Transcript for Session 003

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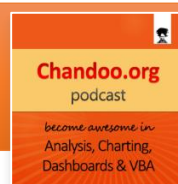**http://chandoo.org/session3/**

Transcript:

Hi Everyone. Welcome to Chandoo.org podcast session 3. This is all about making you awesome in data analysis, charting, dashboards and VBA, using Microsoft Excel.

In today's show we have an exciting interview with Mike Alexander from Data Pig Technologies. Mike is a fellow Microsoft MVP. He is a well-known author and he runs a website called Data Pig Technologies where he talks about Microsoft Excel, Access, and few other technologies that he is really passionate about. We are going to talk to Mike and understand how Excel is helping Business Intelligence for masses.

When you think about Business Intelligence, what we usually think about is something that involves a massive investment of several million dollars from the company - and, that it is an enterprise application that sits somewhere on a server and you access it, and it requires a lot of effort to do anything with it and it involves highly paid consultants etc. But, Excel is changing that game, slowly and steadily. With the addition of technologies like PowerPivot, PowerQuery, PowerView and PowerMaps, a lot of things that could be done using only BI applications are now available to every one of us right inside Excel. So, I'm really excited. I've been observing this transformation of what people can do with Excel using these new tools since the last few years. And, we are going to talk to Mike and understand what it means when we say 'BI for masses' - how Excel is contributing to this revolution of making better decisions using your data and not spending a lot of money, right. That's what it is all about.

So, I'm really excited to invite Mike to our show. I just want to quickly highlight a couple of things. Mike and I were talking about a lot of resources, books, information, techniques, articles etc. All of this information can be found by visiting http://www.chandoo.org/session3. That's the URL where you can download the show notes, listen to the podcast and access all the links and other things that are mentioned in this episode. The URL is htpp://www.chandoo.org/session3. The second thing that I want to mention is that towards the end of the episode we had some extra noise seep into the recording. This is because as I was about to finish the recording, my neighbors decided that they need to make a lot of noise, so they started washing their clothes outside, and some of that noise got into the recording. The good thing is that most of it was eliminated thanks to all the technology that we are using. But you do

here a little bit of noise, and Mike and I make some jokes about it as well! So, enjoy the podcast and visit http://www.chandoo.org/session3 to get all the resources and links that are mentioned in this episode.

Mike: Hi Chandoo, how are you?

Chandoo: I'd doing good. How are you man?

Mike: Good. What time is it in India?

Chandoo: It's about 9 o'clock in the morning.

Mike: 9 o'clock in the morning....it must be the most active time for your household.

Chandoo: Yes, it is! For those of you not getting the joke, I just told Mike that from 9 to 12 in the morning is really the most active time in our household because lots of noise is made, and the podcast can get really noisy. So, Mike, how are you doing?
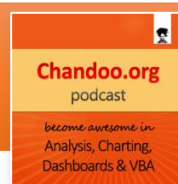
Mike: Oh, very good. My kids are sleeping, so this is the best time of the day for me.

Chandoo: Excellent. My kids are in school, so I hope we have a good podcast. But, my daughter is sleeping in the other room because she is not feeling well.

Mike: Oh, she doesn't know anything about Excel anyway, so she's not interesting!

Chandoo: Yeah, that's right! So, I want to ask you one question first which I've actually really been burning to ask for several years since the time I know you, "What's up with you and bacon?"

Mike: Ah, bacon! Its two things - it smells delicious, AND it tastes delicious. There are certain things in life that smell better than they taste - coffee is a good example - it smells very good but when you taste it, it's not so good. But bacon - both tastes and smells very good!

Chandoo: So, how come you named your company Data Pig Technologies. Is it purely because you like bacon so much?

Mike: No...I'm fat....but, I'm not that fat! Here's what happened - I had a manager who I was doing reports for and no matter what I gave him or how much information I gave him, he always wanted something else and wanted to ask for more. And so, we used to call him the 'data pig', because he would just eat it up! It's not a very exciting story, is it?

Chandoo: Nah...It's better than why I call my website Chandoo.org, so..... That's quite interesting. And, I think, out of all the Excel websites out there when I started blogging, yours was definitely the most unique - it had Data Pig Technologies as the URL to begin with, and then your blog is called Bacon Bits....so, there's no way I could forget this!

Mike: Oh...I'm a marketing genius, what can I tell you! I never took myself seriously. So for example, where did you get your name as Chandoo - is that a nickname from college?
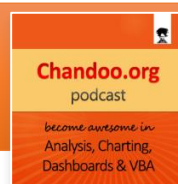
Chandoo: Yeah, that's my nickname. My actual name is really long. I'm sure you already know it. So, I had to pick something that is short enough for the website.

Mike: So, I don't want to get too far off from the Excel path, but if anyone who is listening to this podcast has not looked at the archives of Chandoo's blog - it is amazing. At some point in his life, he decided to turn Excel guru - which is impressive in itself because within a span of two years he's become a premier name in the world of Excel - but, before that it is just pictures of him and his cricket team, it is blog posts of him when he was drunk - and he makes no effort in separating his two lives! You're like, "I'm just going to continue this blog, but I'll make it Excel now!"

Chandoo: Yeah.

Mike: It used to be a blog for your family, right?

Chandoo: Yeah, exactly! It's quite interesting - I sometimes feel tempted to remove those posts, because....

Mike: No, don't, it's so entertaining. I swear, one day when I'm bored, I'm going to make a whole blog post about your blog pre-Excel!

Chandoo: In fact, you know Jeff Ware, right? He's from New Zealand.
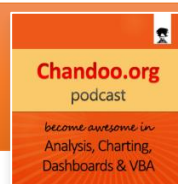
Mike: Yes. Oh, I love Jeff, he's so funny.

Chandoo: He actually read all those archives some time back, and he sent me an email saying, "Chandoo, I like your archives, so I made an interview with these questions." And, he sent me about 15 questions. And then he asked me, "I want to interview you, and then I want to post it on your blog as a guest author!" And, I'm like, "Okay, this is just too much of self-publicity; I don't want to do this!" That's because he was asking questions like, "You used to design some cartoons, what happened to that?" And, all sorts of other things - because he dug up those archives and he found lots of interesting, weird and cool things.

Mike: I love it; I'm going to do it. Jeff, I'm going to steal your idea, that's a great idea. Look, if there's anybody who hasn't looked at the archives for Chandoo, look at them. It's deliciously funny, it's amazing. There are a few that are choice and I'm going to pull them out one day and put them on my blog - just to lambast you!

Chandoo: Okay, Mike. So that's quite interesting. Now, let's move on with the interview. And, so I want to ask you, before we move on to the 'Business Intelligence for masses', which is our topic for the day - I just wanted to quickly find out from you what you're doing these days. What are the various projects that you're working on?

Mike: So, I'm glad you asked - what I'm doing is - I've just finished a book called "Microsoft Business Intelligence tools for Excel Analysts'. It's really a book that I've put together with a couple of old friends of mine, and the idea is "listen, it's a new world of Excel, things have changed, no longer can you just survive on these spreadsheet skills." Anyone who wants to be successful is going to have to get familiar with other concepts like relational databases and analysis cubes, because Excel has been thrown into this world of BI, and Microsoft has introduced all these tools that have tendrils and all these roots directly into Excel, because Excel has become their choice as their self-service BI platform. So, Microsoft 'Business Intelligence for Excel Analysts' is really just a book that will give someone who really wants to put their foot into the world of BI from an Excel point of view, some review of the different tools in the BI stack, and what each of them can do. We don't get too deep into things like dacks or the M-language

for PowerView, but we give every tool in the Microsoft BI pack a pretty solid review. And just kind of get the users a step up. Another thing we're working on here is – Dick Kusleika of 'Daily Dose Of Excel' and I are writing a book of '101 ready to use formulas' and it's kind of a sequel to the '101 ready to use macros' that we did couple of years ago. So, those are the two things I'm working on now, and of course I'm also working on some adoption papers for my children - I'm going to give them away!

Chandoo: Okay! I think once you're through with that, I'll probably take your help when I draft adoption papers for my kids! I think it's so much fun having kids and putting up with all their quirks.

Mike: Now, are your kids old enough for Excel yet?

Chandoo: Not yet. They're old enough to know when I'm working seriously on Excel, and disturb me!

Mike: I'm amazed at how little my children care about anything I do.

Chandoo: Interesting! My daughter was really surprised today - when I was actually getting them ready for school, I told my son, "You know, rush it up, because I have a meeting coming up." And, my daughter said, "What? You have a meeting, where will you go?" So, I told her that I need to go and lock myself in the office room because I have a meeting. And, she wouldn't believe me.

Mike: Do you drink tea, or coffee?

Chandoo: Both. I get some coffee in the morning, and I have tea in the evening.

Mike: Are you a vegetarian?

Chandoo: No, not at all really! That actually reminds me of one small story that I must tell you. When I was in Cleveland last summer, Bill Jenin – 'Mr. Excel' himself - happened to visit our apartment. He was driving from his house to Rob's house, and on the way he stopped at our place. He was dropping off a few things at our apartment. We were having tea when he arrived, and I invited him to join us. Bill agreed, and we made some Indian style tea. That was probably the first time that Bill had tea with milk in it, so he was really surprised and taken aback, and asked "what is this....is this tea!" Since he is very

polite, he had the tea, but later at Rob's house he told me that it's the first time he had tea with milk in it.

Mike: Really? That's funny. I've had tea with milk, but the reason is because I'm such a fat pig that when I go to a coffee station or a break-room and all they have is tea, I look for the creamer (or honey - whatever they have) just to add something else to it!

Chandoo: Okay, now I want to go back a few steps and talk a little bit more about your book that you mentioned. You said you've completed it - is it out, or is it still in production?

Mike: Oh, it's still in production. I think it hits Amazon on April 23rd or something to that effect.

Chandoo: Okay, excellent.

Mike: So, they're still working on getting all the technical errors out of it,
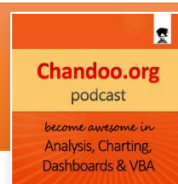
Chandoo: Okay.

Mike: I'm joking!

Chandoo: What was your last book that was published?

Mike: The last book, I believe, was 'Excel Reports and Dashboards'.

Chandoo: Okay. Did you make an update to it, or was that the first version?

Mike: We had a second version. The second edition came out about a year ago. In that edition we added a few more things - PowerView, a few words about 'Tables - best practices' and things like that.
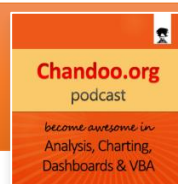
Chandoo: Oh, excellent. I think that's the book I was aware of. I'm really happy to hear about your new book on the Microsoft BI technologies, because I feel they have a lot of things - and although there are a lot of good books on PowerPivot alone - when it comes to other technologies - providing a comprehensive picture about all these things and how they link to each other, what they do, and how they help you when you want to put up a BI solution, is something that (in my opinion) is probably missing. Maybe I haven't looked enough, but that's what I feel, and I'm sure your book will help people understand how these things fit together.

Mike: Yeah, I hope so. I think you're right. It was maybe (I think) PowerQuery - which used to be called Data Explorer - was out a year before I knew about it! And then, once I wrote a little blog post about it, and most people didn't even know it existed, including even some of the bigger Excel users out there. And so, Microsoft has this way - you know these technologies aren't finalized - I understand that they are in preview - but there are things out there that people miss. For example, there is a data mining tool add-in and some people know about it - but this data mining tool add-in is a SQL server driven data mining tool. It's an add-in for Excel, and it is an amazing tool. Think of it as data analysis tool-pak on steroids! It connects directly to analysis services; you can do very complex analyses like cluster analysis, shopping basket analysis, and things of that nature very easily. - And it comes out within a second. That's in the book, but most people don't necessarily know about these add-ins.

And I think you're right. - Here's what happens to a person using Excel as part of their living - they go to work, and they do their things that they have to do. And, of course, while you're at work you have problems that you have to solve - and necessity is the mother of invention and all that - so, you go and search online, you go to Chandoo.org or you go to 'Bacon Bits' or whatever and you get what you need. But then, you go home and you kind of forget about Excel. Only the mad men - crazy people like us - sit in our closet with our boxers and dirty undershirts - and just sit and look up Excel with our black socks on! But, most people don't do this kind of research. So, I think it is important for sources like yours, or sources like Bill's, Dick's and Debra's to start bringing out these things. And if I can help connect all the dots through this one book, then I'm glad I could do it. I don't want this to sound like a giant plug for the book - it's not even out it, so please understand.

Chandoo: Nah, that's fine. I think me and most of my readers would be happy to read this book. And you're really right - in fact, early in my career (when I was working as an analyst), my boss called me one day and said, "Can you figure out a mechanism to segment all our clients based on some sort of demographic profile?" We were an IT company, and we had hundreds of clients. And, from a senior manager's perspective, they used to feel that all the clients were equal, based on the reports they were getting. But that's not true, right? These clients had to be segmented into different classes, so you could actually tune your strategies for different classes of clients depending on what they do and what they're looking for. So, I got all the data into Excel, but then I didn't know how to segment them. I mean, I had the basic statistical and theoretical knowledge of how people or customers are segmented, but I didn't

know how to do that in Excel. So, I searched quite a bit and I ended up using an add-in to do this segmentation that kind of clustered customers into different buckets based on demographics.

Mike: Really? Do you remember what the add-in was called?

Chandoo: I don't remember because it was almost 8 years ago, but I can look it up, and I'll put a link to that in the podcast notes. But, it sounds exactly like the Microsoft data mining add-in that you have mentioned just now. Maybe they acquired it or something like that.
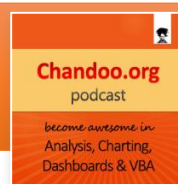
Mike: And, so, I'm embarrassed to say that the data aligning add-in came to my attention maybe 6 or 9 months ago. I know it's been out there for a very long time, and it's just that you don't necessarily reach out to other things. And, Microsoft has all these great, cool add-ins that are available but we just don't know about them. But, in any case, the SQL server data mining add-in is an amazing tool. It helps you do things like the cluster analysis. And, what most people may not know is that when someone asks you to do customer segmentation - what do you do first? You basically go to segment them by revenue, and maybe line of business and then cities, date etc. But there are so many other factors and variables, that you cannot possibly do it without some sort of an add-in, especially if you are not a statistical analyst, right.

Chandoo: I totally agree with you. In fact, when I was doing my MBA, this was part of one the projects in our marketing class, and we used a special software just to do this work. We used something called SPSS. I'm sure you must have heard about it. And, they had some built-in functionality to do the cluster analysis. Anyway....I think we are talking too many technical terms.

Mike: No, that's okay.

Chandoo: So, we used that, and when I started working in my work-place, they didn't have any licenses for SPSS. All we had was Excel, and then if you wanted, you could write the VBA code for it. And, it sounded like such a complex thing to develop VBA code for segmenting customers.

Mike: Yeah. The good thing is that the SQL server add-in that Microsoft has is free. It's free as long as you can connect to an L-Analysis services cube - you're good to go.

Chandoo: Okay, excellent. I will mention a link to this add-in, as well as the one I was talking about - I'll look it up, and if I can find it, I'll include a link to that also in the podcast notes. So, the first thing that I want to ask you when it comes to Business Intelligence is - you know, the word Business Intelligence is such a big jargon word, that if you walk up to a random person on the street and ask them, "do you know what business intelligence is?" - Most likely they'll just give a common sense answer, rather than what it really means. So, I want to ask you because you're writing a book and you conduct classes and all that. Can you explain what BI really is for an average Excel person? - What would they consider BI to be in their world?

Mike: Yeah. Well, that is a great question. Here's what happens - when you ask somebody about BI, it depends on who that person is. If you are in IT, you'll say something like "well, it's a set of managed enterprise reports that live on a managed SharePoint server that provides information for users, right." Or, if you're an Excel analyst, you'll say "well, it's a set of reporting that I can give to my manager based on which he can make decisions." There won't be any mention of enterprise, or larger BI tools. So, the IT person is mentioning these big ERP systems - like a set of managed SQL server analysis services, SharePoint, SQL server, reporting services; and then the Excel guy is saying, "Well, it's a set of reports that I can pull together using Access, Excel or whatever I have in my control, and give it to my managers." So, there's a huge disconnect there, right? Two sets of people looking at BI kind of the same way - but kind of not the same way, right. And, if you're an Excel analyst, you got to be thinking, "Every time I create a report, isn't that BI, right? Isn't that intelligence of some sort, right?" I could create a 'top ten customers list' - that's technically BI. Right?

Chandoo: You're right.

Mike: It depends on what you're going to do with it. You know, it's amazing - there are some clients I've done work for who you create one pivot table for and they swear you're Bill Gates' son! You're like this amazing thing, especially if you have a pivot table and you tell them, "Hey, by the way, if you double click on that number inside the pivot table, a new sheet pops up." And, they're like "aaaahhhh!!!" And, of course, you're not going to say that you didn't invent that, right?! You kind of puff up your chest like, "Yeah...that's extra...that one's free!"

Chandoo: Ah, I totally agree with you! I don't do so much consulting, but I still remember the moments when people saw these kinds of things that are part of Excel and they're like, "Wow, you can do that?"

Mike: Yes, it's amazing. And, my point is this - so, to that customer, that one Excel pivot table meant everything to them - because that's the best that they've ever had. So, when you say "What is BI" - BI is whatever gives value to that particular person. If that thing is a pivot table (that we've done a thousand times and every IT guy yawns at), that's great. - For that customer, that IS BI, right? And, we all have had

those experiences where you get hired for a job and they're talking about how they need an Excel analyst - you go in there with your Excel skills and the next thing you know is that you're promoted in six months because you went to Chandoo.org and you get these dashboard tips and tricks, or you went to Dick Kusleika's site and you got this piece of code with which you developed this form. - It's an amazing feeling, and it's amazing because you realize that whatever you think is 'reporting' or just 'simple reporting' - it could be BI. So, that's kind of it. I feel like I am rambling.

Chandoo: No, I totally agree with you. It's a very liquid term. You can use it any context and it can mean different things to different people. It's just like the word 'dashboard' - for someone like Stephen Few, a dashboard has a set purpose and meaning. But, for somebody else, it could just be a pivot table or a bunch of data with conditional formatting on it. - That could be dashboard for them. So, I totally agree with you.

Mike: Yes, absolutely. And, if my client says, "I want a logo in the upper left hand corner" - and they're paying US dollars - I'll be anything you want!

Chandoo: Yeah!

Mike: Let me put that up there for you, right. Because the value is to them what the value is to them. So, if they say that that's their version of BI, then let that be it.

Chandoo: I totally agree with you. So, in that sense, I think Excel is also a really ideal platform for doing this kind of BI because Excel itself is just like a massive sandbox. You can make anything in it. You can make the ultimate complex thing on the other end of the spectrum that even connects to an enterprise system and does all those fancy things. Or, you can make a simple 'top ten customers' pivot report. And, Excel can cater to both of them with the same ease and the same sort of elegance. So, I find Excel to be in the right location when it comes to the new wave of interest, curiosity and fashion towards Business Intelligence applications. Do you agree?

Mike: Yeah, oh yeah. So what you're talking about there is the flexibility; Rob Collie had a brilliant post a few months back about the reason Excel is better than the other BI tools because of the grid. The grid being inside of that mechanism we call Excel is the thing that ties everything together. I'm going to try to get through these thoughts and make sense here in a second. So, when you talk about flexibility right, what you're really talking about is your ability to say, "Hey, I want to make this thing as complex or as simple as I need to make it." And so the differentiator between Excel and some of the other BI tools like
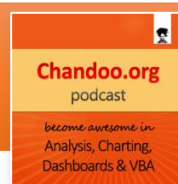
Tableau and ClickView is that you can apply whatever skill level you need to it in order to make it work. And, well.....in any case…… I'm losing my train of thought.

Chandoo: I remember the article from Rob's website and I'll link to it in the podcast notes. And, I totally agree with you. - In fact, when I was in Cleveland this last summer, Rob and I spent many evenings where we would just talk about these things. And this train of thought - that Excel really has a lot of flexibility - is something that we would constantly talk about. In fact, if we go back to our discussion about how BI is viewed differently by different people (an IT person would view it as an Enterprise thing whereas an Analyst would view it something like an Excel report) is something that we also talk about. In one his presentations, Rob had this huge mountain in the middle and he had few people on either side of the mountain - it's the same mountain, but different people are approaching it and viewing it in a different light.
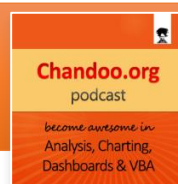
Mike: Yeah, sure.

Chandoo: And the mountain there is really what Enterprises want, because they want to use their data better to make good decisions. So that's what the companies want. They don't care whether it is a pivot report or PowerPivot or PowerView - it doesn't matter as long as they are making good decisions based on their data. That's all they need. That's what Rob also mentions.

Mike: Yeah, I love that analogy about the mountain. One of the things that I would point out is - on one side of the mountain you have (I think this is what Rob meant and this is how I see it) your IT folks - people whose charter is to manage the IT; and the other side of the mountain is the business. And one of the things that have come up in the last few years in the world of BI is this notion of self-service BI. And that's the thought I was trying to go for before. So, because of Excel's flexibility it is a prime candidate for the platform for self-service BI. And what self-service BI basically means is, "Why can't I get the data sources I need myself? Why can't I take these data sources and integrate them myself? Why can't I write these data queries and these ETL processes myself?"

Chandoo: Yeah.

Mike: And this is where Excel has gone. And this is where the world of BI is going - it's this notion of self-service BI. And that's why the flexibility of Excel makes it ideal for that platform.

Chandoo: Yeah.

Mike: For the last few years we've all had this struggle right. You have IT that's strapped on resources and time and so anything you ask them for takes a very long time, right. And then you have these source systems that you may or may not have access to.
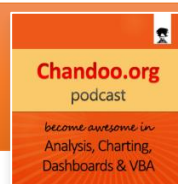
In the past you had these little rogue operations in companies, which fly under the radar, creating these very cool Excel tools - I call them 'ham and egg operations', right! These 'ham and egg operations or skunkworks' kind of operations build these amazing things under the radar, right. And so with this new self-service BI platform paradigm we don't have to do that anymore. We are actually getting tools for us and this is actually where the new BI stack comes in - PowerQuery, PowerView, PowerPivot. And this is why it is so important for analysts who haven't really embraced that new stuff (for example Rob's PowerPivot classes are so valuable because you can have all the Pivot table training in the world and all the skills you want in charting) - but these are the days when getting into that new realm of some of the BI tools is more important than ever for Excel analysts.

Chandoo: I couldn't agree more with you. This is something that I am witnessing myself - and, whenever I talk in public sessions, or whenever I email anybody who is using Excel for serious things - this is something that comes up all the time.

So I think it is time for us to talk a little bit about what are these BI capabilities that Excel has that makes analysts lives so easy. The things that quickly come to my mind are PowerPivot, PowerView, PowerQuery and PowerMaps. These are the ones that Microsoft itself is calling its 'Power BI'. So, can you throw some light and explain what each of these four technologies do, and how they tie into Excel?

Mike: Sure. The cornerstone of the BI stack in Excel is PowerPivot. PowerPivot is a tool that was released with Excel 2010 as add-in. Here's the gist of PowerPivot - for those of you who aren't familiar - in Excel you are basically living in a flat spreadsheet world, and whatever you do you are going to be in a flat spreadsheet world. So, let's say you have a customer table and an invoices table, and you want to take the customers and match them up with the invoices. In Excel, you would have to do something like a VLOOKUP or an INDEX-MATCH (some form of a lookup). And the reason those functions exist is because we lived in a flat spreadsheet world.

Now, in the past, the Microsoft Access guys would kind of say that they are a 'relational database system' - meaning we can have these table structures and join them and it's more evolved and appropriate for database management. So what PowerPivot has done for Excel is that it has kind of brought us into our spreadsheet jockeys - it's brought us into the database world. With PowerPivot, you can now have all these external data sources and connect them just like you would in a database. So you

don't necessarily need lookups anymore - you don't have to have these VLOOKUP and INDEX-MATCH formulas - because you can absolutely connect that customer table to that invoices table.

And that's done a couple of things for Excel analysts - 1) it's basically opened up our world to this notion of managing data outside of a flat file concept (we are now no longer living in a flat file; we are now living in a very robust relational data model that can and does live in Excel now that we have PowerPivot); 2) with PowerPivot you have this freedom to start grabbing data sources from all different sorts of places - SQL server, the web, text files, any kind of ODBC connection you have (Hyperion, Oracle or anything that you can connect to can be sucked into PowerPivot) and then relate it. At no other time have Excel analysts been able to do more with the data they have.

So when you talk about data management, PowerPivot has really kind of pushed us forward. Then, on top of that you add something like PowerQuery (which used to be called Data Explorer) and you are not only able to connect to many different types of sources, but you can actually start manipulating those sources in memory, and create these repeatable processes. I remember when I was starting off as an analyst, I used to have to pull data into Excel - and what I did was connect to the data source with Microsoft Access and then I would write 45-55 queries that would step by step do something to that particular data source - it would either truncate, or remove columns or add columns or do a calculation. So every day I would set it up as a nightly process which would get the data and then perform these 45 update queries that would do things to that data source. So what I was doing there was something called ETL (I didn't know it at that time) – 'Extraction, Transformation and Load', where you are shaping the data to what you need. And Excel analysts do this all the time. You may not know it, but you're doing it all the time.

The minute you bring some sort of data source in, and then remove rows and add summaries and add a column - and if you do this in a regular basis - you are essentially doing ETL. Now you don't necessarily know you're doing ETL, but that's what you're doing. So for you guys PowerQuery is very powerful because you can actually build those steps and processes inside of the PowerQuery query. You can basically set up a query to go get a data source, perform these 8 or 9 little actions to shape and mould the data source the way you need it and then once you have it, you can simply hit 'Refresh'. It's an ETL tool, right.

Chandoo: Yeah. I think the first time I played with PowerQuery (it used to be called DataExplorer back then), I was really impressed by how easy it was. I used it as a part of my online PowerPivot training class. Until then, I was showing students how to manipulate data using SQL because such manipulation inside PowerPivot or in Excel would be very costly. You would have to write a lot of complex formulas and wait for them to be calculated and there was always a chance of making a mistake. Whereas in SQL, you can just do it in one simple step. So I was showing them how to do this with SQL until I saw what DataExplorer or PowerQuery can do - and I was really impressed. This is like cutting all those extra steps

and giving users the real power to manipulate or shape the data the way they want, without waiting for IT or the database administrator to help.

Mike: Yeah, that's right. I'm going to make a sacrilegious statement here - I think that of the new BI tools that are involved in the 2013 Power BI launch and available to us, I think PowerQuery is probably the most powerful, right. Now, we may not realize it because it's got a complex set of learning curves like the M-language. There are some things we can do through the interface, but I don't think the interface options that we see there even begin to touch what we can do with PowerQuery. And I think, in a lot of ways, it might be THE most powerful tool in the BI stack for Excel users because of our ability to automate these actions that we can take with these data sources. And they don't even have to be data sources. You can just have an Excel table and you can build things that you would normally technically build with VBA - you can build them in PowerQuery, and if PowerQuery M-language code is able to run on Excel services or in a SharePoint environment someday, then it may very well be our one way to keep our ability to automate when we're in the cloud with our Excel dashboards.
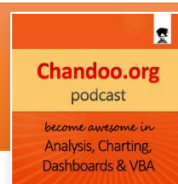
Chandoo: Yeah. It certainly is a very exciting piece of technology. I totally agree with you about the learning curve aspect also. I don't think it used to be called M-language (and I don't remember the other name), but it is like a mixture of JavaScript and SQL and something else!

Mike: Yes.

Chandoo: In Data Explorer you have to write these queries and if I remember correctly there was no proper documentation for it at that time. I kind of struggled a little bit but I figured out some of those things after spending some time. But, I agree with the learning curve aspect and probably in a future podcast or an article, I will talk about some of those things that PowerQuery can do and how to use this M-language.

Mike: Yeah. I think Chris Web is coming out with a book about all the cool things you can do, and believe me; I will be stealing heavily from his book!

So, now on to the other two tools namely PowerView and PowerMap. PowerMap is a very cool functionality, but it is a little bit more limited in use because not every company is interested in 'location intelligence' (intelligence that's based in a map). But, if you are or your company is, then PowerMap is good.

And then, of course, you have PowerView which (I feel) is not quite ready for prime time, is a little slow especially on the server, and has some quirky aspects to it. I like it and the direction we're going and I feel like it's the first generation of something that could possibly be good. PowerView is a dashboarding mechanism with which you can quickly build these very slick, interactive dashboards without using a lot of VBA or form controls. And it's all within this 'Power BI' framework. But, it is a little clunky at this point in time. Have you played with it?

Chandoo: Yeah, I played with it and somehow PowerView (in my view) has the ability to make me feel powerless.
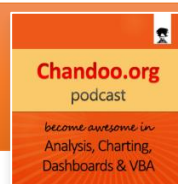
Mike: Yeah.

Chandoo: What I feel is that the way we are used to dealing with everything in Excel is - for example, you could add a text box or a pivot table and somehow tie that with everything else in your workbook – so, it's like a massive interconnected web within Excel. Let's say that I have a cell where I type my name - I can link that name to my text box or I can get that name and display it on top of the pivot table or apply conditional formatting to it. Whereas, PowerView is a new family member to this interconnected web. PowerView can get all the data, but we cannot use that information anywhere else in Excel. We cannot use the intelligence captured by PowerView and integrate it with something else that's already in Excel, because PowerView sits in its own separate PowerView sheets – and they're completely untouchable. You cannot do anything with it.

Mike: Yeah, you're right. PowerView is like a foster kid that you have and the only reason you have him is because the Government is paying you $600 a month! - He's angry, often in his room and he really doesn't really play well with the other family. There's some attractiveness to him, but he's still a little clunky, right!

Chandoo: Yeah!

Mike: So, PowerView is like that weird foster kid that you just have for the money!

Chandoo: I hope Microsoft realizes that. Excel works because of its grid nature - anything can be linked to anything else.

Mike: Yes.

Chandoo: If you're adding a new functionality to it, you should keep the paradigm because then people will readily adopt it.

Mike: Yeah. I think PowerView is kind of connected to the grid by way of PowerPivot. PowerView is kind of twice removed from the grid but it does kind of fit in into some aspects of the architecture.
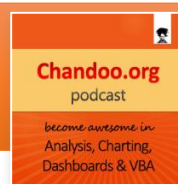
Chandoo: Yeah, it does.

Mike: You have it fitting into pivot tables. But I think you're right that when you are building a dashboard (especially if you've already built some pretty amazing dashboards) - and it's clear that the little things count for your dashboards – the little touches which often involve text boxes or dynamic labels or VBA code for automation (that involves way too much work for the value it gives) but it is the nuance that it needs. I remember I was looking at your 'vacation dashboard' because I gave someone a copy of it for service scheduling – it was amazing because I realized that it's the little touches that make it.

When people think about a dashboard they think it'll be these big things like a bigger chart or gauge or something to that effect. – But, it's amazing how subtle these things have to be. – Even something as simple as coloring will push it to the realm of either effectiveness or ineffectiveness.

And when you deal with something as clunky as PowerView, you lose the ability to do the surgical strike changes that you (as Chandoo) or other folks (who are really good with dashboards) do with dashboards, to make subtle changes to these intricate areas. And PowerView is just way too broad-sweeping to be able to do that. That's why I don't feel like they're effective. I hope that makes sense.

Chandoo: It makes perfect sense. Thanks for all the kind words about the 'vacation dashboard'. I'll link to that in the show notes so people can take a look at it to see what Mike's referring to. But, I totally agree and it's the precise feeling that I get when I look at PowerView. As a person who is teaching and always learning Excel, my mind (when I open Excel or look at it) always asks – "How can I use this with everything else that is in Excel?"

PowerView is the end product, there's no other use for it. Whatever PowerView creates has to be consumed as it is. I cannot make any changes to it nor can I link it up with anything else. So that's what surprises me a little bit, but I hope Microsoft will eventually take it to a place where it plays nicely with everything else in Excel.

Mike: Oh yeah. The optimist in me says that this is version 1, and may have been released a little too early, but we'll chalk it up to that and hopefully it'll get better.

Essentially that's the BI stack in Excel – these four products.

Chandoo: Now let me ask you this question, "If I am an analyst who has so far worked only with Excel (and maybe Access or SQL server once in a while) and now I've heard about these Power BI tools at my disposal – how should I start learning these things?" What kind of recommendations do you have? Do you suggest some books or courses or blogs? How should this analyst start his or her journey?

Mike: There are a couple of things that I always recommend. If you're an Excel analyst and you keep hearing about or reading articles or blog posts about PowerPivot and PowerQuery, you get sleepy! I feel like that too and I force myself to read them!

Here's one thing that's happening (and you may not realize it) is that all this talk and buzz around PowerPivot, PowerQuery and all this Power stuff isn't necessarily a new functionality that is just going to come and go. I think this is THE direction. This is THE shift in what we consider to be an Excel analyst.

The publishing company, Wiley, recently asked me to do a presentation on 'Top ten jobs for Excel gurus'. As I was thinking about it, I realized that one never sees a job for an Excel analyst on a job board.

Chandoo: Yeah.

Mike: The point I'm making is that you're never going to see a job that says 'Excel Analyst'. There are hundreds of jobs that involve Excel (and some of them involve Excel heavily) and as a matter of fact your success and your ability to move up and get bigger and better salaries revolves around your skill sets in Excel and managing data. Similarly, you'll never see a job for 'PowerPivot Developer'. – It's just the way it is.

So when you look at a job for 'Sales Competition Analyst', you just know that in the background and the daily operational things, you'll be using Excel. You're going to have to have heavy Excel. In the immediate future, when you see something like 'Business Intelligence Analyst' just assume that you're going to have to have some ability to interact with relational databases, OLAP cubes, an ability to understand the data sources that are out there (like Enterprise and Data Marts that are in SQL Server) and how to get those down in your dashboards which are in Excel. So it's just going to be assumed that you know PowerQuery and PowerPivot. It's just going to be one of those things like when you look at a job – there is no job out there for an Excel guru – it's just the job that involves heavy Excel. In the future, all these jobs are just going to involve the ability to understand relational databases and do these things (that right now) Excel analysts don't do.
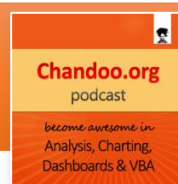
Chandoo: I agree with you. In fact, once every week or two, I get an email from a reader who says "I want to learn Excel a lot more. Can you suggest the kind of job opportunities I'll get if I learn Excel?"

I give them the same answer – "There's never a job specifically for 'Excel Analysts'. - Nobody in their sane mind will advertise saying that they need a person with Excel knowledge.

Mike: The closest that you'll get is that "I need an Excel VBA Developer". And, the only reason you'll see that job is because some evil dude left some crap program that this manager has to take care of – so he's going to unload it on you. That's the only reason you'll see something about Excel. So, I love this concept about - "What job can I expect if I do learn Excel?" Well, basically name it right.

Let's say that you're listening to this podcast and just by virtue of that, you're deeply involved in the Excel world - because no nerd is going to sit here and listen to this thing if they're not! Who is listening to this podcast? The playlist on the iPod isn't Howard Stern, Chandoo and then the 'Opie and Anthony' show. It's just not happening – you're not sandwiched there. So if you're listening to this podcast you're obviously heavily involved in Excel. And if you are, then you have this need to keep learning more things about the tool that you're working with. And if you're still doing that, just realize that your world has just changed. - All of our worlds have changed because we are now no longer just 'Excel Analysts'; we are also 'Database Managers'. We are 'Analysis Services Analysts'. We now have to know all these technologies that we had nothing to do with before.

So for some of you who have cut your teeth in Microsoft Access, learnt about relational databases, worked with OLAP cubes and Pivot Tables before, it'll seem familiar. But the rest of us are going to have to catch up. There are a couple of things you can do to get caught up - download those PowerQuery, SQL Server Analysis data mining tools, and PowerPivot add-ins and just start playing with them. Rob Collie's blog posts on his blog are excellent to start going through – I would recommend starting from the archives and going all the way back in time and then go forward. Rob Collie and Bill Jenin have an

excellent book out now called 'PowerPivot Alchemy' and Rob Collie has an excellent book called 'DAX Formulas'. There's also a relatively new book called 'PowerPivot Data Models' by Marco Russo and Alberto Ferrari. These are excellent sources. Also, of course, Chandoo put out some excellent courses on PowerPivot through the web. If you don' have a lot of time, or if you want to learn at your own pace, these courses that Rob and Chandoo put on are great tools. They're definitely worth it because whatever money you spend on it will only be a fraction of the amount of experience and job opportunities you'll get. Besides, you can always ask your company to fund it.
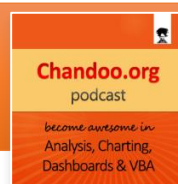
Bill Jenin and I also have this live 'BI boot camp' coming up in Bentonville, Arkansas. It's a live event from April 22 - 24 in Bentonville, Arkansas. The reason it's in Arkansas is because there is a whole host of companies out there that revolve around Walmart. – It's just a giant corporate center there and we're going to start walking anyone who registers through these Microsoft BI tools - showing them how to start thinking about them and how to move up from these flat file spreadsheets to these new concepts of relational databases, analysis services, how to start doing cool things with the data-mining tools, PowerPivot and PowerQuery. We're expecting to have fun. I love live events even though they are far less available for a lot of people – so if you're not in the US or if you're not available in April or you don't have time – you will miss it. But live events have their own benefits because not only are you learning from the instructors, but there's also a live dialog going on and you can share your experiences about these tools with other people too. It's a different energy, right?

Chandoo: It is. One thing that I like about live events is that whenever we're talking about any kind of transformation in thinking – and that's what is required for PowerPivot and these other new technologies – your mindset needs to change – and that can happen a lot faster when you are in a classroom face to face with an instructor. Whereas in an online setting, or book reading, you'll probably have to do this a couple of times before you can get that epiphany –"Oh God, this is how it works!" Whereas in a live class you'll see it, you're talking, you are completely in there and so you feel that transformation a lot faster.

Mike: Oh, yeah. I think it has something to do with the fact that you're also removing yourself from your familiar environment and putting yourself in a place that is dedicated to learning.

Chandoo: Exactly.

Mike: You're not at your desk looking at a webinar or a screencast when all of a sudden your e-harmony bubble pops up and says "I have somebody new for you!" And then the next thing you know is that Chandoo is just speaking to the wall! He's not talking to anybody because you're now with e-harmony!

With live events – you're there, you're in it. That's also another way to get your foot into Power BI – by paying me!

Chandoo: I think anybody who wants to learn these technologies has to be prepared to spend some time and energy – that's the primary criteria. If you're not willing to spend some time to learn and nurture yourself, then this knowledge isn't going to be automatically transferred into your mind with no effort (on your part). You have to invest time. People who're still listening to this podcast (which has been going on for over an hour now) can safely assume that they are investing their time and energy to learn. Paying Mike, Bill or somebody else for a book or course is just a few cents when compared to how much knowledge you would gain out of this.
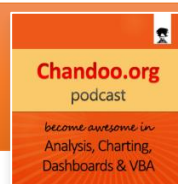
Mike: Yeah.

Chandoo: Congratulations on this class. I hope it fills out quickly and that you unleash a new bunch of people equipped to be Power BI folks who will use these new technologies to make a lot of positive change in their work environment.

Mike: Yeah, that's the goal. And I hope that the message here today is - Forget the courses, events, books and all the selling. Just put that to the side for a second. Forget the e-harmony account and the foster kid PowerView application. We are into one hour now and if you walk away from this podcast with "The world of Excel reporting has changed. It just has." You're in a new environment where you are no longer living in a one-dimensional spreadsheet world. It is beneficial for you to start looking into what these Power BI tools are. How can I start earning about relational databases management and things like that? So, all joking aside, if you can get into some sort of a learning mode to get these new tools under your belt – it's better for you.

Chandoo: Yeah, I agree with you. Now I'm going to talk on behalf of Mike. There are two exciting things that Mike has agreed to do – one of them is that anybody listening to this podcast can go to a link that I'll put in the show notes where they can get a 10% discount on the registration of their live class from April 22-24 (the discount code is 'chandoo'). - That's for people who want to spend those three days with Bill and Mike, get hugely entertained and learn a lot more.

The second thing is: Mike also has an Excel add-in for creating better dashboards called 'Dashboard Tools add-in'. Mike has agreed to give away 50 copies of his add-in for anybody who comments on this post. So the first 50 people to comment on the podcast will get copies of Mike's 'Dashboard Tools add-in'. To get this all you have to do is visit http://www.chandoo.org/session3, and that'll take you to a

page where all the podcast notes, resources and links will be mentioned. You can leave a comment there about your experience about Power BI or foster kids or anything else, and we'll give you a copy of Mike's add-in! And, if you are free and can travel to Bentonville, Arkansas from April 22-24, just grab this opportunity. I'm telling you that something like this doesn't happen often – they do this class once in a year or so – it's an opportunity that you cannot miss. So go there and use the discount code 'chandoo' to get 10% off. Do you want to add anything else, Mike?

Mike: No. Chandoo, I love the podcast format, and I think you should have more of me on – I think we should have a weekly ten minute discussion about something that's not Excel-related! It could be anything – neighbors with huge muscles who throw around clothes like burly men, or it could be e-harmony, or online dating in general, or how we don't like our horrible children! – Something to that effect! But every week you should have ten minutes of non-Excel content. You can even call the segment –"Hi, I'm Chandoo and this is NOT Excel!"

Chandoo: Yeah! In fact we did the same thing when I was in Bill's house – I had a post on my website which said - "Ask Bill (Mr. Excel) anything" – and there were about 300 or more comments because people wanted to ask Bill all these questions. So I took this entire thing and I went to Bill's house to do an interview for two hours in which Bill, Rob and I were just laughing all the time! There's very little about Excel in that interview; everything is just jokes.
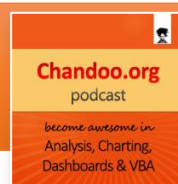
Mike: Ha, ha! Is it published? I haven't seen that.

Chandoo: No, I couldn't finish it because it was just so long – it was for about two hours and we were just drinking beer and chatting wildly. After I recorded it, I felt that probably this is just something that I'll keep in my personal library.

Mike: Right. For those times when you're alone!

Chandoo: Thank you so much, Mike. I know it's quite late for you. So thank you so much for joining us today and I wish you all the best with your 'Business Intelligence boot camp'. Thank you so much for all the insights and the information that you have shared.

Mike: Thanks, Chandoo, for inviting me to be on the podcast. I had fun. It was great and I want to do it again.

Chandoo: Sure, definitely.

Mike: I'm going to get off. Thank you for having me. We'll talk to you guys soon. Thanks.

Chandoo: Thanks, Mike. You have a good night.

So that was Mike and I hope you have enjoyed his deeply insightful thoughts, commentary and discussion about Power BI and how you can master these new set of technologies. And I know he's quite entertaining too. If you visit his website http://www.datapigtechnologies.com, you can see that his energy, humor and light-heartedness just jump out of the screen. He's a really fun guy to talk to, and I always enjoy when I call him or chat with him on Skype or exchange emails with him. So I'm really glad I could feature Mike on our show and I hope you liked what you heard.

Do make sure you visit http://www.chandoo.org/session3 to get all the show notes, resources, links, book recommendations, and other special gifts that I mentioned to you. So please visit http://www.chandoo.org/session3 to access the show notes and materials.

I also want to say thanks to two people who have reviewed our podcast and shared their feedback on iTunes – Radish Elco and Glamour Shell OR – thank you so much for sharing your positive feedback on iTunes and helping others discover our podcast and learn about it.

If you enjoy this podcast, please visit http://www.chandoo.org/podcast where you'll find a link to subscribe to it on iTunes or leave your feedback on iTunes. I really appreciate your doing this.

Thank you so much for tuning in today. Please visit http://www.chandoo.org/session3 to access all the show notes, resources and links. And I want to remind you that you can get one of the 50 copies of Mike's 'Excel Dashboard Tools add-in' by leaving a comment on that page.

See you again next week, and you have a great time until then. Bye.