

Sum Product

NEWSLETTER #40 - March 2016

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We've hit the big 4-0!

Who would have thought when we first started off that we could put together a monthly newsletter concerning Excel and Financial Modelling? Or that anyone would read it? Or that we would have co-organised an Excel Summit with the likes of Microsoft, well-known accounting firms and the Chartered Accountants of Australia and New Zealand? Well we had *hoped* we could, but we continue to go from strength to strength.

They say life begins at 40 and there's still plenty of life kicking around in this newsletter. This month we take the briefest of peaks at the new functions rolling out from mid-February in Excel 2016, provide updates on the upcoming Excel Summit South and our e-learning, discuss what you might hope for in a training course, highlight inappropriate number formatting and even mention we've a book coming out later this year. What do you mean, you're going to wait for the film to come out!?

With the usual sense of humour and Excel tips and keyboard shortcuts, welcome to Number 40. It's all downhill from here! Until next month.

Liam Bastick, Managing Director, SumProduct



Excel in 2016: New Functions on the Way...

Mid-February saw some new functions start to feed through into Excel 2016 depending upon which version of Excel 2016 you may have (*oh no, let's not get started on that old chestnut again – Ed.*). The functions are known to be available in Excel Online, Excel Mobile and some versions of Excel 2016 (for those of you with Office 365 in the *First Release*

programme). Unfortunately, we haven't been on the upgrade rollout in time to provide examples for this month's newsletter, but we can still talk about them.

Coming soon to a theatre new you are the following functions:

Function	Description
CONCAT	Concatenates a range together. It's a bit messy (i.e. no spaces) but someone somewhere will find this useful!
IFS	Replacing the dreaded nested IF formulae, IFS replaces this with specifying the calculation for multiple conditions. Adding TRUE as the final criterion provides what happens in the ELSE condition.
MAXIFS	Similar to AVERAGEIFS and SUMIFS, this function calculates the maximum value in a range that meets multiple criteria.
MINIFS	Similar to MAXIFS, this function calculates the minimum value in a range that meets multiple criteria.
SWITCH	Similar to CHOOSE, this function considers a cell's value or formula result and what should be calculated in different circumstances. It differs from CHOOSE in that all values do not have to be specified as the final argument is ELSE.
TEXTJOIN	Concatenates ranges by inserting a delimiter between separate cells (e.g. ", " to add a comma and a space between them). Empty cells within the range can even be ignored.

More anon.

What do you want in a training course?

Head of Training and Sydney Director Tim Heng takes a look at what you should consider when considering training courses.

The start of a new year often brings with it a raft of challenges. Analysing budgets, developing strategic plans, saying farewell to old staff and teaching new staff the ropes. It is around this time of year that we often start to think about staff training and development. Do our teams have the skills and the expertise to make our plans work? If not, do we have the budget to train them in the skills that they need? (At least one answer had better be a resounding "yes", otherwise you're in serious trouble!)

This is the time of year when HR managers and team leaders start scouring for training courses to provide technical skills for their new team members or old team members who may have stepped up to new responsibilities. If you happen to be looking for training for your team, here's a few things you might want to consider in choosing the right course:



- **Skills:** Does the course cover the specific skills that you are looking for? While it may be hard to find a course that specifically covers the use of all 500+ keyboard shortcuts that there are in Excel, you can usually get a sense of what a student will learn by looking at the course outline. The more a course focuses in the general area that you're looking for, even if something hasn't been explicitly specified, the more likely it will be covered during the course.
- **Time:** Leading on from the above point, if a course is going to cover a million different items (and that's just the first day!), then it's likely that any given topic will be given fairly short shrift. As you're reading through an outline, try to mentally determine how long might be spent on each topic and consider if it will be enough time for you to get a full understanding of the topic and practical experience from the session.
- **Class size:** There is a big difference between a class of 10 and a class of 100. (Yes, other than the size of the room – very funny.) For courses that benefit from practical experience, it's much easier to learn in a smaller class size, as there are more opportunities for a trainer to spend one-on-one time helping students work through the practical issues that they are facing. Lecture-style presentations simply don't allow for enough personalised time to be able to answer specific questions and deal with any issues in following the material. However, they often represent good value in a conference-style environment where topics tend to be covered at a high level only.
- **Environment:** Where is the course being held? Who are the sort of people that are likely to attend? If your CFO is attending a course, then he or she would probably want to be in the company of other similarly positioned individuals, rather than Jo Grad. The networking opportunities at public training sessions can be a great way of establishing new business partners and opportunities. Also consider if face-to-face training is what you need, or whether a suitable online training course would be more appropriate (more on that in another newsletter!). Does it have to be a public course, or can it be run in a private session for your staff only?
- **Trainer:** A training course is only as good as the trainer is! We've all been in courses where the trainer speaks in a monotone and has half the class falling asleep, or when half the class has a better understanding of the subject matter than the "expert". Sometimes you won't know who the trainer will be in advance, but consider if the company has a track record or specialty in the area that you're looking for, as that will be a good indication of whether they have the right expertise in-house. Word of mouth can count for a lot here.
- **Price:** Are you getting value for money? The answer to that is a combination of all of the above points – the price that you pay is likely to be a factor of things like class size, depth of the material (the more "overview" a course is, the cheaper it tends to be), and who a course might be aimed at.

While there is probably no single perfect training course out there, there are a lot of factors that help to define what a good training course for your team might be. Let us know what you think – what factors do you consider when you're choosing between training courses? We're interested because we run training courses.

If you're interested in modelling or Excel training, you can read below that we have the Excel Summit South series through Auckland, Sydney and Melbourne coming up early in March, as well as a range of public training courses set out on our website (dates may be located below too). If they're not suitable for you, why not get in touch, and see what we can do for you? Drop us a line at training@sumproduct.com.

Online Training Getting Closer: Meet Jonathan Liau

Regular readers may note we keep promising that online training will be available soon. This is very true and to that end, we have a new recruit assisting with coordinating this new service. Please welcome **Jonathan Liau**.

Jonathan is an Analyst based in our Sydney office. He has recently graduated from the University of Sydney where he studied Economics, Finance and IT. Before studying, he was a Combat Medic (he fought medical staff apparently!) in the Singapore Armed Forces for two years where he worked closely with the doctors. Our other staff have only black belts in Origami so we plan to cower behind him should the need arise.

He is now responsible for the construction of all of our e-learning material here at SumProduct. Outside of work he enjoys exercising and occasionally being a couch potato accompanied with a television binge session. Sounds good to us!

Should you have any queries or suggestions for our upcoming e-learning, feel free to drop Jonathan a line directly at jonathan.liau@sumproduct.com.



Inappropriate Number Formatting

This month we consider a common area of risks in modelling: unit conversion. We have talked about Excel's **CONVERT** function and number formatting previously, but sometimes it has to be done in other ways. Often when building even the simplest financial model, unit conversion becomes necessary. For example, your business may sell 437,911 widgets at a unit price of \$12.50 each. However, in your output summary sheet for senior management, do you really wish to show that the revenue earned is \$5,473,888 or is it more likely that you will display this figure as \$5.5m?

Sound familiar? If the latter idea strikes accord, you may be in danger of making a mistake in your additions. As model auditors, we note that over

95% of all modellers will modify their number with a calculation such as

=437911*12.50/1000000.

Yes, cell references may be used instead and the million factor may be a range name, but in essence the value is derived by dividing the product of volume and unit sales price by one million.

It's just so much easier to read and basically so much more *dangerous*.

Let me explain: output sheets are usually dashboards of various key factors that management requires in order to make informed decisions, *e.g.*



Item	2022	2023	2024	2025	2026	2027	2028	2029	2030
Revenue Summary									
Service Sales Income	1,500	1,800	2,100	2,400	2,700	3,000	3,300	3,600	3,900
Costs	(1,000)	(1,200)	(1,400)	(1,600)	(1,800)	(2,000)	(2,200)	(2,400)	(2,600)
Net Profit	500	600	700	800	900	1,000	1,100	1,200	1,300
Profit Margin Analysis									
Net Profit	33%	33%	33%	33%	33%	33%	33%	33%	33%
Projected Cash Flows									
Net Profit	1,500	1,800	2,100	2,400	2,700	3,000	3,300	3,600	3,900

The problem is, all sorts of different figures may appear on such an output. For example, key outputs could include:

- Unit prices (in \$'s)
- Overall profitability (in \$m)
- Internal Rate of Return (%)
- Payback date (date)
- Asset turnover (multiple)
- Other outputs (MWh, GBytes, KHz)

I hope that modellers are not adding percentages to kHz (not much I can do about that), but it is common for modellers to confuse financial data, e.g.

$$= \$5.5m - \$3.76k = \$1.74??$$

Not only have I no idea of units, the answer should be \$5,470,128. If you don't think you have ever made that mistake, are you sure you had the units right for your accounting ratio or debt credit metric? It can be a scary thought.

How To Avoid: Formatting Rather Than Modifying

This issue is easily overcome. We need to remember from our example that \$5.5m is actually \$5,473,888 and we should make the number appear to be \$5.5m (by formatting) rather than *actually* be 5.5 (by modifying).

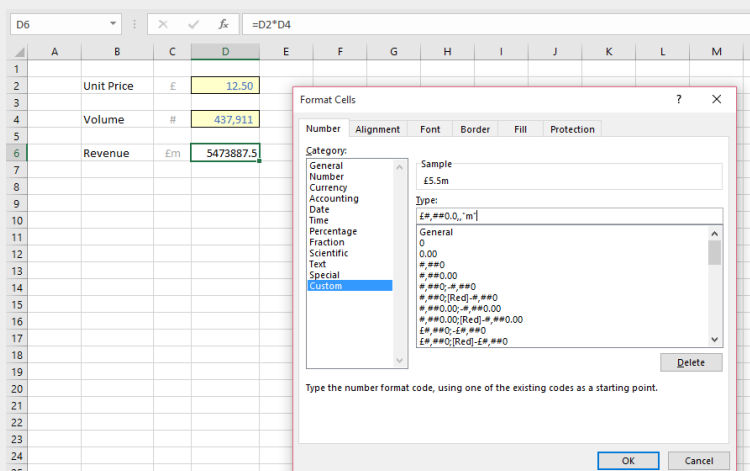
To do this we use number formatting (CTRL + 1) on the calculation:

In the above illustration, the unit price has simply been multiplied by the volume and we have decided to use pounds sterling as our currency. Then, the resulting product has been custom number formatted as displayed in the dialog box:

£#,##0.0,"m"

This may not be immediately obvious! Time for a crash course in hieroglyphics:

- £ is the currency symbol. Excel recognises various symbols, including the euro, the dollar and the yen
- # means put a number *if necessary*
- 0 means put a number whether it's necessary or not, e.g. the number format "000" used on the number 7 would provide you with a Licence To Kill: 007



- , (comma) is the thousands separator and serves two purposes. It puts a comma in at the thousand / million / billion mark when the syntax “#,###” or “0,000” etc. is used, but it also divides by a thousand each time it is entered after the number formatting so “0,” will be in thousands, “##,,” will be in millions and so on
- . (decimal point / period) is the decimal point
- “m” – whatever is inserted inside inverted commas is added as text to the number format.

Therefore, £#,##0.0,“m” will display numbers in £m to one decimal place (i.e. to the nearest hundred thousand) but the underlying number will still be 5,473,888 and hence avoid a common mistake in financial modelling.

Before everyone writes in and comes up with 34,380 (should that be 34.4k?) reasons why a calculation should be divided by a conversion factor rather than just given the appearance it has

been, I do recognise sometimes this needs to be done. My point is, often it does not and using a divisor is fraught with risks – so why not avoid the issue?

Also, I have only touched the tip of the iceberg for custom number formatting. If you want to find out more, please refer to www.sumproduct.com/thought/number-formatting.html.

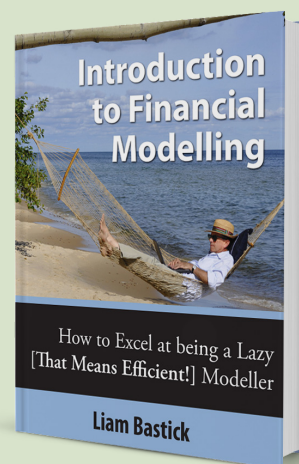
Taking Bookings

Liam has been meaning to write this for some time, but he has finally got round to doing it! Having been asked on many occasions what is a good starter book for learning the ropes in financial modelling, we now have one of our own we can recommend...

Aimed at those working in finance who know how to at least open Excel, this book guides you through the minefield that is developing a financial model. It is packed with over 50 practical examples and assumes little Excel or financial knowledge. It’s the sort of material we have been handing to new modellers for years to get them up the steep learning curve of spreadsheet forecasting.

Yes, it comes with the expected number of terrible jokes (the original title “How to Avoid Double Entry with Models Late at Night was rejected...), but there is a wealth of practical tips and tricks that even the most hard-core modeller should appreciate. Just one catch – it’s not out yet. I know you will probably not be able to sleep in anticipation (!), but the book is now in Editorial Purgatory with an expected publish date of early October.

Watch this space.



Excel Summit South



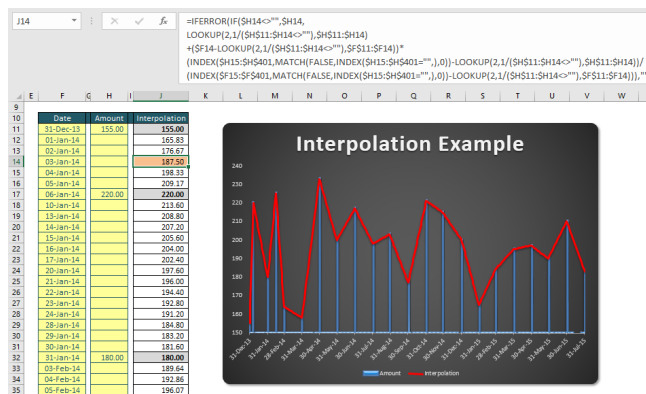
We are off on our travels this month. Excel Summit South is taking place this month. Depending upon when you read this, there are still places available and we understand there are some lucrative last minute discounts to be had too. With invited Excel and modelling experts from around the globe, this is a great opportunity to brush up on your Excel skills and learn from some of the best.

Mr. Excel Bill Jelen will be presenting as well as “Mr. Charts” Jon Peltier – two names found regularly when Googling standard Excel issues! Alongside seven MVPs, there are also guest speakers from PwC, F1F9 and Delft U. With panel discussions and a ModelOff drinks session in the evening too, it should be a pretty Excel-lent two-day event.

Check out all the information and booking details at <https://excelsummitsouth.wordpress.com/>.

Congratulations

Slightly later than usual, SumProduct, in conjunction with the Chartered Institute of Management Accountants (CIMA), is pleased to announce the winners of the annual Xmas quiz. No, it didn’t take longer to mark, simply Insight magazine appeared in abridged format for the first two months whilst work was completed on the website. Anyway, congratulations to **Samir Bellani, Kevin Lovell** and **Nick Hamill** for their winning solutions. Each of them has won Amazon gift vouchers (that’s the web site not the rainforest). It’s SumProduct’s seventh competition in conjunction with CIMA and we’re pretty sure there shouldn’t be a seven year itch. We’ll give notice of the next one in due course right here in a forthcoming issue of our Newsletter. In the meantime, you can check out the discussion on the Excel challenge in this month’s (March) issue of *Insight* at <http://www.cimaglobal.com/Thought-leadership/Newsletters/Insight-e-magazine/Insight-2016/>, although at the time of this newsletter, we understand it will be published in mid March.



Upcoming SumProduct Training Courses

Location	Course	Date	Duration
Sydney	Excel Tips & Tricks	18th Apr 2016	1 day
Sydney	Financial Modelling	19th - 20th Apr 2016	2 days
Sydney	Mergers & Acquisitions Modelling	21st - 22nd Apr 2016	2 days
Brisbane	Excel Tips & Tricks	16th May 2016	1 day
Brisbane	Financial Modelling	17th - 18th May 2016	2 days
Singapore	Excel Tips & Tricks	23rd May 2016	1 day
Singapore	Financial Modelling	24th - 25th May 2016	2 days
Singapore	Power of Power Pivot	26th - 27th May 2016	2 days
Melbourne	Excel Tips & Tricks	6th Jun 2016	1 day
Melbourne	Financial Modelling	7th - 8th Jun 2016	2 days
Melbourne	Mergers & Acquisitions Modelling	9th - 10th Jun 2016	2 days
Melbourne	Power of Power Pivot	14th - 15th Jun 2016	2 days
Auckland	Excel Tips & Tricks	20th Jun 2016	1 day
Auckland	Financial Modelling	21st - 22nd Jun 2016	2 days

Key Strokes

Each newsletter, we'd like to introduce you to several useful keystrokes you may or may not be aware of. This month we look at the function key **F10** – no doubt this will be a big hit with all of our Mac users:

Keystroke	What it does
F10	Activate menus
SHIFT + F10	Activate context menus (right-click)
CTRL + F10	Toggle Maximised / Restored
SHIFT + ALT + F10	Show On-Object User Interface (OOUI)

There are over 540 keyboard shortcuts in Excel. For a comprehensive list, please download our Excel file at <http://www.sumproduct.com/thought/keyboard-shortcuts>. Also, check out our new daily **Excel Tip of the Day** feature on the www.sumproduct.com homepage.

Our Services

We have undertaken a vast array of assignments over the years, including:

- **Business planning**
- **Building three-way integrated financial statement projections**
- **Independent expert reviews**
- **Key driver analysis**
- **Model reviews / audits for internal and external purposes**
- **M&A work**
- **Model scoping**
- **Project finance**
- **Real options analysis**
- **Refinancing / restructuring**
- **Strategic modelling**
- **Valuations**
- **Working capital management**

If you require modelling assistance of any kind, please do not hesitate to

Link to Others

These newsletters are not intended to be closely guarded secrets. Please feel free to forward this newsletter to anyone you think might be interested in converting to "the SumProduct way".

If you have received a forwarded newsletter and would like to receive future editions automatically, please subscribe by completing our newsletter registration process found at the foot of

Any Questions?

If you have any tips, comments or queries for future newsletters, we'd be delighted to hear from you. Please drop us a line at newsletter@sumproduct.com.

Training

SumProduct offers a wide range of training courses, aimed at finance professionals and budding Excel experts. Courses include Excel Tricks & Tips, Financial Modelling 101, Introduction to Forecasting and M&A Modelling.

Check out our more popular courses in our training brochure:



Drop us a line at training@sumproduct.com for a copy of the brochure or download it directly from

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