



Transcript for Session 031

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Transcript:

Hi, welcome to <http://chandoo.org> podcast session 31. Our podcast is aimed to make you awesome in data analysis, charting, dashboards and VBA using Microsoft Excel.

Thank you so much for joining me in the 31st episode of <http://chandoo.org> podcast. As we are approaching the first anniversary of <http://chandoo.org> podcast, I couldn't help but thank you for all the support, love and really kind suggestions that you have showered on us all this time. If you remember, I started the <http://chandoo.org> podcast around March 2014. The 32nd episode (the next episode) will mark our 1st anniversary. So, I'll share news about the anniversary and how we are going to celebrate it in the next episode.

In this episode, we are doing to learn about **invisibility tricks**. You heard me right! We are going to talk about how to make things go invisible in Excel. Before we disappear into the invisibility topic, let me give you a couple of personal updates. In the last podcast episode, I told you that I am really excited about the 200-km BRM cycling event that was to happen on 21st February. It turned out that I went for the BRM and then things went haywire. It was a 200-km cycling event and although I had prepared very well for the event both mentally and physically, it turns out that my knees were not really ready. So, after cycling for about 75-km, I started getting this pulsing pain in my left knee. It was slightly beneath the knee towards the outer side. It was annoying at first and I took a couple of breaks but I couldn't cycle anymore. So, I pulled out and just sat by the roadside nursing my knee for a couple of minutes. I then realised that I couldn't cycle anymore as it was unbearable pain. So, I hitched a ride back home from there with a really sad mind and body. This was an event that I was really looking forward to and I felt I was ready for it finally, but it looks like I need a little more practice and my knees need a little more strength. So, I will update you whenever I attack this cycling race. There is another one scheduled in Vishakhapatnam (where I live) in August 2015 and so, hopefully, I should be able to participate in that round. Once I got back home, I took rest for some time but the pain wouldn't go away. So, I consulted a physiotherapist who suggested a series of stretches and exercises for strengthening my knee muscles as well as put me on a routine of physiotherapy that involves massaging the knee muscles and repairing the tendon that got damaged in this process. So, I am going through that and I am really happy to tell you that my knee feels very good now and I have been able to cycle short distances of about 5-6 kms (3-4 miles) every other day. So, it is good, all in all. But, I am really looking forward to going back on the saddle and riding for slightly longer distances - maybe 15 to 20 miles at least thrice a week.



That's a little bit about my personal updates but I don't want to bore you too much with that. Let's now talk a little bit more about the invisibility tricks.

Although the name sounds a little pompous and magical, what I really want to share with you is how you can take anything inside Excel (values in cells, row or columns, charts or drawing shapes etc.) and make it invisible. Before you ask me how you make things invisible, let's first understand the **motivation behind invisibility**. When you want invisibility, there could be a couple of reasons behind it. For me, the most important reason is that I don't want somebody else to look at it. For example, if I am building a dashboard or a very complex report, that thing will have a lot of components. You will use some pivot tables to do the calculations. You will write a lot of complex, lengthy formulas and the data would be processed in stages. So, the same data will go through multiple steps before it gets transformed into the shape we want. What matters to the end user is what the report looks like. They only care about the report; they don't care about the intermediate steps. So, there is really no reason why an end user, especially somebody like a CEO or a Vice President or your customer would want to look at the intermediate steps unless they want to audit the workbook and understand that everything is done properly or not. This is where invisibility comes in handy. I can make things invisible so that people don't look at the complexity behind the workbook. I don't want to refer to it as ugliness; it is more like complexity. It is like buying a nice looking Ferrari or BMW; you don't want to look at the engine! Obviously it is down there and if you are a car enthusiast or a mechanic, you might want to poke your head under the hood and see what's down there. But, for most of us, we don't want to look at the engine or the greasy oil chambers or filters or things like that unless something goes wrong with them. What we care about are the nice looking steering, the cabin and all those fancy things.

The same applies for Excel workbooks also. Your workbooks are like cars and you want to hide the parts that are not meant to be seen by most people. That's where invisibility tricks come in handy. I have about **10 ideas that you can implement to make things invisible**. Let's go through them one by one.

The first is **making the content of cells invisible**. This is the lowest possible thing that you can hide. A cell can have a number or text or a formula or something else and you want to make that entire thing disappear. To a layman or to the naked eye, it looks like there is nothing in that cell. It obviously contains the value but you just don't want to see it on the spreadsheet output. So, how do I make this invisible? The easiest way that most of us would normally use is to select the cell and **change the font color to white**. Since the font background is also white, white on white makes it appear invisible even though the value is still there. I would say that making the cell color white is not the best way to make it invisible. It is probably a tedious and somewhat ugly way to make it invisible. When you select a bunch of cells, Excel applies a blue color shade on that range to show that this has been selected. Because the font color is now white, it will still show through. So, it isn't purely invisible.



The **best way** to hide cell content is to select a bunch of cells or the individual cell that you want to hide and press Ctrl+1. This opens up the Format Cells box. From there, you go to the number tab, **select Custom Formatting and press three semi-colons (;;;)** as the custom formatting code. When you put three semi-colons in the cell, the cell content will be hidden from the user view. It is still there and is part of the cell and every other cell that is dependent on it will get that value and all the calculations will work fine. The only thing is that it is invisible to you and me. This is really important. If you want to know what the purpose of those three semi-colons is, why they work and what else you can do with custom formatting, just visit the show notes page where I am going to link to a couple of articles on custom cell formatting that'll help you.

The next level of making content invisible is rows and columns. You might want to make a **set of rows or columns invisible**. This is probably the easiest and most of us already know it. We just have to select a bunch of rows and columns - if you want to hide columns B, C and D - you highlight all the three columns by clicking on the names B, C and D in the header area, **right-click and choose Hide**. That'll hide those three columns. The same rule applies for hiding a bunch of rows as well.

The third piece of hiding or invisibility is where I want to **make a chart or the chart data points invisible**. Let's say that a chart has 5 sets or series of data and I want to hide one of the series. How do I do that? If the chart data for the 5 series is coming from 5 columns and if I want to hide the 3rd series of the chart then if I just hide the 3rd column of data in my Excel workbook then the chart series will also get automatically hidden because, by default, Excel charts are set up in such a way that if a column or a row is invisible/hidden then the corresponding data in the chart will also be hidden. This is the natural behavior. Another way to hide out the portion of chart content is that if you filter the original data from which the chart is created. Let's say that the chart is created for depicting the sales for the year 2014 from January to December. Then, I filter the original data and I ask Excel to filter out everything except December 2014. So, the first 11 months are hidden and, immediately, the chart will also hide the first 11 months data. You could use either filtering or hiding rows or columns feature. This is the easiest way to hide content away from the chart and make the chart invisible.

The second option that you can also use is that there is a feature in Excel called **NA**. NA stands for not applicable and you can use it with the help of some IF error logic. Let's say that I want to hide a particular series. So, I will type Yes or True in a cell to indicate that I want to hide that series. We will write an IF formula that says that IF hiding is equal to true then the original value should be replaced by NA and else the original value should be there. In this way you can write an IF formula and that way whenever you change the cell value, the IF formula will kick into action and it will replace the original values with NA's. When you create a chart from this new set of IF formulas (and not from the original data), since the chart is now receiving a bunch of NA's instead of the original data so it will turn off that series. So, you can use either hidden rows or columns or you can use the NA formula to tell the chart that you don't want to see a certain portion of the data. The end effect of all this logic is that, to the user, it looks like we are hiding or we are making things disappear. Just like a magician would show you



that there is an elephant on stage and then they'll put a smoke screen and the elephant will be gone. We all know that making an elephant disappear is scientifically not possible. It has to be there somewhere. But, our eyes deceive us. We suddenly fall into the magical trap and we feel that the elephant has become invisible. The same appears to your users also although you aren't hiding away elephants! You're just hiding the series on the chart. Since they are not looking at all the IF formulas and NA's and hidden column stuff in the background, it all appears seamless and the moment you click a button, the chart series might go away or get added and it creates a really cool, magical effect to you workbooks. This is the third technique, i.e. hiding away chart portions.

The fourth technique is **adding an On/Off feature in your workbooks with the help of form controls and conditional formatting**. Let's say that you want to display a portion of your workbook with special metric calculations or some percentages. But, you also want to leave that space as white or replace it with something else if the user wants to see not the percentages but the original values. So, you could set up a small form control like a check box or something that says 'Show Percentages or Show Values' and when the user selects that option then, in the background, we will use a mixture of formulas and conditional formatting so that we can make the data switch or disappear. I hope you get the point. Since it is an audio-only podcast, I can't really put that picture in your mind. I can only do whatever best I can with words. But, in the show notes page, I will link to an example that gives you an idea of what this means, i.e. using a form control and conditional formatting to derive the effect of On/Off or switching one set of data with another in a dashboard report. So, go ahead and check out the show notes page at <http://chandoo.org/session31/>. This is the fourth option.

The fifth option is how to **make an entire spreadsheet invisible**. This is really easy. You just **right-click on the spreadsheet name and choose Hide** and it will be hidden away from view. The spreadsheet is still there and all the calculation logic and everything else that is in there is there as part of your workbook. It is just hidden away from your users. This is a great way to hide away all your calculations and intermediate level pivot tables and things like that from your end users. They probably only care about the report or dashboard or workbook model and they don't need to see all the intermediate steps of the calculations. So, you just hide it away. Of course, if your boss is like my mathematics teacher; she wouldn't appreciate if you just write the answer to the question; you need to do the entire working and explain how you got from the question to the answer with detailed steps! But, let's hope that we are not in High School anymore. This is the fifth option.

The sixth option is about **hiding away certain objects** like drawing shapes or images or an entire chart. Let's say that you have a bunch of charts and you just want to hide them or show them on-demand. Or, you have a bunch of text boxes or some cute puppy images or whatever might be the case and you just want to toggle them, hide them or make them visible. The easiest way to do this is to use the **'Selection Pane'** option in Excel. You can access this from the Home ribbon. On the **Home** ribbon, if you go all the way to the right, you will see **'Find & Select'** (it looks like a set of binoculars) and if you click on the down-arrow next to it, you will see an option called **'Selection Pane'** at the end. If you activate it, a



selection panel will show up on the right hand side of your Excel and, from here, you can select all the objects, i.e. Chart1, Chart3, DrawingShape1 or Picture3. Select them - you can hold the Ctrl or Shift key to select multiple objects - and then you can hide or show them by using the little eye icon (human eye icon) next to those objects. **Using the Selection Pane is the easiest and simplest way to hide away stuff that you don't want to see on the workbook.** But, the problem with the Selection Pane is that it is a pain to use. Not everybody knows where it is and how to use it. I mean chances are that many of you who are listening to this podcast would probably have never heard about it or used it. Even I don't use it that often because sometimes I just forget that the Selection Pane exists and some other times, I am so caught up with work that it doesn't even occur to me. It was a while before I even learnt about the Selection Pane when I started using Excel. So, how do you make this easy for your CEO or your customer? They can't go the Selection Pane to make things invisible. Well, you can automate these entire steps using a bit of VBA. There is a '.Visibility' property for many objects or all objects like charts and pictures and drawing shapes. Everything will have this property. You can create a small VBA script that can be linked to a button or a form control so that when the user clicks on it, it will automatically toggle the visibility or make things invisible or show them on the screen using VBA. If you are wondering how to write the VBA code with an example, I got you covered. In the show notes page, I will link to an example article that shows you how to use this kind of logic in your workbooks. Just check out <http://chandoo.org/session31/> for that.

Moving on, the next three things that you may want to hide or make invisible are **standard spreadsheet features**. The first one is **gridlines**. Gridlines are a great way to know where you are in the workbook but they may not be relevant or useful when you have created a final report and you are emailing it to the boss of your company. He or she may not care about the gridlines. So, gridlines act more like noise than part of your work. So, you may want to disable gridlines.

The next thing that you might want to disable is the **formula bar**. The formula bar is there to help you see the formula that is there in a cell but, when you want to share this workbook with a client or a colleague, you probably don't want them to look at all the formulas because that's just distracting. So, you may want to hide the formula bar as well by making it invisible.

The third thing is that you might want to **make the headings invisible**, i.e. A, B, C, D, E, F, G, H and so on on the top of your workbook and the row numbers 1, 2, 3, 4, 5 and so on on the left-hand side of your workbook.

How do you get rid of all these three things? Well, you just go to the **View ribbon and un-check all the three options from the Show area**. You can un-check Gridlines, Headings and Formula Bar and they will be gone from the view. That's three more things that we can hide away or make invisible.



The last one is that sometimes you just want to **make things invisible on the print-out**, i.e. they are on the screen but they are not on the print-out when you print. Again, if you are a keen follower of <http://chandoo.org> podcasts then chances are that you already know the answer to this. But, let me do a re-cap. You can use two techniques. For example, if you don't want to print certain charts or drawing shapes or form controls or things like that on the print-out, i.e. a slicer might help on screen but, when you are printing, having the slicer printed out is not a good idea. **For any objects that you don't want to print, select all of them and press Ctrl+1 and go to the Properties area and un-check the Print Objects option.** When you un-check it then the objects will not be shown on the print-outs.

What if I don't want to print data in certain cells or columns? You can do that as well. You can **set a Print Area**. In your workbook, you just **highlight a range of cells that you want to print and go to the Page Layout ribbon and set the print area using the Print Area button**. When you set the print area then only whatever is inside that range will be printed. Of course, within that selection range, if you have an object that has been set as unchecked to be printed then it will not be printed. Everything else inside that highlighted range will be printed. So, Print Area and Print Objects options are great ways to make things invisible in the print-out.

The **final bonus tip** (apart from the ten techniques) is **how to make errors in your workbook invisible**. There are many great ways to do this. The easiest is to use the **IFERROR formula**, i.e. if there is an error in any formula then the IFERROR formula will replace that with something simple like an empty space or a 0 or a message that says 'Error' or something like that. You can **also turn off errors and messages in both pivot tables and in your print-outs by using the Pivot Table settings or Page Layout settings in the Printing options**. I leave all of those things for you to explore. Go ahead and play with Excel, understand how you can make things invisible and impress people.

Even today sometimes on National geographic or Discovery Channel, they run programs telecasting a magician going on the street and impressing people. Anytime that I see a magic show, I feel impressed because a magician can make things disappear. That seems to be the most impressive thing that they can do. Obviously, they can also read your mind and guess which card you are thinking about and things like that. But, for me, the most impressive part has been the 'making things disappear' part. Of course, we all know that scientifically and physically, it is not possible to make an elephant or Ferrari or railroad disappear. But these are things that, as children, poke our curiosity and we go poking to understand the way things work. The same should apply to Excel also. I should be able to use a little magic or trickery to make my workbooks appear magical. I always do that because it creates a sense of playfulness or curiosity in my workbook and people like them a little more.

So, go ahead and try these invisibility tricks and tell me how it goes. You can visit <http://chandoo.org/session31/> and leave your comments and tricks. Make sure you type the entire



comment when you leave a comment. Don't leave blank comments because if your comments are invisible then I can't read them! Thank you so much. I'll see you in the next podcast. Bye.