Video 4.1: Skills Needed for Financial Modelling

Recommended Reading: See the section on "Skills Needed for Financial Modelling" in Chapter 1, page 17 of Using Excel for Business Analysis. Below is an extract from this chapter:

When you decide your financial models are not as good as they should be, should you immediately take an advanced Excel course? Whilst this is helpful, **there's a great deal more to financial modelling than being good at Excel!**

When considering the skills that make up a good financial modeller, we need to differentiate between conceptual modelling, which is to have an understanding of the transaction, business, or product being modelled, and spreadsheet engineering, which is the representation of that conceptual model in a spreadsheet. Spreadsheet skills are reasonably easy to find, but a modeller who can understand the concept of the purpose of the model and translate it into a clear, concise, and well-structured model is much rarer.

People who need to build a financial model sometimes think they need to become either an Excel super-user or an accounting pro who knows every in and out of accounting rules. I'd argue you need a blend of both, as well as a number of other skills, including some business common sense!

Spreadsheet and Technical Excel Skills

It's very easy for financial modellers to get bogged down in the technical Excel aspects of their model, get carried away with complex formulas, and not focus on key high-level, best-practice procedures, such as error-checking strategies and model stress-testing.

Excel is an incredibly powerful tool, and almost no single Excel user will have the need or desire to utilise most of the functionality this program offers. As with most software, the 80/20 rule applies: 80 percent of users use only 20 percent of the features—although some would argue that 95 percent of Excel users use only 5 percent of the features! Still, there are those select few who understand every in and out of Excel, every single function, and work out how to do practically anything in Excel. Do you need to have this level of Excel skill to become a good financial modeller? Unfortunately, having great software skills doesn't always help when it comes to applying them to a specific area of business. Realise that Excel is used in several capacities, so being an Excel super-user doesn't automatically mean you'll be a super financial modeller. The best financial models are clear, well structured, flexible, and dynamic; they are not always the biggest and most complicated models that use the most advanced tools and functions! Many of the best financial models use only Excel's core functionality.

Having said that, to be a good financial modeller, you do need to know Excel exceptionally well. Those people who maintain that you don't need good Excel skills to be a financial modeller are usually those with weak Excel skills. You should be building a superb model using simple and straightforward tools because you've chosen to make your model clear and easy to follow, not because that's all you know how to do! You don't have to be a super-user—the 99th percentile in Excel knowledge—but you must certainly be above average. A complex financial model might use features in Excel that the everyday user doesn't know. The best financial model will always use the solution that is the simplest tool to complete the task (as simple as possible and as complex as necessary, right?), so the more familiar you are with the tools available in Excel, the easier it will be. An array formula or a macro might be the only way to achieve what you need to achieve, but a simpler solution may well be—and often is—superior. You might also need to take apart someone else's model, which uses complex tools, and it's very difficult to manipulate an array formula or a macro if you've never seen one before! So, if you are considering a career as a financial modeller (as I assume you are) improving your Excel knowledge is an excellent place to start.

Industry Knowledge

One of the fantastic things about financial modelling is that it is applicable across so many different industries. Good financial modelling skills will always stand you in good stead, no matter which industry or country you are working in! Financial modelling consultants or generalists will probably work in many different industries during their careers and be able to build models for different products and services. They will probably not be experts in the intricacies of each industry, however, and that's why it's important for a financial modelling generalist to consult carefully with the subject matter expert for the inputs, assumptions, and logic of the financial model. Don't be afraid to ask lots and lots of questions if the details

are not absolutely clear. It's quite likely that the person who has commissioned the model hasn't actually thought through the steps, inputs, assumptions, and even what the outputs should look like, until you ask the right question.

Accounting Knowledge

Elements such as financial statements, cash flow, and tax calculations can be an important aspect of many financial models. Professional accountants know every single accounting rule and law there are, but this does not necessarily make them good financial modellers. If a highly skilled accountant built a financial model, you would guess that the layout and structure of the financial statements will be 100 percent correct, but will they be linked properly? If you change some of the inputs, does the balance sheet still balance? Sometimes not! A good accountant, or even someone qualified with a master of applied finance for example, might not be familiar with all of the modelling technical tools, even if they are a competent Excel user. As with the other modelling skills, you don't need a top level of accounting knowledge to build a financial model. In fact, financial models are often relatively straightforward from an accounting standpoint. You certainly do not need to be a qualified accountant to become a financial modeller, although a good understanding of accounting and knowledge of finance certainly helps.

Business Knowledge

A modeller with wide-ranging business experience is well-equipped to probe for the facts and assumptions that are critical for building a financial model. This is probably the most difficult skill to teach, as it's most easily picked up by working in a management role.

Business acumen is particularly important when commissioning, designing, and interpreting a financial model. When creating the model, the modeller needs to consider the purpose of the model. What does the model need to tell us? Knowing the desired outcome will assist with the model's build, design, and inputs. If, for example, we are building a pricing model, we need to consider the desired outcome; normally, the price we need to charge in order to achieve a certain profit margin. What is an acceptable margin? What costs should we include? What cost will the market bear? Modellers should also have an understanding of economic concepts, such as efficient costs and how these are calculated, an expected return on an asset base, operating costs and working capital, or long-run versus short-run marginal costs.

Of course the answers to these questions can be obtained from other people, but a modeller with good business sense will have an innate sense of how a model should be built, and what is the most logical design and layout to achieve the necessary results.

Aesthetic Design Skills

This is an area that many modellers and analysts struggle with, as aesthetics simply do not come naturally to left-brain thinkers like us. We are mostly so concerned with accuracy and functionality that we fail to

realise that the model looks—and I'm not going to mince words here—ugly! Although it's just a simple matter of taking our time when formatting, most of us could not be bothered with such trivial details as making models pretty, and consequently most models I see use the standard gridlines, font, and black-and-white colouring that are Excel defaults. I'm certainly not suggesting that you embellish your models with garish colours, but you should take some pride in your model. See the section on "Bulletproofing Your Model" in Chapter 7 for some ideas on how to remove gridlines and change some of the standard settings so that your model looks less like a clunky spreadsheet and more like a reliable, well-crafted model you've taken your time over. Research shows that users place greater faith on models with aesthetic formatting than those without, so one of the fastest and easiest ways to give your model credibility is to simply spend a few minutes on the colours, font, layout, and design.

Communication and Language Skills

This is also an area that we left-brain thinkers are not always good at. Some analysts like to lock themselves away, working on spreadsheets without communicating with other people. If this is your tendency, then you might need to consider whether financial modelling is a good career choice for you, because there is a surprising amount of human interaction required for most financial modellers. This can be in the form of:

- Assumptions Validation
- Data Gathering
- Presentation Skills
- Client Skills

In all of these interactions with other people, financial modellers must show confidence in their model. Build the model to the best of your ability. Use best practices, check for errors, and follow a good and logical thought process, so that when you present or discuss your model, you can do so in a way that exudes absolute confidence. Doing so reduces questions about the accuracy, usefulness, and validity of your model. Be honest about the fallibility of your model and its known shortcomings (let's face it, no model is perfect), but be confident that you have built it to best-practice standards within the limitations of time, data, or scope. This will serve to increase your model's credibility, building your reputation within your company, and, of course, enhancing your career!

Numeracy Skills

Financial models, of course, have a significant mathematical component, and people with good numeracy skills are best suited to it. Solid math skills can be particularly useful in error-checking and sense-checking. The ability to make rough estimates quickly means they will be able to spot errors more easily. If we sell 450 units at $800 each, will our sales revenue be $3.6 m, or $360,000? If we've made a calculation error, the numerate modeller will pick up the mistake much more quickly.

The numerate modeller will also have a gut feel for differentiating between critical assumptions that need further verification, and input that is insignificant or immaterial to the model. The less-numerate modeller will have to test it manually, and will probably end up with the same result, but it will simply take longer.

General numeracy is a skill that is difficult to teach, and one that can be easily tested for in the recruitment process. Experience working with models over time can drastically improve these skills as the modeller who is less numerate will learn ways to compensate through error-testing, and these techniques will become acquired, innate habits.

Ability to Think Logically

Modelling is often like programming, and complex logic needs to be interpreted into the language of Excel so that the program can understand and create the modeller's expected results. Logic is also critical for model layout, design, and the use of assumptions in calculations. Logic is one of those analytical skills that is very difficult to teach, but modellers who have made a logic error learn quickly from their mistakes and are quite careful to use clear, well-documented logic for others to follow and check.