Financial models : Step-by-step guide

Forecasting and modelling are ways to use your financial figures to make decisions. Weighing up these numbers means your decision is based on more than gut feeling.

This process will help you see:

- if the change or project is worth the expense and effort
- potential risks to your cash flow
- how much money you’ll need — if any — from lenders or investors.

Follow these steps to see the effect on your costs and income. Planning like this has been shown to help boost income and reduce risks.


Introduction to finance modelling


When to use numbers to make decisions

Whenever you think about “where to” or “what next” for your business, it’s a good idea to see what the numbers tell you — both your current financial figures and what these might be in the future.

It’s an important part of business planning. It helps you compare options to see which is best for you and your business.

Examples include when you’re deciding whether to:

- launch a new product — or change an existing one
- move into a new market
- buy or lease equipment or work premises
- invest money in the bank, in shares or back into your business
- seek investors — they will want to see your vision explained in numbers.

Even seemingly small changes might affect your costs and/or earnings. For example, customer feedback leads a clothing designer to think about adding a pocket to a popular dress. She forecasts the extra costs, eg of extra fabric and extra sewing time, and projected sales of the dress with pockets and without. To see if this makes financial sense, she then models what her cash flow might be.

Forecasting and modelling

Financial forecasting
A forecast is an educated guess at your business’s costs and income over a period of time, eg six months or five years. Many small businesses use cash flow forecasts, the most common type of forecasting. If this is new to you, check out the introduction to cash flow forecasting in our tax and accounting section.

Forecasts are typically presented in a spreadsheet, but many business owners use accounting software and work with their accountants or bookkeepers to ensure greater accuracy.

To forecast future financial figures, use information such as:

- your current operating costs, sales and other figures found in your financial statements
- how your costs might change, eg a rent rise in four months, petrol prices falling
- expected ups and downs in your sales, eg Christmas rush or slowdown, launch of a new product
- insights on sales trends from staff and suppliers.

The result is a clearer picture of your financial future.

Financial modelling

If you can confidently read your financial statements and cash flow forecasts, you’re ready to tackle financial modelling. If not, check out our page on how to read financial statements first.

Modelling takes your financial forecasts to the next level:

- It shows how much free cash flow you have to spend during a project, eg new equipment or launching a product.
- It casts light on whether that project makes good financial sense.

A model uses similar line items as your financial statements, eg revenues and capital expenditure (capex).

Typically presented in a spreadsheet, it includes equations that use your financial figures to calculate the expected performance of the project over time. The modelling spreadsheet on this page does the sums for you, with sample figures and a place to try it out for yourself.

Free cash flow is money available to repay loans, pay investors, or be spent on improving your business.

Modelling tools typically work it out for you.

Case study

Anika’s forecast

Clothing designer Anika wants to switch to cheaper fastenings. This will reduce her cost of goods sold, and increase her profit margin.

But paying for these in bulk means going into negative cash flow for much of the year. Her mentor suggests forecasting the expected costs and sales to see if it makes financial sense in the long run.

Together they work out a monthly forecast to see the likely peaks and troughs in her free cash flow. If it all balances out over the year, Anika will feel comfortable with making the switch.

The forecast shows her free cash flow is negative for five months of the year as she waits for fastenings to arrive from India, and then sew them into her dresses. But towards the end of each season, it’s positive as the finished dresses are sold.

Negative free cash flow is a problem if it’s unexpected. But in Anika’s case, it’s planned and part of her strategy to improve her profit margins. Her mentor recommends she regularly checks her financial figures to make sure the plan is on track.
Follow Anika’s story as she decides how to fund her next shipment.

- [Case study: Anika’s crowdfunding appeal](/business-performance/strategic-finance/find-the-right-type-of-funding-for-your-business/#e11262)

**Step-by-step guide**

Try this out with a small project first. Make something up or pick something you have already been thinking about.

Use these steps to explore how your numbers might change if you go ahead with it. Then move on to a bigger project with more money involved, and more complex factors influencing how it performs.

**Step 1: Take time out**

Like any sort of business planning, you need time and headspace. Step away from day-to-day distractions. Try taking half an hour in a quiet cafe soon after you’ve seen your accountant or checked your financial statements. This means you’ll already be thinking about your costs and income, profit and loss.

**Step 2: Forecast key figures**

Start with the costs involved, the price you’ll charge, and who you plan to sell to. Be realistic when forecasting numbers. For new businesses, use market research and benchmark figures for your industry. Established businesses can also use their past figures to help predict future costs and income.

Use our 10-step quick focus business plan template — or an even shorter version — to record these details.

Include ranges from low to high, after thinking about:

- How your costs might go up or down, eg for raw materials or transportation.
- What customers might be prepared to pay.

No forecast can be 100% accurate. But it should be an educated guess, not a wish list.

[10-step quick-focus business plan](/assets/Uploads/Documents/quick-focus-plan.pdf)

If you want to borrow money or attract investors, you’ll have to show your forecasts — and explain how you came up with the numbers.

**Step 3: Think about the big picture**

This means looking beyond your business to events in the wider world. This is particularly important if you’re aiming for high growth or a major project. But smaller projects — and even business as usual — can be affected by a law change, rising interest rates, or changes in customer tastes.

Even if you don’t do business offshore, keep an eye on New Zealand’s trade deals. A new deal, or changes to an existing deal, could:

- open up a new market
- change the market you’re already in
- affect suppliers or creditors you work with.

One way to see which big-picture events might affect your business is a PEST analysis, which stands for political, economic, social and technological. Some businesses add environmental and legal factors. Here are examples of factors to think about:

**Political:** When is the next election in your main market? Will a law change affect your industry?

**Economic:** Are exchange rates — or interest rates — stable? What’s the disposable income of your key customers? What’s happening with the price of your ingredients/raw materials?
Social: Are your key customers in a population group that’s growing or shrinking? How might changing lifestyles affect your business, staff or customers? Are trends emerging that might grow new competitors?

Technological: Do you or your customers rely on technology that’s changing? Is your industry adopting automation or other new technology? Are competitors investing in new technology?

Step 4: Move on to modelling

Plug your forecast figures into a modelling spreadsheet or other tool — try the workbook on this page.

The results are a best guess of how your finances will stack up, not a sure thing. But it will cast light on whether a project is the best course of action in the long term.

The numbers you plug into a modelling tool are a prediction of how much a project might cost, how much revenue it will generate, and what the interest rate might be. Talk to a business advisor about how to get reasonable forecast numbers. The more effort you put into forecast numbers, the more accurate the model will be.

The tool’s formulae then calculate how the value of your initial costs and projected income change over time.

These results (present value, net present value and internal rate of return) help you and your accountant or advisor analyse the profitability of the project. If you want to dig into these technical terms, see the definitions in ‘Modelling results explained’ below — then check out our page introducing modelling concepts.

Modelling results explained (/business-performance/strategic-finance/advanced-finance/)

Case study

Merryn’s financial model

Merryn and Leni co-own a tech company based in Christchurch. Its digital point-of-sale system is popular across the South Island. So where to next?

Merryn sets time aside to plan for the company’s future. She’s keen to explore when to expand into Australia, so creates a model of future costs and income.

Merryn’s model covers a launch in Sydney and how the business might perform over the next five years.

Because sales can go up and down, and so can exchange rates, Merryn creates several versions of the model. She thinks about how high or low sales could go, and the costs involved in making sales. To help her think about other big picture events that might affect the business, she does a PEST analysis of political, economic, social and technological factors.

After running the numbers, Merryn has a better handle on what’s involved. She reckons it will cost about $200,000 to fund a launch in Sydney. See her sample figures in our modelling workbook:


Follow the story as Merryn and Leni decide how to fund their offshore expansion.

- Case study: Merryn and Leni’s profits (/business-performance/strategic-finance/find-the-right-type-of-funding-for-your-business/#e11310)

It’s much easier to forecast costs than revenues.

You can be sure that you will spend money, it’s a matter of how much, but you can’t guarantee people will buy what you’re selling.

Step 5: Stress test your numbers
You can do this step with your forecast or your model.

It’s important to see what happens to your finances in a range of scenarios, good and bad. Make several versions in which you change the predicted numbers to reflect highs and lows in your:

- sales or other income
- costs
- interest rates.

Stress testing helps you — and any potential investors — understand potential risks and rewards in detail.

It will also help you set targets and limits for that new product or other project — including the point at which to quit, eg if sales stall below a certain number and show no signs of improving.

**Step 6: Show and tell**

Recruit a willing participant — a trusted colleague, your accountant or mentor, or your partner (business or personal). Set out your planned project and the numbers in your model. Remember to explain the range of scenarios you’ve modelled, and why you have chosen them.

Encourage them to ask hard questions — the type of questions lenders or investors will ask. The aim is to find out if your forecast figures are realistic.

Example questions include:

- What problem will this solve for potential customers?
- Are people willing to pay for your solution?
- How much does it cost to make or do?
- What’s included in your costs — have you left anything important out?
- How did you set your selling price?
- What size is your potential market?

**Step 7: Decide if it’s go/no-go**

Decision time. If the finances stack up, and you’re ready to take the plunge, the next step is to confirm how to fund your project.

You might have enough free cash flow to fund it yourself. But if you plan to raise funds from another source, use your forecasts and models to show potential lenders or investors how you expect the project to go.

[How to raise capital](/business-performance/strategic-finance/find-the-right-type-of-funding-for-your-business/)

**Step 8. Regularly check you’re on track**

Every month, check your financial statements. Compare your actual figures — often called key performance indicators (KPIs) — with those you predicted.

Are you tracking as predicted in your forecast or model, or does something need to change? You might have lower sales than expected, or a change in costs or interest rates might require you to make changes.

Projects rarely go 100% to plan. Check how you’re going against the targets and limits you set in step 5.

**Whether you’re new to modelling or a master, talk to your accountant or business advisor.**

They can help make sure your numbers are realistic, and test if you have thought through important factors.

**Case study**

**Sam’s forecast**
Sam the painter is saving for a deposit on a van. Cash flow is improving now that more customers pay on time, so he’s ready to start looking for a van to buy.

Now he’s setting a budget for loan repayments. Sam wants this money to come from his free cash flow — he doesn’t want to run into cash flow problems again.

Sam asks his partner Alex, who does the books, for help.

Alex decides to create a simple forecast over the next two years, using figures from the balance sheet.

Alex follows the step-by-step guide on our modelling page. Using our modelling workbook as a base, Alex updates the numbers to suit his business and creates a forecasting spreadsheet to calculate free cash flow.

- [Modelling workbook [XLS, 102 KB] (/assets/Uploads/Documents/Financial-modelling-workbook.xls)]

In the first column, Alex adds costs and income for the year to date.

To estimate figures for the following years, Alex thinks about how having a van will mean bigger jobs. But she wants to be cautious with her estimates, having only just started to improve their finances. Alex knows the increase in income won’t happen right away - but costs will. She adds 10% to current costs and, for four months later, 15% to current earnings. To account for loan repayments, Alex includes the cost of an unsecured loan.

Next, Alex adds the one-off cost of the van’s deposit. The spreadsheet uses all these figures to calculate free cash flow year-by-year. It’s positive — enough to cover loan repayments at 13% interest, with some left over.

Sam’s next step is to decide which type of loan to get. Follow his story on our capital-raising page.

- [Case study: Sam’s loan (/business-performance/strategic-finance/find-the-right-type-of-funding-for-your-business/#e11289)]

Try this modelling workbook

Download our modelling workbook (an Excel spreadsheet) to see how numbers can help you make big decisions, including those that involve borrowing money or seeking investors.

The first two sheets are for forecasting. These show sample forecast figures for revenues, costs, tax rate and capital expenditure (capex) for our fictional tech company — see Merryn’s case study on this page.

The sheets labelled Step 2 and Step 3 are for modelling. These use our tech company’s sample forecast figures to calculate modelling results like net present value and internal rate of return — see definitions in ‘Modelling results explained’.

To see how the results change when these financial figures rise or fall, you can either:

1. Change our numbers.
2. Type in your own figures.

[Modelling results explained (/business-performance/strategic-finance/advanced-finance/)]

Financial modelling workbook

See how numbers can help you make big decisions, including those that involve borrowing money or seeking investors.
Reading the results

If you type in your own costs and income, the spreadsheet will work these figures out for you:

- **EBIT** — earnings before interest and tax
- **EBT** — earnings before tax
- **net income** — how much money your project makes after taxes, expenses and other bills.

To analyse whether a project should be go or no-go, look at these results:

- **Net present value** — a positive number indicates the project is likely to make good financial sense.
- **Present value of cash flows** — positive numbers preferred, but OK if some dip below zero if the net present value is positive.
- **Free cash flow** — positive numbers show you have money to spend during the project. A negative number means you will need money from a lender or investor to cover that period.
- **Internal rate of return** — shows if your expected profits will be high enough for you and your investor or lender to get a cut.

See the definitions above, then talk to your accountant or advisor.

Case study

**Dani’s financial model**

Dani plans to expand by selling to more cafes and restaurants. To keep up with demand, she wants to turn the vacant premises next door into a commercial kitchen.

She talks to her accountant about a budget for the fit-out — and how to pay for it. Together they create a forecast for the next few years, first using current figures and then expected costs and earnings with more business customers.

Her current costs and earnings are separated out in her income statement. See how these figures helped her decide to focus on supplying businesses on our analysing numbers page.

- **Case study: Dani’s profits ([link](/business-performance/strategic-finance/use-numbers-to-analyse-your-business/#e11118))**

Dani’s new commercial kitchen will likely cost about $500,000. This isn’t included in the forecast yet — instead it will be added as a one-off project cost once the forecast’s figures are plugged into a financial model.

Using her past financial statements, Dani and her accountant make an educated guess at:

- future costs of goods sold, eg ingredients and deliveries
- operating costs, eg electricity and rent
- expected sales during building work, using existing kitchen
- expected sales once the new kitchen is complete.

To help work out the value of future sales, they use figures from her existing supply agreements with three local cafes.

Her accountant then creates a model with the kitchen fit-out as a one-off project expense. They see it makes good financial sense — the result for net present value is a positive number, even if sales to business customers take a while to rise.

Follow Dani’s story as she decides how to fund the building work on her new kitchen.

- **Case study: Dani’s investor ([link](/business-performance/strategic-finance/find-the-right-type-of-funding-for-your-business/#e11241))**

Build modelling into your business.
Make time to use modelling when you make big decisions. If you want to dig deeper, learn about modelling concepts like opportunity cost and time value of money.

Definitions of modelling concepts (business-performance/strategic-finance/advanced-finance/)

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