Accounting & Finance Workbook

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One of the big things about running a successful business is keeping track of the money: what comes in from Sales, what goes out as Expenses – and what stays in as investments in equipment and future growth.

That's why, over the years, financial managers have developed ways of keeping track of that money and analysing performance.

For big companies, these methods can be really complicated. For smaller businesses, they can be really simple but just as useful. That's what this Workbook is all about.

A full set of financial accounts consists of three different lists, each listing special things: a Profit list, an Assets list and a Cash list.

The important thing is that they all fit together. If one changes, the other two will need to change as well. If all three bottom lines match up you know you can trust the figures – and the bank knows it can trust you!

Profit List

SALES	
Eggs	
Chickens	
TOTAL SALES	
EXPENSES	
Variable Costs	
Chickenfeed	
GROSS PROFIT	
Fixed Costs	
Rent	
My Pay	
Total Costs	
OPERATING PROFIT	
Wearing Out Expense	
Interest and Repayments	
NET PROFIT	

Accountants call the Profit list the Profit & Loss Statement. It shows Sales and Expenses.

What it shows though, are promises to pay not actual cash received. But because people don't always pay on time it's not actual cash in the bank. Cash in the bank comes out in the Cash list where slow payments are accounted for.

Even so, the Profit list can show lots of useful information.

What's left over after the bills have been paid is called Profit. For management purposes, there are various kinds of Profit: Gross Profit, Operating Profit and Net Profit …

Assets List

ASSETS	(We Own)	**LIABILITIES**	(We Owe)
Current Assets		Current Liabilities	
Cash			
Receivables		Payables	
Non-Current Assets		Non-Current Liabilities	
Land		Borrowings	
Fencing			
Chickens			
New Chickens			
Wearing Out			
TOTAL ASSETS		TOTAL LIAB'S	
NET ASSETS			

OWNERSHIP			
Owner's Equity			
Net Profit			
TOTAL EQUITY			

Accountants call the Assets list the Balance Sheet. It balances Assets (what we own) against Liabilities (what we owe).

It shows what a business is worth to the owner.

Interestingly, the calculation of Net Assets is quite different from the way Total Equity is counted – but they both come to the same number. Another cross-check.

Cash List

OPERATING ACTIVITIES	
Cash from Customers	
Cash to Suppliers and Employees	
Interest	
NET OPERATING	
INVESTING ACTIVITIES	
Land	
Chickens	
New Chickens	
NET INVESTING	
FINANCING ACTIVITIES	
Loans	
Repayments	
NET FINANCING	

INCREASE / DECREASE	
CASH AT BEGINNING	
CASH AT END	

Accountants call the Cash list the Cash Flow Statement. This is actual cash, not promises to pay like the Profit & Loss Statement.

It's useful to group the Cash information under three headings: Operating (everyday operations), Investments (money paid for things like land and equipment) and Financing (like money borrowed or dividends paid).

The list must always show that there's cash at the end of the year, otherwise payments won't go through and the business is broke. So watch the Cash At End calculation like a hawk – even before the year comes to an end.

Because if you can't pay your bills, you might go to gaol …

Book-keeping

Start Cash	500	500
Buy Chickens	-150	350
Buy Chickenfeed	-100	250
Pay Rent	-50	200
Buy Fencing	-50	150
My Pay	-100	50
Remainder		50

Keep a list of what you spend and what you sell.

It's the simplest way of keeping track, and it's enormously useful. At the very least, you'll know whether there's cash to carry on.

It's easy to shift these figures into the three lists: the Profit, Assets and Cash lists. That gives a much better understanding of how the business is going – and that's what comes next.

Profit List (1)

SALES	
Eggs	
Chickens	
TOTAL SALES	
EXPENSES	
Variable Costs	
Chickenfeed	100
GROSS PROFIT	
Fixed Costs	
Rent	50
My Pay	100
Total Costs	250
OPERATING PROFIT	
Wearing Out Expense	
Interest and Repayments	
NET PROFIT	

Some costs vary (Variable Costs) and some don't change (Fixed Costs).

This is a first look at what the Profit list looks like. It shows the business's everyday Expenses-and the Sales it's made.

The important thing is that this is a 'promises list rather than actual cash, but it's an extremely useful start. At this stage, it just shows Expenses – but it separates them out as those that change as Sales change (Variable costs) and those that stay the same whether lots of chickens are sold or very few (Fixed costs).

This list only shows chickenfeed, rent and my pay as expenses, but there are usually many more.

Profit List (2)

SALES	
Eggs	490
Chickens	150
TOTAL SALES	640
EXPENSES	
Variable Costs	
Chickenfeed	100
GROSS PROFIT	
Fixed Costs	
Rent	50
My Pay	100
Total Costs	250
OPERATING PROFIT	
Wearing Out Expense	
Interest and Repayments	
NET PROFIT	

Profit is one of the main reasons for being in business. Profit is what's left of Sales income after all the expenses have been paid, so let's add some Sales to our Profit List.

The only Sales are Eggs and Chickens, but that leads to the first performance calculation: the money that's left after the Fixed Costs have been paid is called Gross Profit. Gross Profit as a percentage of Sales is called Gross Profit Margin.

For all the companies in the world, the Gross Profit Margin averages around 80%. There's lots of variation, of course: all kinds of differences come up with lots of companies, but the average is a good place to start. It can be refined later.

More calculations like this will come up again later, but this is one of the reasons for keeping these lists.

Profit List (3)

SALES	
Eggs	490
Chickens	150
TOTAL SALES	640
EXPENSES	
Variable Costs	
Chickenfeed	100
GROSS PROFIT	
Fixed Costs	
Rent	50
My Pay	100
Total Costs	250
OPERATING PROFIT	390
Wearing Out Expense	
Interest and Repayments	
NET PROFIT	

Now let's move on to another kind of Profit ...

Gross Profit was a good start because it shows costs related to whatever is being sold. Accountants call it Cost of Goods Sold. Straight away it shows where improvements might be made.

Fixed costs add to the picture. Subtracting Fixed costs from Gross Profit leaves something closer to the Profit from everyday activities. This one is called Operating Profit. It doesn't include all expenses, but they cover the costs that the business has to pay every day.

Asset List (1)

ASSETS	(We Own)	LIABILITIES	(We Owe)
Current Assets		Current Liabilities	
Cash	50		
Receivables		Payables	
Non-Current Assets		Non-Current Liabilities	
Land		Borrowings	
Fencing	50		
Chickens	150		
New Chickens			
Wearing Out			
TOTAL ASSETS	250	TOTAL LIAB'S	
NET ASSETS			

OWNERSHIP			
Owner's Equity			
Net Profit			
TOTAL EQUITY			

Assets are the things a business owns.

There's more to a business than the everyday Sales and Expenses on the Profit list. It also owns things, like fences and chickens. It also includes things the business owes, like a loan from the bank. That will come later.

The Assets list goes hand in hand with the Profit list.

Profit List (4)

SALES	
Eggs	490
Chickens	150
TOTAL SALES	640
EXPENSES	
Variable Costs	
Chickenfeed	100
GROSS PROFIT	540
Fixed Costs	
Rent	50
My Pay	100
Total Costs	250
OPERATING PROFIT	390
Wearing Out Expense	40
Interest and Repayments	
NET PROFIT	350

Payments have been made for things like chickens and fences, but they're not going to last forever.

These things will eventually wear out (or die!). So in all of their remaining years year we should take an equal amount of the original costs and call it a 'wearing out expense'. But because it isn't a real Expense, like chickenfeed or rent, it has to go under the Operating Profit.

Now that everything has been taken away, the bottom line on the Profit list is called Net Profit. Our real Profit. Very important!

Divide Net Profit by Sales and turn it into a percentage. If it's 10 to 20% it's realistic; above that and the figures might have to be checked. Below that and the business is hardly worth the effort...!

Asset List (2)

ASSETS	**(We Own)**	**LIABILITIES**	**(We Owe)**
Current Assets		Current Liabilities	
Cash	668		
Receivables	53	Payables	31
Non-Current Assets		Non-Current Liabilities	
Land		Borrowings	
Fencing	50		
Chickens	150		
New Chickens			
Wearing Out	-40		
TOTAL ASSETS	881	TOTAL LIAB'S	31
NET ASSETS	850		

OWNERSHIP			
Owner's Equity			
Net Profit			
TOTAL EQUITY			

All the lists have to fit together, so Wearing Out has to show up in the Asset list as well as the Profit list.

But the Asset figure has to accumulate every year. It will be last year's figure plus this year's figure until it reaches the original cost. Eventually the original cost and the Wearing Out total will balance out.

And to help manage the business, the Assets list should show Receivables as an Asset and Payables as a Liability – and we'll have to adjust our cash figure to account for the unpaid bills.

Usually you would get a figure for Receivables and Payables from your book-keeping, but for now, accountants have a way of calculating an approximate figure:

For most companies, it usually takes about 30 days to collect their money – and 45 days to pay, so those are the figures we apply to or Sales and Expenses figures.

$$\text{Receivables} = \frac{\text{Sales} \times 30}{360}$$

$$\text{Payables} = \frac{(\text{Variable} + \text{Fixed Costs}) \times 45}{360}$$

So now you can add Receivables and Payables to your Assets list:

In our case, the calculation comes to:

? Receivables: $53
? Payables $31

To now calculate the figure for Cash, we take the original $500, add the figure for Sales adjusted for Receivables ($587) , subtract the Expenses adjusted for Payables ($219 and subtract the cash paid for fencing and chickens ($200).

Which all comes to $668.

Cash List (1)

OPERATING ACTIVITIES	
Cash from Customers	587
Cash to Suppliers and Employees	219
Interest	
NET OPERATING	368
INVESTING ACTIVITIES	
Land	
Fencing	50
Chickens	150
New Chickens	50
NET INVESTING	250
FINANCING ACTIVITIES	
Loans	
Repayments	
NET FINANCING	

INCREASE / DECREASE	118
CASH AT BEGINNING	500
CASH AT END	618

Cash is really important.

It's useful to make separate lists for the cash to / from everyday business (adjusted for Receivables and Payables) and interest payments; the cash to / from Asset investments and the cash to / from borrowing- and paying back any loans.

Entering this correctly shows how much cash should be in the bank at the end of the year. Always important to know, otherwise the business won't be able to pay its bills – which means it's gone broke!

This Cash figure should be the same as the one just calculated for the Asset list.

Remember that all the lists have to fit together ...!

Asset List (3)

ASSETS	(We Own)	LIABILITIES	(We Owe)
Current Assets		Current Liabilities	
Cash	618		
Receivables	53	Payables	31
Non-Current Assets		Non-Current Liabilities	
Land		Borrowings	
Fencing	50		
Chickens	150		
New Chickens	50		
Wearing Out	-40		
TOTAL ASSETS	881	TOTAL LIAB'S	31
NET ASSETS	850		

OWNERSHIP			
Owner's Equity	500		
Net Profit	350		
TOTAL EQUITY	850		

All these pages of calculations have led to a figure for Net Assets, the value of the business. But the money the owner put in at the beginning still needs to be recorded somewhere as Owner's Equity.

The way it's done is to put Owner's Equity at the bottom of the Assets list – and when Net Profit is added to that Cash, the result is exactly the same as the Net Assets.

Just like magic – and all that work is correct.

Diagnose your Business (1)

Now you're ready for the next very big step: checking how your business compares with others - and what you might be able to do better.

PROFITABILITY			
Gross Profit %	Gross Profit x 100 / Sales	80%	
Net Profit %	Net Profit x 100 / Sales	10%	
Return on Total Equity	Net Profit x 100 / Total Equity	20%	
Return on Total Assets	Net Profit x 100 / Total Assets	20%	

Profit List (5)

SALES	
Eggs	490
Chickens	150
TOTAL SALES	640
EXPENSES	
Variable Costs	
Chickenfeed	100
GROSS PROFIT	540
Fixed Costs	
Rent	
My Pay	100
Total Costs	
OPERATING PROFIT	440
Wearing Out Expense	40
Interest and Repayments	150
NET PROFIT	250

And if the business needs to borrow money to pay for the Land, it will have to show the money it pays for Interest and Repayments on that loan. But now there's no more rent.

But Interest and Repayments aren't really costs of actually running the business, so they have to go down with the Wearing Out Expenses, below Operating Profit.

And some time in the future, the business will probably have to pay Tax, so Tax will have to go down there as well.

Asset List (4)

ASSETS	(We Own)	**LIABILITIES**	(We Owe)
Current Assets		Current Liabilities	
Cash	318		
Receivables	53	Payables	31
Non-Current Assets		Non-Current Liabilities	
Land	1,000	Borrowings	800
Fencing	50		
Chickens	150		
New Chickens	50		
Wearing Out	-40		
TOTAL ASSETS	1581	TOTAL LIAB'S	831
NET ASSETS	750		

OWNERSHIP			
Owner's Equity	500		
Net Profit	250		
TOTAL EQUITY	750		

The alternative to always paying rent is to own the land. But buying the land means money. If the business doesn't have that money, it will need to borrow - so off to the bank ...

Taking out a Loan means that the business now has a new Asset (Land) and a new Liability (Borrowing).

And if it's sensible, the bank won't lend the whole amount so the business will have to dip into its own savings – maybe 20% of the total cost.

Borrowing can be hard work.

The business will probably get the money if it can show that it can pay it back. The bank will ask for a regular payment that will cover the interest and the loan repayments. As the years go by and the amount owing goes down, the interest will reduce, so more of the regular payment will go into repayments. Eventually there will be nothing left to pay and the business will be that much more valuable.

For our lists, taking out a loan means that there's now more to the Assets list than just the things the business owns. Money that the business has borrowed. So now the loan is listed as Borrowings, a Liability that must be taken away from Total Assets to come up with a figure for what the business is worth. Its Net Assets.

And there's another thing for the Assets list. The business doesn't always hold the cash it's been promised by its customers. It's still to be received, so it's called a Receivable. And money it hasn't yet paid is called a Payable. Although they might be almost as good as Cash, Receivables and Payables are listed separately from cash so there's no confusion about what the business actually owns.

The value of Receivables and Payables can be found by comparing the list of Sales and Purchases with the list of payments. In the example in this Workshop, it's simply been calculated from world-wide averages so that a couple of things about the Cash list and the business diagnostic calculations can be easily illustrated.

Cash List (2)

OPERATING ACTIVITIES	
Cash from Customers	587
Cash to Suppliers and Employees	-219
Interest	-50
NET OPERATING	318
INVESTING ACTIVITIES	
Land	1000
Chickens	150
New Chickens	50
NET INVESTING	1200
FINANCING ACTIVITIES	
Loans	800
Repayments	-100
NET FINANCING	700

INCREASE / DECREASE	-182
CASH AT BEGINNING	
CASH AT END	318

Where the Cash list shows Cash from Customers, the previous number is no longer correct because the cash hasn't actually been received. The Receivables. The same with Cash that hasn't yet been paid to Suppliers and Customers. The Payables. So they both have to be adjusted by the Receivable and Payable amounts to show the true Cash position. These Operating activities should also include the interest that's being paid.

Investing activity now includes a figure for the money paid for the land, while the Financing activity will now show the money borrowed for the land and the money paid out as Repayments (that part of the regular payment that doesn't go into interest).

So now there's an updated Cash figure that's the same as the one in the Assets list.

All done. It all adds up. Net Assets = Net Equity.

Benchmarks

Benchmarks are figures that we could say come from all the best businesses in the rest of the world.

They're a good start, but only a start, because they're different for different businesses, different industries, different sized businesses ... and often different countries. But they're a very good start.

If you calculate a benchmark and get an answer that's different from the worldwide one, it doesn't mean you're wrong – but it does mean that you should look carefully to see that you haven't forgotten anything.

And do it often. Certainly year after year. In the end it's your own figures that count – but the rest of the world is a good start!

If your answers are different, there are two places you can look. The formula will have a top line: if it's your Gross Profit, are your Variable costs correct? What about the underneath line: are there any Sales you've forgotten?

Diagnose your Business (2)

Liquidity

A business always needs cash – but not too much. It should always have some in reserve in case of emergencies, but a good business should always be able to earn more on its money than just leaving it in the bank.

A working capital ratio of 1 leaves no room for emergencies; a ratio of 2 means the business has money that could be earning more.

LIQUIDITY			
Working Capital	Current Assets Current Liabilities	1.5	

Leverage

Borrowing money is like using a lever to extend the use of the cash the business already has. The accountants call this Financial Leverage. It's not wise to borrow money if it earns less than the interest paid, but there are times when it can improve the business.

Leverage can be viewed as Debt to Assets, to the Owner's Equity, to the amount of Sales – and how well income covers interest payments.

Borrowing money at an interest rate that's lower than the business can earn is good. But not if the interest payments take too much of what the business earns – or adds up to too much of what the business is worth.

Beyond a certain leverage, it is unwise for a lender to risk its money. Either the borrower might be unable to cover the repayments or the debt might be more than the business is worth. That is especially important for the lender, the banker or the Credit Co-operative.

LEVERAGE			
Debt / Assets	Borrowings Total Assets	0.7	
Debt / Equity	Borrowings Total Equity	0.6	
Debt / Income	Borrowings x 100 Total Sales	30%	
Interest Cover	Net Profit Interest Payments	4.5	

Profitability

Different measures of Profit tell different things about the business.

Gross profit compares income from sales with the money that's paid to produce the things the business is selling … the Cost of Goods Sold.

Above the Benchmark might mean that sales should be improved or costs reduced; below the benchmark suggests that expenses might need to be checked.

Net profit includes all of the business's costs and income.

Above the benchmark is great news – but it's worth checking to be sure that no expenses have been missed. Below the benchmarks simply means that the business needs to try harder by trying new products or fewer expenses.

Return on Assets and return on equity show how well all of the business's assets and the owners' hard work is paying off … whether it's wise to invest more in buying new assets or investing more money – or whether the business could do better with what it already has …

PROFITABILITY			
Gross Profit %	Gross Profit x 100 / Sales	80%	
Net Profit %	Net Profit x 100 / Sales	10%	
Return on Total Equity	Net Profit x 100 / Total Equity	20%	
Return on Total Assets	Net Profit x 100 / Total Assets	20%	

Management

How well does the business collect its money and pay its bills?

Payables is money the business has to pay, and Receivables is money owing to the business. Money should be collected as quickly as possible – and people will lose interest in selling to a business that pays too slowly.

The Benchmarks for collections and payments are Debtor Days and Creditor Days.

A Debtor owes money to the business and a Creditor is someone the business owes money to. Debtor Days is the average number of days the business is taking to collect its money; Creditor Days is the average number of days it's taking to pay its bills. The formula uses figures from the Asset list and the Profit list.

MANAGEMENT			
Debtor Days	$\frac{\text{Receivables} \times 360}{\text{Sales}}$	45	
Creditor Days	$\frac{\text{Payables} \times 360}{\text{Variable + Fixed Costs}}$	60	