



Transcript for Session 011

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Transcript:

Hi. Welcome to chandoo.org podcast session # 11. Thank you so much for joining me in yet another episode of Chandoo.org podcast. I am really glad that you're here to learn some more tips, tricks and ideas about Excel, data analysis, charting, dashboards and VBA.

Today I have an interesting episode lined up for you called "5 Excel magic tricks to impress your boss." Before we jump into this very interesting topic that's really close to my heart, I just want to share a few announcements with you. Some of them are really great, so I just thought I'd share them with you.

As I told you in the previous episode, we just completed our summer road trip in India and I'm back to record more podcasts and write articles on chandoo.org. This summer we had to attend a family wedding at a place about 200 miles south from where we are living. So, we thought we'd make a road trip out of it by extending the trip to a 2000 mile round trip. We went to the wedding and from there we went to Chennai. My wife, Jo, and I worked in Chennai prior to starting this business. We took the kids to that city for the first time in their life and they were really excited. They said, "Mom, were we with you when we went to this restaurant, zoo, park or wherever we took them." And, we had to tell them, "No, you weren't with us, you were still in mom's stomach!" That's what we told them.

It was fun taking our kids to a city where Jo and I lived in for close to three years. From there we went to some new places and we really had a lot of fun. This was actually the first time that I went on a long drive on Indian roads. I was a little skeptical and scared when we initially thought about this. But, the trip turned out really well. I am so much more confident and I'm looking forward to more such trips. That's that!

I know this is a podcast and quite a few of you might be listening to this episode several months after the podcast is recorded, so I'll try to limit the personal and time-sensitive stuff. But, this is something that I have to share. I told you about our mango tree in an earlier episode of our podcast and this year is the first time that our mango tree gave fruit. We didn't plant it; it was part of the house that we bought three years ago. At that time, it was a really small plant which has now grown into a tree. It gave fruit for the first time this year. I am really happy to tell you that it bore more than 200 mangoes! The best part is that they are really delicious! I have been a mango addict throughout my adult life. Since childhood, I remember mangoes as the only fruit that I really like. I like all fruits, but mangoes are by far the best for me. I can tell you that the mangoes from our tree are the sweetest that I have ever tasted. They are organic - no fertilizers have been used, they have been grown naturally and we just pluck them, leave them in a sack for a week for them to ripen and then we eat them. They are really delicious and awesome. We even took a bunch of them along on our road trip since we had so many of them. We gave quite a few mangoes to our friends and relatives, but we still had more than 100 mangoes to eat.



So we took them on the trip and we gave a mango or two to the hotel staff wherever we went! We also gave a bunch of them to our hosts at the place where we stayed for a homestay. They just loved the mangoes. It felt so good spending the summer in India, witnessing such bloom and harvest from our mango tree. I'm really glad the summer is coming to an end because it has been a really sticky and nasty summer towards the end. Even today the temperature is more than 40 degrees Celsius. It's bad, but I'm hoping it'll end in another week or two.

That's a little about the personal announcements. I know it dragged on for a few minutes, but I thought that since there's no way for you to see me or read what I'm thinking, the only way I can communicate with you in this audio-only podcast format is by sharing a little bit about myself and my story and it will make this connection even stronger.

Let's jump into the topic of this podcast which is "5 magic tricks in Excel to impress your boss."

What comes to your mind when you think of magic? Since you can't say anything that I can hear, I'm going to answer the question. At least for me, magic is something that's solely impressive. If somebody is doing magic, they're going to make it appear very easy, elegant and effective. This is what comes to my mind when I think about magic. When we talk about magic tricks in Excel, this is the same thing that I have in mind. If we can make a business problem or situation appear so easy, elegant and effective, that the end result can be shown to appear instantly and almost without any effort, then we can consider that as magic.

Obviously, you know that there is no such thing as magic in Excel. There is no magic button, ribbon or keyboard shortcut to activate magic. But, there are a few things in Excel that are so powerful, impressive and secretive (if I may say so). I say secretive because very few people know how they work. Even among people who know how they work, very few people can actually figure out the advanced stuff. If you can reach the top 1 percent of people who know what the secretive features are and how to make them work for you, then anything that you do will appear almost as magic to your bosses.

I won't tease you about these magic tricks; let's jump into them. There are many such things as Excel magic tricks and if you google, you might even find a book with that title. I'm not really sure, but I think Bill Jenin or one of his friends must have authored such a book because it seems like such a natural thing to do.

These 5 things that I am going to talk about now are ones that I've personally witnessed in my life. Whenever I've used these features, my bosses literally dropped their jaws. Their reaction was, "Awe, you can do that with Excel?!" Or, "How did you do that?" That's the kind of reaction I would get when I demonstrated my workbooks to them.

Without any further ado, let's talk about these.

The very first magic trick in Excel, according to me, is conditional formatting. I know this might sound a little bit odd. "Are you sure conditional formatting is a magic trick; I can see it on the home ribbon all the time?" Well, let me tell you this - the very first time I demonstrated a business problem in Excel to my bosses and clients with the help of conditional formatting (not a demo of conditional formatting, but an actual workbook that I prepared to solve a real problem that my company and my particular project was



facing), they were all so happy that at that very instance, my boss was ready to promote me and elevate me to a management position already! That's the power of conditional formatting.

For those of you who have never used conditional formatting or understood what it is, it highlights the data based on some conditions that you specify. It's almost like writing an IF formula but for formatting the cells. If you are writing an IF formula, you specify that if a condition is met, then give me this value or else give me that value. I.e., if today is Monday, print hello, else print bye. The formula evaluates to just one value or another. Conditional formatting is like the IF formula, but for formatting. So you'd say something like - if today is Monday, fill red color in this cell, else fill blue color in this cell. That's what conditional formatting is. Conditional formatting can be a very powerful way to make your workbook almost look like magic.

In many business situations, you are looking at data or a workbook that models a project, invoice tracking system, billing system, attendance or something else. You're entering some data and making some changes here and there, and with the help of conditional formatting you make specific things happen - for example, the moment somebody changes something, the workbook reacts by changing its color, texture or behavior. That kind of change can be triggered or kicked off by using conditional formatting.

Let me share two simple examples. The simplest example for conditional formatting could be - let's say you are analyzing sales of products and you want to highlight the bottom three selling items. This is where conditional formatting can be easy. Let's say the bottom three numbers are 5, 7 and 9. If you manually highlight these, the problem will be that anytime the data changes which is something that happens quite naturally in business environments - if you're looking at product sales data, for instance, the numbers are bound to change every week, or every day, or every month - whenever the numbers change, your manual highlighting no longer works and you need to re-highlight the numbers. This is where conditional formatting can be helpful. You just select all the numbers and you tell Excel to highlight the bottom three values or the bottom 5% values or something like that. And, Excel will automatically highlight the values based on the numbers that the data set contains. If the values are 5, 7 and 9 today, it'll highlight them. If the data changes tomorrow and the bottom three values are 3, 4 and 7, it'll highlight them instead. That's the beauty of conditional formatting. It's a very simple example.

Now, let's discuss a slightly complex example.

Let's say you are the Invoice Analyst for a large corporation and your job involves analyzing payments on invoices. You're looking at all the invoices and you want to find out which invoices are overdue. The due date has passed and the money hasn't been paid. This kind of task can be done with filtering and formulas, but this is where conditional formatting really shines. You could just simply apply conditional formatting to highlight all the invoices that are past their due date and haven't been paid. The beauty of this is that as the invoices get paid, they won't be highlighted anymore. So it almost appears like magic!

Again, as I said very early in the podcast, there is no such thing as magic. But, features like conditional formatting make what you are doing appear like magic. Let me give you a small testimony here. A while ago (almost a couple of years back when I was doing consulting work, i.e. building workbooks for clients), I once made an Excel workbook that was loosely like a project tracker. I made this for a ballet school manager in New York and I sent the file to him. After a couple of back and forth exchanges



involving changes, finally I made the final workbook and sent it back to him. I don't remember the exact words that he emailed me, but the gist of it was - "Hey, watching your workbook is just like watching a world-class ballerina. I see her doing her ballet and I feel the happiness, harmony and the symphony of it. And, I get the same feeling when I look at your workbook!" I felt this was a really beautiful way to explain how powerful and impressive Excel can get. I'm not saying this to boast in front of you, rather I'm saying this because I used conditional formatting really heavily in that workbook. It made the workbook appear like a light, easy and elegant solution for their problems.

I'm sure you could apply conditional formatting with your business problems as well and get similar comments and feedback from your bosses. So that's magic trick number 1.

The second magic trick that I have for you is form controls plus charts. Individually, both form controls and charts are powerful features of Excel. But, something magical happens the moment you combine them. From an earlier podcast, i.e. session 5 of our chandoo.org podcast, we talked extensively about form controls. From that episode you might have learnt that form controls are useful for setting up interactivity in your workbook. If I want to specify the department name, age, month, year or any of those kind of things, I can use a form control so that I can naturally interact with the workbook, rather than typing a value in a cell and triggering the changes. The form controls apply like an elegant and easy way to do this. When you combine form controls with charts, you can get really powerful and beautiful results.

Let me explain two examples to you. Let's say you're making a report of product sales. You're the product manager of a company and you're responsible for ten different products. You're making a presentation or report summarizing the sales for these ten products. One obvious way to prepare this report is to prepare ten different charts, one for each product within the reporting window. Let's say that the reporting window is 12 months, so each chart would depict the sales of a particular product for the 12 month period. The problem with this approach is that the report is going to be long because it has ten charts. Anybody looking at it might struggle with the whole thing. Another challenge is that the products are separate, i.e. chocolates, t-shirts etc. You cannot really compare chocolates with t-shirts, so people are going to look at these product sales in isolation.

How would you handle such a thing? You've made ten charts, but it's going to take up too much space and it's not really an elegant way to do this. This is where form controls come in handy. So what you'll do is that you'll just make one chart, but you'll ask the user to specify the product that they want to see the chart for. The user will select one of the ten products from a drop down or combo box. They'll select product 5, for instance, and the chart will get updated with product 5's details. That's what I mean by form controls plus charts. These kinds of charts are called interactive charts (or dynamic charts, which loosely refer to the same technique). This is one example of how a form control can make a chart look like magic.

The second example is - let's say you are analyzing the product sales for a single product across 50 states of the United States of America. You're reporting sales for the same product across 50 different states. Since there are so many different states, selecting the state name from a drop-down might not be a very user friendly option. When you click on a drop-down, it'll usually show 8 or 10 states, whereas there are 50 states and so they'll have to scroll within the combo-box to get to the state that they want to select. There are a couple of ways in which you can overcome this limitation. One suggestion is what Debra



suggested in session 5 of our chandoo.org podcasts - you'll use an ActiveX combo-box where you'll start typing the state name, for example you'll type 'Wash' and it'll suggest Washington as the state name or you'll type 'Rhod' and it'll suggest Rhode Island as the state name. That's one way. The other option is to use a scroll bar, so you can scroll through the 50 states displaying only 10 at a time and you'd arrange the data in an ascending or descending order of the sales or in alphabetic order of the state name so that it looks beautiful.

If you can visualize all these things that I've explained in your mind, the reaction when somebody sees this on their screen is almost the same as the reaction they would get when they witness magic. You might be thinking, "Hey, Chandoo, unless my boss is somebody who is hiding under a rock, there is no way she would think that this is magic." But, believe me, since bosses or senior management people come across a lot of things in any given day, anything that is well put together and well thought out will impress them. Imagine yourself in the shoes of a really busy manager - they would probably see hundreds of things day in and day out. That's how it was with my bosses when I was working and with my clients when I was doing consulting work. They would be seeing these things day in and day out; they would stop and appreciate me when I would do something impressive in Excel or PowerPoint that would communicate or solve their problems. Don't think that a feature like conditional formatting or dynamic charts is not impressive enough. Believe me, if you're able to put together something like that, you're already well ahead of 95% of the users. You're already in that zone where you're going to impress people. So, don't try to shy away from it. That's the second magic trick. The first one is conditional formatting and the second one is form controls plus dynamic charts.

The third magic trick that I have for you is slicers. Slicers are a new feature introduced in Excel 2010. You could think of slicers as a visual filter. Let's say that you're back to the product sales analysis and you have ten different products. For a moment let's imagine that you want to understand what's happening with product 6. One quick way to do that is to filter the list of data by product 6. You'll apply data filters and select 6 from the list and it'll filter down only product 6's details. You can quickly scan the numbers and understand what's going on with it. However, the process of filtering is somewhat tedious. You must first apply filters, then select product 6 after de-selecting any other ones and then apply the filters. This is where slicers come in really handy. When you create a slicer on the product name, all the ten product names will be shown inside one box as little buttons - product 1, product 2, product 3 and so on.

Anytime that you want to filter by a particular product, you just need to click on the button of that particular product. If you click on product 6 for instance, it'll filter down to only that particular list of products. This is what a slicer does. In Excel 2010, slicers were applicable only for a pivot table. You couldn't directly filter your data, you would need to put your data in a pivot table and then apply the slicers on top of it. The slicers filter the table for that selection and then calculate the pivot table summaries for that selection. In Excel 2013, anything inside in an Excel table (not just a pivot table) can be filtered with slicers. If you are using Excel 2013, you can apply slicers on tables and pivot tables, whereas in Excel 2010, you could apply slicers only to pivot tables.

If you apply slicers, data gets filtered. That's the bottom line there. Imagine, for a moment, that you're making a chart from this table or pivot table data. The moment it gets filtered, even the chart gets filtered, because the default behavior of charts is to only show the data in the visible rows. Anything that's hidden will not be shown. You're hiding stuff out when you filter, so the chart will also not display them. The same concept applies for pivot charts as well.



In a way, slicers behave just like form controls. In the earlier example, we talked about a form control where you could select a product name and the charts would get updated. A similar effect can be generated using slicers. All you need to do is set up a slicer, create a pivot chart of product sales (by month etc.) and when you click on the product name, the chart will get updated only for that product. Again, it appears magical! It also appears magical because not many people have experienced slicers before. Although the slicers feature was launched in 2010 and it's been four years since, but even today many people stop by a slicers example on my blog - they see the video, see the example, download the file - and they are really impressed. They leave me comments telling me how useful the technique was and how impressed their boss was to see the example implemented. You might get similar reactions too with well-designed and well applied slicers.

If you are wondering that all these are good tricks but how are you going to learn more about them, continue listening and towards the end of the podcast I will give you some link and resources for learning these 5 magic tricks.

So, the third magic trick is slicers.

The fourth magic trick is VBA. VBA is really like the smoke screen that a magician would use before demonstrating a very big trick like, "Hey, I'm going to make this elephant disappear; or I'm going to make an aeroplane appear right here on stage." - Or something outrageous like that. And then boom.....there's a smoke screen and everything is fogged up, and once the smoke settles down you'd see an elephant or aeroplane or the lead actress of the show converted into a triplet or something like that! If you compare this kind of a smoke screen to something in Excel, then you can say that VBA is the smoke screen.

This is because, unlike conditional formatting, form controls or slicers (which can be seen on the screen and you know that by clicking on or touching this button, some change is happening), VBA can be made to appear like magic. You're not doing anything, but things are happening. So, VBA is perfect for those of who want to create that magical, everlasting impression on your clients or bosses. This is also mainly because everything in VBA happens in the background. Unless you are like a tinkerer or your boss knows a little about VBA, she won't suspect anything. She would be like, "Wow, you can do that; that's so impressive." That's the kind of reaction you'll get. Even if they know VBA, they will certainly appreciate the effort you're putting in.

There are many examples of what VBA can do that appears almost magical, but there are a couple that stand out. The first one is animation. In any magic shows that you might recall from the time that you were a kid or from the birthday parties where you had a magician do some silly stuff, animation plays an important role in a magician's life. You can see that whenever a magician is doing something (like making something disappear), his hands are always waving or doing something else. This is nothing but animation. It is distracting and creates an impression of something happening; while probably whatever is happening is outside the view of the animation. The same thing can be done in Excel. For example, while displaying data for some business information, if you want to highlight some change you can use animation. If sales for last year were \$100 and sales for this year are \$150, the movement from \$100 to \$150 can be depicted as an animation - a line going up or down, or a column size increasing or decreasing within a column chart etc. This kind of animation, especially when used in the context of



charts, can be really powerful and impressive. It can almost appear magical, because many people don't see such magic in Excel. The moment your workbook does something like that, it can leave people spell bound.

Another example is automation. For example, if your report is several pages long and certain parameters need to be changed so that another version of the report can be generated. The report is made for a particular region, but the region name can be changed so that the same report can be generated for the other three regions as well. It's one report but it's actually four different versions of the report combined into one. If somebody wants to print the report, they only get the print out of that one particular region, and not of all the four regions. They need to change the region and hit the print button each time. A little bit of VBA can automate things in such a scenario. - When they hit the print button, a report will magically be generated in PDF format which will have all the four different regions instead of just one region. There you go! Such kinds of things can be done with VBA. This is nothing but a little example of the automation that can be achieved with VBA.

The third example is that you can also accomplish a lot of unusual things with VBA, for example displaying a user form on the screen when you want to collect data, creating custom shapes or charts in Excel that are not usually seen on the screen. These kind of unusual things make your workbook look like magic. This is where VBA really shines. That's the fourth magic trick in Excel.

The first is conditional formatting, the second is form controls plus charts, the third one is slicers and the fourth one is VBA.

Now we come to the final trick in the book of magicians! Well, this is not the final trick, I'm sure you'll learn hundreds more if you listen to these podcasts!

The final one in this list of five techniques is using the right feature for the right occasion. This has nothing to do with Excel. It's got everything to do with you, your resources and your knowledge. If you think of any successful magicians (I can't think of any magician's name off the top of my head; I can only think of P.C. Sarkar who is a very famous Indian magician and maybe some fictional characters), what comes to your mind? Is it the magic tricks or the personality of the magician? To me it seems like they are two sides of the same coin. The magic tricks, however outrageous they may be, only play half the role in the success of the magician. The personality, story, character, attitude and the outrageousness of their own persona play an even more dramatic role in assigning magic to that magician. So, even if somebody only does one trick (like one-trick pony!), but they have a great personality, we might remember that magician more than a magician who can do 75 different techniques but has no personality.

The point that I'm coming to is that as an Analyst, if you develop a kind of personality where you can give quick answers (have the characteristics of a magician and do things very quickly) and make it appear easy, elegant and effective, then anything that you do would be perceived as magic. Your boss would be like, "I don't care how you are doing it; give me the result and I'm happy with that." That's what we do when we attend a magic show. We are not there to dissect all the magic tricks that they are doing and understand the technique behind it. Rather we are there to be impressed, spellbound, enjoy ourselves and trust that they can do this even if it is all a lie.



We cannot afford lies and smoke-screens in real life. What our bosses want from us is the ability to trust us with the data so that they can get right information. This is where your personality, capability and skill-set as an Analyst come into the picture.

There are a couple of things that I want to share. When I say - 'have the right feature for the task' - there are many things that come into the picture. For example, if you are handling duplicate data, you could use the 'remove duplicates' button to get rid of them. So if you use that at the right time, your boss might even say, "Hey, that's magic", although it's not magic. The button is out there. As my good friend Mike Alexander was saying in an earlier podcast about an instance when he was demonstrating pivot tables to a client as part of the solution, and the client asked how the total came up on the pivot table. - Mike double-clicked on the number and it showed all the corresponding records behind that number in a separate sheet, the client was like, "Wow, is that really how you do it?" They didn't know that it was part of Excel. They just thought it was Mike who made it happen. The same thing might happen to you. Using a 'remove duplicates' button or using sparklines for making a quick chart or using conditional formatting for highlighting duplicates or your ability to combine different features of Excel so that the desired outcome is achieved in less time and with greater accuracy - if you can manage all of this, then you will be considered as a magician.

In a nutshell, these are the 5 magic tricks that you should be acquiring and demonstrating as an Analyst.

To quickly summarize, the five magic tricks are:

1. Use conditional formatting to highlight things that are changing or need to be highlighted
2. Use form controls plus charts to make your charts and workbooks interactive.
3. Use slicers so that your users can interactively filter the data and get the results that they want.
4. Use VBA for powerful and interesting features like animation, automation, or other unusual things.
5. Develop the capability and skill set to always use the right feature for the right occasion to get quick results.

You might be wondering, "Hey, all of this is fine. These five skills do seem like the ones that I need to acquire, but how do I go about it?" The easiest way is to visit <http://www.chandoo.org/session11/> to access all the show notes and resources that have been mentioned. I am also going to link to a few articles on conditional formatting, form controls plus VBA, form controls plus charts, slicers, VBA and a few other powerful, regular features in Excel that can help you make your workbooks appear like magic. So that's the easiest technique.

The second one is to observe any Excel magician in your workforce or friend group. I am sure there is at least one person in any office known as an Excel Ninja or Excel wizard! Find out who that is and make friends with them or observe their skills and work and learn from them. This is how you learn magic. You don't go out and start experimenting. Instead you identify one magician that you want to learn from, make them your guru and then learn from them. It's the same with Excel as well.

The third one is that any highly successful magician usually demonstrates the same tricks or techniques that the public are used to seeing. In addition, they also have one or two special tricks in their bag. These are the magic tricks that people can't see anywhere else. If they want to see such a technique, like an elephant appearing or a man going underwater and staying there for several hours without oxygen or



food, then you only go to that certain magician. So that's their brand. Likewise, as an Analyst, you too can become a unique magician by trying to invent your own tricks. Obviously this requires a lot of practice. But what I mean is that when you try to make something unique, your boss, colleagues or clients remember more of you.

How do we make something unique without really working too hard? You might be thinking what the answer to this very tricky question is. The answer is really easy. You do it by infusing your work with yourself. Believe me, there are many things in this world, but there's nobody like you. You are the only person like yourself on this planet. You are unique by definition. If you can add a little bit of your personality to your work then your work becomes unique by definition. Once you do that, then there's no way that your client or boss can forget you. This can be done in many ways and I'll leave those to your imagination. But these are some of the ways by which you can acquire these magic skills and impress your bosses.

I hope you have enjoyed this podcast on "5 Excel magic tricks to impress your bosses." For show notes, resources and links, please visit <http://www.chandoo.org/session11/>.

Thank you so much for listening and I'll see you again in another episode. Bye.