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External File Links

Let's talk about external links. What I mean by external links is when you link from one file to another file. This is something that causes a lot of pain and quite a lot of problems for many financial modellers. It is good practice to link from one file to another if you're wanting it to automatically update but there are a lot of things that you need to be careful of because it can be very dangerous and it can cause a lot of problems.

Let's have a look first at an example of dead links. In this example here, you can see that this is a dead link. Excel is pretty clever, it will remember the last value that was there but if I F2 into it and then hit enter, you can see that it's trying to find the file and it can't find it. Okay it's pretty good. It's remembered the value and that's all fine but it is going to cause a few problems and errors in my model so we don't want that in there. If you've got dead links within your model, you really just need to kill them and get rid of it.

A fast way of getting rid of any external links is to go to data, edit links and you can see a list of all your external links in there. You can go into break link and hit break link and the idea is now there are no external links and it's pasted all of my external links to value. That is a really fast way of removing all of the external links right throughout the entire file.

Internal links are fine. You can see here that I actually had some internal links within the formulas. It hasn't affected those, it's just removed anything with an external link and pasted it as a value within that particular cell.

You can get phantom links. Sometimes you think you have killed the link and you go back into edit links and you can see that's greyed out because there aren't any external links in the file. But if you find you can't remove them that's a bit of a phenomenon, there's a few

reasons for that. Have a look in your named ranges. Often there are external links inside your named ranges. There is a couple of reasons why that might happen.

The reasons that you should link to external files is that it is best practice. Often when we are creating budget models we have all of our global assumptions in a single file and you want any changes that are made there to be reflected right throughout all of the other budget models. It's a good idea so that numbers are auditable and you can link back and see exactly where the numbers came from. The numbers will automatically update and it does save a lot of time and remove the possibility for error where you want to be able to make a change in a global assumption and that change is made right throughout all of the formulas within that series of models.

I know a lot of analysts don't like using external links. I've met a lot of people who say "no, we don't do any external links whatsoever". They say it's because the links break, it messes everything up, people move the data, the formulas are wrong and the numbers keep changing all the time. It's good practice to avoid moving files if you can. If it causes a problem, you can use edit links to fix it up. Use named ranges and we will have a look in a minute at using named ranges when you are linking between files. Using robust formulas, so Index Match is a really good formula combination that can remove the possibility for errors within your formulas and the numbers should keep changing because it is good practice to link from one file to another.

Let's have a look at an example here. I've given you a copy of this model so you can follow along with me or you can just sit back and watch what I'm doing here. This is linking through to the assumptions tab. You can see all of my assumptions are here. Everything is fine. It's all contained within a single model. Let's say I wanted to use these assumptions for another model as well and I want them cut to another file as well. I want to save it as a separate assumptions file and I've got lots of different models that are going to be linking through to these assumptions. Because everything has all been calculated nicely, I can go to here and move this file over to a new book.

I've now got two separate files here. I can go into here, Save As and save it onto the desktop or somewhere like that. Let's call it Assumptions. We close down the file and we close down

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this file. You can see here that it's linking through, it's linking to my desktop and that's all okay. I'm going to close down my file here and I'm going to save this. Then I am going to go to my desktop, open up my Assumptions file. I actually think that I don't need this row so I am going to delete that row.

Can you see what I've done? I've actually changed the cell reference entirely. Something that was linking to cell B6, it's not B6 anymore it's now cell B5. If I go into my recently used file here, go into the linked model and you can see all of my numbers have changed entirely. You can see there it is picking up B9. It should be picking up B8. All of have my numbers have moved up one because I have removed an extra row. That is really, really dangerous. If I had used a named range instead and you can see that where I have used a name range, Customer Growth, it hasn't caused a problem.

What I need to do to fix that up is to go down and don't save, go back to the way it was, insert the row. Go into here, open up into your linked model and you can see that everything is restored to the way it was. That can be quite dangerous when you are linking between files and you remove a row. Using a named range is a much more robust way of linking between files. In that case I perhaps could have used an entire range and linked to that instead. That would have been a much better practice way of building the model if you are intending to have them in two separate files.

In summary, a couple of dos and don'ts when you are linking between external files.

You should use named ranges. Don't email files that contain links because when you email something off your server or your computer, it's going to be linking back to a file that it can find there. As soon as it’s emailed, it breaks all of the links and it turns up on somebody else's computer. When they open it up it's going to ask to update links. If they so no, it should be okay but you are going to end up with that dead link situation. Before you email a file, you should go into edit links and break all of the links before emailing it. Don't change the file names and sheet names unless you really need to.

It's very important to be quite careful when you are linking from one file to another.

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