiled after the accounting period is over and the books of account have been closed. This part of accounting is called *financial accounting* or *financial reporting* and derives from the legal obligation on directors and managers to report to the owners of the business (the shareholders) how they have used the resources at their disposal during the accounting period under review (usually annual).

Most of the needs of the users described earlier are largely satisfied by the information contained in financial accounts. One major exception is management's needs. While financial reporting and an analysis of financial accounts are important for managers for a variety of decisions they have to make, the information contained therein is of little value in helping them to plan and control the day-to-day activities of the business. The secret of good management lies in predicting the future, in plotting a course today that will steer the business through the turbulent seas of uncertainty lying ahead. To enable them to do this, management need detailed and relevant information. From the accounting process they need actual and projected costs and prices of individual products; actual and projected costs of individual departments and individual processes; projected sources and uses of cash; proposals for major investment in plant and equipment; and many other details. This information is called *management accounting*.

The first seven modules of this course are devoted to financial accounting for managers; the following nine modules address management accounting for decision making.

1.12 Accounting Principles

The construction of financial statements is not just governed by preparers' decisions on which account to increase or decrease. There are overriding principles that accountants must work within. It is too early to introduce these at this time – Module 1 is complex enough! – but readers might like to look at Section 5.18 for a quick preview.

Review Questions

Multiple Choice Questions

1.1 There are several views of the role of accounting.

i. Accounting provides information for decision makers.
ii. Accounting demands a high degree of mathematical precision.
iii. Accounting handles only economic information.
iv. Accounting requires only the mastery of a strict set of rules.

Which of the following is correct?

A. (i) and (ii) only.
B. (i) and (iii) only.
C. (ii) and (iv) only.
D. (iii) and (iv) only.

1.2 Accounting information is used by different groups of people for different primary purposes. They are

i. shareholders concerned with the level of employee remuneration;
ii. managers concerned with the profitability of product lines;
iii. creditors concerned with the company's ability to settle debts on time;
iv. analysts concerned with the company's environmental record.

Which of the following is correct?

A. (i) and (ii) only.
B. (i) and (iv) only.
C. (ii) and (iii) only.
D. (ii) and (iv) only.

1.3 Which of the following reflects the effects on the accounting equation of a payment to creditors?

A. Assets decrease; owners' equity decreases.
B. Assets decrease; owners' equity increases.
C. Assets increase; liabilities decrease.
D. Assets decrease; liabilities decrease.

1.4 Which of the following reflects the effect on the accounting equation of a sale of finished goods inventory, on credit?

A. Assets decrease; owners' equity unchanged.
B. Assets decrease; owners' equity increases.
C. Assets increase; owners' equity increases.
D. Assets increase; owners' equity decreases.

1.5 Which of the following reflects the effect on the accounting equation of a purchase of an item of plant, for cash?

A. Assets increase; owners' equity decreases.
B. Assets unchanged; owners' equity increases.
C. Assets decrease; owners' equity unchanged.
D. Assets unchanged; owners' equity unchanged.

1.6 Which of the following economic actions reduces the amount of owners' equity?

A. A payment of administration wages.
B. A receipt of cash from debtors.
C. A receipt of a loan from the owner's brother.
D. A payment for production wages.

1.7 Which of the following economic actions increases the amount of owners' equity?

A. A purchase of raw material inventory, on credit.
B. A sale of finished goods, on credit.
C. A payment for a motor vehicle.
D. A payment to creditors.

1.8 Which of the following economic actions increases the amount of current assets?

A. A receipt of cash from debtors.
B. A purchase of raw material inventory, on credit.
C. A purchase of raw material inventory, for cash.
D. A payment to creditors.

1.9 Which of the following economic actions decreases the amount of current assets?

A. A payment for production wages.
B. A purchase of plant, on credit.
C. A purchase of plant, for cash.
D. A receipt of cash, from debtors.

The following information applies to Questions 1.10 to 1.22.

Action 1

T. Harding & Co. has commenced business with a start-up cash balance of €15 000, comprising the initial owners' equity. His first action is to purchase a van, costing €5000, for cash; he then acquires €8000 of raw materials inventory, on credit.

1.10 What is the amount of current assets after Action 1?

A. €5000.
B. €8000.
C. €15 000.
D. €18 000.

1.11 What is the amount of owners' equity after Action 1?

A. €10 000.
B. €15 000.
C. €23 000.
D. €28 000.

Action 2

Plant is purchased at a cost of €4000, on credit, and €200 is paid in wages to the production staff for the conversion of the raw materials into finished goods inventory, half of which is sold for cash of €7000.

1.12 What is the amount of cash after Action 2?

A. €8800.
B. €16 800.
C. €21 800.
D. €24 800.

1.13 What is the amount of non-current assets after Action 2?

A. €4000.
B. €5000.
C. €9000.
D. €24 000.

1.14 What is the amount of owners' equity after Action 2?

A. €17 900.
B. €22 000.
C. €27 000.
D. €29 900.

Action 3

Payment of €5000 is made to creditors. The van breaks down, incurring repair costs of €350, paid for in cash.

1.15 What is the amount of finished goods inventory after Action 3?

A. €3700.
B. €4100.
C. €4500.
D. €4850.

1.16 What is the amount of non-current assets after Action 3?

A. €4350.
B. €8650.
C. €9000.
D. €9350.

1.17 What is the amount of owners' equity after Action 3?

A. €12 550.
B. €12 900.
C. €17 550.
D. €18 250.

Action 4

The remaining finished goods inventory is sold for €8500, on credit. Payments of administration wages of €500 are made, together with a further €2000 to creditors.

1.18 What is the amount of cash after Action 4?

A. €8950.
B. €9350.
C. €17 050.
D. €22 450.

1.19 What is the amount of owners' equity after Action 4?

A. €12 950.
B. €21 450.
C. €21 950.
D. €25 550.

1.20 What is the amount of current assets after Action 4?

A. €17 050.
B. €17 450.
C. €17 650.
D. €18 000.

1.21 What is the amount of creditors after Action 4?

A. €1000.
B. €3000.
C. €5000.
D. €7900.

1.22 If an income statement were to be prepared at the end of Action 4, what should be the amount of sales?

A. €7000.
B. €8200.
C. €8500.
D. €15 500.

1.23 Which of the following is equal to owners' equity?

A. Current assets + Current liabilities.
B. Non-current assets + Current assets.
C. Non-current assets + Current liabilities.
D. Non-current assets + Net current assets.

1.24 Which of the following defines gross profit in a manufacturing company?

A. Sales less Selling costs.
B. Sales less Material costs.
C. Sales less Cost of sales.
D. Sales less Administrative costs.

1.25 Which of the following should be the primary source of cash in the preparation of a cash flow statement?

A. Profit from operations.
B. Decrease in debtors.
C. Increase in creditors.
D. Introduction of capital.

1.26 In which of the following is owners' equity divided into individual shares with a nominal value?

A. A university.
B. A partnership.
C. A company.
D. A sole trader.

Case Study 1.1

Peter Brown opened his business for trading on 1 January with €25 000 cash from his own resources. During his first six months of trading, the following economic actions occurred.

1. Paid six months' rent of €2000 for the premises.
2. Purchased equipment for €10 000 and an estate car for €6000.
3. Acquired €8000 of manufacturing materials, on credit, half of which was paid in June.
4. Paid €2000 in manufacturing wages in converting 75 per cent of the materials into finished goods.
5. Sold 60 per cent of the finished products for €12 000, of which only €7500 was received in cash.
6. Paid €600 for office staff wages and €300 for petrol.

Required

1 Prepare the accounting equations after each of these economic actions.

2 Prepare an income statement for the six months to 30 June and a balance sheet as at that date.