



Dr. Tom McKaskill

FINANCIAL INFORMATION
for
Entrepreneurs and Managers

***Understanding
and using financial
reports, budgets
and cash flow
projections***

**ACADEMIC
EDITION**

BREAKTHROUGH PUBLICATIONS

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Insights

Understanding financial reports is an essential component of the capabilities of a successful entrepreneur.

You cannot properly manage a high growth enterprise unless you can reliably project cash flow.

Most early stage firms fail from a lack of basic business acumen. It is easily fixed if you are prepared to spend the time undertaking some business education.

Success in business is mostly common sense. Combine that with an understanding of financial information, budgeting and cash flow projections and you have a good chance of success.

Financial information can be highly misleading if it is taken at face value. You need to understand how the data was prepared to use the information properly.

DR. TOM MCKASKILL



Global serial entrepreneur, consultant, educator and author, Dr. McKaskill has a deep understanding of financial information at both a theoretical and practical level. A qualified CPA and former university lecturer in accounting, Dr McKaskill has taught financial accounting, cost accounting and corporate finance. More recently, as the Academic Director of the Master of Entrepreneurship and Innovation program at the Australian Graduate School of Entrepreneurship, he developed a course on New Venture Finance for practicing entrepreneurs.

Dr. McKaskill also has over 20 years experience as a practicing entrepreneur through a series of ventures. This has given him a thorough understanding for how financial information is used in an emerging business.

Upon completing his doctorate at London Business School, Dr. McKaskill worked as a management consultant, later co-founding Pioneer Computer Systems in Northampton, UK. After being its President for 13 years, it was sold to Ross Systems Inc. During his tenure at Pioneer, the company grew from 3 to 160 people with offices in England, New Zealand and USA, raised venture capital, undertook two acquisitions and acquired over 2,000 customers. Following the sale of Pioneer to Ross Systems, Dr. McKaskill stayed with Ross for three years and then left to form another company, Distinction Software Inc. In 1997 Atlanta based Distinction raised \$US 2 million in venture capital and after five years, with a staff of 30, a subsidiary in New Zealand and distributors in five countries, was sold to Peoplesoft Inc. In 1994 Dr. McKaskill started a consulting business in Kansas which was successfully sold in the following year.

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After a year as visiting Professor of International Business at Georgia State University, Dr. McKaskill was appointed Professor of Entrepreneurship at the Australian Graduate School of Entrepreneurship (AGSE) in June 2001. Professor McKaskill was the Academic Director of the Master of Entrepreneurship and Innovation program at AGSE for the following 5 years. In 2006 Dr. McKaskill was appointed the Richard Pratt Chair in Entrepreneurship at AGSE. Dr. McKaskill retired from Swinburne University in February 2008.

Dr McKaskill is an acknowledged authority on high growth ventures and has established a reputation for providing insights into how entrepreneurs start, develop and harvest their ventures. Acknowledged as the world's leading authority on exit strategies for high growth enterprises, Dr. McKaskill provides both real world experience with a professional educator's talent for explaining complex management problems that confront entrepreneurs. His talent for teaching executives and his pragmatic approach to management education has gained him a reputation as a popular speaker at conferences, workshops and seminars. His approaches to building sustainable, profitable ventures and to selling businesses at a significant premium, has gained him considerable respect within the entrepreneurial community.

Dr. McKaskill is the author of eight published paperback books and twenty ebooks for entrepreneurs covering such topics as new venture growth, marketing, raising venture capital, selling a business, acquisitions strategy and angel investing. He conducts workshops and seminars on these topics for entrepreneurs around the world. Dr. McKaskill is a successful columnist and writer for popular business magazines and entrepreneur portals. He has also produced over 150 YouTube videos to assist entrepreneurs develop and exit their ventures.

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Preface

Financial information is the language of business. If you are not conversant with what the terms mean, how the information is collected and how to interpret the various financial reports, you are at a serious disadvantage in an emerging business.

Few early stage businesses have access to good financial advice. No doubt they have a basic accounting system to collect and report the financial transactions. They will have a tax accountant to prepare compliance reports for taxation. Beyond this, they are highly exposed. While a bookkeeper can help assemble management reports from the financial data, they are not the ones who have to use the information to make management decisions. Only the business owner and the senior managers are really in a position to assess the impact of current decisions on future operations. This is a task you cannot delegate to someone else. To do this task effectively you need to understand how to interpret and use financial statements, budgets and cash flow projections.

There is no doubt that financial reports can appear daunting and confusing. Rows on rows of data using terms you are unfamiliar with would put anyone off. After all what do the terms depreciation, amortization or reserves mean? Why are there doubtful debts when customers still owe the money? What does gross margin, paid up capital and retained earnings mean? If there is net worth in the business, where is it? You can be forgiven for being confused.

I have the same reaction when I look at a musical score, foreign language or a mathematical equation. My brain just closes down. I can certainly understand a similar reaction seeing a set of financial year end accounts from a major corporation. The notes to the accounts alone would put you off.

However, I did try to learn Spanish and found that as I understood more verbs, nouns and sentence structure my fear receded. After six months I was able to have social conversations and I realized that it was just familiarity and practice. My experience in teaching accounting is that accounting information is much easier than learning a language, it just needs to be explained properly.

My own experience with accounting is extensive. My qualifications include a Bachelor of Economics with a major in accounting, a Master of Commerce in Accountancy and I am a qualified CPA. I spent five years lecturing in financial accounting, cost accounting and business finance at one New Zealand and two Australian universities before completing my Ph.D at

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London Business School. More recently, I spent a year at Georgia State University as a visiting professor where I taught several Cost Accountancy courses. As Professor of Entrepreneurship at the Australian Graduate School of Entrepreneurship I developed and taught a course on New Venture Finance. All this experience has given me a strong theoretical knowledge of accounting and the ability to explain how accounting numbers are defined and used.

I also spent 20 years as a practicing entrepreneur through a series of early stage businesses. One of them grew from three to 160 employees over a 12 year period. It raised venture capital, made two acquisitions, had a formal Board of Directors, two overseas subsidiaries and distributors in 16 countries. This experience gave me a working knowledge of how financial information is used in a high growth entrepreneurial firm. I have also been an external Director to several firms, an angel investor several times and a business advisor to many entrepreneurial start-ups.

One of my software firms developed and implemented corporate ERP and financial systems including General Ledger, Accounts Payable, Accounts Receivable, Payroll, Fixed Assets, Sales and Purchase Order Processing, Inventory Control and Manufacturing Costing for discrete and process manufacturing. For most of these systems I developed the user training programs and taught many of the classes. I was also involved in the quality assurance testing of the systems through several version releases. For some of the early sites, I participated in the data conversion and implementation processes.

I can confidently say that I have an intimate knowledge of accounting systems for emerging firms from design through implementation to operational use. It is this experience plus my academic knowledge which I have called upon in writing this book.

In our current business environment, any size business can acquire an accounting and financial reporting system. No longer do we really need to understand how financial transactions are processed, our systems do that very well for us. Our challenge is to understand the reports it produces.

Our objective must always be to manage the business so that it survives and thrives and for that we need to have access to the best information we can. But we also need to understand the limitations of the information we are provided with. It is only by understanding the meaning of the financial information that we can make sound judgments. The purpose of this book is to provide you with an understanding of the output of an accounting system. We can leave the problem of how to process the transactions to the accountants.

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What you will find is that most of it is common sense. There are a few strange rules but these are the result of the conventions we use to ensure we have consistent meaning in the data. Armed with an understanding of where the numbers come from, how they are determined and defined and how they are put together to form financial reports, you will be in a very good position to use the information to manage the business.

You will also understand the language of business and this will enable you to have more meaningful conversations with your bank, potential investors and your business partners. The investment in time to gain the knowledge will be well worth it.

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CHAPTER 1: WHY USE FINANCIAL DATA?

Questions:

Why is financial information so complex?

Why are there so many rules for financial reporting?

Why do you need to know anything about financial reports?

Why not just employ an accountant?

If I have a services business, do I need to know anything about inventory and manufacturing?

Almost everything we do in business has a financial implication or can be represented in financial terms. We could describe our business in terms of the physical things we do but we can only really make that meaningful for relatively simple operations. At some point the number of activities and the complex relationships between them are such that we need some way to summarize what we are doing. Financial data gives us the ability to bring all the activities together using one language, the language of numbers.

I am able to summarize what I have done in terms of business activities by converting action into financial data. Since business is about creating a surplus of revenue over expenses, all my activities are able to be compressed into one number - profit. In fact, this is the basis of all accounting.

If only it was that simple, we wouldn't have a problem and certainly wouldn't need hundreds of thousands of accountants to assist us. So where do the complications creep in?

The Trader

Let us go back to the days of the trader. Basically you have an explorer who is willing to purchase some camels and donkeys, buy some goods for trade and transport these to a distant land where he will exchange those goods for other goods which he will bring back for sale. After he has returned and the goods have been sold, he can calculate the profit on the trip.

Seems very straight forward. Simply deduct his expenses from the sales proceeds and you have the profit, providing of course that you sell all the goods as well as the camels and donkeys.

Our trader is so successful that local investors want in on the deal. The investors put up the money to buy the donkeys and inventory and off goes the trader to the distant land. When he returns he sells off the goods he acquired and the donkeys and has a profit. But how much should the investors receive and how much should he receive for his time and risk? Perhaps there was an agreement that he would receive 50% and the investors 50%. We can work with that easily.

This turns out to be a good deal for all concerned but the investors are asking the trader to buy a ship so that he can take more goods and hopefully make a greater profit. This works out even better except that every time he starts a new voyage he needs to buy a new ship. It would be much better if he just kept the ship and used it for several voyages.

We now have our first complication.

Let us assume that the investors in the second voyage are not all the same as those in the first. How do we allocate the costs of the ship to the first voyage? We could get a valuation of course – but we might have a problem getting all the original investors to accept that.

Now let's add a second complication.

After a few voyages, the ship is getting a bit tired and so the trader sells it but fails to realize the price he anticipated and recognizes that the prior valuations were somewhat inflated. The investors in the final voyage are now stuck with a lower profit because they have had to bear the unexpected lower price on the sale of the ship. The trader's reputation is now tarnished and he knows he is going to have trouble raising new investment for his next voyage.

The investors are now becoming more demanding.

On the next voyage, which takes over two years, the investors want to know what is happening. They don't want to wait until the end of the voyage before they find out whether they are likely to make a profit. They want a report at the end of each year. The trader is in something of a fix because he is only part way through the trip. Not all the original goods are sold. He still has to buy all the goods for the return trip and he still has to survive the return journey. At this point he is not sure what he will receive as final sale proceeds for the goods he brings back with him, at best he can only estimate the proceeds. One year out from his return

he is also not sure of the market for ships and therefore also has to estimate the sale price of the ship. Basically, he is in a real fix.

Let's make this a little more complex.

As our trader is moving from port to port and trading, he is attracting more investors. They see his success and want to be part of it. He finally relents and allows investors to put their money into his venture as it proceeds on its journey. However, now he has a real complex problem. How does he determine just how much profit he can share with each investor? Clearly, the early investors should benefit from the early trading. It seems hardly fair that a later investor should benefit from trading which already has gained some profit for the trip.

The trader decides that he needs to have some method of recording profit as he travels. But of course, he then has the problem of what to do about the costs of the ship, its crew and the expenses of the voyage. How is he going to allocate all those as he proceeds, especially as many of them are incurred at the start of the journey? In the early stages of the journey he doesn't know how long the trip will be, what additional expenses he might have on the way for repairs and what the final sale proceeds might be at the end of the trip.

Of course, this is further complicated when some of the investors wish to cash out before the trip is over. They can find other investors to buy their share of the profits but they are not sure how to price their share. They are asking the trader to assist them.

And now cometh the tax man.

The King has seen what a great profit the trader has made and decides he would like his fair share. This would be fine if this was applied to a simple journey where everything was sold at the end and the profit distributed. But what happens when the ship is retained for subsequent journeys. The last thing the trader needs is a dispute with the King over the value of the ship.

What the trader needs now is an independent valuation which the King and all the investors will accept. Also, the King is unlikely to take the trader's word for the expenses and the sale proceeds, so the trader has to be able to provide supporting evidence for every expense and every sale. Of course the King will want to verify that information as well – enter the King's auditors.

The King decides that waiting several years for his taxes is not acceptable and so decides by royal decree that the trader will now pay tax each year. However, because of all the complications

of working out whether the voyage is expected to be profitable part way through, the trader asks the King for help in deciding what rules to use for all the various estimates he must make to arrive at a projected profit. The King kindly sets up a royal committee to decide all the rules.

At this stage the trader has had enough and retires. It is all far too complicated for him.

If you thought that was hard, our modern trading ventures are many times more complex.

Mix It Up

Real businesses are complex entities when it comes to dividing up the cake. Most of us in business know what it takes to generate sales and make a profit. You buy stuff and sell it for more than you buy it for. If everyone would just let us get on and do that, life would be very simple. However, in real life, things can get complicated very fast. Here is an example which I was given during my graduate studies in accounting. It had a profound effect on me to the extent that I never forgot it.

An entrepreneur has a car yard which sells used and new cars. It also has a forecourt where it sells petrol. The car lot is separated into the three areas with a common sales office serving the two car sales areas. The business has one person selling new cars, one person selling used cars and two people servicing the forecourt petrol sales. In order to motivate the sales staff, the owner has decided to pay a profit bonus based on the profit contribution of each area of the business.

The sales of each of the car sales areas is simply the sum of the prices paid for each car sold during the period. Clearly their salaries and personal business expenses are assigned to their areas as well as any costs associated with buying and preparing the cars for sale. But what of the common ‘overhead’ costs?

We have a collection of expenses which are spread over the two car sales areas. This would include the costs of the office as well as any common lighting, advertising and so on.

Here is the problem. On what basis should we assign the overhead costs? We could allocate them on the basis of the revenue ratios, number of cars sold or even the hours worked by the two sales staff.

But what about the salary and costs of the owner? He is spending part of his time in each of the three areas of the business. One could argue that it should be on the same basis as the other overhead costs, but this would leave out his contribution to the forecourt sales. What if the forecourt requires a lot more supervision than the car sales, perhaps we should allocate his costs on the basis of the hours he worked in each area. Can you imagine the owner keeping a record of the time he spends in each area? Not likely.

Whatever decision is made it will impact the bonuses of the sales staff. Once that decision is made, this will motivate them to work in a manner which maximizes their bonus. Thus the choice of cost allocation can be critical.

What you can see is that, even in this small example, the problems of cost allocation are non-trivial but they can have important long term effects.

Interpretation of Financial Data

Every number which is presented to you in a financial report is a representation of something real, like a piece of equipment, a building or inventory, or an intangible such as a debt or money owed to you. However, the item may be subject to interpretation. That is, depending on what assumptions you use, the underlying item may be represented by a different value. Therefore, without understanding how the value was calculated and what assumptions were used, it is often difficult to be sure about what you can say about the item. As an example, take the value for inventory.

Example: Inventory

You are given a value of inventory of \$100,000. What does this mean?

Is this the original purchase cost?

Is this the purchase cost plus some allowance for procurement expenses, freight, inspection and storage?

Was this the manufacturing cost of the inventory? If it is, what costs were assigned to the valuation? Does it include raw materials or components, direct conversion expenses, an allocation for overhead costs and so on?

What allowance has been made for deterioration, expired, damaged and obsolete inventory?

What is the value of the inventory if it is slowly released into sales compared to its value for liquidation at an auction?

If the inventory comprises multiple receipts at different purchase prices or manufacturing costs and there have been multiple shipments from the inventory, what method has been used to assign costs to the shipped inventory, last in first out, first in first out or rolling average?

Services businesses can also have issues with interpretation. Few of them exist without some form of equipment or building intellectual property. We will see in later chapters that these items have similar valuation problems.

You can see from the inventory example above that it is very hard to take any financial number at face value. Most financial data suffers from these types of interpretation problems. Without understanding how the values were calculated and what assumptions were made during the process, relying on face value can be very misleading.

Rules, Estimates and Assumptions

When you see a set of financial data, you need to keep thinking about the trader and all the different problems he had to arrive at a set of interim results. He had to make a lot of assumptions about the length of the voyage, the costs he would incur and the likely profit he would gain at the end of the journey. Our modern day enterprises are basically the same.

The dilemma we face in business is that we need to constantly make decisions but the financial information we have available to us is not in a form which makes decision making easy. The data can be very accurate, in that it has numerical accuracy but is it meaningful? Look at the problems we have to deal with.

- Many costs and income items may have to be estimated because we don't have the final results at the time we need to report information.
- Overhead costs must be allocated on some, often, arbitrary basis in order that these are included.
- We need to assign values to items which are volatile in price such as foreign currency transactions or commodities.

- We need to estimate the future life and residual value of items in order to gain a more realistic picture of the costs of doing business in the current period.
- We need to set aside some value for costs which we will incur in the future as a result of activities we are doing now (e.g. warranty costs).

As we explore financial information more, we will uncover many more of these issues. These complications make the problem of financial reporting and decision making difficult. However, we also need to accept that it is the best system available. Our primary task is to understand how to work with this system to make the best business decisions we can.

What Is The Information Being Used For?

Rather than ask ‘What is the value?’ The right question should be ‘What is the information being used for?’ We know that there are often a range of different values for the same item. Just look at inventory as an example. We have purchase cost, average cost, retail value, liquidation value, replacement cost and so on. Depending on the decision we are making, we need to select the most appropriate value. Instead of a ‘one size fits all’ we have the opportunity to be more selective and choose the valuation method based on the decision we are making.

This objective underpins all of financial decision making. It has two implications. First you need to understand the alternative methods of valuation, with their underlying assumptions, advantages and limitations. Then you need to know which to apply in the various decision making processes. Of course, it does assume that you have an information system which is capable of collecting and storing the various different values – a very tall order for most businesses.

For example, let’s take the problem of inventory valuation.

For regulatory reporting purposes, I may have the valuation method prescribed by the authorities. Even then, I may have a choice of methods which are acceptable, although one may be more preferred than others.

In order to review my selling price, I may want to know what it would cost me to replace my current inventory, which means I would be interested in the current prices of the items – that is the replacement value. If the replacement value has increased, I may decide to increase

my retail price. If the replacement value has decreased I may decide to reduce the value of my inventory and lower my retail prices.

I may have noted that some of the inventory is approaching the ‘use by date’ and I want to know for how much I could sell this part of the inventory in a quick auction. I therefore want to know the liquidation value of the inventory.

Similar problems exist with plant and equipment valuation and the valuation of capitalized expenditure such as intellectual property or trademarks. What is obvious is that you need to pick your valuation numbers based on the problem you are dealing with. It also means you need to understand the assumptions behind the method you select and have an appreciation for the limitations in using a specific method. We also need to design our information collection systems to record the information we will need for the different decisions we may need to make. Sometimes, you can’t go backwards. If you haven’t recorded the right information at the time it is available, there is often no way you can go back and create it.

Dealing With Volatility

Many decisions we make in business are based on periodic reporting such as performance bonuses and dividend payments. There may also be periodic reports which trigger compliance costs such as license fees or taxation. In these situations we are required to assign values to items either to the period in question or to the reporting date. We often do this with the certain knowledge that the values we assign will be out of date or misleading within a short period of time.

Commodity prices are a good example. The spot price of most commodities varies on a daily basis. In some case those prices can vary by several percent in one day. We are often in a situation where we have compiled a report and by the time we issue it the prices have moved. The same would apply to currency exchange rates. We need to report our financial results in our own currency and in order to do so we need to convert anything in a foreign currency to our own currency. Which rate do we use? We have a choice between the rate at the date of the transaction, the current rate on the day of reporting or some average. Whatever we choose will be out of date the next day.

This problem of reporting date permeates across much of financial reporting. We live in a continuous world but are required to report at a point in time. Basically, it is an arbitrary

snapshot of a fluid process and as such has serious shortcomings, but we need some process of reporting even with its limitations.

Financial reporting is governed by a set of regulations laid down by Governments primarily for assessing tax. However, a secondary consideration is to protect shareholders, investors and creditors from unscrupulous, dishonest or incompetent business operators. The reason we have auditors is to provide an independent verification service to check that the regulations are being followed. The regulations themselves are normally built on a set of rules or guidelines developed by the accounting profession. Generally Accepted Accounting Principles (GAAP) and the International Accounting Standards are normally used by regulatory bodies as their underlying framework.

Providing that the information is prepared according to GAAP at least you know what you are dealing with and the limitations with which the information has been prepared. However, that does not mean the information is useful for a specific purpose. But if you knew nothing of the quality of the data you are dealing with, it would be very easy to be misled and make the wrong decisions.

Rules Of Engagement

To cope with the complexities involved in financial reporting, the various accounting professions and those responsible for corporate regulations and compliance have settled on a number of principles (rules) for financial reporting. In summary the major ones are as follows:

CONSISTENCY

Whatever method is used to prepare the financial information should be used consistently from period to period. This means that an entity cannot pick and choose between different methods of expense or income treatment over successive periods in order to create the desired outcome they wish.

You can imagine how difficult it would be to interpret the value of inventory if in one period it was valued at historical cost, another at liquidation value and a further one at average purchase price.

CONSERVATISM

Accountants are always being blamed for being conservative and perhaps it comes with the training. Basically, this principle states that items should never be over valued or over estimated. That is, given a choice between one value and a higher one, the lower one should be used.

This principle also extends to unrecognized profits and losses. That is, we anticipate that we might make a profit on sale of an item but that any future profit cannot be recognized in our values. On the other hand, where we anticipate a loss, that any future loss must be recognized as soon as we anticipate it. This principle has evolved partly to protect those who lend money to businesses. If we recognize possible losses but not possible gains, we end up with a lower value for the business or the assets which are being secured by the loan. The lenders are therefore better protected if we take a conservative approach.

MATCHING PRINCIPLE

Few activities in business are as simple as our ancient trader. Most businesses are buying and selling items on a continuous basis. But what happens when we buy a batch of products to sell and we sell half in the current period and the rest in the subsequent one? Where should the cost of the batch of products be allocated? The matching principle states that expenses should be allocated in the same period as the revenue it generates.

You can imagine how complex this can get when you are involved in large projects which span several years of product manufacture in one period which are partly sold over several periods. A similar problem exists in large consulting projects where the customer is not invoiced until project completion.

This problem becomes much more complicated when you invest in research and development or a major marketing campaign where the benefits are anticipated over a number of future periods, except you are not sure how long the impact will last.

THE CONTINUITY PRINCIPLE

If you had to choose between valuing inventory at its purchase cost or liquidation value, how would you choose? If you had the time to sell the items, you anticipate making a 20% profit on the sale. If, however, you were forced to put them into a liquidation sale, you anticipate that you would only recover 50% of the original purchase cost.

The Continuity Principle states that the business should be considered as a ‘going concern’ unless there is evidence to show otherwise.

FAIR ALLOCATION OF COSTS

Many of the costs in business are what we call fixed, that is they do not vary with the volume of activity in the business. These costs are often referred to as overhead costs. In most businesses this classification would apply to office rent, equipment lease payments, most employee costs, insurance and so on. If these costs are to be assigned to activities, departments or value added products, they should be assigned on some basis which reflects the contribution of the fixed or overhead cost to the underlying activity.

CUT-OFF DATE

Life in business is continuous but reporting occurs for a discrete period. We therefore need to allocate items to a period and have a cut-off date for the period. Anything which is properly an expense or revenue in the period is allocated to the period. In order to provide consistency from period to period, we have a set of rules to decide how the cut-off date is applied and what values are assigned to items on the cut-off day.

AUDITABILITY

Financial information represents activities or transactions which means that we should be able to trace every value back to an underlying activity. Since many activities occur between the firm and suppliers and customers, we should be able to find objective supporting evidence for what occurred. There should be delivery dockets, supplier and customer invoices, customer agreements and so on. There should also be evidence of cash transactions in our bank statements and credit card statements. Internal activities might be represented by time sheets, work order and inventory movement records. Expenditure should also be documented with authority to spend through signed purchase orders and management or Board minutes. In effect, we should be able to produce evidence for any financial value. Auditability is a fundamental principle underpinning financial reporting, tax liability and fraud prevention.

When it comes to estimates you need to have some assurance that care has been taken in constructing the value. You want to be certain that the assumptions underlying the calculation are reasonable and that the final value is based on evidence and not guess work.

COMPARABILITY

Even though there are limitations on how meaningful some accounting numbers are, you are still much better off if all firms in the same sector use the same set of rules to provide financial reports. Not only do you want these used across a sector but also you need these to be used consistently from year to year. It is this ability to compare performance across periods and between firms which gives the information its most useful meaning.

MATERIALITY

We don't want to be overwhelmed with detail if it brings little clarity or meaning to the overall picture. So even though we might have a specific principle which requires a certain treatment of a transaction, if that treatment simply clutters up the overall picture, it actually detracts from the usefulness of the financial information. It is this principle which determines whether an expenditure should be treated as an asset, expensed or whether we should track down a minor error in an inventory count.

ACCURAL METHOD OF ACCOUNTING

We have a choice between accounting for income and expense as they are received and paid in cash or as the material impact of the transaction occurs. The problem with accounting on a cash basis is that this can substantially misrepresent the operating characteristics of a business which sells and buys on credit. Also, because of the length of time of projects, this can materially misrepresent trading profit or loss. Therefore, the normal treatment of items is to use an accrual method which recognizes the difference in time between when revenue and expenses occur and when they are reflected in cash.

Using Financial Information

Financial information is the language of business. Everything we do has to be translated across into financial numbers so we can gain a holistic view of the business. Even with all its limitations, assumptions and arbitrary rules, it is the best information we have and the only way we can undertake many of the critical decisions we need to make to manage the business. Rather than say it is all too hard, we need to embrace the process, understand it and learn how to exploit it to manage the business better.

Our investigation of financial information will span many of the decisions which owners and managers make in running a business. We will review these decisions and examine the information which we have in our business to assist us. In doing so, we will keep in mind the quality of the information we are using. This way we will not be misled by the information we are using but use it wisely and with care.

Some of the examples which I will use will be for items or processes which may not exist in one form of business. For example, many firms do not have inventory or manufacturing processes. However, in dealing with financial information we are really working with concepts and many concepts are easier to demonstrate and explain with one form of business but will often apply equally to others. Inventory problems are very useful for demonstrating cash flow problems and cost allocation problems. Manufacturing is a very useful way of showing problems of cost assignment and the problem of matching income to expenses. It is worth reading these sections because your understanding of financial information will be greatly improved with a wider understanding of how financial information is created and used.

Financial information is the language of business. Smart business people know how to best use the financial information they have available to them even while they recognize its weaknesses.

Reflection:

Even though I was a qualified CPA, it was not until I started using financial information to manage my first software business that I really appreciated how much I knew but also how much I didn't. What I recognized was that I needed to know exactly how the financial information was collected and summarized to really understand the implications of what was presented to me by my accountant. I discovered that it was very easy to make the wrong business decision if I didn't have the right information.

CHAPTER 2: DON'T CONFUSE CASH WITH PROFITS

Questions:

How is it possible to be profitable and yet run out of cash?

How is it possible to be flush with cash and yet not be profitable?

When I receive the cash from a sale why is it that sometimes I haven't made the sale?

How can some businesses grow fast and spend lots of cash and yet never have made a profit?

In a simplistic world we buy something for cash, sell it for more than we purchased it and make a profit. Seems very straight forward. I make a profit and end up with some spare cash. In practice this is exactly how lots of small traders work. They buy their goods for cash and sell them for cash. As long as they buy and sell well, they end up with cash in their pocket which is equal to their profit.

However, the problem becomes a little more complex as soon as you introduce credit terms, whether they are from your suppliers or for your customers. The timing of cash receipts, cash payments, expenses, sales and profit begins to drift apart.

When Is Revenue Recognized?

We have to start with the problem of revenue. That is, when is a sale really a sale? You would think this would be straight forward. I sell it – you buy it, done deal. I make the sale and therefore I get to recognize revenue. But many transactions are not so clear cut.

For example, what if you pay me in advance? I take your money but haven't delivered any goods or services to you. Has a sale occurred? After all, I do have your money. But what happens if I can't obtain what you have ordered and fail to deliver the goods you requested? What happens to the cash you gave me? Strictly, that money is still yours until I fulfill your

request. I owe you the money until such time as I can fulfill my end of the bargain. In my hands, your cash is held as a debt to you. I have the cash but I owe you the same amount.

Then when does the cash become mine? Clearly, when I deliver the goods or service I have agreed to. At that point the cash is mine and the goods are yours or you have consumed the service I performed for you. You now have what is called 'title' to the goods and you are free to do with them what you like. I have no right to repossess the goods once title has passed to you.

It is the change of title which creates the point of sale. When ownership of the goods passes from me to you or you have consumed or used a service, a sale has occurred and I can at that point and only at that point, count that transaction as revenue. At the same time, any cash I received in advance becomes mine and the 'owed to you' amount is then zero. While I always had the cash, once the sale has occurred I no longer have a debt (Payable) to you and I no longer have an obligation to hand you back your payment in advance.

What Happens When The Sale Is On Credit?

The timing in a credit sale is the reverse of the deposit in advance. In a credit sale the goods are delivered or services consumed before the customer pays. This is very common in B2B transactions where the goods are supplied against a purchase order with the invoice being sent with the goods or some time later. Often the customer has 7, 14 or 30 days to make the payment.

In credit sales the revenue is recognized on despatch of the goods or consumption of the service even though the cash has not been received by the vendor. The key to revenue recognition is the change in title. Once title has passed, the ownership of the goods passes to the customer. At that point the vendor converts the value of the goods plus some profit element to an amount owed to them by the customer. That is, the vendor has no rights to the goods as the title has passed to the customer but they do have the right to pursue the customer for the amount owed to them. The amount owed by the customer is referred to as an 'Accounts Receivable', often referred to as 'AR'.

If we review both these transactions you can see the timing differences between cash and revenue. I have also included the 'Account Type' in the table below to show how an accounting system would classify the transaction. A 'Current Asset' is one where I expect the item to be used or converted to some other form within one year. 'Current Liabilities' are debts which I owe which I expect to pay within one year. An Income account is used to record my revenue.

a) Company A: Sale With Payment in Advance (including a \$200 profit)

Account		WK 1	WK 2	WK 3	WK 4	WK 5	WK 6	WK 7	WK 8
Cash	CA	+1.2							
Deposits	CL	+1.2			-1.2				
Stock	CA				-1.0				
Income	IN				+1.2				
COGS	EX				+1.0				

Values are \$'000

Account Types:

CA = Current Assets, FA = Fixed Assets, CL = Current Liabilities, IN = Income

LL = Long Term Liabilities, SF = Shareholders Funds, EX = Expense

As you can see from the table, there are several weeks between the receipt of cash and the recognition of revenue. Even though the business owes this amount to the customer during this period, the fact that it is in the bank allows them to use the money to operate the business. This type of transaction is especially useful where the business is able to pay its suppliers for goods with the money received from the customers. In effect, the customers are funding the business.

b) Company B: Credit Sales

Account		WK 1	WK 2	WK 3	WK 4	WK 5	WK 6	WK 7	WK 8
Stock	CA				-1.0				
AR	CA				+1.2				-1.2
Cash	CA								+1.2
Income	IN				+1.2				
COGS	EX				+1.0				

Values are \$'000

You can see in the situation of credit sales that the business despatches the goods to the customer long before the cash is received. To recognize this change in title or ownership, the business reclassifies the value from Inventory (Stock) to Accounts Receivable. Note that when the cash is received, the Accounts Receivable is reduced by the amount received. Also note

that the value of inventory sold is transferred from the Stock account to an Expense account, Cost of Goods Sold. (COGS).

If the customer fails to pay their debt to the business, the business still has no rights to the title of the goods. The customer is entirely free to resell the goods once title has passed to them. If the business fails to collect the cash, it will incur an expense of a 'bad debt' and 'write off' the amount not collected.

When Is Profit Earned?

Profit is earned when revenue occurs not when cash changes hands. You can see this in the above examples if we sell the inventory with a \$200 profit. What we need to recognize in order to calculate profit are the expenses in the sale. In this case the expense is the cost of the inventory (Stock) which you will see has reduced by \$1,000 at the time of dispatch.

a) Company A: Sale With A Payment in Advance

Account		WK 1	WK 2	WK 3	WK 4	WK 5	WK 6	WK 7	WK 8
Cash	CA	+1.2							
Deposits	CL	+1.2			-1.2				
Stock	CA				-1.0				
Income	IN				+1.2				
COGS	EX				+1.0				

Values are \$'000

b) Company B: Credit Sales

Account		WK 1	WK 2	WK 3	WK 4	WK 5	WK 6	WK 7	WK 8
Stock	CA				-1.0				
AR	CA				+1.2				-1.2
Cash	CA								+1.2
Income	IN				+1.2				
COGS	EX				+1.0				

Values are \$'000

You will note that the profit on both transactions is identical and the timing of when the revenue and profit occurs is also the same. But note that the cash flow is very different. In the case of a sale with a deposit in advance we have the cash a long time before the profit is made. In the case of credit sales, we make the profit a long time before we receive the cash.

This fundamental difference can have a huge impact on the funds required for business operations. It also explains why some companies can be very profitable and yet not have the cash to fund their business operations.

Cash Balances

We can track the cash balances in each of these scenarios by adding some more information. Let us start our transaction with \$10,000 in the bank and see what impact the different scenarios have on cash flow. I will assume that we buy \$1,000 of inventory in week 2.

a) Company A: Sale With A Payment in Advance

Account		WK 1	WK 2	WK 3	WK 4	WK 5	WK 6	WK 7	WK 8
Cash	CA	10.0	-1.0						
Deposits	CL	+1.2			-1.2				
Stock	CA		+1.0		-1.0				
Income	IN				+1.2				
COGS	EX				+1.0				
Bank		12.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2

Values are \$'000

What you can see here is that the cash impact of the profit on sale is already seen in the Bank in week 2 even though the revenue and profit are not generated until week 4.

b) Company B: Credit Sales

Account		WK 1	WK 2	WK 3	WK 4	WK 5	WK 6	WK 7	WK 8
Cash	CA	10.0	-1.0						+1.2
Stock	CA		+1.0		-1.0				
AR	CA				+1.2				-1.2
Income	IN				+1.2				
COGS	EX				+1.0				
Bank		10.0	9.0	9.0	9.0	9.0	9.0	9.0	11.2

Values are \$'000

Notice that there is a dramatic difference in the bank balance between the two scenarios, yet the profit is the same and after eight weeks the cash balance is the same. However, the second business requires an additional \$1,000 to fund the business.

The Impact Of Fixed Asset Purchases

As we add more complexity to the business, the alignment of cash and profit can move further apart. For example, let us acquire a truck for \$10,000 to undertake deliveries and add \$100 administrative and other expenses per month which are paid in the month in which the expenses occur. At the same time, we will increase the inventory on sale by a multiple of ten and provide starting funds of \$20,000. Some expenses can be directly related to a sale, such as sales commission, delivery costs and the value of the goods sold. These are normally classified as Cost Of Goods Sold (COGS). Revenue less COGS is normally referred to as Gross Margin.

Fixed Assets are tangible (e.g. plant, equipment, property) or Intangibles (e.g. investments) which are not expected to be used up or liquidated inside of a year.

a) Company A: Sales With A Payment in Advance. Truck purchased for cash.

Account		WK 0	WK 1	WK 2	WK 3	WK 4	WK 5	WK 6	WK 7	WK 8
Cash	CA	20.0	+1.9	-10.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Truck	FA		+10.0							
Deposits	CL		+12.0			-12.0				
Stock	CA			+10.0		-10.0				
Income	IN					+12.0				
COGS	EX					+10.0				
Admin Expen.	EX		+0.1	+0.1	+0.1	+0.1	+0.1	+0.1	+0.1	+0.1
Bank		20.0	21.9	11.8	11.7	11.6	11.5	11.4	11.3	11.2

Values are \$'000

As you can see, Company A is cash flow positive throughout the trading period. At the end of the trading period they achieved sales of \$12,000 and made a profit for the period of \$1,200. That is, a profit of \$2,000 on selling the inventory less \$800 in administrative expenses.

b) Company B: Credit Sales. Truck purchased with cash.

Account		WK 0	WK 1	WK 2	WK 3	WK 4	WK 5	WK 6	WK 7	WK 8
Cash	CA	20.0	-10.1	-10.1	-0.1	-0.1	-0.1	-0.1	-0.1	+11.9
Truck	FA		+10.0							
Stock	CL			+10.0		-10.0				
AR	CA					+12.0				-12.0
Income	IN					+12.0				
COGS	EX					+10.0				
Admin Expen.	EX		+0.1	+0.1	+0.1	+0.1	+0.1	+0.1	+0.1	+0.1
Bank		20.0	9.9	-0.2	-0.3	-0.4	-0.5	-0.6	-0.7	11.2

Values are \$'000

Company B, however, has moved into insolvency. Insolvency is a status where the company does not anticipate being able to meet their obligations when they fall due. A business would normally be put into the hands of a Receiver or Liquidator in such a situation.

What is interesting in these scenarios, is that both companies made the same number of sales, \$12,000. Yet one ended up with a decent cash position while the other went into insolvency.

Note that both companies achieved the same level of profit on sales \$2,000 and the same ultimate profit, \$1,200.

Options

Faced with these two different situations, how would you manage the business?

Company A:

Company A has significant growth potential. If they can continue to sell with deposits in advance, they can undertake more sales until they reach their administrative capacity. In the second period they have an additional \$1,900 in cash. Even if they only invested this surplus cash in more inventory, they could generate additional profit from further sales provided they could sell the additional inventory. The good thing about this type of business is that they only need to purchase inventory once the sale has been made. This makes containing risks in the business considerably easier.

Company B:

Company B is in trouble. Unless it can find a way of covering the cash shortfall in weeks 2 to 7, it essentially is out of business. However, they may have a number of options.

- They could sell off the truck, releasing all or most of the \$10,000 and then rent a truck for deliveries.
- They could borrow \$700, although this may be difficult given their situation. However, as they could show a forecast profit of \$1,200 by week 8 and a positive cash flow by then, this should be possible. They would have the additional costs of borrowing which would decrease their profit.

- They could offer an early payment discount on their Accounts Receivable. This may encourage enough customers to pay early for them to generate the additional \$700 cash needed.
- Their suppliers might be willing to extend credit to them for the inventory purchases, although this might come with a late payment penalty.
- The owners could put in a further \$700 to fund the business.

There are several other possibilities for Company B but they all require management intervention and the likelihood of incurring additional expenses.

The bottom line is that Company A is very resilient, has great growth potential and will be very profitable if it continues on the same path. Company B, on the other hand, will struggle to grow and will only survive with some changes in their business operations.

Cash Rich, Profit Poor

The general rule is that you have to make a profit to survive, although this makes a number of assumptions about access to cash to fund the business. In the absence of a flow of new cash from the owners into the business, a business with little or no growth must cover its expenses in order to survive. Generally speaking, you need to make some level of profit as there will always be unanticipated expenses or setbacks which will eat into small reserves of cash.

There are some businesses which operate for a number of years without making a profit or even some which operate without an intention of making sales.

A research intensive firm might invest heavily in research and development for a number of years with the intention of being acquired by a large corporation who will exploit their inventions. Providing sufficient shareholders' funds are available to cover the development expenses through to the sale of the business, such firms can operate at a loss for considerable periods of time.

Companies in the mining sector often raise considerable funds to undertake exploration on the basis that, if they discover something, they will raise additional funds to take the company into full scale operations and eventually into a cash flow positive situation and profitability. These firms often take many years to achieve profitability.

It is also possible to achieve significant size in terms of employees and customers without making a profit providing the company can access new shareholder finance. Many internet firms raised considerable funds to develop products and grab market share a long time before turning a profit. In fact, there are well documented cases of firms achieving valuations in the hundreds if not billions of dollars without making a profit.

What is clear from these various scenarios is that there is a clear distinction between profitability and cash flow. While they are related, one should not assume profit means cash or that cash means profit. Without examining the underlying business, it is not possible to predict the outcome of business operations. However, what is very obvious is that you cannot survive in business if you cannot access or generate the cash to fund the operations whether you are making a profit or not.

Reflection:

There have been many early stage internet businesses which achieved staggering valuations through an initial public offering even when they were yet to achieve significant revenue or even make a profit. Some of these had grown to many hundreds of employees on the back of a number of rounds of investor funding. Many went on to develop high revenue and profitability while others faltered and collapsed. The failed enterprises were not able to turn the hype into a solid profitable business.

CHAPTER 3: OPPORTUNITIES AND PROBLEMS WITH CREDIT

Questions:

Why sell on credit?

Why purchase on credit?

How much credit should you offer?

How can you reduce the credit risk?

How do you monitor credit exposure?

When should you pay your suppliers?

If you could sell your goods and services for cash, why would you entertain selling on credit? The fact is that we as customers generally use credit extensively. Every time you use your credit card you are utilizing a line of credit. Whenever we use a service and have the invoice sent to us after the event, we are using credit. If we delay in paying an invoice we are using credit. If we put something on ‘the account’ we are buying on credit.

Assuming that the supplier has already paid for the goods or will pay for the expense in delivering the service before you pay for the item or service, the supplier is financing your purchase. The supplier is paying their suppliers and their employees and covering the costs of their overheads while you are using the products or consuming the services. Why would they bother? Why not just ask you to pay at the time of delivery? Clearly they are doing so because they need to in order to make the sale or because they are making a profit by doing so.

Vendors can be forced to offer credit if there is competitive pressure for them to do so. If I as a consumer am indifferent to the various vendors and one offers credit while the others do not, I may decide to take the credit offer. If all the vendors but one are offering credit, the chances are that the vast majority of sales will go to those offering credit. In the end, the vendor may be forced to offer credit just to generate sales.

Most customers are interested in buying on credit. They may do so because it is more convenient than using cash. They might do so to obtain loyalty points on their credit card.

Some might do so because they are short of funds at that point in time and want to delay payment. Others want to use the credit period to save interest on some other debt they have, such as an overdue credit card balance or a mortgage.

The vendor might wish to extend credit because they know they can generate more sales by doing so. They know that a certain portion of potential customers will only buy on credit. Rather than lose the sale, they decide to offer credit terms in order to entice them to buy.

The same logic applies to the firm's suppliers. They may offer credit to cover the period between shipment of goods and producing the invoice because of the administrative delays in generating the invoice. Alternatively, they might offer credit due to competitive pressure or norms in the industry. Of course, they could offer credit also because they believe they can generate additional sales by offering a credit facility.

The Problem Of Bad Debts

One would expect that anyone buying on credit anticipated paying off the debt. Of course there will always be a small number who do not intend to pay and disappear before you can do anything about it. Naturally you would try to avoid those customers. But we do expect the vast majority to have an intention to pay off the debt, although some will not be able to when the debt falls due. It may be that their personal circumstances have changed and they no longer have the capacity to pay. Others will have lost the paperwork, moved addresses or in some way been unable to be traced and perhaps forgotten they hadn't paid. But most who fail to pay simply overextend themselves and find they cannot repay some or all of the debt.

What this means to the vendor is that not all credit sales will be paid for. The failure to recover the debt will mean that the profit on the sale is foregone but also whatever costs were incurred in making the sale are also lost. We refer to any non payment as a 'bad debt'.

When we incur bad debts we effectively reduce the amount of revenue we achieve.

Gross Revenue	\$10,000
Less Bad Debts	-\$1,000
Net Revenue	\$9,000

While our revenue might be reduced by the total amount of the bad debt, the real effect on our business is the failure to recover the costs incurred in making the sale. So for example, if I purchased a product for \$5,000 and sold it for \$10,000, the loss to the business is \$5,000 not \$10,000. That is, I am only out of pocket by \$5,000, the amount I have to pay to my supplier.

The impact on the business relates to the level of bad debts relative to total credit sales. A bad debt is often referred to as a ‘writeoff’. That is, the firm has written off the value of the debt. The writeoff would then be classified as an expense to the period.

Example: Each item sold cost \$5,000

Account							
Sales	1	2	3	4	5	6	7
Income	10.0	20.0	30.0	40.0	50.0	60.0	70.0
Writeoff	1	1	1	1	1	1	1
Bad Debt	10.0	10.0	10.0	10.0	10.0	10.0	10.0
NI	0	10.0	20.0	30.0	40.0	50.0	60.0
COGS	5.0	10.0	15.0	20.0	25.0	30.0	35.0
Profit	(5.0)	0	5.0	10.0	15.0	20.0	25.0

Values are \$’000. NI = Net Income.

What we can see from this example is that, providing we can make one additional sale, we can neutralize the impact of the bad debt. What we need to focus on in extending credit is the marginal cost of the bad debt sale and the contribution margin of the good sale. The ‘Contribution Margin’ or ‘Gross Margin’ as it is often referred to is the difference between the sale price and the marginal cost of making the sale. In the above example, our only marginal cost is the cost of the product supplied with each sale, that is, \$5,000. Our Contribution Margin or Gross Margin on each sale is \$5,000.

Each sale we make contributes \$5,000 towards the profit of the business. Each sale which results in a bad debt results in a cost to the business of \$5,000.

As the Gross Margin decreases, the number of sales which have to be made to cover the bad debt expense to the business increases.

Example: Number of sales required to recover a bad debt

Item							
Price	100	100	100	100	100	100	100
COGS	50	60	70	80	90	95	98
GM	50	40	30	20	10	5	2
Bad Debt	100	100	100	100	100	100	100
Required	1	1.5	2.33	4	9	19	49

In this example, a single sale provides income of \$100. Against that sales there is a COGS which is shown as increasing from \$50 to \$98. As the COGS increases, the Gross Margin decreases from \$50 to \$2. In the most extreme situation, you need to make 49 sales to recover the loss caused by one bad debt.

As you can see, low Gross Margins mean that we have to generate significant good sales to recover the costs of a bad debt. The same analysis, however, tells us that high Gross Margins can support much higher levels of bad debts.

Our example at this point is somewhat simplistic because it neglects the fixed costs of the business, those costs which do not vary with the volume of sales. The fixed or Overhead Costs would include such things as the cost of running the office and most of the employee costs. Clearly we need to generate enough Gross Margin to cover those costs. However, beyond this point, credit sales should be undertaken as long as it makes a positive Contribution Margin. But, how do we estimate how far we should extend credit?

Managing Credit Exposure

Whether you are a firm or an individual customer, you will have a credit profile or a credit worthiness score. Just because you seem like a nice person does not mean that credit will be extended to you. What the vendor needs to know is ‘What is the probability that you will default on repaying the debt?’

If your credit rating is excellent, say a 10 on a 10 point scale, I can assume you will never default on a debt. Clearly I would want to extend credit to as many of these customers as I can find. But what of those firms and individuals with a score of 9, 8, 7 and so on. To what extent should I deal with those?

Your credit worthiness score will have been calculated by the vendor or by a credit rating agency based on your ability to pay and your track record in paying. Your score will indicate to the vendor that, for the group of firms and individuals with the same score, a certain percentage will default. Let's say that a score of 9 indicates that 10% will default and that a score of 8 indicates that 20% will default and so on. Based on this information, I as the vendor can calculate which group I wish to extend credit to. Clearly, the higher my Gross Margin the more I can extend credit to less credit worthy scores.

Example: Bad debts related to credit score

Credit Score	9	8	7	6	5	4
Sales	10.0	10.0	10.0	10.0	10.0	10.0
% Bad	10	20	30	40	50	60
COGS	5.0	5.0	5.0	5.0	5.0	5.0
Writeoff	1.0	2.0	3.0	4.0	5.0	6.0
Profit	4.0	3.0	2.0	1.0	0	(1.0)

Values are \$'000.

As you can see from this example, the firm should extend credit at least to those with a credit score of 6. While this results in a significant Bad Debt expense or 'write-off', the firm is still increasing its profit at that credit level.

In practice, the firm would also need to cover the expense of managing a credit operation. There would be the costs of establishing systems, undertaking or purchasing credit ratings, sending out invoices and statements and the collection costs associated with chasing and recovering defaulters.

Reviewing Accounts Receivable

As a business we want to know how much credit we are extending to customers, how debt collections are performing and what we are likely to incur as bad debts.

Some businesses only operate on cash sales while others only operate on credit sales. However, there are those which have a mixture. Those with credit sales should be able to

establish over time some expectation for the level of credit sales and the associated write-offs for bad debts. By monitoring sales period on period, they can judge whether their credit activities are working as expected.

In this next table I compare the standard level of credit sales to all sales (20%) and the standard or expected level of bad debts (10%) to the actual level of credit sales and bad debts in two periods.

Example: Standard bad debt ratio to actual experience

Period	Standard	Period 1 Actual	Actual %	Period 2 Actual	Actual %
Sales		10,000		15,000	
Credit Sales	20%	1,250	12.5%	3,750	25%
Bad Debt %	10%	75	6%	450	12%

In period 1, fewer credit sales were made but the level of bad debts was lower than expected. This may be due to the fact that we failed to make enough credit sales and this resulted in a higher percentage of better credit worthy customers.

In period 2, we made more credit sales than we expected as overall sales had increased by 50%. Credit sales increased from 12.5% to 25%. At the same time, bad debts increased from 6% to 12.5% of credit sales, perhaps indicating more credit sales to less credit worthy customers.

The other analysis we should be making is to review the number of days of credit which credit customers are taking. This is often referred to as an “Aged Debt Report”.

The total value of credit sales is held under an account called Accounts Receivable (AR).

Age of Debt	< 30 Days	< 60Days	< 90 Days	Over 90 Days
AR by Value (\$)	120.0	30.0	10.0	5.0
No. of Customers	100	22	8	5
% of Total AR	72.7	18.2	6.1	3.0
Standard % of Total AR	75	20	4	1
Expected Bad Debt %	20	40	60	90
Expected Bad Debts (\$)	24.0	12.0	6.0	4.5

Values are \$'000.

In this example, of the total AR balance of \$165,000, it is expected that defaults will be \$46,500 or 28%. If this situation occurred at a financial year end, the firm would need to recognize this potential write-off in their financial reports. You would set this up as a Provision for Doubtful Debts.

This would appear as:

Account	Value (\$)
Accounts Receivable	165,000
Less Provision for Doubtful Debts	(46,500)

This recognizes that, in the current financial period, while credit sales were \$165,000, it is expected that this would be reduced by \$46,500 as individual customers defaulted on repayment. While we don't know which customers will default, we do know from experience the likely percentages. As we identify specific defaults, we reduce the outstanding balance of the Provision for Doubtful Debts.

Actual Bad debts recognized during the year are written-off as they occur. This reduces the balance in AR and creates an expense against Revenue. However, when we reach the end of the year, we don't know which customers will default and that is why we create the

Provision for Doubtful Debts. The value of the Provision is then also taken as an expense against Revenue for that year.

Account	Account Type	Value (\$)
Revenue	Income	500,000
Less Bad Debts	Expense	(100,000)
Less Doubtful Debts	Expense	(46,500)

Most small enterprises write-off bad debts as they occur and simply adjust the Provision for Doubtful Debts at the end of the year. The more correct method would be to take the initial bad debts off the provision until it was cleared and then the rest of the bad debts for the year would be taken directly to expenses. A new Provision would then be calculated at the end of the financial year.

Managing Bad Debts

If your business extends credit then you should expect to have some level of bad debts, however, the objective should be to minimize this wherever possible.

Managing bad debt exposure starts by getting the best information you can on the credit worthiness of the customer. This information at least gives you a starting point for deciding whether to extend credit, how much to extend and sets an expectation as to what the level of default is likely to be.

The general rule with credit is ‘the longer it takes to collect the money, the higher the default rate’. Basically, people with good credit ratings typically pay on time. However, it is also true that consistent and, perhaps, persistent follow up of outstanding debts results in higher recovery rates.

When the volumes are high and the amounts small, the usual method is to send out invoices followed by regular statements. Credit should be cut off where the debt is long overdue. Formal debt collection procedures might be followed if the expense can be justified.

Where the AR consists of a smaller numbers of large debts, individual attention to each outstanding invoice is worth the effort. The firm should contact the customer to verify payment will be on time and then they should follow up with further contacts to remind the customer of the debt. If the debt becomes overdue, a personal call from a senior executive or even a personal visit may be justified. The impact on the business of a large default is serious and therefore greater attention needs to be given to screening the customer for credit worthiness as well as following up on the payment.

In my experience, delayed payment on large invoices usually occurs because proper process was not followed somewhere in the sale or delivery of the product or service. You need to ensure that the following occurs:

- There are very clear specifications of what is to be delivered. This includes a clear understanding not only of the actual products or services but of the intended use or need being satisfied.
- It is critical that the firm not over promise on what the products or services are designed to do or the time it will take to deliver.
- On delivery, the customer should be asked to sign a statement acknowledging delivery.
- On completion of tasks, the customer should be asked to sign a completion and acceptance certificate.
- If there are any additional modifications or services to be delivered during the process, an amendment should document the request and be signed by the customer.
- Where possible the firm should collect part payment in advance and stage payments on completion of stages.

Basically, it is very difficult to collect your money if you have failed to deliver what the customer requests, wants or expects. Any problems will create tension between the firm and the customer and will end up in protracted negotiations around what was expected, faults, mistakes, additional costs of delay and so on. It is rare for the customer to pay while there is a dispute.

Supplier Credit

Most suppliers will extend credit. However, you should expect them to deal with you in the same way you anticipate dealing with your credit customers. They will expect you to pass their credit checks and only extend credit to you based on your credit worthiness. That being the case, your history of credit performance will impact your credit worthiness. If you want good credit, you need to pay suppliers promptly and certainly on time when you can.

Using supplier credit when it is offered makes sense. Instead of you financing the purchase, the supplier does, at least for the credit period. If you have a significant amount in purchases, this is an interest expense which you are not incurring. But at the same time, you do need to manage your supplier credit exposure. First, you need to ensure you are able to pay the supplier invoices when they fall due. If you anticipate not being able to pay the debts within reasonable time you are technically insolvent and need to formally declare so and bring in a receiver or go into liquidation.

Secondly, you need to manage your credit rating. In order to manage the business you need to have an assurance that you can acquire services and supplies when you need them. If you allow your credit rating to deteriorate, you may be faced with having your credit terms reduced and/or to pay cash for supplies. Either way it makes managing the business more difficult.

Invoices received from suppliers are recorded as Accounts Payable, often referred to as 'AP'. Unlike Accounts Receivable you can't write them off. Basically, once you owe the money, the only way you can take it off your liabilities is to have the supplier send you a Credit Note showing that the amount, or some part of it, is no longer due to the supplier.

What you do need to do is monitor the size and aging of your Accounts Payable in order to manage your liability exposure, cash impact of payments and the effect on your credit worthiness of delayed payments.

The method of aging Accounts Payable is similar to that of aging Accounts Receivable.

Age of Debt	< 15 Days	< 30 Days	< 60 Days	< 90 Days	> 90 Days
Accounts Payable (\$)	100,000	70,000	20,000	15,000	8,000

Given the risk to credit rating, items which are greater than 30 days in excess of the standard supplier credit terms may be subject to collection. If, however, these items are in dispute, you need to pay attention to the progress of the resolution and ensure that the supplier accepts your reasons for non-payment.

Projecting Cash Flow

Where part of your trading is on credit, whether that is customer or supplier credit, you need to manage the cash flow implications of the accounts. Remember that you are financing any customer credit while the supplier is financing your Accounts Payables. You need to be aware of the impact on your cash flow of these Accounts.

Recall that you cannot afford to be out of cash and it is prudent to have some buffer just in case of problems. So understanding the timing of cash inflows and planning the timing of cash outflows is a critical management task.

The timing of cash inflows from AR is somewhat out of your hands, it really depends on when the customers decide to pay, although you do influence that through your credit terms and who you sell to. As you sell to less credit worthy customers not only are your bad debts likely to increase, so are your payment periods. You should know from your historical experience not only the default rate by credit group but also the average payment period.

As an example, let us assume you invoice at the end of each month and request full payment in 14 days. This example only extends to 5 weeks but your own analysis might extend to 20 weeks.

Credit Score	Bad Debt %	Pay in Week 1	Pay in Week 2	Pay in Week 3	Pay in Week 4	Pay in Week 5
9	10	20	70	8	2	0
8	20	10	50	30	5	5
7	30	5	15	30	30	20
6	40	0	20	20	30	30

From this information, you can set up a cash flow forecast. These values would be net of the doubtful debt adjustment. Based on the outstanding balance of the AR for each month, you might have a report that looks something like this.

Example: Expected Cash Receipts from AR as at the end of September.

Month Sold	Credit Score	AR Baln.	Due Oct Week 1	Due Oct Week 2	Due Oct Week 3	Due Oct Week 4	Due Nov Week 1
AUG	9	0	0	0	0	0	0
AUG	8	0	0	0	0	0	0
AUG	7	2.0	2.0	0	0	0	0
AUG	6	1.8	1.8	0	0	0	0
SEP	9	60.0	12.0	42.0	4.8	1.2	0
SEP	8	20.0	2.0	10.0	6.0	1.0	1.0
SEP	7	10.0	0.5	1.5	3.0	3.0	2.0
SEP	6	6.0	0	1.2	1.2	1.8	1.8
Total		99.8	18.3	54.7	15.0	7.0	4.8

Values are \$'000. AR Balance is net of the doubtful debt adjustment.

The discipline of scheduling cash collections is very useful. You can see if you need to take action to chase up customers or if you need to offer additional incentives for early payment.

If you are dealing with a small number of large invoices, you should track them individually and have an action plan for collection for each one. Your cash forecast can then be constructed based on the collection profiles of the specific customers or specific projects.

The AP would have a similar profile, except in this situation you choose when you are going to pay the suppliers. One way to do this is to classify them on the basis of when you anticipate paying them. You might have some which offer early payment discount and others which are very demanding and expect payment on time with penalties for late payment. You might also have some which have lax payment terms and you intend to take advantage of those.

Supplier Group	Pay Week 1 %	Pay Week 2 %	Pay Week 3 %	Pay Week 4 %	Pay Week 5 %	Pay Week 6 %
A	10	90	0	0	0	0
B	0	20	20	50	10	0
C	0	0	0	80	10	10
D	0	0	0	0	50	50

Based on this profile, you can apply a payment schedule to the outstanding AP balance. For example, you would set up a payment plan for the AP balance at the end of Week 21 as follows.

Supplier Group By Week Rec'd	AP Balance Outstanding WK 21	Pay Week 22	Pay Week 23	Pay Week 24	Pay Week 25	Pay Week 26	Pay Week 27
WK 20 A	40.0	40.0					
WK 20 B	37.5	7.5	7.5	18.75	3.75		
WK 20 C	60.0	0	0	48.0	6.0	6.0	
WK 20 D	10.0	0	0	0	5.0	5.0	
WK 21 A	50.0	5.0	45.0				
WK 21 B	40.0	0	8.0	8.0	20.0	4.0	
WK 21 C	50.0	0	0	0	40.0	5.0	5.0
WK 21 D	20.0	0	0	0	0	10.0	10.0
Total	307.5	52.5	60.5	74.75	74.75	30.0	15.0

Values are \$'000

Supplier payments can be manipulated by taking additional time to pay, negotiating early payment discounts or part paying. You, however, have to be sensitive to the impact of any decision on future business with the supplier.

You can see that by putting together the cash forecast of both the AR and AP, you start to build a fuller picture of the overall cash flow of the business. Of course there are many more elements to add to the cash flow including employee wages, capital purchases, funds received from loans and shareholders and so on.

Managing credit for customers and suppliers is a critical function of management.

Credit Days

A very common performance measure of credit management is what is called ‘credit days’. That is, the average number of days of credit extended to customers or received from suppliers. The normal calculation is:

$$\text{AR Credit days} = \text{Annual Sales} / \text{Accounts Receivable balance}$$

Perhaps a better calculation would be:

$$\text{AR Credit Days} = \text{Annual Credit Sales} / \text{Average Accounts Receivable balance}$$

This calculation can also be done on a monthly basis:

$$\text{AR Credit Days} = \text{Credit Sales for the Month} / \text{Average AR balance in the month.}$$

A similar calculation can be done for Accounts Payable.

$$\text{Supplier Credit Days} = \text{Credit Purchases (Month or Year) } / \text{Average AP balance.}$$

While the absolute value is interesting, what is more important is to review this with industry sector benchmarks and with corresponding periods in the past. While the value is always open to interpretation, one should be looking at the level of credit being extended, the type of credit experience and the trend from period to period.

Reflection:

We have all experienced the problem of 'the cheque (check) is in the mail' but perhaps the excuse of 'we don't have enough authorized signatures available' is not so common. Whenever I experienced this situation I would send my uniformed chauffeur to the customer's office to collect the payment. When he was told that the authorizing signature was not available he would sit in reception and wait. Whenever a visitor came to reception, he would jump up and introduce himself and explain that he was there to collect an outstanding payment. Within a very short period the payment was authorized and he left with payment in hand.

CHAPTER 4: MANAGING INVENTORY

Questions:

How much inventory should you hold?

When should you re-order new inventory?

How is the inventory valued?

How do you account for deterioration, expired goods, damage and loss?

How do you value the cost of goods sold?

A large majority of enterprises hold inventory of one form or another. Manufacturers hold raw materials, ingredients or components for assembly or processing. They also hold the intermediate and finished goods inventory. Agricultural firms hold feedstock. Building companies hold building materials for use in construction. Wholesale and retail firms hold inventory for sale. Even services companies will hold office supplies. There are actually very few enterprises which don't hold some form of inventory.

Investments in inventory will vary depending on the type of business. You would expect manufacturers, wholesalers and retailers to carry large inventory volumes. In relation to the total assets of the business, inventory could represent a significant percentage.

We need to carefully manage our level of inventory for the following reasons:

- The purchase price can change and we may either have paid less or more than the current market rate.
- When sales increase we need to ensure we have appropriate levels of inventory on hand to meet manufacturing and sales requirements.
- If sales decline, we may be left with excess inventory which may need to be sold at a loss.
- Some inventory is subject to expiry. We need to ensure we manage the shelf life of the current inventory.
- We can have losses through theft, damage or deterioration.

Inventory Levels

Apart from goods which are purchased for internal consumption, such as catering supplies or office supplies, inventory is normally purchased to satisfy an external demand. Items are purchased for rental or sale and are either sold in their purchased form or are converted through some assembly or conversion process into manufactured goods. The procurement process can vary greatly. Some companies make to order or sell to order. In these firms inventory is only ordered to satisfy specific requirements.

Companies which deal in large projects tend to forecast each project and order only to meet specific project needs. Unlike made to order, they order based on anticipated project requirements.

Most companies order based on a forecast of anticipated sales. They use historical sales as a base to forecast the trend of future sales. Past sales will normally provide an indication of the base level of sales, the trend and the seasonal pattern. Based on the initial forecast, adjustments are made for promotions and known future events which will impact sales, such as competitor actions.

The forecast from historical data will also indicate the extent of forecast error. That is, the degree to which the plotted forecast formula fits the historical data. The closer the forecast formula fits the historical actual sales, the smaller the forecast error. The forecast error allows the firm to judge how far out the likely forecast is from the possible actual future sales. An overestimate will result in unsold inventory but an under forecast will mean lost sales. In order to cater for under forecasting, firms hold safety stock. The forecast error would provide the basis for the calculation of the level of safety stock required.

Inventory would be reordered whenever the inventory level reached the reorder point. The reorder point would be calculated as the Lead Time X Average Daily Usage. The lead time is the time it takes from the time a purchase order is generated to receipt of the ordered quantity into inventory. More complex formulae take into account possible variations in the lead time and in the rate of usage.

The quantity ordered is a balance between the cost of ordering (the administrative costs plus the costs of inbound freight, receiving, inspecting and putting away) against the costs of holding the inventory (warehousing, obsolescence and the cost of financing). The optimum order quantity is calculated by the Economic Order Quantity Formula.

$$\sqrt{\frac{2 * A * C_p}{C_h}}$$

Where A = Demand for the Year, C_p is the cost to place a single order and C_h is the cost to hold a single unit of inventory for a year.

This assumes constant demand, fixed costs of delivery per order and constant holding costs. However, it demonstrates the principle that there is a balance between costs of ordering and holding costs.

The Purchase Transaction

In order to manage the investment in inventory and to ensure adequate inventory is available to satisfy requirements, it is important to be able to follow the purchase from re-order trigger through to usage.

Re-order Trigger:

Inventory control systems are set up so that a periodic check is made against on-hand levels and usage to determine if an order needs to be placed. These periodic checks need to be set so that inventory cannot run out before a new replenishment is received. On-line systems can be checked every day if necessary but often this is a function which is undertaken once a week.

Another form of re-order trigger is a physical re-order level. This might be a marker in a bin so that when the level falls to that point it triggers a reorder request. Another method is to use a multiple bin system so that there are always a number of full bins in inventory. When usage reaches the minimum number of bins a reorder is placed.

It is important that every purchase order is verified and authorized by a senior executive. While most firms implement strict controls around the approval of payments, a purchase order

(PO) commits the firm to a payment if the goods are despatched. It is the PO which creates the commitment not the payment.

The placing of a PO should also indicate when goods are expected to be received (the lead time) and what the credit terms are. From this information, the firm can forecast cash payments for these procurements. Where credit terms are cash on order, a payment will need to be sent with the purchase order. Cash on delivery (COD) should forewarn the firm that a cash payment can be expected at the end of the lead time period.

For urgent and unusual purchases, confirmation of delivery date should be requested.

Goods Receipt:

When goods are physically received they should be checked for damage and verified against the delivery documentation. Next, they should be checked against the PO to ensure the correct goods were received. Often deliveries will be incomplete and occasionally the wrong product will have been sent.

Where payment is made in advance of goods being received, the payment in advance would be recognized as a current asset in the accounts of the firm. When goods are received, the Payments In Advance would be reduced and replaced with an investment in the Current Asset Inventory.

Example: Goods purchased for \$1,000 and sold for \$1,200

Account	Account Type	Purchase Order	Goods Received	Cash Sale
Payment in Advance	Current Assets	+1,000	-1,000	
Cash	Current Assets	-1,000		+1,200
Inventory	Current Assets		+1,000	-1,000
Accounts Payable	Current Liability			
Income	Income			+1,200
COGS	Expense			+1,000

If the supplier is unable to supply the goods, the Payment In Advance would be returned to the firm and paid back into the bank.

Where the goods are paid for COD, the transaction would appear as follows.

Account	Account Type	Purchase Order	Goods Received	Cash Sale
Payment in Advance	Current Assets			
Cash	Current Assets		-1,000	+1,200
Inventory	Current Assets		+1,000	-1,000
Accounts Payable	Current Liability			
Income	Income			+1,200
COGS	Expense			+1,000

Where the goods are bought on supplier credit, the receipt of the goods into inventory triggers both an increase in the current asset Inventory as well as an increase in the Accounts Payable account for the value due to the supplier.

The transaction would appear as follows:

Account	Account Type	Purchase Order	Goods Received	Cash Sale	Supplier Payment
Payment in Advance	Current Assets				
Cash	Current Assets			+1,200	-1,000
Inventory	Current Assets		+1,000	-1,000	
Accounts Payable	Current Liability		+1,000		-1,000
Income	Income			+1,200	
COGS	Expense			+1,000	

The various accounts enable us to have a snapshot of the inventory activity, however, always keep in mind that the accounts represent what has happened and do not give a full picture of what will happen. To manage effectively, you need to use the information systems you have to forecast future activity and translate this into cash flow projections.

From the sales forecast, we can predict usage of inventory and the anticipated purchase orders. Based on expected lead times and credit terms of the suppliers, we are able to project payments for the various deliveries. Once we add anticipated sales and the payment receipts from those, we have the basis for calculating the investment in inventory. The financing ‘gap’ is really the difference between the supplier credit and customer credit. The shorter the supplier credit and the longer the customer credit, the greater the financing required to fund inventory.

Inventory Turnover

In the above examples we purchased inventory at \$1,000 and sold it at \$1,200, making a 20% gross margin on the sale. Our profit for any period will depend on how many of those transactions we achieve.

So for example, if we only purchased inventory \$1,000 at a time and only sold inventory at \$1,200 a time, we can calculate our Gross Margin for a period by the number of times we ‘turnover’ inventory.

Inventory Turns	1	20	1,000	10,000
Profit (\$)	200	4,000	20,000	2,000,000

Recall that our investment was only \$1,000. This covered the value of our inventory for the period between when we had to pay the supplier and when we received the payment from our customer. Using inventory turns we can then see just how productive our investment in inventory is.

Clearly, for the same volume of sales, the quicker the inventory turnover, the more productive is the investment in inventory. We should attempt to keep our inventory as low as possible consistent with ensuring we do not lose sales. What we don't want is to have excessive inventory which not only ties up funds but also increases the holding costs (warehousing, handling, damage, expiry and deterioration).

Most sectors have benchmarks for inventory turns based on best practice within the sector. The firm should be measuring inventory turns to see if they can be reduced but also comparing them to sector averages to ensure that inventory management is optimal.

A typical calculation for annual Inventory Turns would be:

$$\text{Annual COGS/Average Inventory}$$

Inventory Valuation

Working out the value of the on hand inventory balance would seem, on the surface, to be relatively straight forward.

$$\begin{aligned} &\text{Opening Balance} \\ &+ \text{Purchases} \\ &- \text{Cost of Goods Sold} \\ &= \text{Closing Balance} \end{aligned}$$

However, the complexity comes when you need to assign a value to COGS. The quantity is easy, you buy 1,000 and sell 200, you have 800 left in inventory. If all the 1,000 purchased

were bought at the same price, say \$1.00, then the 800 left at the end of the period would be valued at \$800.

But what would happen if you purchased the following:

Date	Quantity	Cost per Unit
June 1	200	\$1.00
June 10	200	\$1.10
June 20	500	\$1.15
June 25	100	\$1.20
Total	1,000	\$1,115.00

Now for the sales:

Date	Purchased Quantity	Purchase Cost per unit	Quantity Sold	COGS/Unit
June 1	200	\$1.00		
June 5			100	?
June 10	200	\$1.10		
June 15			100	?
June 20	500	\$1.15		
June 25	100	\$1.20		
June 30			300	?

We actually may have a number of choices as to how we assign costs to inventory sold. We can use a number of methods:

LIFO – Last in first out

FIFO – First in first out

Weighted Average

Standard Cost

a) LIFO

LIFO means that you take the last inventory received and assign the costs working backwards on the receipts into inventory. This method is often used where inventory is in large bins or piles, such as minerals, chemicals or small components. When shipments are made they usually come off the top of the pile representing the latest costs of goods received. The major disadvantage of this method is that it tends to misrepresent the market value of the remaining inventory.

From the table above this would be the LIFO cost assignments.

Date	Purchased Quantity	Purchase Cost per unit	Quantity Sold	COGS/Unit
June 1	200	\$1.00		
June 5			100	1.00
June 10	200	\$1.10		
June 15			100	1.10
June 20	500	\$1.15		
June 25	100	\$1.20		
June 30			300	100 @1.20 200 @1.15

The closing balance of Inventory under LIFO would then be:

100	1.00	100.00
100	1.10	110.00
300	1.15	345.00
Total = 500		555.00

Total LIFO COGS would be:

100	1.00	100.00
100	1.10	110.00
100	1.20	120.00
200	1.15	230.00
Total = 500		560.00

b) FIFO

FIFO is a method of inventory cost assignment which allocates cost based on the earliest purchase receipts. This is the most used method and represents the manner in which most firms physically pick inventory for shipment. They chose the oldest inventory first.

Date	Purchased Quantity	Purchase Cost per unit	Quantity Sold	COGS/Unit
June 1	200	\$1.00		
June 5			100	1.00
June 10	200	\$1.10		
June 15			100	1.00
June 20	500	\$1.15		
June 25	100	\$1.20		
June 30			300	200 @ 1.10 100 @ 1.15

The closing balance of Inventory under FIFO would then be:

400	1.15	460.00
100	1.20	120.00
Total = 500		580.00

Total FIFO COGS would be:

100	1.00	100.00
100	1.00	100.00
200	1.10	220.00
100	1.15	115.00
Total = 500		535.00

c) Weighted Average Cost

Weighted Average Cost allocation updates the average cost of inventory each time a receipt is placed into inventory. It is this average cost which is then assigned to COGS. The WAC takes the current inventory balance x the current WAC, adds the purchase cost (qty x cost) and then divides the new total value by the new quantity on hand.

For example, there are currently 100 in inventory x \$1.00 = \$100. The new purchase is 200 units x \$1.10 = \$220. The new total would be 300 units with a total value of \$100 + \$220 = \$320 or \$1.07 on average (320/300).

Date	Purchased Quantity	Purchase Cost per Unit	WAC	Quantity Sold	WAC COGS
June 1	200	\$1.00	1.00		
June 5			1.00	100	1.00
June 10	200	\$1.10	1.07		
June 15			1.07	100	1.07
June 20	500	\$1.15	1.13		
June 25	100	\$1.20	1.14		
June 30				300	1.14

The closing balance of Inventory under WAC would then be:

500	1.14	570.00
Total = 500		570.00

Total WAC COGS would be:

100	1.00	100.00
100	1.07	107.00
300	1.14	342.00
Total = 500		549.00

However, note that one of the complications of weighted average cost systems is that there are rounding errors in the calculations.

Look at the difference:

Opening Balance	0
Purchases	1,115
COGS	549
Closing Balance	570
Rounding Error	+4

d) Standard Cost

A standard cost method of cost assignment uses a predefined unit cost for COGS. Any differences between actual unit cost and standard costs are written off to expenses. Assume a standard cost of \$1.10.

Date	Purchased Quantity	Cost per Unit	QOH	Std Cost	Qty Sold	WAC COGS
June 1	200	\$1.00	200	1.10		
June 5			100	1.10	100	1.10
June 10	200	\$1.10	300	1.10		
June 15			200	1.10	100	1.10
June 20	500	\$1.15	700	1.10		
June 25	100	\$1.20	800	1.10		
June 30			500		300	1.10

The closing balance of Inventory under Standard Cost would then be:

500	1.10	550.00
Total = 500		550.00

Total Standard Cost COGS would be:

100	1.10	110.00
100	1.10	110.00
300	1.10	330.00
Total = 500		550.00

However, note that one of the complications of a Standard Cost system is that the difference between actual cost and Standard Cost are written off to expenses.

Look at the difference:

Opening Balance	0
Purchases	1,115
COGS	550
Closing Balance	550
Rounding Error	-15

The standard cost system makes it very easy to operate the inventory system but ensuring a reasonable standard cost at the start of the period is critical otherwise the inventory balances and COGS would misrepresent market values.

Summary:

If sales in this period were at \$1.50 per unit, Income would be \$750.

	LIFO	FIFO	Weighted Average	Standard Cost
Income	750	750	750	750
COGS	560	535	549	550
Gross Profit	190	215	201	200
Closing Balance	555	580	570	550
Variance	0	0	+4	-15
Net Profit	190	215	205	185

The rounding error adjusts COGS so that the adjusted COGS plus closing inventory equal the purchases plus opening balance for inventory. There is a 16% difference between the smallest Net Profit and the largest. This could be very significant where there are large inventory volumes with significant variation in purchase prices.

What this tells us is that arbitrary allocation of costs can distort the numbers. We need to be very careful how we interpret these values especially if we are making decisions on the basis of them. Clearly, you need to know how the inventory and COGS numbers are calculated if you are to make a reasoned judgment.

In practice, this tends not to be a serious issue as most companies have relatively quick inventory turnover, purchase prices tend not to fluctuate much and most firms use the FIFO method of cost allocation.

Reflection:

One of the software products we created was inventory control. Part of the application enabled the count of physical inventory in order to reconcile the physical inventory with the accounts. I recall receiving an urgent phone call over a weekend by a customer to say that the count was out by 15%, some hundreds of thousands of dollars of inventory. We sent a consultant to review the system and the count process. He discovered that the physical inventory was held in a number of rooms in a basement underneath the factory and that an entire room had been overlooked.

CHAPTER 5: WORKING WITH ASSETS

Questions:

What is an asset?

How do we value assets?

What happens when the replacement value changes?

How do we reflect the decline in the value of assets?

How do we account for asset usage which decreases future life?

What happens when the market value increases?

We all think we have a good understanding of assets. After all, aren't they things we can see, touch and use, like plant and equipment, buildings and cash? The answer - yes and no. Some assets are tangible like plant and equipment which are physical items which you can see, touch and use. Others are intangible like Accounts Receivable or loans owed to you or Intellectual Property or Investments. These have value but you can't see them or touch them. In practice we have a wide range of asset types. What we need to do is understand the different types and review the various management issues associated with them.

An asset is defined as something which will provide a future service of value to the firm. Unlike an expense where the service has been used.

Tangible assets are physical items such as land, buildings, plant, equipment, inventory or cash. Physical items may be subject to wear and tear, damage and deterioration through usage or even just the passage of time. Physical items may need housing, repair, spare parts, insurance against fire and theft, licensing and so on. Some tangible assets may appreciate in value over time, such as land or collectible items. Our biggest problem with tangible items is calculating their usage cost and their current value.

Intangible items are those things which you cannot see but have value. This would include Accounts Receivable, Intellectual Property (IP) (patents, trademarks, brands, copyrights and licenses), Investments, loans to individuals and other companies and expenditure which has a multi-year benefit to the firm.

We classify assets as either current or fixed. Current assets are those which we anticipate will be exchanged or used within a year. That is, the future value inherent in the item is expected to be used within a year. Fixed assets are those which have enduring value or which we do not expect to be entirely used or exchanged within one year. Current assets tend to have higher liquidity and are generally thought to be easier to convert to cash within a short time period. Fixed assets, on the other hand, are normally more difficult to convert to cash either because they are integral to the operation of the business or there is a limited market for them.

By definition, an asset is an item which has future benefit to the firm. Thus, anything which I can turn into cash in the future satisfies the asset test. However, there are some assets which have future benefit but which cannot be easily converted to cash. Items such as office refurbishment, Research and Development, corporate set up costs, plant installation costs and so on. These clearly have long term value to the firm but they are not able to be turned into cash.

Any expenditure by the firm which consumes value is an expense. Expenses are costs to run the business. Items such as payroll, heat, light and power, office cleaning and so on are easily classified as an expense. But assets may also generate expenses. As value is used up or as value declines, the change in value becomes an expense of the firm. Inventory which is sold is ‘used up’ and becomes COGS. Bad debts are expenses because they convert from something owed (future value) to the firm to nothing (used up). Damage to inventory which requires some inventory to be scrapped would be a write-off of value and therefore an expense. Other assets, like plant and equipment, lose their future potential benefit as they are used. Some assets lose value as their market value declines. Any loss of value should be recorded as an expense.

Tangible Current Assets

Tangible current assets are usually relatively easy to define and value. Because of their short term nature, they don’t suffer from major changes in their value and therefore their value in the accounts generally closely reflects the value you will obtain when they are converted to cash or some other asset form.

For example, during the sales process inventory is converted to the expense COGS at the time of the sale. That is, the value of inventory is ‘used up’ during the sale and becomes an expense associated with the sale.

Inventory may be subject to some expense due to expiry, damage, handling and deterioration but these tend to be minor adjustments to their value.

Intangible Current Assets

Accounts Receivable is the value of what customers owe to you. While you expect to convert this to cash within a short period, Accounts Receivable might be subject to write-offs for bad debts and doubtful debts, but you would expect these to be minor adjustments.

Short term investments would be recorded in current assets. So if part of the business was trading in equities, these would be listed in current assets. A problem with marketable securities is they can fluctuate in value. Deciding on what basis you value them for financial reporting can be problematic. Where there is an active market, you would normally value these at the market price on the day of reporting. Any adjustment in value would be reported as an income or expense.

Payments in advance for future services which are of a material nature are set up as a current asset. This might include rent paid in advance, an annual support contract, payments in advance to suppliers of ingredients or components for manufacturing or payments for goods for rental or resale. That is, these are payments which will provide a future service, therefore they are an asset.

Typically what happens with payments in advance is that they are expensed as used or consumed.

For example: Rent paid in advance for one year might be expensed each month.

Date	Account	Account Type	Transaction
Jan 1	Advance Rent Payment	Current Asset	+12,000
	Cash	Current Asset	-12,000
Feb 1	Advance Rent Payment	Current Asset	-1,000
	Rent	Expense	+1,000
Mar 1	Advance Rent payment	Current Asset	-1,000
	Rent	Expense	+1,000

Tangible Fixed Assets

The biggest problem you have with tangible fixed assets, such as plant and equipment, buildings, vehicles, office furniture and so on, is valuation. At the time they are acquired, their value is normally determined by their cost, often referred to as Historical Cost. However, over time the market value of the item will change. You might call this Market Value to distinguish it from Historical Cost. The amount you would pay to replace it with a like or similar item may change. We call this Replacement Value. Often Replacement Value refers to a new item rather than one with a similar future life.

When we talk about a truck, for example, there are a range of possible values we can refer to. We have its Historical Cost, a current Market Value for the used truck and a Replacement Value for a new one. However, if we are continuing to use the truck in the business and we are using up its future potential, then what should the expense to the business be?

Common sense would suggest that we should be expensing the decrease in Market Value. That is, if we know what the market value of the truck is at the end of a period, the decrease in value has been ‘used up’ by the business. This should be expensed against the income for the period.

However, this is an ideal world where market values are readily available, independent and easily verified. The difficulty is that most tangible assets have no ready market, often no easily verified market value exists or the market value fluctuates and is unreliable. As many items of plant and equipment are designed for specific use, they either have no market value or any market value would be scrap value at best. If the asset is productive in the business then such a value would greatly undervalue its contribution to the business.

To overcome these limitations, we apply a formula which represents the best estimate of the anticipated decline in value. The generic term for this process is called 'depreciation'. Depreciation is an arbitrary allocation of the historical cost less the expected residual value over the anticipated life of the asset.

The most common formulae are:

- Straight line
- Double declining balance
- Sum of years digits
- Activity basis

The choice of method should reflect the best estimate of the anticipated decline in value of the asset. Items which decline rapidly in the early periods of use but then tail off should use a method more heavily weighted towards the front end. Assets which gradually decline over successive periods should use a more even method.

All methods require the following information:

Historical Cost (including the purchase cost, freight charges, installation and implementation costs). Basically this is the cost to make the asset operational or useful.

Expected Life normally in months or years.

Residual Value. What value is expected to be recovered at the end of the assets useful life? This could be the anticipated sale value or scrap value.

Activity Level. This might be an estimate of the expected volume to be produced in units or some estimate of life in terms of usage (such as numbers of miles, hours of performance and so on).

The manner in which financial reporting systems record depreciation is to record the period depreciation value as an expense called ‘Depreciation’ while setting this against the asset as a Provision for Depreciation. A Provision account is an offset account.

(a) Straight Line Depreciation:

Straight Line depreciation assumes an even decline in the value of the asset.

Depreciation per period = (Historical Cost – Residual Value) / Expected Life in periods.

For example:

Depreciation per annum = $(10,000 - 1,000) / 3 = 3,000$

This would result in a charge to depreciation expense of \$3,000 per year for 3 years and then the sale of the used asset at the end of year 3 for \$1,000.

In financial reporting terms this would appear as follows:

Year	Account	Effect	Assets	Expenses
Year 0 Purchase	Bank	-10,000	-10,000	
	Asset	+10,000	+10,000	
Year 1	Depreciation	+3,000		+3,000
	Provision for Depreciation	+3,000	-3,000	
Year 2	Depreciation	+3,000		+3,000
	Provision for Depreciation	+3,000	-3,000	
Year 3	Depreciation	+3,000		+3,000
	Provision for Depreciation	+3,000	-3,000	
Disposal	Asset	-1,000	-1,000	
	Bank	+1,000	+1,000	

You can see that in each year the Provision for Depreciation grows by \$3,000 but because this is an offsetting account, it has a negative balance when listed with the Assets. Each year,

the usage or decline in value of the asset is taken to expenses representing a cost to the business of using or holding that asset for the year.

(b) Double Declining Balance:

The DDB method implies a rapid decline in the early period of an asset’s life. You would expect this with a new car or truck for example.

The DDB calculation is as follows:

$$\text{DDB}\% = (100 / \text{Expected Life in Periods}) * 2$$

Example:

$$\text{DDB}\% = (100 / 5) * 2 = 40\%$$

An asset costing \$10,000 with a residual value of \$1,000 with an expected life of 5 years would have the following depreciation schedule. The salvage value is not deducted from the historical cost to calculate depreciation but the value of the asset in the account never falls below its residual value.

Year	Balance	Depreciation
Year 0	10,000	0
Year 1	6,000	4,000
Year 2	3,600	2,400
Year 3	2,160	1,440
Year 4	1,296	864
Year 5	1,000	296 (*)
Disposal	1,000	
Total Depreciation		9,000

(*) As you can see, one of the problems of DDB method is that the last period is not calculated using the DDB% but simply clears out the balance. Many firms overcome this problem by changing to a straight line depreciation at the mid-point in the asset life.

(c) Sum of Year's Digits

This is another form of accelerated depreciation. It adds up the sum of the expected life in years and uses the total as the denominator.

So for example:

As asset with a 5 year life would have a denominator of $(5+4+3+2+1) = 15$. In the case of SOYD, the residual value is deducted from the balance before applying the calculation.

An asset having an historical cost of \$16,000, a life of 5 years and a disposal value of \$1,000 would be depreciated as follows:

Year	Balance	Calculation	Depreciation
Year 0	16,000		0
Year 1	11,000	5/15	5,000
Year 2	7,000	4/15	4,000
Year 3	4,000	3/15	3,000
Year 4	2,000	2/15	2,000
Year 5	1,000	1/15	1,000
Disposal	1,000		
Total Depreciation			15,000

(d) Activity Basis:

An activity basis depreciation method sets out the anticipated total activity for the asset in order to calculate the depreciation per unit of activity. The depreciation expense is then calculated each period based on actual activity. The activity could be units of output, hours of time used, miles driven, passengers carried etc.

Example:

A machine has an estimated useful life of 100,000 units. The cost of the machine is \$55,000 with an expected residual value of \$5,000. The depreciation per unit of output is \$0.50.

Year	Balance	Activity	Depreciation
Year 0	55,000		0
Year 1	45,000	20,000	10,000
Year 2	34,000	22,000	11,000
Year 3	25,000	18,000	9,000
Year 4	12,500	25,000	12,500
Year 5	5,000	19,000	7,500 (*)
Disposal	5,000		
Total Depreciation			50,000

(*) As you can see, one of the problems of the Activity method is that the total activity levels achieved may not be the same as the original estimate. The last period would be adjusted accordingly.

Limitations Of Depreciation Methods

As you can see, a number of assumptions have to be made in order for the process to be used. Clearly, an arbitrary allocation of historical cost is unlikely to correspond to the actual decline in market value of the asset. One hopes that it approximates it.

We assume a useful life, but in fact, the actual life may be very different. It is not unusual for plant and equipment to be still working many years after the original cost has been expensed to depreciation. With annual maintenance and occasional overhauls of equipment, the life can be extended for considerable periods of time. This can greatly impact comparability between firms where equipment is used over long periods of time. Once it has passed its original life estimate, equipment which is still highly productive would have a low residual value in the accounts of the firm and yet still be contributing to the profitability of the firm. In essence, it over states the economic profitability of the firm. On the other hand, the same equipment in the early part of its life is being depreciated at much greater rate than it should have been thus understating economic profit during those years.

Residual value is also estimated but this can be very inaccurate. This is especially the case with buildings where the likely residual value can often be greater than the historical purchase price. Building may be depreciated at 2% pa but the value may in fact be increasing.

Depreciation is often seen as a surrogate for setting aside an amount for replacing a productive asset. If the replacement value is increasing over time, the accumulated depreciation is unlikely to be equal to the replacement cost of the asset. Therefore, the economic cost of the asset is understated.

At the same time, many assets, especially high technology ones, actually decline in price over time. The replacement cost is usually much lower than the historical cost of the item it finally replaces. This is usually catered for by assigning shorter useful lives and a much lower residual value.

Historical cost is often adjusted by the addition of any major expenditure which has a multi-year impact on the asset. Thus a major equipment overhaul or refurbishment might be added to the historical cost to reflect an increase in its current value.

Intangible Fixed Assets

Intangible fixed assets include such items as Intellectual Property (patents, brands, copyrights, licenses, regulated rights and trademarks). It also includes major expenditures such as company formation expenses, research and development for marketable products, goodwill on acquisitions and major refurbishment costs to offices or plant. It might also include a market development cost such as the set up costs in a new country or territory.

The basic rule of thumb is that the expenditure should add value to the business for more than one year. This expenditure is put into a Capitalized Value with the cost expensed over the estimated life of the benefit, usually on a straight line basis. The allocation of the Capitalized Value is called Amortization – basically, depreciation as applied to intangible assets.

There is often a question as to the likely impact of a major expenditure. If the impact is uncertain, generally it is expensed during the period incurred. This has traditionally been the treatment for basic research expenditure where it is uncertain if it will result in commercial products. On the other hand, incremental innovation to existing products which have a longer term impact (more than one year) is usually added to the Capitalized Value and Amortized over the remaining life of the asset.

Intangible assets which are monetary instruments such as long term loans to individuals and organizations do not decline with time or use and as such are not amortized. However, if these have a market value, such as investments, they may be revalued on an annual basis

and the change in value taken to income or expense. Any change in value is usually taken to an Unrealized Gains and Losses account, reflecting the fact that until the item is converted to cash, the gain or loss has not materialized.

Many Intangible Assets are acquired. A firm might buy a patent, trademark or rights and this establishes the capitalized value. Alternatively, the firm might devote major expenditure in creating such an asset in which case that expenditure forms the basis of the capitalized value.

What Is It Worth?

You can see how problematic valuation is. You clearly have a problem with valuation. Just because you acquire something or build something or devote major expenditure to a project does not in itself create future value. Furthermore, there is little science to show what the market value of such items would be.

Just because you spend large amounts on product or market development or in setting up a new operation, does not necessarily mean that you will obtain an economic return from that expenditure. You might achieve a considerable benefit way beyond your expectations or it might be a complete failure.

The process which should be followed is to examine each of the intangible assets on an annual basis and recalibrate their estimated future value. Normally, we would reflect any decrease in value and expense the change but not reflect any increase in expected value. Of course, this has the effect of understating assets which contribute more than they cost.

You can also appreciate the problem which lenders have with obtaining reasonable estimates of the security of their loans. Clearly they cannot take the total assets at face value, that is the 'book value' or value as represented in the accounts. If the lender has to call in a loan, it might put the business into receivership. In that case, only the liquidation values of the assets are relevant. What value would uncompleted research be or an incomplete project to launch a new product or open up a new market region? While these may have future benefit to the company, they would almost certainly have zero value on liquidation.

At the same time, many assets may be undervalued by the book value. Land will appreciate in value. Good brands and trademarks increase in value with the growth of the business. Even buildings will appreciate in a market with limited supply. However, these higher values will not be reflected in the accounts.

Interpretation

You can see from the discussion that the arbitrary allocation of historical cost through depreciation and amortization can materially mislead the uninformed user. Assets can be materially under or over valued since the rate of depreciation may be out of step with the market value of the asset. At the same time, the economic contribution to the firm can be under or over reported as compared to the replacement cost of the same contribution.

Firms which rent rather than own such assets may end up with a very different financial picture even though the economic activity is the same. This makes comparisons between firms very difficult.

Firms which fail to set aside funds from depreciation or profits to fund replacement assets (if that is required) where replacement asset values are increasing are, in effect, over stating profits. This can have a material impact on the firm when replacement products need to be funded.

At the same time, assets which increase in value over time rather than decline, understate profits.

From a management viewpoint, close attention needs to be given to replacement costs and the use of funds as this can greatly impact the survival and profitability of the firm over time. The cash flow effect of replacing productive assets is perhaps the most critical problem. As depreciation and amortization are not actual cash outflows, firms can be misled in using current cash inflows without recognizing the long term impact of funding replacements.

In the end, it is the ability to fund the operations of the firm which will determine its survival, growth and profitability.

Reflection:

Sometimes you are compelled to ask the dumb question. I recall as an undergraduate accounting student asking my Professor how you would depreciate a cow. The lecture theatre fell about laughing and waited for the Professor to tell me to stop wasting everyone's time. To their surprise, the Professor complemented me on my question. He said that since a cow appreciated in its early years before reaching its maximum value, the problem of valuation was problematic. If depreciation was applied to the value of the calf, the book value and market value would gradually move

further apart during the first few years. I could not have picked a better example to show the limitations of conventional depreciation methods.

CHAPTER 6: FINANCING THE BUSINESS

Questions:

What is the difference between liabilities and equity?

How do we know what the Net Worth of the business is?

How do shareholders know what their ownership value of the business is?

What happens when the business is liquidated? Who gets what?

How do we record obligations which are not yet due?

The Business Entity

The business activity is separate from the personal dealings of the owner or trader. In a simple business such as a Sole Trader where the individual trades under their own name, often using their personal credit card and bank account for trading activities, the divisions are somewhat blurred. Even so, it is possible to separate the business activities and work out whether it is making a profit or loss for the individual.

A more formal form of trading is the partnership where two or more individuals agree to work together on a business activity. The need to separate personal from business is much more critical when you have to ensure that the expenses of the business are separate from the personal expenses of the individuals working in the business. This needs to be done in order to divide the trading profits or losses between the partners. Typically partnerships set up partnership bank accounts, credit cards and so on so that the business activity can be properly recorded and monitored.

A more sophisticated form of business is the private enterprise which is formed under legal regulations as a Limited Liability company. A company is allowed to set up in business and trade provided it conforms to specific regulations. For example, it must pay license fees, satisfy any compliance regulations and file annual business returns and pay taxes when due. Providing it meets these regulations, the owners of the business are able to limit their liabilities to what the business itself is able to pay.

Because of the limited liability nature of most businesses, suppliers, creditors and lenders are put on notice as to the limit to which the business will be able to meet its obligations. Any creditor or supplier unsure of whether they will be paid for goods and services supplied will insist on cash with order or cash on delivery. Banks would be unwilling to lend funds if they did not have confidence that the interest and repayments would be paid.

Most businesses need some level of credit or loans to operate. This places an obligation on the business owners to provide financial information to suppliers and lenders in order to have the credit or loans available. Unless the creditors can be convinced of the reliability of the financial information supplied, they will be reluctant to advance credit.

This is one of the major reasons why we have accounting standards, accounting conventions and norms. An informed person reading financial reports needs to have a high degree of reliability as to the meaning of the information in those reports. Regulatory bodies, such as the tax department, also need to have confidence in the information.

The most sophisticated form of business entity is the Public Corporation. This is a business entity which has a license to offer shares in the business to the general public. Because we as a society do not believe that the average person has the ability or access to the level of information needed to fully assess the profitability or resilience of a corporation, the Government requires such entities to be independently audited. The Auditor will verify that the corporation has conformed to the Generally Accepted Accounting Principles (GAAP) requirements.

Net Worth

Because the business entity is a legal entity separate from the owner(s) and is allowed to own tangible and intangible assets, borrow funds and use credit, we need to have a way of assessing whether the entity has the ability to meet its legal obligations when they are due. An entity which has a reasonable expectation that it cannot meet its legal obligations when they fall due must declare itself insolvent and put itself in the hands of a receiver or liquidator. When that happens the management of the firm is taken over by the receiver or liquidator who will act on behalf of the creditors. The business might be traded out of trouble or liquidated to pay off as many of the creditors as possible.

As creditors and lenders what we really want to know is whether the business has enough funds to cover its obligations. Providing we have access to a set of financial reports from the

firm, there are number of ways we might assess the ability of the business to pay suppliers or lenders.

The simplest calculation is to take the value of the assets and deduct the value of the liabilities. The balance is called Net Worth. Basically this is that would be left over if all the assets were converted to cash and all the liabilities paid off. This balance is what is ‘owned’ by the shareholders.

$$\text{Net Worth} = \text{Assets} - \text{Liabilities}$$

We often call Net Worth the Shareholder’s Equity, Shareholders Funds or just Equity.

To arrive at this point we need to have a full list of assets and liabilities.

Assets are those things which the business has a right to, ownership of or where there is an obligation of an external party to provide some goods or services of value to the business. Assets can be real property such as building and land, tangible assets such as plant and equipment or intangible assets such as investments, Accounts Receivable, Notes Receivable or Intellectual Property. Assets may also include capitalized expenditure which is believed to have some future benefit to the business, such as business set up costs, office refurbishment expenditure or product development costs.

Liabilities on the other hand are things you owe. They would include Accounts Payable, Notes Payable, Bank Loans, mortgages and outstanding taxes.

There are also some assets and liabilities which are anticipated but not yet formally due which are often recorded if they are material in value. For example, companies often accumulate their vacation entitlements due to the size of the future obligation. Until a member of staff goes on vacation, this liability is not crystallized. Some can be calculated with some precision while others are estimated.

Other examples of accrued liabilities are:

- bank interest
- mortgage interest
- taxes
- performance bonuses

- warranty claims
- contingent liabilities on litigation

There are similar items on the assets side, obligations owed to the firm which have not crystallized. Examples are:

- interest due on loans to external parties
- penalty interest due on outstanding accounts receivable

One way to think about what might be owed to others or due to the firm, is to think about what would happen if we liquidated the firm. We would collect anything due to us which was outstanding and sell all the assets. That would put cash in the bank. We would then have to pay out all the obligations including those which we would have to calculate, like employee vacation pay and bank interest.

When we construct a financial report on the firm, we report both its performance over a period of time as well as the change in its financial position from the start of the period to the end of the period. To gain an accurate picture of the financial status of the business at a point in time, we need to gather in all the various outstanding items like accruals and provisions otherwise we would misrepresent the state of the firm.

When we set up an accrual for a future liability, we effectively recognize an expense to the firm for the current period. At the time the liability is paid, we cancel the accrual.

Example:

Bank loan of \$100,000 at 12% interest per annum. Interest is paid quarterly but we want to recognize the expense each month. We accrue the interest for each three months and then pay the interest which resets the accrual back to zero for the next three months.

Date	Account	Account Type	Amount
Feb 1	Accrued Interest	Liability	+1,000
	Interest Expense	Expense	+1,000
March 1	Accrued Interest	Liability	+1,000
	Interest Expense	Expense	+1,000
April 1	Accrued interest	Liability	+1,000
	Interest Expense	Expense	+1,000
	Bank	Current Asset	-3,000
	Accrued Interest	Liability	-3,000

Each month an amount of \$1,000 is added to the Interest Expense account, representing an expense of operating the firm during that period. You can see how the Matching Principle is applied in this situation. We always try to identify income and expenses associated with a period so we can properly judge the performance of the period. If we allowed the interest to only be expensed in month three when it was paid, we would have two months with overstated profits and one with very poor profits yet the reality is they were all the same.

Similar treatments are undertaken for all the accrued liabilities. Accrued assets, such as interest due, are treated in the same manner. Items are accrued in the accounts period by period until the monies are received at which time the accrual account is reset to zero. While accrued liabilities are taken to expenses, accrued assets are taken to income accounts.

By correctly reflecting the accrued liabilities and assets in the accounts, we end up with a much more accurate picture of the Net Worth at the point in time when the financial report is produced.

Shareholders Funds

Net Worth is the balance between Assets and Liabilities and represents the value which the owners have in the firm.

$$\text{Net Worth (i.e. Shareholders Funds)} = \text{Assets} - \text{Liabilities}$$

One would hope that this balance would always be positive showing that the business had a positive value but that isn't always the case. If what I owe (liabilities) is more than what I am due (assets) then my net worth is negative. If the business was put into liquidation at that point

in time and the assets were sold for their book value, some of the creditors would not be paid and those creditors would incur a loss on their trade with the bankrupt firm.

Shareholders Funds normally start with a cash injection into the firm. An alternative would be to transfer the ownership of assets into the firm.

Normally the firm commences as follows:

Date	Item	Account	Amount
Jan 1	Bank	Asset	+10,000
	Shareholders' Funds	Equity	+10,000

You will notice that instead of just showing I have money in the bank, I also show where the money came from. Let me add a bank loan and the reason becomes more obvious.

Date	Item	Account	Amount	Balance
Jan 1	Bank	Asset	+10,000	10,000
	Shareholders' Funds	Equity	+10,000	10,000
Jan 15	Bank Loan	Liability	+5,000	5,000
	Bank	Current Asset	+5,000	15,000

If we go back to our Net Worth equation, the result is as follows:

$$\text{Net Worth } (\$10,000) = \text{Assets } (\$15,000) - \text{Liabilities } (\$5,000)$$

If I use some of the cash in the bank to buy inventory for sale, the change would look like this:

Date	Item	Account	Amount	Balance
Jan 20	Bank	Asset	-5,000	10,000
	Inventory		+5,000	5,000

The Net Worth has not changed because all I have done is convert part of one asset, Bank, into another, Inventory.

The only way Net Worth changes is if I incur a Profit or Loss, receive further funds from shareholders or pay back funds to shareholders. Excluding transactions to and from shareholders, it is Profit or Loss which changes Net Worth.

While Net Worth is a static concept, Profit and Loss are period concepts or flow concepts, that is, they occur through the passage of time.

$$\text{Net Worth (Jan 1)} + \text{Profit/Loss (Jan 1 – Jan 31)} = \text{Net Worth (Jan 31)}$$

Profit or Loss comes from trading activities or through changes in the values of Assets over the passage of time.

Example: During January I sell \$5,000 of Inventory for \$7,000 and pay administrative expenses of \$1,000. The opening balance of Inventory was \$8,000 and the opening Bank balance was \$10,000. If I have one liability, a Bank Loan of \$5,000, my Net Worth before this transaction would equal the value of my assets, \$18,000 less my Bank Loan, that is \$13,000. I make a \$1,000 profit on the sale.

Date	Item	Account	Amount	Balance
Jan 25	Bank	Asset	+6,000	16,000
	Inventory	Asset	-5,000	3,000
	Income	Income	+7,000	7,000
	Administrative Expenses	Expense	+1,000	1,000
	COGS	Expense	+5,000	5,000

At the end of this transaction, I can recalculate my Net Worth.

Date	Item	Account	Balance
Jan 30	Bank	Asset	16,000
	Inventory	Asset	3,000
	Bank Loan	Liability	5,000

Net Worth = Assets (\$19,000) – Liabilities (\$5,000) = \$14,000.

Thus my Net Worth has been increased by \$1,000 which is the profit on sale of the inventory. This is shown as follows:

Income \$7,000

Less Expenses: COGS (\$5,000) + Admin Expenses (\$1,000)

= Net Profit (\$1,000)

We recognize this in the accounts by transferring profit from the Income and Expense Accounts into the Equity Account, Retained Earnings.

Date	Item	Account	Amount
Jan 31	Income (total)	Income	+7,000
	Expenses (total)	Expenses	+6,000
	Net Profit / Loss	Income	+1,000
	Net Profit / loss	Income	-1,000
	Retained Earnings	Equity	+1,000

Note that Income and Expense accounts are not part of my financial status at a point in time. Only Assets, Liabilities and Shareholder’s Funds are included. These three classes of accounts make up my Balance Sheet. Income and Expenses represent the movement during the period and are shown in my Income Statement.

This is represented as follows:

Income Statement: Income/Loss = Revenue – Expenses (related to a period of time)

Change in Net Worth = Income/Loss (related to the change in Net Worth over a period).

Balance Sheet: Net Worth (end of period) = Net Worth (start of period) + Profit/Loss

At the end of the period the Equity Accounts would appear as:

Date	Item	Account	Balance
Jan 31	Shareholders' Funds	Equity	13,000
	Retained Earnings	Equity	1,000

Equity Accounts do not represent anything real. They are not Assets which have specific value or Liabilities which have specific obligations. It is simply a value which represents the difference between these two. If we wanted to know where the Equity was in the business we would have to inspect the assets and liabilities to know where the money had gone. After all, new funds in the business can be used to acquire or build assets as well as pay off liabilities.

Another way of looking at the business is to say:

Where did the funds come from? Equity plus Liabilities

Where have the funds been used? Assets

We can increase assets by injecting more funds from shareholders or increasing liabilities. We can decrease liabilities by injecting more funds into the business from shareholders or by selling assets. If we inject more shareholders funds it must go to either Assets or Liabilities, that is, it must be represented in something real in the business.

Money taken out of the business and given to shareholders are called drawings in the case of Sole Traders and Partnerships or Dividends in the case of companies. Dividends may not be paid to shareholders unless the Retained Earnings account has a positive balance.

The payment of a dividend would be represented by the following transaction:

Date	Item	Account	Amount	Balance
Feb 1	Bank	Asset	-500	15,000
	Retained Earnings	Equity	-500	500

Net Worth would fall to \$13,500.

Shareholders funds can be made up of different forms of shares which have different rights as to voting and preference on distribution of dividends.

Preference shares, for example, are entitled to be paid dividends before Ordinary Shares. On liquidation or winding up of the business, the preference shares are paid before the ordinary shares. In the event there is a shortfall in funds to pay out all the shareholders, the ordinary shareholders are at the end of the line.

It is very common for some creditors to have security over specific assets so that in a liquidation they will be paid out first. If there are funds left over, employee entitlements and then unsecured creditors would be paid. Only after all those have been satisfied are funds paid to shareholders, of which the preferred shareholders are paid first.

Not all the Retained Earnings are available for payment of dividends. Typically some would be set aside for the future development of the business.

Date	Item	Account	Amount	Balance
Feb 2	Retained Earnings	Equity	-200	300
	Reserve for Expansion	Equity	+200	200

Note that this Reserve is really just a memo. No funds have actually been moved out of the Bank or new Liabilities created. Remember that Equity simply represents a balance between the total Assets and the total Liabilities. This type of memo simply says to the shareholders that they can't have these monies as dividends as they are needed for future development of the business.

Reflection:

One should never confuse Net Worth with valuation. The first business I sold was a UK software business of 160 people with revenues of about \$15 million. It had a Net Worth of about \$500,000. However, when we decided to sell the UK was heading into a recession. Our sales dropped significantly but we still had very high payroll costs. It didn't take long for us to be trading at a loss and the Net Worth started to go backwards. Fortunately for us, a US company could see strategic value in the business and we negotiated a price of US\$9.6 million for the business.

CHAPTER 7: UNDERSTANDING THE INCOME STATEMENT

Questions:

When is revenue not income?

What is the normal form of an Income Statement?

How is the Income Statement related to the Balance Sheet?

How do I know when the firm has performed well?

How should I compare one period to another?

You will recall from the earlier chapters that Net Profit or Loss comes from the trading activities of the business and represents the change in Net Worth from the start of one period to the end of the period.

$$\text{Net Profit/Loss} = \text{Net Worth (End Balance)} - \text{Net Worth (Opening Balance)}$$

At the same time, we know that the result of trading changes various Asset and Liability Account balances and that it is possible to calculate Net Profit from these changes since the net of those changes also equals the change in Net Worth. That is, assuming no change in funds provided from the shareholders.

$$\text{Net Profit} = ((\text{Total Assets (period end)} - \text{Total Assets (period start)}) - ((\text{Total Liabilities (period end)} - (\text{Total Liabilities (period start)})))$$

The Profit or Loss is absorbed somewhere in the Assets or Liabilities. In a simple business Cash would increase with profit. But in a more complex business the impact of a positive Net Profit may appear as an increase in a number of assets or in a decrease in some liabilities.

For example, I may end up at the end of the period investing in more inventory. What is clear is that the Profit from a trading period is not always represented in a pile of cash which we can remit to shareholders. Similarly, a Loss may not be represented by a decline in cash. We need always to keep in mind the complex nature of business and that there is a constant flow of movement of Assets and Liabilities as the business trades. Whether we have enough

cash to meet our obligations or to pay dividends is a matter of deliberate cash planning not simply whether we make a Profit.

Defining Revenue

Normally one would argue that a sale creates revenue and this is certainly the case for the majority of sales. However, not all sales result in revenue immediately. Whether revenue is created very much depends on the timing of the delivery of the goods and services.

Revenue is created in the case of goods and services when title changes. That is, when the rights to use or consume the product or service has passed to the customer. In the case of goods, it is generally very simple. The physical despatch to the customer changes ownership and at that time title changes.

However, some companies reserve the right to title until full payment is received. Thus if the customer buys on credit terms then, until they pay the full amount, the firm retains the right to repossess the goods. The sale transaction might then look like this:

Example:

Goods with a COGS of \$8,000 are sold for \$10,000 on payment of a deposit of \$2,000 and two monthly payments of \$4,000.

Date	Item	Account	Value	Balance
Jan 1	Inventory	Asset	-8,000	0
	Bank	Asset	+2,000	2,000
	Goods on Consignment	Asset	+8,000	8,000
	Revenue in Advance	Liability	+2,000	2,000
Feb 1	Bank	Asset	+4,000	6,000
	Revenue in Advance	Liability	+4,000	6,000
Mar 1	Bank	Asset	+4,000	10,000
	Revenue in Advance	Liability	+4,000	10,000
	Income	Income	+10,000	10,000
	COGS	Expense	+8,000	8,000
	Goods on Consignment	Asset	-8,000	0
	Revenue in Advance	Liability	-10,000	0

As you can see, while the sale may have been made at Jan 1, the revenue is not recognized until Mar 1, two months later when title changes hands.

This situation would have been different if the initial deposit was non-refundable. In that case the initial \$2,000 would have been Revenue at Jan 1, but the balance would have been held as a liability account until the title changed. If the customer had defaulted and the goods returned, any payments other than the deposit would have been returned to the customer.

Goods On Consignment

Many retailers offer goods for sale which are stocked by them but where they actually don't have ownership. These goods are placed there by manufacturers on consignment, effectively

on loan, until such time as they are sold. At the time of sale, the manufacturer recognizes a sale and the associated profit on the sale. Normally consignment inventory is held in a separate account to show that it is off site and in the hands of another company.

Extended Delivery

Services delivered over a long period have special problems of revenue recognition. As an example, what would happen if I take on a large project which extends for many months say, more than a year, and I only receive payment at the end? During the project period I am incurring expenditure for material and labour as well as various administrative costs. It would be entirely misleading to show a large loss in one period and then a large profit in the subsequent one when I received the final payment.

If there is a high expectation that I will complete the project and receive payment then my financial performance would be better represented if I recognized the gradual earning of that revenue during the life of the project. In deciding how much to recognize period by period, I may make an allowance for potential contingencies so as to not over state earned revenue during the life of the project.

Example: I agree to take on a project with an estimated value of \$250,000 spread over 24 months. My costs are estimated at \$5,000 per month and I allow for contingencies of \$10,000.

Each month I would enter the following transactions:

Date	Item	Account	Amount
Jan 31 Year 1	Bank	Asset	-5,000
	Project Expenses	Expenses	+5,000
	Accrued Income	Asset	+10,000
	Income	Income	+10,000

The Accrued Income Account would accumulate over the life of the project until it reaches \$240,000 at the end of the project. At that point I may still have contingencies outstanding so \$10,000 would be set aside for those.

Date	Item	Account	Amount	Balance
Dec 31 Year 2	Bank	Asset	+245,000	130,000
	Accrued Income	Asset	+10,000	240,000
	Income	Income	+10,000	120,000
	Project Expenses	Expense	+5,000	60,000
	Provision for Contingencies	Liability	+10,000	10,000
	Accrued Income	Asset	-240,000	0

Note that the Income and Expense accounts only relate to the current financial and not to the entire project. Note also that in this case, the firm has expended \$120,000 each year in expenses but they have no cash inflow from the project to fund those. Even though they are recognizing revenue and profit on the project month on month, there is no cash inflow from revenue. Managing cash exposure on such large projects is critical.

The disparity of cash flow and profit can be seen in large construction projects. Apartment blocks, for example, are often sold ‘off the plan’ which means that deposits are taken before and during construction to provide cash flow. Often the deposits are non-refundable. Typically the shareholders provide some of the development capital, deposits provide some funding and then lenders provide the residue. As the construction proceeds, however, cost overruns occur due to weather delays, equipment breakdown, late delivery of materials, unforeseen geological problems and so on. Until the project completes, the profitability of the project is uncertain. We often see such projects go into the hands of the receiver. Even though the project is profitable, the construction company runs out of cash.

Another example of the revenue recognition problem of extended delivery occurs with service agreements where the payment for the service is paid in advance. If the costs of the service provision are spread over many months, the revenue should be earned as the services are delivered.

Example:

A twelve month support agreement is sold for \$12,000 two months before the start of the service delivery. Costs per month for supporting the agreement are \$500.

Date	Item	Account	Amount	Balance
Nov 1	Bank	Asset	+12,000	12,000
	Revenue in Advance	Liability	+12,000	12,000
Jan 31	Bank	Asset	-500	11,500
	Income	Income	+1,000	1,000
	Support Costs	Expense	+500	500
	Revenue in Advance	Liability	-1,000	11,000

These transactions would occur each month through the life of the agreement. What it demonstrates once again is the divergence of cash flow and income. Managing the use of cash whether it comes at the start or at the end of an extended agreement is critical.

Warranty

Where a warranty is offered with a product or service, there is some expectation that some warranty costs will be incurred, however, the timing of such work is unpredictable. If the anticipated warranty costs were insignificant, the business might simply expense those as they were incurred using the principle of Materiality. In other words, the financial reports are not misrepresented because the anticipated costs of warranty work are not set aside.

On the other hand, if warranty costs are expected to be material, some provision needs to be made for them at the time of sale so that the expenses incurred later can be offset against revenue. If specific expenses for warranty work are absorbed in the normal operation of the business, we might simply pro-rata the warranty provision over the warranty period. For example, if warranty costs are expected to equal 12% of revenue and a one year warranty was offered, then 12% of the revenue would be set aside in a provision and each month 1/12 of that would be taken to revenue on the understanding that the business was absorbing the expenses of warranty work on a monthly basis.

Discounts

Price discounts effectively reduce the gross margin on a sale. There are two methods commonly used to reflect discounts. One is to simply record the sale at its discounted value while the other is to record the full sale price and show the discount as a COGS expense. The former is easier but it loses the information as to what level of discounts are being experienced.

Example:

A sale of \$5,000 with a discount of \$200. COGS of inventory of \$4000.

Date	Item	Account	Amount
Jan 15	Bank	Asset	+4,800
	Inventory	Asset	-4,000
	Income	Income	+5,000
	COGS Discount	Expense	+200
	COGS	Expense	+4,000

The business should have targets for discounts and these are best monitored by keeping track of discounts taken.

The general view is that early payment discounts are a financing cost rather than a promotion cost. That is, early payment discounts are used to reduce the time taken to collect the sale proceeds. This is different from promotion discounts which are used to increase sales.

Non-Operating Income And Losses

In reviewing an Income Statement and the resulting Profit and Loss, we really want to know how the business is performing on an on-going basis. Therefore, any items of a material nature which are incurred other than in the ordinary trading activities of the business should be reported in the Income Statement below the operating Net Profit.

These items would include the following:

- write-downs of inventories to net realizable value or of property, plant and equipment to recoverable amount, as well as reversals of such write-downs

- restructuring of the activities of an entity and reversals of any provisions for the costs of restructuring
- disposals of items of property, plant and equipment
- disposals of investments
- discontinuing operations
- litigation settlements
- other reversals of provisions

Expenses

Expenses recognize that services or resources are used in the operation of the business. This is not the same as expenditure which could be described as payment for products, services or charges in the operation of the business.

I might expend money to acquire components, ingredients, labour and other costs to manufacture goods for sale. The manufacturing process absorbs these costs as we add value through the manufacturing process. Eventually, the finished manufactured goods are passed into inventory for sale. As we have seen in earlier chapters, inventory which is sold becomes COGS, an expense incurred during the period in which the sale occurred. All the costs incurred in the manufacturing process add value to the Assets, Work In Progress Inventory and Finished Goods Inventory. So although we have expenditure, this does not constitute an expense during the period. The expenses are only incurred when we convert inventory into COGS.

Expenditure may also be incurred to purchase assets which are used in the business. As we have seen, the depreciation of assets is the expense which is assigned to the period. The same applies to expenditure on intangible assets such as Intellectual Property. Intangible Assets are amortized over time and it is the periodic amortized value which is an expense of the period.

We also noted in an earlier chapter that expenditure could occur well before or well after an expense occurred. This would be case where an expense was paid in advance or in arrears or on credit. Some costs are paid in bulk but used slowly over time. Such costs are assigned pro-rata to expenses over their useful life.

Some expenses are accrued until they are due and paid. An example might be an annual insurance premium or rent due in arrears. Each period is assigned a portion of the expenditure to match the use of the item during the accounting period.

All these examples demonstrate the importance of assigning expenses correctly to the appropriate period and that the expense incurred may have a timing and amount very different from the actual expenditure. We need to match the usage of services and products in a period with the revenue generated in the same period. Anything else would distort the information we have available to evaluate financial performance for that period.

Most expenses are incurred during the period. Alternatively, they are incurred period after period and therefore the effect of accruing and then assigning them makes little difference to the evaluation. For example, if I pay rent a month in arrears, that will happen month after month and therefore I simply take the payment this month as the expense for the period in which the payment was incurred. The same logic applies to almost all employee and administrative expenses. Only when it makes a material difference in performance would I bother to accrue and then pro-rata or assign.

Income Statement Format

The basic format of an Income Statement is:

Active Retail Company

Income Statement for the Period 1st January to 31 December 20xx

Classification	Account	Value \$'000	Value \$'000
Income			
	Revenue		100
	Less COGS		(20)
	Gross margin		80
Expenses			
	Selling and Marketing	20	
	Administrative	15	
	Depreciation and Amortization	5	
	Total Operating Expenses		(40)
Net Profit Before Interest and Tax (EBIT)			40
	Finance Expenses		(10)
Net Profit Before Tax			30
	Tax		(7)
Net Profit After Interest and Tax			23

At the end of the period, the Net Profit After Interest and Tax would be transferred to Retained Earnings and the estimated tax set up in a liability account, Provision for Taxation.

It is usual to show Revenue broken down into the major lines of business as this aids evaluation of the business performance.

For example, you might see Revenue as follows:

Revenue	Account	Value \$'000	Value \$'000
	Construction	500	
	Home Extensions	220	
	Disaster Recovery	45	
Total Revenue			765

Many analysts are also interested in Net Profit Before Interest, Tax, Depreciation and Amortization (EBITDA). The reason for this is that they want to see what the cash generating power of the business resources is. Since depreciation and amortization does not incur a cash outflow, they add those back to EBIT. Interest can vary greatly depending on the amount of borrowings and this can distort results between a business with large borrowings compared to one with little.

Analysing the Income Statement

The Income Statement in its raw form is not that informative. While it will tell you what the sales are and what the profit or loss was, the really useful information lies in the relationship of the items to each other. Equally useful is to look at the relationships over time to see what changes are happening in the business. I can actually learn a lot about the business by observing the ratios between different elements and the trends over time.

For example, take simple concepts like the Gross Margin ratio to sales or the ratio of Net Profit to Gross Margin and Sales. We might also be interested in the ratio of administrative costs or finance costs to Sales and Gross Margin. Do they make sense? Are they out of line?

Further examination of the Income Statement over time across several periods is usually very revealing. Just because sales are increasing does not mean that the company is performing well? What would you think if the Gross Margin percentage to Sales was decreasing or financing costs relative to Gross Margin was increasing? On the other hand, you might be very interested to see an increase in the Gross Margin percentage or a reduction in financing costs.

Item	Year 1	% of Sales	% of GM	Year 2	% of Sales	% of GM
Revenue	100	100		110	100	
Less COGS	(30)	30		(32)	29.1	
Gross Margin	70	70	100	78	70.9	100
Selling and Marketing	(20)	20	28.7	(25)	22.8	32.1
Administration	(15)	15	21.4	(16)	14.5	20.5
Depreciation and Amortization	(5)	5	7.1	(5)	4.5	6.4
Total Operating Expenses	(40)	40	57.2	(46)	41.8	59.0
Financing Expenses	(5)	5	7.1	(7)	6.4	8.9
Net Profit	25	25	35.7	25	22.7	32.1

In comparing expenses to sales you can see that the business is making a slightly better Gross Margin but that selling and marketing expenses have grown as a percentage of sales. We would expect depreciation and amortization to decrease with growth since it often represent historical fixed expenditure. But note that financing costs have grown.

Relating Year 1 to Year 2, we can see that sales have grown by 10% but that Net Profit is the same. Gross Margin percentage has grown but this has been offset by other expenses.

One of the most important ratios we should be examining is the Interest Coverage Ratio. This indicates the number of times that interest payments are covered by earnings. The ratio is shown as

$$\text{Interest Coverage Ratio} = \text{EBIT} / \text{Interest.}$$

Assuming, from this example, that the financing charges are all interest, then the calculation would be:

$$\text{Year 1 Interest Coverage Ratio} = 25/5 = 5$$

$$\text{Year 2 Interest Coverage Ratio} = 25/7 = 3.6$$

This suggests that they have increased their borrowings or are being charged higher interest rates. The interest coverage ratio is a critical measure of performance as failure to pay interest could be result in debts being called in which could cause the business to fail.

In reviewing the Income Statements within a period and then across periods the reader can gain insights which need to be followed up. Management needs to use this information to dig deeper to understand what is happening within the business. Not all changes, even if negative, are necessarily bad. Strategies which result in higher short term costs will often be employed to produce better long term results. But the numbers by themselves should never be taken on face value. It is the ‘why’ which produces the most useful management information.

Further analysis should be undertaken against industry best practice. Benchmarking studies undertaken within a sector show how an individual firm will perform against the industry best practice, average and worst case. By understanding where you are for each element in this review, the firm identifies where they need to put additional effort.

Item	Year 1	% of Sales	Benchmark Industry Average %
Revenue	100	100	100
Less COGS	(30)	30	32
Gross Margin	70	70	68
Selling and Marketing	(20)	20	23
Administration	(15)	15	13
Depreciation and Am-ortization	(5)	5	5
Total Operating Ex-penses	(40)	40	41
Financing Expenses	(5)	5	5
Net Profit	25	25	22

As we can see from the benchmark study, the firm is experiencing slightly less COGS to sales and the sales and marketing costs are lower, suggesting a much better performance than the industry average. This is also shown in the bottom line Net Profit. Administration costs

are, however, higher than industry average. The overall Net Profit performance is better than industry average. If the firm can push down its administration costs to industry average, the Net Profit performance would jump to 28% which would be a superior performance.

Using a benchmark approach allows the firm to identify where they can put development resources with a reasonable expectation of seeing a return for their efforts. However, these Income Statement values really need to be seen against the Balance Sheet results to see what other changes have occurred in the firm.

Reflection:

There have been some fascinating cases of revenue overstatement. One company I knew would ship inventory to customers just before the year end and invoice them in order to record the revenue in the current year. Shortly after the year end, the customers would return the inventory for a full refund.

Another company would sign up software distributors and then book the royalty targets as revenue. If the royalty targets were guaranteed and were payable no matter what their actual sales performance was, it would be legitimate but a mere target could hardly qualify as revenue.

CHAPTER 8: BALANCE SHEET AND FUNDS STATEMENT ANALYSIS

Questions:

How does the Balance Sheet relate to the Income Statement?

How can I assess the level of funding of the business?

How can I determine how well the business is managing its debt?

What is the relationship between debt and equity?

When does a business pay dividends to shareholders?

The easiest way to appreciate the purpose of the Balance Sheet is to focus on two points. First – the Balance Sheet is a snapshot of the business at a point in time. Second – the Balance Sheet always balances. That is, $\text{Equity} = \text{Assets} - \text{Liabilities}$. With these two insights, the Balance Sheet can be used to analyze the business.

You always need to remember that a Balance Sheet is not supposed to represent the performance of a business, that is the purpose of the Income Statement. Instead, the Balance Sheet tells you where the business is at.

Imagine the business being on a journey and you want to know two things. Where has it been during the period and where is it at by the end of each period? The Income Statement tells the story of where it has been and the Balance Sheet states where it is at the beginning and end of the period.

When we examine the Income Statement we are looking at performance information, say, relative to income, gross margin and Net Profit. We review the pattern of expenses and note how these relate to what we expect, the industry standards and how they relate to our key numbers; total income, gross margin and net profit. This analysis tells us a lot about the business operations.

The Balance Sheet enables us to look at different aspects of the business. We can see how resilient the business is, what its growth has been over the period, how it has used its funds and whether it has too much debt.

Assets

Assets within the Balance sheet are classified as either Current Assets or (long term) Fixed Assets. Current Assets are those which are expected to be used or liquidated within the current financial year. Fixed Assets are those which are anticipated to last longer than a financial year.

Within each of these classifications, we have two types of assets, Tangible and Intangible. Tangible current assets are those which have a physical presence, like inventory. Intangible current assets are those which have a monetary value but no physical appearance, like the balance at the bank or Accounts Receivable. Tangible Fixed Assets have a physical presence, like plant and equipment. Intangible Fixed Assets have no physical presence, such as Intellectual Property.

Current Assets typically have market or near market values because they tend to have short lives and thus are closer in time to current market activity. However, our accounting convention of Conservatism requires that we write down any asset where we have good reason to believe that its market value is below the current value in our accounts. But remember that the values which we represent in our accounts are those which assume on-going operations of the business. They do not represent the liquidation value of the assets.

Valuation of Fixed Assets, on the other hand, can be very problematic. They often represent assets which have been purchased some time in the past. They are usually recorded at historical cost and then depreciated or amortized over time. That being the case, their value as represented in the accounts can be seriously misleading. While our Conservatism convention requires us to write them down to market value if we know they are overvalued, we are not required to increase their value if we have full knowledge that they are undervalued relative to market value.

Accounting conventions also allow us to capitalize expenditure which may have no liquidation value such as office set up costs, implementation costs for new application software or commissioning costs for new equipment. While it is correct that the value of such expenditure will last for some number of years, the current market value of such an asset is likely to be zero. At the same time, we might be investing in Intangible Assets such as patents or other forms of intellectual property which do have a market value. Some of these will actually increase in value over time rather than decrease.

These valuation issues with both tangible and intangible assets are highly problematic and can lead to misleading financial information. However, forewarned is forearmed. Once you

know that there can be valuation issues, you should be willing to dig deeper to discover what you can of the possible markets values. Published accounts will have what they call ‘notes to the accounts’ and they often provide up to date market values in those notes.

Liabilities

Liabilities on the Balance Sheet will be classified as either Current or Long Term. Current Liabilities are expected to be repaid within one financial year. Long Term Liabilities are expected to be repaid over a period extending beyond one financial year.

Current Liabilities are often related to current trading activities, such as Accounts Payable or advance deposits from customers. These balances tend to fluctuate with the ebb and flow of business. Short term liabilities tend not to have any interest associated with them. They are most often based on trading terms such as a credit period.

Long Term liabilities, on the other hand, are more often formal debt arrangements such as long term loans from financial institutions, a mortgage or loans secured against specific assets of the business. These liabilities often have an interest component and usually some form of formal agreement for repayment. Sometimes they will have repayment escalation clauses which are tied to business performance where the loan only continues providing certain business performance targets are maintained.

Shareholders Funds

There are four major components of Shareholder’s Funds. Two of them relate to the contributions of shareholders. Paid Up Capital refers to the number of shares issued times their nominal value. The Share Premium Reserve is the excess over the nominal value paid for the shares. So if shares had a nominal value of \$1 at the formation of the business but shares were issued at \$3 then Paid Up Capital would represent the first \$1 and Share Premium Reserve would represent the \$2. If Preference Shares had been issued these would be listed in a separate account.

Any accumulated profits of the business which are not distributed back to shareholders in the form of dividends are held in Retained Earnings or Reserves. Reserves are a mechanism for setting aside retained earnings for specific projects.

The business might issue options to existing shareholders, key managers or employees. Options are effectively a right to buy shares from the company. Normally they would be issued at the market price on the day they are granted, perhaps with some minor discount. The right to buy the shares would extend for some time in the future. They are designed to incentivize option holders with the prospect that, if the company is successful, the market value of the shares will increase and they will be able to buy the shares at the option price. Options are often granted for a period of 5 years so that at any time over the 5 year period the options can be exercised.

When the options are exercised, the option holder would pay into the company the option price for the number of options exercised. These funds would go into the shareholder's funds account in the Balance Sheet.

Options are often structured to 'vest' over a number of years or if the company is listed or sold. Vesting means that the options take effect. The option holder can only buy the shares from the options once they vest. Unvested options are lost if the employee leaves the company.

Balance Sheet Structure

The typical balance sheet is presented as follows:

Balance Sheet For XYZ Corporation

Year ending 30th June 20xx

Current Assets		\$	Current Liabilities		\$
	Accounts	xx		Accounts	xx
Total Current Assets		XXX	Total Current Liabilities		XXX
Fixed Assets			Long Term Liabilities		
	Accounts	xx		Accounts	xx
Total Fixed Assets		XXX	Total Long Term Liabilities		XXX
Total Assets		YYYY	Total Liabilities		XXXX
			Shareholders Funds		
				Accounts	xx
			Total Shareholders Funds		XXX
			Total		YYYY

Note that the total of the Assets and the total of Liabilities plus Shareholders Funds will always be equal.

Reviewing The Balance Sheet

Balance Sheet analysis mostly deals with the solvency of the business or its resilience. There are two sets of common ratios which are used. Short term solvency deals mostly with short term liquidity and mainly uses values from the current assets and current liabilities. Long term solvency mostly uses values from Fixed Assets and Long Term Liabilities.

Short Term Solvency Ratios

This first set of ratios is looking at short term survival and resilience. Short term liabilities create significant pressure on the firm because these represent near term obligations. Unless these are able to be paid, the firm moves into insolvency, no matter how much assets might be able to be converted to cash over a longer period. Also, long term assets represent the capacity of the business to operate. If the firm starts selling those to meet short term obligations, it is really ripping the heart out of the business.

The three short term solvency ratios represent different levels of liquidity. There is a strongly held view that inventory is often not very liquid. It can often take some considerable period of time to release cash from inventory.

Current Ratio = Current Assets / Current Liabilities

Quick Ratio = (Current Assets – Inventory) / Current Liabilities

Cash Ratio = Cash / Current Liabilities

Long Term Solvency Ratios

This set of ratios is really about the business capability to survive the normal business cycles. In anticipation of a downturn, just how much depth does the business have to survive? In the long term, it is the need to pay interest and repayments on long term loans which are the critical need. There are many businesses which have gone into bankruptcy because their borrowings were too high and they were not able to meet the repayment obligations.

While long term assets are somewhat illiquid, they can be used as security for long term debts and can normally be converted to cash over an extended period. Since long term debts have longer horizons, the firm can plan for the conversion of some fixed assets to cover obligations, providing they have adequate coverage. Those who borrow too much often find that they have to severely discount their assets to release cash and that is when they get into

trouble. They don't allow themselves enough planning window to undertake restructuring to cover repayments.

$$\text{Total Debt Ratio} = \text{Total Debt} / \text{Total Assets}$$

$$\text{Debt – Equity Ratio} = \text{Total Debt} / \text{Total Equity (i.e. Shareholder's Funds)}$$

$$\text{Equity Multiplier} = \text{Total Assets} / \text{Total Equity}$$

Long Term Debt Ratio = Long Term Debt / (Long Term Debt + Total Equity). Also known as the capitalization ratio.

Using the Balance Sheet set out below, we can see how these various ratios work.

Balance Sheet For XYZ Corporation

Year ending 30th June 20xx

Current and Fixed Assets

		Amount \$
Current Assets		
	Cash	800
	Accounts Receivable	1,100
	Inventory	300
Total Current Assets		2,200
Fixed Assets		
	Plant & Equip.	2,500
Total Fixed Assets		2,500
<i>Total Assets</i>		<i>4,700</i>

Balance Sheet For XYZ Corporation

Year ending 30th June 20xx

Liabilities and Shareholders Funds

		Amount \$
Current Liabilities		
	Accounts Payable	900
	Notes Payable	850
Total Current Liabilities		1,750
Long-Term Liabilities		
	Long Term Debt	800
Total Long-Term Liabilities		800
Total Liabilities		2,550
Shareholders Funds		
	Paid Up Capital and Reserves	1,000
	Retained Earnings	1,150
Total Shareholders Funds		2,150
<i>Total Liabilities and Shareholders Funds</i>		<i>4,700</i>

Short Term Solvency Ratios

$$\text{Current Ratio} = \text{Current Assets} / \text{Current Liabilities} = 2,200 / 1,750 = 1.26$$

$$\text{Quick Ratio} = (\text{Current Assets} - \text{Inventory}) / \text{Current Liabilities} = (2,200 - 300) / 1,750 = 1.09$$

$$\text{Cash Ratio} = \text{Cash} / \text{Current Liabilities} = 800 / 1,750 = 0.46$$

Long Term Solvency Ratios

$$\text{Total Debt Ratio} = \text{Total Debt} / \text{Total Assets} = 2,550 / 4,700 = 0.54$$

$$\text{Debt} - \text{Equity Ratio} = \text{Total Debt} / \text{Total Equity (i.e. Shareholder's Funds)} = 2,550 / 2,150 = 1.19$$

$$\text{Equity Multiplier} = \text{Total Assets} / \text{Total Equity} = 4,700 / 2,150 = 2.19$$

$$\text{Long Term Debt Ratio} = \text{Long Term Debt} / (\text{Long Term Debt} + \text{Total Equity}) = 800 / (800 + 2,150) = 0.27$$

These should be compared to industry norms. For an example of industry norms see <http://www.creditguru.com/ratios/inr.htm>. For a more extensive treatment of ratios see <http://www.investopedia.com/university/ratios/>.

We always need to keep in mind that ratios often mean little in their absolutes when we are comparing firms. What is important is what the average or best practice within a sector is. You would not expect to see the same solvency ratios in a services firm which had no inventory to a retail firm which had extensive inventory. Cash sale businesses will be very different from those offering long term consumer credit.

When we undertake our analysis it is useful to have a set of industry norms and best practice ratios to see how well we compare. Clearly, any item registering below industry averages is a concern. At the same time, if the firm does not meet the best practice levels, there is room for improvement.

Ratios are indicators only. What you really need to do in any firm is understand how they are calculated and what they mean. Dig into the numbers to ensure you have a full appreciation for the activities which underpin the business so that you can better judge the performance and make the right decisions about your results.

It is worth comparing ratios from one period to the next to see if there has been any improvement or degradation in the ratios. This is also very insightful as a management tool.

Income Statement and Balance Sheet Ratios

With information available from the Income Statement and the Balance Sheet beginning and end year values, other ratios of interest can be calculated.

A. Inventory Turns

A typical calculation for annual Inventory Turns would be:

Annual COGS/Average Inventory

B. Customer Credit Days

Credit Days = Annual Credit Sales/ Average Accounts Receivable Balance

C. Supplier Credit Days

Supplier Credit Days = Credit Purchases /Average AP balance.

D. Cash Conversion Cycle (CCC)

The CCC provides a measure of the firm's ability to generate cash. The CCC is an important measure of Working Capital, the level of funding needed to fund daily sales operations. CCC is a measure of performance when compared to other firms in the same sector. Any upward movement in the CCC should be a matter of concern to management.

Cash Conversion Cycle = Days Inventory Outstanding (a) + Days Sales Outstanding (b) – Days Payables Outstanding (c)

Days Inventory Outstanding = $((\text{Inventory Beginning} - \text{Inventory End}) / 2) / (\text{COGS} / 365)$

Net Sales per Day = Net Sales / 365

Average Accounts Receivable = $(\text{AR Beginning} + \text{AR End}) / 2$

(b) Days Sales Outstanding = $\text{AAR} / \text{Net Sales per Day}$

Cost of Sales per Day = COGS / 365

Average Accounts Payable = (AP Beginning + AP End) / 2

(c) Days Payables Outstanding = AAP / (Cost of Sales per Day)

E. Earnings Per Share

Often seen as the most important indicator of firm profitability.

EPS = (Net Income – Dividends to Preference Shares) / Average Outstanding Shares

F. Price / Earnings Ratio

Used as the normal measure of the earning power of the shares. The higher the multiple, the more profitable the shares are for existing investors. The PE Ratio tends to reflect growth in the firm's net earnings.

Price /Earnings Ratio = Stock Price per Share / Earnings per Share

Source And Applications Of Funds (Cash Flow Statement)

By comparing the opening and closing Balance Sheets and adjusting asset values for depreciation and amortization, we can determine where funds for the business were sourced and how those funds were used. This gives us a very good picture of how the business operations have changed over the year. The common element in these changes is the conversion to cash and use of cash. Assets which have decreased over the year (excluding cash) have provided cash through the sale of the asset. Liabilities which have decreased over the year have been paid down with cash. Assets which have increased have used cash and liabilities which have increased have contributed cash.

Sources of funds which increase cash are as follows:

- a net decrease in any asset other than cash or fixed assets
- a gross decrease in fixed assets
- a net increase in any liability
- proceeds from the sale of preferred or common stock
- funds provided by operations (Net Profit After Tax + depreciation and amortization)

Funds provided by operations are the net earnings of the business in operational terms. Since depreciation and amortization are not a use of funds but only a historical cost allocation, these are added back to provide the funds from operations.

Application of funds of a company usually include:

- a net increase in any asset other than fixed assets
- a gross increase in fixed assets
- a net decrease in any liability
- a retirement or purchase of stock and
- the payment of cash dividends.

The balance of cash flow will be an increase or decrease in Cash.

Balance Sheet For XYZ Corporation

Year ending 30th June 20xx

	Account	Year Be- ginning (\$)	Year End (\$)	Source of Funds	Use of Funds
Current Assets	Cash	800	1,000		200
	Accounts Receivable	1,100	1,200		100
	Inventory	300	500		200
Fixed Assets	Plant & Equip. (Before Depn.)	3,000	3,000		
Current Liabilities	Accounts Payable	(900)	(1,000)	100	
	Notes Payable	(850)	(550)		300
Long Term Liabilities	Long Term Debt	(800)	(1,000)	200	
Shareholders Funds	Paid Up Capital and Reserves	(1,000)	(1,000)		
	Retained Earnings before Depn.	(1,650)	(2,150)	500	
Total		0	0	800	800

When we list Assets and Equities together, the Liabilities and Shareholder's Funds are shown as negative values. This way the statement balances to zero. That is, Assets = (Shareholder's Funds + Liabilities).

We can see from this Funds Statement that the business has created a Net Profit before depreciation of \$500. This has contributed \$500 additional equity in the business. In addition, further funds have been provided by an increase in Long Term Debt (\$200) and Accounts Payable (\$100).

Funds have been used to pay down Notes Payable (\$300), increase Inventory by \$200, Accounts Receivable by \$100 and the balance of Cash, \$200, has been left in the bank.

Reflection:

There is a great deal that a Balance Sheet can tell you about a business but there is also a lot it doesn't. My businesses were in software. The difference between a good software developer and a poor one is a productivity increase of about 20 times. Good people are worth their weight in gold. I was fortunate to have the same development team for 13 years over three different businesses and two continents. What you come to recognize in business is that you are only as good as the people you employ. The financial statements do not put a value on people.

CHAPTER 9: WORKING WITH BUDGETS

Questions:

How do budgets relate to historical financial reports?

How do you build the budget?

How are budgets used to set performance targets and assign responsibilities?

What happens if the actual income or expense is different from the budget?

When is an increase in an expense a positive result?

What happens if the actual level of business is different from the budget level?

Traditional financial reports like Income Statements and Balance Sheets report on what has been. That is, they tell you what has happened in your business over the last reporting period in financial terms. Your operational performance and any restructuring of the business are summarized through these reports. But to manage the business, you need a view of the future. This is where budgets play their role. They extend the historical activity into the future so that you can make informed operational and strategic decisions.

The budget is a report which sets out the forecast physical activity and the financial results in the same form as an Income Statement and Balance Sheet. In other words, it is a set of projected financial reports. However, it is normally not a cash projection. That is, it does not take into account the timing differences associated with credit sales and purchases. These are catered for in the cash projection or cash flow statement.

The Budget Format

The budget is a plan for what is expected to happen in the business over a planning period, normally a financial year. It sets out the Projected Income Statement and Balance Sheet. In the case of the Income Statement, this would normally be shown by month, quarter, half year and

the full year. Each of these periods provide a base for a review of actual performance. There are different insights and trends which appear over longer periods such as a quarter and half year which is why these are often reported separately from the normal monthly review.

The initial budget would be set up as a statement of expected performance.

Account	Jan	Feb	Mar	Apr
Revenue				
- Commercial	10,000	10,500	11,000	12,000
- Residential	5,000	5,000	5,000	5,000
- Projects	25,000	20,000	15,000	10,000
Total Revenue	40,000	35,500	31,000	27,000
- COGS	20,000	17,500	15,000	14,000
Gross Margin	20,000	18,000	16,000	13,000
Expenses				
- Sales & Marketing	4,200	4,000	4,000	4,400
- Admin.	2,000	2,000	2,000	2,000
- Depreciation	1,000	1,000	1,000	1,000
- Financial Expen.	500	400	300	300
Total Expenses	7,700	7,400	7,300	7,700
Net Profit	12,300	10,600	8,700	5,300

The budget should take into account long term trends in the business. If the business is highly related to the number of working days in the month, this should be reflected in the monthly budget figures. Similarly, if the business is highly seasonal, the seasonal variations should be seen in the budget. A budget which is a linear projection evenly divided over the months is somewhat meaningless and certainly misleading. There is little point in producing a budget which is known to display the wrong figures.

When we construct the budget we are ‘setting’ the budget. That is, we are setting the targets which we want to achieve. The activity levels which produce budget values should not be less than what can easily be achieved as this can lead to employees resting or slacking knowing

they can readily achieve the targets. At the same time, the activity levels should not be so high as to be unreasonable and not able to be reached in the normal course of the business. Goals which are challenging but achievable are recommended. They should be realistic but encourage the best performance.

The budget is essentially a planning exercise and should provide the basis for intervention. That is, we should use the budget as an opportunity to make changes in the business. The budget should represent where we want the business to go rather than be a simple projection of past trends. While there are some businesses which will look similar from year to year, the entrepreneurial business endeavors to use differentiation, innovation, creativity and strategy to grow. The business should be reacting to environmental and economic changes, shifts in competition and emerging opportunities. We should, therefore, expect to reflect both anticipated changes and proactive interventions in the budget.

Finding a starting point for building the budget is a bit of chicken and egg. Do we start with the changes we intend to make or what would happen if we didn't make changes? Somehow we need a base to start the planning process.

There are two extreme views in budgeting, top down and bottom up. Top down budgeting starts with the results which the business wishes to achieve and works backwards to determine the levels of activity needed to reach the objectives set. A bottom up approach starts with what is expected to be achieved at each activity unit and works this up to produce a set of consolidated results. However, neither of these is ideal. A top down approach fails to take into account constraints on the business, while a bottom up approach fails to account for changes in strategy. Some combination of bottom up and top down is likely to achieve the best result.

One technique is to separate the business activities into those which are relatively constant from those which will vary with different levels of activity.

In any business there are many costs and sometimes revenues which vary little over the near term. Major assets such as plant and equipment, land and buildings and intellectual property vary little in the short term unless there are specific projects underway or planned. Typically, the main organizational units vary little in the short term and therefore the administrative costs related to office costs and administrative salaries varies little. We can set these out in the budget by taking last year's values and adjusting for known changes.

Costs which vary with activity levels are treated differently. We need to start with the activity levels we anticipate or are planning. For example, if we know that sales are directly

related to the number of sales people and there is a plan to increase the headcount, we need to apply this to our sales projections. If we are anticipating a series of marketing promotions, this will have an impact on sales. If we have appointed new partners, distributors or agents, we need to factor in the impact of those changes.

It is normal to begin the major budgeting exercise by planning the level of sales to be achieved. We might start that exercise by projecting sales with no interventions and then factor in the changes in sales resulting from anticipated changes in strategy. This is often an iterative process as various scenarios are tested and decisions made. This process continues until a set of sales forecasts are agreed.

Sales may be projected based on volumes, projects agreed or sales values. It very much depends on the nature of the business, the anticipated sales cycle and the volumes. It should also factor in constraints in supply, staffing and marketing spend.

Once sales are firmed, the activities related to that level of activity can be planned. How many salespersons are needed and when? What marketing and sales costs will be incurred at that level of activity? How much inventory will be required to support the planned level of sales? What promotions, exhibitions, campaigns and other marketing activities will be required and when?

From this set of planned sales, the remaining Income Statement budget numbers can be derived. This should result in a month by month set of budget figures which express the plan for the year.

Once the income budget has been set, the impact on the Balance Sheet can be derived. Most items in the Balance Sheet are large and obvious and changes to them are planned well in advance. Items such as fixed assets, long term liabilities and shareholder paid up capital are items which are only changed with advance consideration. Decisions on these will be made as part of the planning process.

Other items such as Accounts Receivable, Accounts Payable and Inventory reflect the decisions made in the earlier sales planning process. Once the activity level has been decided, these dependent values can be derived.

Performance Assessment

The entire reason for preparing a budget is to allow the business to make decisions on what they need to do based on the performance to date. Either the decision is to continue on the current plan or to make changes. Those changes are designed to correct an undesirable situation or to take advantage of an opportunity.

You have to avoid being locked into the budget. Some people believe that the purpose of the budget is to ensure that everyone sticks to the original plan. If the only action taken is to correct a deviation from the plan, then opportunities which present themselves during the year in better than expected performance, changes in the environment or emerging market opportunities will be neglected. We should see the budget as only one part of the decision making process, not the end game. Remember that the budget may have been set several months before the start of the budget year. There is no reason to assume that changes will not have taken place which negate some or all of the budget plan.

The budget does, however, provide the starting point for performance evaluation. Once we have the actual results of trading available to us for a past period, we should set this alongside the budget to determine what variations there are from the original budget. Variations are called 'budget variances' and are used to drive the planning review.

The initial budget would be set up as a statement of expected performance.

A Budget with Year to Date (YTD) actuals and variances might look something like this:

Account	Mar Bud.	Mar Act.	Var.	Mar Bud. YTD	Mar Act. YTD	Var.
Revenue						
- Commercial	10.0	10.6	0.6	31.5	32.0	0.5
- Residential	5.0	5.1	0.1	15.0	16.0	1.0
- Projects	25.0	20.0	(5.0)	60.0	50.0	(10.0)
Total Revenue	40.0	35.7	(4.3)	106.5	98.0	(8.5)
- COGS	20.0	20.5	(0.5)	52.5	54.0	(1.5)
GM	20.0	15.2	(4.8)	54.0	44.0	(10.0)
Expenses						
- Sales & Marketing	4.2	4.3	(0.1)	12.2	14.4	(2.2)
- Admin.	2.0	2.0	0	6.0	7.0	(1.0)
- Depn.	1.0	1.0	0	3.0	3.0	0
- Financial Expenses	0.5	0.41	0.09	1.2	1.3	(0.1)
Total Expen.	7.7	7.71	(0.01)	22.4	25.7	(3.3)
Net Profit	12.3	7.49	(4.81)	31.6	18.3	(13.3)

Values are \$'000

The variance is the difference between the Budget and the Actual. It is normal to review both the monthly values as well as the YTD. The variance is positive if the change is an improvement in profitability or negative if it is a decrease in profitability.

The normal process of review is to ignore any minor variations which are immaterial and concentrate on items which are outside an acceptable range. The acceptable range might vary with different items. Thus a 5% change in revenue might be investigated but not a 5% change in interest expense.

The review of both monthly and YTD variances should answer the following questions:

- Do we know what caused the variance?
- Was the variance expected and is the result as anticipated?
- Could we have done better?
- Was the variance due to better or worse operational performance or outside our control? (That is due to external factors).
- What action should we take as a result of the variance?
- Does this variance mean we need to revise our Year End Projections?
- Should we issue a new budget as a result of the changes made?

The Year End Budget at some time into the budget year is probably not going to be achieved due to changes in the business and its market environment. As part of the on-going planning process, the Year End Estimate should be revised each quarter. This ensures that the business activities are re-planned in light of new information.

Account	Mar Bud. YTD	Mar Act. YTD	Var.	Year End Bud.	Year End Est.
Revenue					
- Commercial	31.5	32.0	0.5	130.0	140.0
- Residential	15.0	16.0	1.0	65.0	70.0
- Projects	60.0	50.0	(10.0)	250.0	200.0
Total Revenue	106.5	98.0	(8.5)	445.0	410.0
- COGS	52.5	54.0	(1.5)	200.0	180.0
GM	54.0	44.0	(10.0)	245.0	230.0
Expenses					
- Sales & Marketing	12.2	14.4	(2.2)	50.0	46.0
- Admin.	6.0	7.0	(1.0)	25.0	27.0
- Deprec.	3.0	3.0	0	12.0	12.0
- Financial Expenses	1.2	1.3	(0.1)	5.0	5.2
Total Expenses	22.4	25.7	(3.3)	92.0	90.2
Net Profit	31.6	18.3	(13.3)	153.0	139.8

Values are \$'000

As you can see, some expenses move in alignment with Sales. Thus we would expect COGS to be related to Sales and perhaps also the Sales and Marketing Expenses. We have to very careful not to jump to quick conclusions. Often variances are classified as either favourable or unfavourable. Favourable variances would be an increase in a sales value and a decrease in an expense item. Unfavourable variance would be a decrease in a sales value and an increase in an expense item. But as you can see some items are related.

An increase in sales might well be related to an increase in sales and marketing expenses and might well result in an increase in COGS. The key question should be whether the business was better off as a result not whether expenses increased. If the Gross Margin on sales

had increased and more than compensated for the increase in sales and marketing costs, we would conclude that this was a successful strategy. If, on the other hand, sales and marketing expenses had increased without an associated increase in sales and Gross Margin, this would be an unfavourable result.

Even if sales had declined, this may be due to a change in the competitive environment. The key question relates to the manner in which this change was managed. Did the Gross Margin percentage stay the same or increase? Did our sales and marketing expenses decrease in line with the decline in sales?

When analyzing performance to budget, the various ratios relating expenses to sales should be examined. It is the relative movement as well as the absolute change which should be examined.

We need to identify those activities which drive change and relate performance to those. For example, if many expenses are related to headcount, then we should concentrate on the reason for the headcount change rather than spend time examining all the related expenses. In any business there will normally be 2 or 3 cost drivers, such as sales, headcount or shipments. By starting with these activity indicators, we can better judge the variances.

There is a technique for manipulating budgets based on volumes called 'flexible budgeting'. The way in which this works is to determine the major cost driver in the budget and then 'flex' the budget based on differing volumes. Since many costs are aligned to a major cost driver, any change in the volume related to that item will cause the actuals to change accordingly. By restating the budget using the actual volumes achieved, the variances are more easily examined.

Budgets are a very powerful tool of management but need to be used with care as it is very easy to assign too much credence to the original budget and not recognize that externalities and new decisions will change the intended outcome. Rather than fix on the original budget, the firm is better to revise the budget as circumstances dictate and manage accordingly. Material variances should be investigated. You need to find out why the variance occurred and whether action needs to be taken to correct an adverse situation or exploit a new opportunity. There is nothing wrong with exceeding the budget providing the overall budget is still in balance.

Assumptions

Whenever we try to forecast the future we are making assumptions about what is going to happen. That being the case, different assumptions result in different forecasts. One might argue which assumptions are the best but this is simply a matter of evidence and judgment.

For example, if the exchange rate was important to my export revenue, I need to make a judgment on which exchange rate to use for my budget projections. However, if I review the opinions of 10 economists, I am likely to have 12 estimates. I could average the results or go with the majority, but I am making a judgment call. If the exchange rate subsequently moves outside a small deviation, my sales volumes may be the same as forecast but the revenue from them would not be. What I need to know in subsequent budget reviews is which exchange rate I used in setting the budget.

This logic applies throughout the budget. Almost every value I put into the budget will have an assumption behind it whether it is declared or not. However, I can only really appreciate the source of variances if I can revisit the assumptions which I used in setting the budget. A variance may not be due to poor or better performance, it may simply be that the assumption used was not supported by subsequent events. What I do need to do is to separate variances into those which are caused by an invalid or incorrect assumption from those which are caused by performance.

Those assumptions which are critical to the budget result should be set out for subsequent periodic review. If there is any major deviation in an assumption, the budget should be revisited and a new budget set. There is little point in using a budget which is known to be a poor indicator of expected performance.

When developing assumptions, it is important to support the assumption with evidence. Guesstimates are hardly a sound basis on which to do planning and should only be used when there is no evidence available. Even then, a guesstimate should be justified.

The best evidence will come from external independent data and from historical activity and productivity levels within the firm itself. Setting performance levels which are out of reach can only produce a misleading budget. There is nothing wrong with projecting higher levels of activity and productivity if the reasons are sound. For example, a new improved process may have been implemented, new equipment may have been installed or a new strategic partner may be activated.

The budget is the most powerful planning document the business has and should be treated with respect and given proper attention. Once set, managers will use the budget to guide their actions and will expect to be rewarded for their success if they achieve the budget targets. Poorly thought out targets will undermine the planning process, demotivate employees and result in frequent corrections.

Reflection:

Budgets are very useful planning documents but you should never let them be sacrosanct. They are there to help you pull all the parts of the business into a cohesive force. But if something changes, especially economic conditions, holding people to account in the face of overwhelming odds makes little sense. What you want to know is why the actual performance is different from the budget and what you are to do about it. What you always want from your managers is a recommendation on what to do next not an excuse.

CHAPTER 10: CASH FLOW PROJECTIONS

Questions:

How do I use the information from the budget to create a cash flow projection?

What risks am I looking for?

How can I cater for possible changes in the business activity?

What if the business doesn't perform as well as expected?

How do I work out if I need additional funding?

How do I incorporate possible new funding into the cash projection?

The cash flow projection is the most important of all the management reports. The Income Statement and Balance Sheet report historical activities and therefore, it is too late to correct something which has already happened. The Budget is a very useful planning and performance management tool but the Cash Projection is the lifeblood of the business. Without cash the business cannot survive.

One of the deficiencies of the Budget is that it projects financial results without taking into account the timing of cash associated with the business activities and so it cannot be used to manage cash. The business must manage the credit of customers and suppliers and the use of cash for acquiring assets and paying off debt. Changes in the cash balance need to be monitored and those items which consume cash identified and timed to ensure the business has sufficient cash to meet its obligations.

A business based on cash sales and cash purchases is relatively easy to manage from a cash perspective as the timing of sales and purchases mirrors that of the cash inflows and outflows. However, there are still administrative costs to pay. A payroll which is paid monthly will spike once a month as salaries are paid. Other costs like rent, electricity and loan repayments may be monthly but appear in different weeks within the month. Some expenses are quarterly, half-yearly and annual. These need to be factored into a cash flow analysis. So even cash-based businesses need to undertake some level of cash flow projection to ensure they manage cash.

Most businesses sell on credit, therefore the repayment pattern associated with credit sales needs to be factored into the cash flow. The payment pattern of purchases on credit also needs to be factored in.

A typical cash flow statement will be set out in weeks and extend as far as the business needs to undertake detailed cash planning. The horizon would normally extend to well beyond the credit period for customers and suppliers. If the business deals in major projects, the horizon may extend to the end of the current projects.

Item	Week 1	Week 2	Week 3	Week 4
Opening Bank Balance	5,500	450	2,400	1,200
Accounts Receivable	5,000	4,000	1,200	500
Work in Process	4,000	3,000	5,000	16,000
New Sales	1,000	5,000	2,000	7,000
Asset Sales		10,000		25,000
New Loans		25,000	5,000	
New Shareholders Funds		20,000		
Cash In	15,500	67,450	15,600	49,700
Payroll	5,300	5,300	5,500	5,500
Rent	1,200	1,200	1,200	1,200
Insurance	200			
Travel Expenses	500			
Car Lease Payments	450			
Interest Expense	100			
Accounts Payable	5,300	4,500	2,300	1,000
New Purchases	2,000	3,000	5,400	4,500
Asset Purchases		25,000		
Loan Repayments				30,000
Dividends Paid		26,050		
Cash Out	15,050	65,050	14,400	42,200
Closing Bank Balance	450	2,400	1,200	7,500

You can see in this example how Accounts Payable and Accounts Receivable are phased. Note that WIP is brought into the cash flow as invoices are sent out and payments on those commence. New purchases of inventory must be made to support new sales. New sales are added as forecasts but these need to be adjusted for the timing of the expected cash receipts. That is, customer credit impact on repayments has to be factored into the timing.

Most administrative expenses are regular and therefore easy to forecast. We also need to account for new asset purchases or major project expenses. Assets sales can be timed to bolster cash inflows.

New loans always take a long time to arrange and therefore a line of credit, overdraft or a flexible loan facility is essential to cater for swings in cash flows. If the business needs a further injection of cash from shareholders and new shareholders need to be found, this can take many months.

You will note from the cash flow just how volatile the various sales revenue items are. This is not unexpected as it reflects the impact of seasonality, public holidays, sales person vacations and the impact of existing business on the effort put into new sales. It is because of this volatility that the cash flow is such a vital tool for management. As much detail as possible needs to be put into the cash flow projection to provide the best estimate of cash availability.

Cash inflows and outflows do not spread evenly across the weeks. You can see from this example that the impact of asset sales and purchases, rent, lease repayments and interest are all occasional. Some payments will appear every month at the same time while others will be less frequent.

Worst Case Cash Flow

Early stage ventures are sensitive to cash more than anything else and yet they often lack the knowledge and discipline to manage it carefully. Traditional financial reports are not designed for this purpose and in any case, making profits is not the same as having enough cash to be solvent. Therefore, part of the management discipline should be a rigorous and detailed cash flow analysis. Every member of management should be involved in the analysis of cash flow since every activity within the firm has an impact on cash availability. Management should be sensitive to how cash is being generated and used as well as the impact on cash flows of their own actions and decisions. Only by working with the detail will they assimilate this information. It is the area of greatest risk to the emerging venture.

One way to bring this lesson home to an inexperienced management team is to have them prepare a worst case cash flow report. This report sets out the cash projection of the business using different layers of cash inflow and outflow. The initial layer has only committed cash flow, that is, only cash inflows which the firm can reliably count on and only cash outflows which the firm is committed to in the foreseeable future. The report is usually prepared over individual weeks for three months and then monthly for a further 6-9 months depending on the horizon for projects under management.

Worst case cash inflows would normally include:

Cash at bank

Aged Accounts Receivable (expected date of payment)

Work in progress completions (date of invoice plus collection period)

Recurring payments on customer agreements (support fees, royalties, etc).

Worst case cash outflows would normally include:

Aged Accounts Payable (expected date of payment)

Purchase order commitments (date of invoice plus expected payment period)

Recurring administration, office, payroll, tax and expenses (excluding aged payables).

This should produce a cash flow balance (surplus or deficit) for the planning period. A shortfall may be met with an existing line of credit or bank overdraft and the use of credit cards and personal loans from shareholders. A deficit should result in an examination of customer accounts to see if any payments can be pulled forward through follow-up activity, early payment discounts etc. Work-in-progress payments might be pulled forward by early completions or by bringing forward invoicing. Payments to suppliers may be delayed where this can be arranged with the supplier.

Added in the next layer are the most likely additional sales to customers. This may be actual named prospects or additional work for existing customers. Alternatively, in a high volume business, it could be the minimum level of repeat business the firm experiences at that time of the year. On the expenses side, the report would start to layer in discretionary expenses, cash permitting. This may include new employees, new equipment, office expansion, additional product and market development costs and so on. Additional layers of less probable revenue and less urgent discretionary expenses are added to gain a complete picture of the business under worst, most likely and best case scenarios.

Every business has a critical time horizon for new business. If the cash inflow looks weak and it cannot be improved in the short term, management and the Board are warned well in advance and can start to take corrective action. This may include switching resources to income generation, cutting back on expenses, deferring some projects and making staff redundant.

A worst case cash flow might look like this:

Item	Week 1	Week 2	Week 3	Week 4
Opening Bank Balance	5,500	16,600	10,230	(27,660)
Accounts Receivable	15,000	4,000	1,200	
Work in Process	4,000	13,000	5,000	1,000
Recurring Sales	3,000	5,000	2,000	5,000
Firm Asset Sales		10,000		
Cash In	22,000	32,000	8,200	6,000
Payroll	5,300	5,300	5,500	5,500
Rent			4,800	
Insurance	200			
Travel Expenses	100	120	90	130
Car Lease Payments		450		
Interest Expense				100
Accounts Payable	5,300	4,500	300	
Current Purchase Orders		3,000	5,400	1,500
Firm Asset Purchases		25,000		
Loan Repayments			30,000	
Dividends Paid				
Cash Out	10,900	38,370	46,090	7,230
Closing Bank Balance	16,600	10,230	(27,660)	(28,890)

What you can see from this projection is that the firm cash inflows from AR, WIP and recurring sales plus any contributions from known inputs from loans or shareholder’s gradually winds down. This is substantially due to the fact that we include no new sales – but this is the worst case.

I have been in business situations where the business sold major projects and the firm went for several months without a new order, so these situations are realistic. Most businesses, however, have a pipeline of repeat business or recurring income which they rely on and that does mitigate the situation somewhat.

On the cash outflow side, we take into account only those expenses and expenditures which are committed. This gives us a picture of the cash expenditure which the business will make, at a minimum, in the current trading environment.

As you can see the situation gradually deteriorates and eventually you would expect the cash flow to project a negative cash balance.

At this point in the planning process we add in the next likely level of sales. In a project based business, we might take into account 90% prospects. In a high volume retail environment we might take into account the lowest monthly sales. Basically, we want a very conservative estimate of new sales.

Our cash flow might look like this (adding to the data above):

Item	Week 1	Week 2	Week 3	Week 4
Opening Bank Balance	5,500	16,600	15,300	(14,590)
Worst Case Cash In	22,000	32,000	8,200	6,000
90% Sales	0	5,000	8,000	6,000
90% Cash Inflow	22,000	37,000	16,200	12,000
Worst Case Expenditure	10,900	38,300	46,090	7,230
90% Expenditure	0	0		0
Closing Cash balance	16,600	15,300	(14,590)	(9,820)

As you can see, the 90% sales prospects are not sufficient to overcome the cash deficiency by week 4. We also did not generate sufficient cash to incur any discretionary expenditure. At this point we could add the 80% sales prospects.

Item	Week 1	Week 2	Week 3	Week 4
Opening Cash Balance	5,500	21,600	30,300	6,410
Worst Case Cash In	22,00	32,000	8,200	6,000
90% Sales	0	5,000	8,000	6,000
80% Sales	5,000	10,000	6,000	8,000
80% Cash Inflow	27,000	47,000	22,200	20,000
Worst Case Expenditure	10,900	38,300	46,090	7,230
90% Expenditure	0	0	0	0
80% Expenditure	0	0	0	12,000
Closing Cash Balance	21,600	30,300	6,410	7,180

By adding the 80% sales prospects we generate sufficient cash by week 4 to allow the business to take on additional expenditure of \$12,000. However, given the potential shortfall in the worst cash scenario by week 4, we might decide to take additional measures to speed up AR collection, offer discounts to prospects to bring forward cash deposits and cash sales, negotiate a longer repayment period on the loan and so on.

The objective of the Worst Case Cash Flow is to bring focus on cash management and to identify the risk to the business of a cash outage. It focuses attention on firm revenue and firm expenditure so that early intervention can be taken if these are not sufficient to provide the business with enough runway or buffer to continue without taking additional action to cut cash expenditure, push cash sales or make structural changes.

At the same time, this process allows the business to layer in discretionary expenditure so that new hires, new projects and new asset purchases are only made when sufficient cash is available to cover the cash impact.

Forewarned is forearmed. Projected cash shortages some time in advance provide the business with the time to take corrective action. Firm decisions can be made to cut back

expenses and/or to stimulate sales. If the situation looks critical, plans can be made to retrench employees, sell off assets and switch personnel from R&D and administration to a more sales active role and so on.

Managing cash is critical to the survival and health of the enterprise and must be given the utmost priority.

Reflection:

Perhaps the worst shock of my business career was when I discovered that my new accountant had not prepared the cash flow correctly – or at least to my expectation. I had requested a worst-case cash flow be prepared each week based on what business the firm could guarantee. On the basis of that report I planned new expenditure, staff recruitment and so on. When business declined due to the recession, I was shocked to discover that we weren't making our guaranteed cash inflows. When I put this to the accountant he told me that we were not generating sufficient recurring revenue. But I said 'These are existing contracts. Are customers not renewing?' 'No' he said, 'it is just that our average monthly consulting income has fallen'. It was then that I realized that recurring revenue to him meant average income not guaranteed income. I had failed to fully explain what I needed – my fault.

CHAPTER 11: MANAGING THE EMERGING BUSINESS

Questions:

What management reports should you be generating?

What management information do you need daily, weekly, monthly, quarterly, half-yearly and annually to manage your business?

Where does risk management fit into management reporting?

What information does a Board of Directors need?

As the business develops and the number of employees grows, the task of monitoring at an operational level will become increasingly more complex. This is where a range of guiding mechanisms and controls help. While the business is small and everyone is working closely together, the amount of information which needs to be formalised is minimal, but as the business develops and grows, no one person is able to assimilate all the different activities of the business and so ever more information about what is happening inside and outside the business needs to be collected, understood and acted upon.

The task of the business owner is to anticipate these needs, educate management, help select new systems which are needed and assist in planning the necessary changes. Nothing can be more damaging to a growing business than to find itself without adequate planning and operational control systems.

At an operational level, the following activities and financial reports may be considered:

Stage One – Up to 10 employees

Monthly cash flow reports

Monthly creditor and debtor reports

Monthly list of priorities for each manager

Monthly action plan for each manager

Monthly review against action plan

Monthly review of critical KPIs

Quarterly budget performance

Quarterly financial statements

Quarterly Board meetings

Annually, a revised business plan.

Stage Two – Up to 30 employees

Monthly financial statements

Monthly budget performance

Bi-monthly Board meetings

Major topics reviewed at each Board meeting

Quarterly revised business plan

Quarterly report on lead indicators

Job descriptions for all employees

Formal annual performance reviews for all employees

External advisor to assist with employment terms and conditions and compliance issues

Part-time CFO.

Stage Three – Up to 100 employees

Weekly creditor and debtor reporting

Weekly sales performance reports

Weekly project completion progress reports

Training of senior management in employment compliance issues

Full-time CFO.

Other reports should be developed within the business to focus on critical areas. These may be for sales lead tracking, quality control, project completion and so on. Every business has aspects of its activity which provide an early warning of problems to come, either too much activity or too little. These lead indicators are the monitoring points within the business. An external consultant can assist management identify lead indicators and help them design monitoring systems to track them. Policies can then be developed for when management and/or the Board need to be informed and action taken.

Business management needs to be sensitive to the needs of external investors. Entrepreneurs who have been used to making their own decisions, deciding on their own priorities and setting the direction of the firm without having to gain approval from a third party will find this very challenging and confronting. But if they wish to grow the business and bring in additional external funding or take the business public, this is an environment and a discipline which they need to learn. An experienced external investor can help by leading the way, showing them how a Board works and how they can make positive use of their Board.

Many firms implement standard financial reporting for the Board but fail to adequately deal with strategic or risk issues. The business owner should develop a schedule of major issues to be dealt with at Board level. I have set out below a possible list of topics. Some may be more appropriate at later stages in the growth of the business.

Establishing the right systems, setting the right direction, building the right culture and developing the right disciplines is an important contribution which the entrepreneur makes to the emerging business.

Proposed Strategic Topics For Board Meetings

1. Strategy

Review of overall direction of the business.

Where do we want to be in 12, 24 and 48 months?

What are the major changes in the organisation which we should be planning for?

Summary of a SWOT analysis for each product/market. What are the major changes we should be making at that level?

Input: Strategy paper from the CEO.

Output: Approved strategic initiatives.

2. Acquisitions and integration

Review of landscape.

Check on current criteria for targets.

Review of targeted acquisitions and whether the firm is at the stage of building relationships and/or discussions.

Review of likely acquisitions and or gaps which would be useful or are needed to be filled.

Review of integration issues with current acquisitions.

Discussion of integration capacity and policies.

Input:

Review of marketplace in each of the firm's major sectors. Which companies are operating in each one? Where are the possible targets which conform to the acquisition criteria?

Update on relationships with approved targeted businesses.

Update on negotiations of those businesses approved to proceed.

Review of integration issues and problems associated with acquired businesses.

Criteria for acquisitions.

Output:

Changes to integration resources and policies.

Identification of target markets and possible target businesses for analysis.

Approval to proceed with relationship building.

Approval to proceed to acquisition discussions.

Update on acquisition criteria.

3. Budgets

Discussion of major assumptions underlying budget preparation.

Review of performance statistics across the business.

Review of capital expenditure, product, market and staff development plans.

Input:

Proposed budget with current year-end forecasts. Include pro-forma year-end balance sheet and income statement compared to current year forecast and projected cash flow on monthly basis.

Proposed major changes to budget from prior year with justification.

Capital expenditure proposals with justification.

Product development proposals with justification.

Market development plans with justification.

Staff development plans with justification.

Output: Approved budget.

4. Risk assessment

Review of all insurance coverage.

Superannuation/pension review.

Review of internal controls including a report from auditors with recommendations for changes.

Market risk assessment.

Business risk and disruption assessment.

Input:

Review of insurance coverage across the business with recommendations for changes.

Auditor's report on internal controls plus recommendations.

Internal review by CFO and recommendations.

Market risk assessment by CEO.

Output:

Approved changes to insurance coverage.

Approved changes in internal controls.

5. Organisational review

Review of Board of Directors' performance, including individual contributions, gaps in skills and changes in Board composition.

Review of roles and responsibilities of Board members.

Review of Directors' compensation, allowances and support.

Review of senior management compensation.

Succession planning across the business.

Review of the use of options, profit share, bonuses, allowances and other incentives for the business.

Methods of performance measurement and rewards.

Review of turnover, sick leave, absenteeism and health statistics.

Review employee survey.

Review customer survey.

Input:

Survey of Board members on personal experience of the Board meetings and suggestions for improvement.

Independent review of Directors' compensation and recommendations.

Proposals from the Board Chairman on composition, roles and responsibilities.

Independent review of senior management compensation with recommendations.

Assessment of the performance of CEO, CFO, Company Secretary and senior management by the CEO in consultation with Board members.

Review of current staff incentives with recommendations.

Review of current performance measurement methods with comparative statistics of performance with industry standards and across units, with recommendations for changes.

Review of statistics across the group on turnover, sickness, absenteeism and health issues, by business units with recommendations.

Employee survey results.

Customer survey results.

Succession plans to supervisor level across the business.

Succession plans for critical employees (R&D, sales, etc.).

Output:

Approved changes to compensation for Directors and senior managers.

Approved changes in options and other incentives to staff.

Actions to be taken with respect to succession issues.

Actions to improve staff morale, retention, health and performance.

Actions to improve customer satisfaction.

6. Compliance and regulatory requirements

Review of health and safety regulations which impact the business.

Review of tax reporting, statutory filings and financial reporting.

Review of policies with regard to bullying and harassment, sexual and racial discrimination, equal opportunity and maternity leave.

Assessment from corporate lawyers and auditors on compliance performance and recommended actions.

Annual General Meeting (AGM) preparation including approval of dividends, changes to constitution, Board membership, etc.

Input:

List of regulatory requirements and regulations which impact on the firm with current compliance experience and recommendations.

Incident reports on any staff compliance problems.

Report from corporate lawyers and auditors certifying that the firm has complied with all reporting and filing requirements over the last year.

Recommendations for AGM.

Output:

Approved changes in internal procedures and policies.

Actions required to bring the business up-to-date with statutory requirements.

7. Division/business unit reports

In addition to the strategic topics identified above which will be dealt with at each Board meeting, it would be useful for each of the major business units to have an opportunity to present their current business plans. These should include:

description of the business.

organisational data (locations, size in revenue and staff).

organisation structure.

principle activities.

competitive landscape and how they compete for business.

achievements, wins on the board, successes etc.

problems, challenges, issues.

recommendations.

Reports should be presented by a senior manager who is not a Director to give them the opportunity to meet the Board and gain some feedback from the Board.

Reflection:

The first software business I had developed accounting applications, General Ledger, Accounts Payable, Accounts Receivable and so on. Until we went live on our own software we were preparing our financial reports manually. About a month after we sold and installed our first customer, we presented our set of financial reports to our external Director. He asked if we had prepared them using our newly released set of accounting software. We were a little ashamed to admit that we were not live ourselves on our own products. 'Good' he said 'I noticed that the Balance Sheet had some addition errors and I was hoping our software wasn't doing that to our customers'.

CHAPTER 12: CONTROL AND COMPLIANCE

Questions:

Why should I not trust my employees?

How can I prove that a transaction occurred?

Who should authorize payments?

Why are purchase orders important?

How should I control reimbursed expenses?

What do auditors and inspectors look for?

Being a business owner is not an easy life. There are many pressures on you to survive, earn a profit and grow the enterprise. Once you accept the job, along comes a whole host of regulations and polices to determine what you can and can't do with your business.

There are the health and safety regulations which govern how you manage your workplace. You have to understand workplace relations in order to ensure your staff abide by the non-discrimination laws. You need to collect and pay a range of taxes and entitlements including payroll, sales, VAT, GST, corporate profit and fringe benefits tax. Then there are various registration and license fees as well as the operating conditions which go along with them. Of course we should not forget the obligation to pay pension and superannuation contributions or those benefits which accrue for vacations, sick leave and maternity leave.

Once you have dealt with all these issues, you still have an obligation to your shareholders to manage the business in a proper manner and to use all reasonable efforts with an implied duty of care to manage the resources of the business as a representative of the shareholders. In other words, you cannot see the business as your personal wallet and please yourself. You also need to take care that the business is solvent and that you meet your obligations to your suppliers and lenders. Lastly, you have a duty to your customers to ensure your products and services are of 'merchantable quality' and 'fit for purpose'.

In addition to all these obligations, there are likely to be specific regulations applicable to your specific sector. Perhaps there are special rules pertaining to waste disposal, clean air quality, safety, handling of certain materials, lot traceability of materials, recording of activities and so on.

Basically, business life is loaded with rules, regulations and obligations. It is a wonder anyone bothers to go into business!

What this means for the business is that you need to have a range of systems and processes which control, monitor and inform you of operations so that you can ensure you are meeting your obligations. You also need to design your employee duties in such a way that the manner in which activities are undertaken provide support for the system of controls which you require to meet these obligations.

The ultimate test of whether you have an efficient and effective business which is able to meet its obligations will be the evidence which you can provide to show that you took all reasonable steps to do so. The role of inspectors and auditors is to check the evidence to ascertain if you are compliant. However, it is up to you to prove you are.

In this chapter I want to discuss the implications of these obligations for how you manage and use financial information.

Compelling Evidence

A fundamental principle in auditing is the concept of the ‘documents of original entry’. What this means in practice is that there should always be independent evidence of a transaction through the existence of a record of the transaction in another entity, be that a person, institution or business organization.

If you think about all the transactions a business undertakes, the vast majority of them are with entities outside the business. There is a long list of them; shareholders, banks, suppliers, lenders, customers, taxation authorities, licensing agencies, service providers, consultants, agents, distributors and so on. These are entities which are legally separate from the business and can be expected to act on their own behalf.

While there are internal movements of items within a firm and various calculations which impact cost allocation, most transactions which impact the firm are external. If I wished to

trace a business transaction back to its source, I should be able to discover an interaction with an external entity. That interaction should have some source document associated with it.

For example, there are a large number of documents which are received by the business which represent evidence of a financial transaction or supporting documents to a past or future transaction.

- Bank statements, remittance notices and loan documents
- Supplier invoices, statements, delivery documents and credit notes
- Bills from utility authorities
- License renewals
- Registration certificates
- Customer payments
- Credit reports.

The business generates a large number of documents as it interacts with external parties.

- Customer invoices, statements, credit notes and refunds
- Despatch notes to customers
- Offer letters to new employees
- Project requests for tender
- Financial statements to shareholders and dividend payments
- Purchase orders

What you have is a mountain of documents but each represents a transaction which changes the financial state of the business. Effective management control systems use these documents as evidence of the existence of a transaction. A financial transaction recorded in the accounts should reference back to the source document. Since most of these documents are able to be verified by an external party, it provides an independent verification of the accuracy and timing of the transaction. As we have seen from our earlier discussions, this is critical for the proper preparation of financial statements.

Another aspect of this relationship of transactions to evidence is to ensure completeness of information. That is, have we recorded all the transactions? This begs the question as to how we ensure we have recorded everything for the period.

Typically a business will ensure completeness by numbering documents and verifying that all numbered documents are accounted for. For example, invoices, purchase orders, manual payments, statements, despatch notes, returns notes should all be sequentially numbered. Despatches are verified against customer acceptance. Payments and receipts are reconciled through the bank statements. Inventory counts verify the accuracy of the inventory records. Time and attendance records are reconciled to payroll payments.

You have to put yourself into the shoes of the auditor or inspector and ask yourself what evidence you would want to see to ensure the accuracy and completeness of the business records. How would you verify the existence and accuracy of a transaction? Where would the underlying source documents be kept and how would they refer back to the associated transaction?

Imagine the tax inspector turned up unannounced and wanted to validate your sales tax, VAT or payroll tax returns. How would you go about validating your return? What information would you need to produce to convince the tax man that you had correctly recorded everything?

Ensuring you have underlying source documents to prove your case and they are filed in a logical order which allows you to find them is going to be critical for you to satisfy your legal obligations.

Fraud Prevention

While we would all like to think that fraud wouldn't occur in our businesses, the truth of the matter is that it probably will. Decades of experience has shown that any weakness in the internal control systems of a business will sooner or later be exploited by an employee or a contractor whether intentionally or not. Some people will take advantage of any situation which allows them the possibility of personal gain. This is not always criminal in its intent. It could be caused by depression, jealousy, revenge, stress, love, hate, addiction etc. But if you leave the door open, sooner or later someone will enter.

Most entrepreneurs have a trusting attitude. It is very difficult to work closely with anyone if you don't trust them. However, common sense and the overreaching obligation to protect the

interests of the stakeholders in the business demands that the business be structured in such a way as to mitigate fraud or waste of company resources. The business is there for the benefit of all of the parties to the business including the shareholders, employees, customers, suppliers and the authorities. It makes no sense to intentionally create a situation where any person can undermine the overall purpose of the business. For this reason the systems and processes of the business should employ all reasonable endeavors to prevent fraud and waste of company resources.

There are many ways in which fraud or misuse of company resources can occur. For example:

- Stealing inventory.
- Submitting false expense claims.
- Recording overtime not worked.
- Using company equipment or time to operate a personal business.
- Taking extended unauthorized lunch breaks.
- Submitting false or inflated supplier invoices.
- Overstating insurance claims.
- Taking unsubstantiated sick leave.
- Using company resources for personal use.
- Wasting company time with social networking or personal emails.
- Long personal overseas phone calls.

Obviously one needs to find a balance between micro-management and constructing a good working environment. Most businesses accept a small level of personal use of computers and phones and will accept some time away from work for personal issues. However, there is a limit to how much a business or even work colleagues will accept. A bad apple has a way of rotting the entire barrel if not found and disposed of. If one person is allowed to exploit a weakness, others will follow.

While fraud prevention tends to the big stick of control systems, one needs to be equally sensitive to mis-use of resources at a minor level. There are a number of things which you can do to mitigate fraud and prevent mis-use of company resources.

A. Install A Business Software Application

A good business system which includes the modules needed to support the business operations will go a long way to ensure that transactions are properly recorded and tracked. Most transaction recording systems require reference to underlying source documents and this means that most transactions are initiated by reference to an external entity.

B. Set Expectations

Staff should know what is expected of them both in their operational duties but also what will happen if there is unacceptable behaviour. Criminal activity with regard to company resources or relationships should be grounds for dismissal. Other forms of sanctions might be the loss of promotion opportunities, loss of commissions, poor performance appraisals and lack of employer reference and so on.

There should be guidelines for overall behaviour to reduce the incidence of bullying, discrimination, harassment and so on. These undermine effective operation and cooperation in a business and waste company resources.

Other guidelines can be used for travel expenses, use of company time for education, medical appointments, union meetings and so on.

Expectations are also embedded in proper job descriptions so that individuals understand what is expected of them and the manner in which they will be performance reviewed and remunerated.

C. Separation Of Duties

As a general rule, the preparation of documents to authorize the acquisition, disposal or use of company resources should be separate from the actual authorization. What you are trying to prevent is a single individual having the authority to benefit themselves. By requiring at least two people to authorize the use of company resources, you are dramatically reducing the risk. The probability of two or more people colluding to commit fraud is very small. By ensuring that sensitive activities require more than one person to be involved is expected to reduce the possibility of fraud.

There are many areas where this principle should be employed.

- Preparation and payment of payroll.
- Preparation of supplier payments.
- Reimbursement of expense claims.
- Authorization of customer discounts.
- Disposal of damaged, expired or unwanted inventory.
- Authorization of overtime work.
- Sale or disposal of company plant and equipment.
- Credit applications and credit approval.
- Preparing and authorizing purchase orders.

You might go further and require two signatures for large transactions or transactions which expose the company to a high level of risk.

Basically, no one should have the ability to construct a situation where they can reward themselves. What you want to do is to ensure that commitments are reviewed by someone other than the person requiring the work to be undertaken so that there is a check on the quality and accuracy of the work. This is where supporting source documents are critical. For example, time sheets supporting payroll, expense receipts supporting reimbursed expenses, customer credit reports supporting credit applications and so on.

D. Independent Audit

It is always worthwhile considering having your activities audited by a professional. Whether this is health and safety, consumer credit or financial record keeping, there is nothing quite as intimidating as having someone check up on you. However, there are real business benefits of doing so. First, you put everyone on notice that systems and processes will be reviewed and random checks made of the proper recording of activities. Secondly, an experienced professional will be able to identify and advise on weaknesses in your control systems and be able to show you how to tighten them up. Lastly, if there is mis-use for fraud, there is a reasonable chance it will be found.

The auditor also has a responsibility of checking that you are meeting your legal obligations. As these are many and varied, it is quite difficult for the ordinary business person to be fully conversant with all of them. Legal obligations often have very high penalties for

non-compliance. There is a good deal of comfort in knowing that you are fully meeting your compliance obligations.

E. Document Processes

Where possible the manner in which an activity should be undertaken should be documented in a procedure manual. This helps to ensure consistency of approach but also helps to ensure that vital steps are not overlooked. A lot of fraud and mis-use occurs because there are no set procedures or the ones that are there are not followed. Wherever possible, systems and processes should have built into them checks to ensure they are being followed. Once a procedure is documented it is much easier to check compliance and train new staff.

F. Rotate Duties

Many frauds are uncovered when an individual is moved from their usual occupation or are away from work on vacation or sick leave. As a matter of good business practice, you should be cross training staff anyway in order to provide cover for an unintended absence. You also should be sensitive to having a succession plan in place for all critical activities.

It is good business practice to be alert to possible fraud and mis-use. You don't expect it but better to be prepared and avoid it.

Reflection:

You don't expect it but it happens. One of my staff in San Diego was running a private software development activity on our company computers. When I found out and questioned him about it he maintained that he was doing it in his own time out of company hours. He was somewhat taken back when I pointed out to him that the company was providing the computer systems, telephone systems and office space which he was using. He was a very good developer but he left me with no option but to terminate his employment. I needed to convey to the other staff that this form of behaviour was completely unacceptable.

CHAPTER 13: USING FINANCIAL INFORMATION

Questions:

Can you be confident you know what is going on in your business?

When you are presented with financial information, do you know how to drill down into the detail?

Are you able to spot problems quickly?

Do your managers understand how to use the financial information presented to them?

Can you confidently present your financial information to investors, bankers and prospective customers?

Faced with multiple columns or pages of financial information on the operations of a firm, it is easy to understand the casual reader finding it all too much. The fact is that numbers by themselves have little meaning, it is what they represent which has meaning. Even the absolute values are difficult to interpret. After all, what does it mean to see a value for Accounts Payable in isolation? Only when you see it in relation to the total annual purchases does it start to have meaning.

This is the key to understanding financial information. Not just to know what each number represents but to see each value in relation to the whole. The value for inventory makes more sense when we see it as part of COGS. Long term debt is more meaningful when we see it in relation to total assets and net worth.

The key to understanding financial information is to see values relative to other values in the Income Statement and Balance Sheet. What we need to do is to focus on a set of relationships. We need to see ratios, percentage changes, trends, increases and decreases. Only then are we in a position to make reasoned judgments of the state and performance of the enterprise.

Changes from the start of a financial period to the end can tell us much about the operation of the enterprise. We can see from the Income Statement the performance of the business and

we can see from the Funds Statements how the business has changed during the period. Much can be learnt by reviewing the relationship of individual expenses to income and to other associated expenses.

When we understand the definition of the accounting items and appreciate the manner in which the numbers are calculated and manipulated, we are in a much better position to make decisions. Rather than be intimidated by the information we are empowered. We can use the information to isolate those areas where we need more information and use the opportunity to make improvements.

We must also keep in mind that financial reports are historical in nature. They report what has been, not what will come and to that extent it is too late to make any difference to the reported results. We can only impact the future through the decisions we make now based on the information we have at hand. This is why forward looking reports such as the cash flow projection and budgets are so important to business owners.

We need to use the financial statements to update our cash flow projections and to review our budget estimates. The budget year-to-date values compared to actual performance will tell us how well our plans are being realized. This will stimulate action to bring activities back into line or cause the budget to be revised.

We also should update our end year projections from current actual data so we have a more up-to-date estimate of what the final year results will be. This will provide valuable information to our planning activities as we revise our plans to bring year end projections to where we would like them.

At the same time, the cash flow projections need to be revised to reflect the new realities. This is the most critical of all planning tools and should be updated whenever there are changes to business activities.

The combination of an updated budget and cash flow projection sets the stage for the next planning period, whether that be a week, month or quarter. By taking decisions to improve the likely outcome, the business owner is managing the business not simply reporting on its activities. This is the real purpose of financial information.

But by far the most important insights come from comparing the performance of the firm with similar firms in the sector. It is difficult to make a judgment of the firm in isolation because you have no benchmark to show whether it performed well or poorly. Was there too much inventory? Were credit days too high? Did the firm have too much debt to equity? The

only way we can answer these questions is to look at the performance of other firms in the sector. We need to see the performance of the firm relative to the average and best performers in the sector.

Once we know what average performance and best practice is, we can judge where to put our effort. Where we are under performing the average in the sector we need to take action. This insight calls for an investigation, education, consulting support and change. We should at the same time celebrate where we are performing near the best practice.

Financial information is the lifeblood of business. Understanding how to use it to manage the business is a critical skill of the successful entrepreneur.

Reflection:

As a CPA I knew how to prepare financial reports but it wasn't until I had to use them that I really appreciated their importance. It was then that I also started to understand why it was important for all my management team to also have a good understanding of financial information. I had to rely on their advice and I wanted them to provide me with the best information they could. If they didn't understand what the information meant or how to use it, I was flying blind. This was especially important when I had to manage subsidiaries overseas. I needed those reports to tell me what was happening but also I needed the local managers to give me recommendations for future action.

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