



## Transcript for Session 032

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### Transcript:

Hey and welcome to <http://chandoo.org> podcast. This is session number 32. <http://chandoo.org> podcast is dedicated to making you awesome in data analysis, charting, dashboards and VBA using Microsoft Excel.

Thank you so much for joining me for yet another episode of our podcast. As we roll into the second year of our podcast, I couldn't help but feel pretty awesome, satisfied and proud about what we have achieved so far. Of course there is so much more to do and so many more insights to share and so many more listeners to empower but I am really happy with the way it turned out.

Just to give you a very quick re-cap on what happened in the last one year - I am not going to talk for 600 minutes (!) here - just for a couple of minutes - I started this podcast in March 2014 and we had about 31 episodes in the first year. We are rolling into the second year now. There were more than 380,000 downloads for these episodes. People have given us 5-star ratings and I got lots of email. After starting the podcast, I noticed that more and more people sent an email telling me that they have been following our website through the podcast. So, they heard of <http://chandoo.org> through the podcast and then they went to the website and that's how they became loyal members of the site. It is always a good feeling to see that I am able to reach people outside the blog as well. That makes me happy.

Anyway, the topic for today's session is **rules for making awesome column charts**. How do you make columns charts and how do you make them awesome? That's the topic. The tricky part with the podcast format is that it is audio only whereas charts are a heavy visual medium. A chart by itself is just a depiction. It's just a picture. So, how do you explain the picture? How do you explain the process behind creating a good looking picture in an audio format? That's the challenge for me. I am going to try my best. There is a companion article to this podcast. For a link to that article and more tips on how to create better looking charts, please visit <http://chandoo.org/session32>. Go there for all the links, information and tips that are mentioned in this podcast.

A quick note about this podcast – it is a short format podcast which means that this episode would be roughly 15-20 minutes long. I also want to share two quick personal updates at the start of this podcast.



The first is that I have been struck with a laziness bout! I know it sounds crazy but around the last week of February, I had a minor knee injury that kind of took me offline for a week. I wasn't bed-ridden but I was not doing much. I was just sitting and relaxing and massaging my knee and helping it recover. I became extremely lazy around that time. I couldn't really summon myself to do any productive work. Although I was doing quite a bit of work, I couldn't be my usual self. That laziness bout lasted more than four weeks. Eventually, I started feeling good about myself and was able to push myself up and say that I am going to do some work and write blog posts, record podcasts, create videos and clear my email. All of that started happening in the last week of March. So, for about a month, I pretty much went off-line. That's the reason why we didn't have a lot of podcasts in this one month. I really apologize in case you were waiting for a podcast and didn't hear from me.

The second update is about travel. I am traveling to USA in the second week of April. I am attending a conference called Pass Business Analytics. I am speaking at the conference and running three sessions. One is on a full-day training program around advanced and interactive charts. It is pretty intense and pretty powerful stuff. Then, we have a presentation and a lab session on Excel formulas and Excel charts for Analysts. It is a really powerful conference and I am really honored and humbled and stoked to be part of the 2015 version of the conference. It is being held at Santa Clara in California, USA. I think they are sold out but there might be a few spots left. It is always a good idea to visit <http://chandoo.org> and go to the training programs page and see if you like this conference. You can book your spot there.

The second travel is right after I return from USA. I am coming back on 28th April and on 1st May, my family and I are leaving for Australia for 6 weeks. I am running a bunch of classes in Australia but it is a combined fun and business trip. I am traveling with my family; my family has never been to Australia. I have been there in 2012. Everybody is really looking forward to seeing all the beautiful sights, petting kangaroos, visiting gorgeous beaches and taking a stroll around the Sydney Opera House etc. There are good times ahead. I am going to update you in future podcasts about how all of this goes and the new things that I learn on these trips.

Let's now talk about column charts. Why column charts and not line charts, bar charts and scatter plots? That's because column charts tend to be more ubiquitous. You can see them everywhere in business situations, general charting situations and news. No matter what type of media you are looking at, you are likely to come across a column chart at least once a day. Column charts are everywhere and as an Analyst or Manager, you are also bound to create and use them in your day-to-day life. So, if you can understand and master the process behind creating awesome column charts, it is like 80% of your charting work. The remaining charts like line charts, scatter plots and bubble charts would be for 20% of the situations. Although I say column charts, the same rules apply to bar charts as well.

There are **five rules**. I am going to start with rule one which is very simple but very powerful: **'Start your column charts at 0'**. What does this mean? Essentially, when you have a column chart, you are telling



your users or audiences that these are the heights of various columns and users are going to look at the columns and compare the height of one column with another to infer or understand the data. In order to compare the heights of two things like two buildings or two people or any of those kinds of things and understand how much better or how much worse one thing is with respect to another, or how these things are related to each other, we must make sure that we are starting from the same base line and that base line should be 0. This is an important aspect of column charts. Whenever you have column charts, make sure that the vertical axis of the column chart (Y-axis) starts from 0. Only then will the column chart give an accurate depiction of data.

You might be wondering what happens if I start at an arbitrary point. If you start at an arbitrary point and not 0 then your column chart will give a skewed impression of data. How skewed this can get and the kind of damage it can do is tricky to explain in an audio podcast. So, I encourage you to visit <http://chandoo.org/session32> which is the show notes page for this podcast where I am going to place a chart that will tell you the kind of damage you can do if you use an arbitrary chart axis. That's rule one - 'Start your axis at 0'.

Rule number two is '**sort the chart**'. This is very simple. Let's imagine that you are depicting the sales of 25 different products. Each product is in one column and so there are 25 different columns. If I am looking at the columns and I am trying to understand how each product is doing and maybe compare one product with another (that's the purpose that I have for that kind of chart), then, naturally, the chart should be in one type of sort order. It could be any sort order but it should be sorted. For example, the names of the products could be alphabetically arranged; that's a good sort. Or, the columns themselves are sorted by height from the tallest to the shortest or the shortest to the tallest. This will immediately let you compare one with another and understand the relative position of each product etc. Many times, we go with alphabetic sorting but quite a few times, even sorting by values is a good way. Usually, in Excel, if you are creating the chart from raw data, you will end up with a randomized order of columns sometimes. Although this is technically correct - the height of the columns is right and all the data is still there - this can create a lot of confusion for your users because their eyes will be jumping all over the chart. Depending on your business situation, you might also go with some other type of sorting. For example, you could sort based on individual product categories. They may not be alphabetical or top to bottom in terms of sales but, depending on the category, each category is bucketed into one area of the chart so that anybody looking at the chart can compare within categories very easily by looking at the adjacent columns. So, 'sort the chart' is our second rule.

The third rule is to '**add a title**'. This is such an obvious thing but many people miss it. We create the chart and Excel doesn't add a title by default and so we forget to put a title on the chart. Make sure you add a title. There are two rules for the title. The title should be **descriptive**; it should clearly tell what the chart is about. The second rule is optional but it will always help. **The title should give an indication of what the chart is depicting**. This is because there is a rule (although I don't remember where I heard it) that goes like this - 'Good presentations have three parts - the first part tells you what the presentation



is about, the second part is what the presentation is and the third part is what the presentation is about'. So, essentially, the presentation has repeated the same concept three times. Only then does it kind of sink into the audiences. The same rule should apply for charts also. Although the chart columns contain all the information, for the sake of the user's benefit, you might want to add a sub-title to your chart. The title could be something like 'sales of our product' and the sub-title would be something like 'product 7 is the leader; product 15 is the laggard'. You could add something like a sub-title or a short message that kind of summarizes the chart for your users. Why should there be a sub-title? When you have a sub-title, it kind of forces people to think along those lines and take any meaningful action based on that information. Be sure that your sub-titles are not misleading or they don't have any hidden agenda behind them. Make sure the sub-titles are correct and true to the data. That's the third rule which is to 'add titles'.

The fourth rule is '**axis gridlines versus labels**'. Depending on the type of column chart that you have and the amount of data that there is, you might want to **choose between these two**. Either put an axis and gridlines or add labels. You don't really have to put both of them because that can create a cluttered feeling for the chart. So, just stick to one of these options and use them. My personal favorite is to leave the axis and gridlines and make the gridlines really subtle. They are there but they are in a very dull shade of grey color. So, you can see them but they are not really demanding as much attention as the columns. The axis will help you read the values and compare. But, if there are values which are all over the place and I want to attract the user's attention to a subset of values then I would get rid of the axis and gridlines and I would add labels to the column conditionally. This means that only a bunch of the columns will be labelled and not all the columns so that people can read the important points and understand what the height of the columns is. Once you know the height of a particular column, any adjacent column heights can be guessed. That's because if I know that the height of one building in downtown New York is 100 m and the next building adjacent to it is slightly taller or shorter then we could estimate the height of it. We can safely say that it is 90 m or 120 m because we don't really need an accurate picture there. We can at least get a good guess of the height of the other building. The same applies to column charts also. You don't need labels for everything; you can put labels on important points and the others can be inferred. This is rule number 4, i.e. use axis gridlines or labels depending on the type of chart.

The fifth rule is very simple and it is to '**choose moderate formatting**'. Don't go in for over the top formatting. The rule is that if you format too much then you will end up with a pig. If you have too much lipstick then you have a pig! You don't want a pig for your column chart. You want a column chart that is informative, simple, easy on the eyes and easy to understand. That can only happen when your formatting is not over the top. Some basic rules are to just **stick to one or two colors**. All the columns should be in one color and maybe an important column like the product with most sales or the department with least productivity or the manufacturing plant with most mistakes or whichever one needs attention should be in a different color and everything else should be in one color. So, just have a couple of colors for the columns. And, **have simple columns**, i.e. no 3-D effects and 3-D columns and those kinds of things. They are just going to distort your users and they are not going to help you with



the core message of the chart. Likewise, anything else that is non-data, for example those axis, gridlines and labels should be dull and faded into the background. They should blend into the background, and the foreground message, i.e. the columns and the height of the columns, should be the core of the message. So, go with that kind of formatting, i.e. moderate formatting.

If you ask me if you should just rely on Excel's default formatting, I would say that depending on the version of Excel, you can use the default formatting. In Excel 2013, the default formats are pretty good. I don't say that they are the best but they are reasonably good. However, in Excel 2007 and 2003 and also in Excel 2010 (to a large extent) the default formats are not great. So, if you are creating charts in Excel 2007 or 2003 then never go with the default formats. You must format any default charts that you create to remove some formatting elements in order to get the best look. In the Excel 2013 version, you may live with the default formatting. For Excel 2010, take a call depending on how good looking or awful your chart is. As a simple rule of thumb, as long as your chart has one or two colors and everything else on the chart except the columns is in a color or formatting that blends with the background and does not dominate or get too much attention, you are in a good shape. Avoid any kind of special effects like shadows and reflections unless they are really necessary. Glow effects and crazy fill colors like gradient fills or pictures fills can be safely avoided.

These are the five rules. Let me **summarize** them:

- Start at 0
- Sort the columns based on some meaningful order
- Add a title and a sub-title
- Set up axis gridlines or labels depending on the type of chart
- Go with moderate formatting and not over the top formatting

If you follow these five simple rules that are really easy to follow and create column charts, you end up with column charts that look awesome and gorgeous. These are not the only rules; you have to constantly learn and implement and understand what works best for you, your audience and your bosses etc. For example, if your boss loves red color or shadow formatting then, purely for that situation, the awesome chart is the one that has shadows; whereas, for a school scenario or for some other informal settings, multiple colors are good because they invoke some fun into the chart. But, for most business situations and situations where you don't know who the audience is going to be like when you are emailing files then following these five rules is going to work for you.



Thank you so much. I hope you enjoyed these tips. Please visit <http://chandoo.org/session32> for all the show notes, chart images and a link to the companion article for this podcast. I'll talk to you again in the next podcast. Until then, stay awesome. Bye.