



Transcript for Session 040

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Transcript:

Hey everybody, welcome to <http://chandoo.org> podcast. Our podcast is aimed to make you awesome in data analysis, charting, dashboards and VBA using Excel. This is episode number 40. You can visit <http://chandoo.org/session40> where all the show notes, links and resources in this episode can be accessed.

Today I have a very exciting guest, a good friend and a fellow Excel blogger, **Miguel Escobar**. Miguel is an **expert in Power Query**. You know I have been promising you a podcast on Power Query. Initially, I wanted to do it myself but then I kept thinking that I don't know much Power Query and I can't talk about it. So, I reached out to Ken and Miguel. They have been running a Power Query training program, website and have written a book together. I reached out to them and Ken suggested that I should interview Miguel for this podcast. So, I am really honored, pleased and happy to invite Miguel to our podcast.

Chandoo: Hey Miguel, how are you doing?

Miguel: Hey, thank you man.

Chandoo: Thank you so much for joining me on this podcast. I am sorry we started the call a bit late but I am really excited about all the topics that we are going to cover today. Can you briefly introduce yourself and tell us what you are doing these days?

Miguel: Yeah, for sure. I am an Excel guy; I play with Excel a lot. I mainly use Power BI and Power BI tools like PowerView, PowerQuery and PowerMap. I do consultancies, BI projects or training around those tools. So, that's basically what I do in a nutshell.



Chandoo: Awesome. Can I ask you that before doing Power BI and PowerQuery kind of stuff, what were you working as?

Miguel: I was mainly working as a Sales Analyst using Excel a lot and doing analysis for a company which was like a regional corporation for Twentieth Century Fox here in Panama. So, basically, I was the guy doing the Box office reports on a daily basis and telling my superiors how the actual movies were doing at the Box Office.

Chandoo: Okay, great. So, is that where you got interested in Excel and Power BI?

Miguel: That's where I actually got to know what PowerView was and that's how it actually all began.

Chandoo: Did you quit your job to work on Power BI full-time now or are you still holding a job somewhere?

Miguel: I was with that company for almost 2 years and then I quit the job and became my own boss!

Chandoo: Awesome. When was that?

Miguel: That was around April 2013.

Chandoo: What did you feel when you quit your job? What were you thinking at that time?

Miguel: Actually, that was scary. It was a scary place to be. I don't have any family members to support and so I didn't have any financial restraints or constraints. So, I was okay on that part. I kept saying that if I don't do it now then I won't do it later. So, I decided to do it then. Hopefully, everything will be alright; just like the song. So far it is going great.

Chandoo: Awesome. I am very happy to hear that. I think I was in a similar situation in 2010. Well, fortunately or unfortunately for me, I had a very young family at that time - my twins were born about 6 months before I quit my job - so, I was actually far more stressed and worried in the initial months but everything turned out okay. Whenever I hear about a fellow Excel author or blogger becoming a full



time entrepreneur, I feel so happy because it is like a little community and we have a new member there who works for themselves and is his own boss and is setting out to do awesome things. So, great! I want to talk more about what you did in the past two years but first let's talk a little bit about Power Query and what this technology is all about, how it can help an Analyst, and how it can make their life better. So, in your words, how do you explain Power Query?

Miguel: Power Query in a nutshell is the best data tool that you can find in Excel nowadays. It is the **tool that can actually help you integrate, transform and enrich your data**. Whenever you need to do any of those, Power Query is your go to tool.

Chandoo: It's a very clear and powerful definition. I like the words integrate, transform and enrich your data. Let's talk a little bit more about those three aspects. What do we mean when you say integrate, transform and enrich data? How do you relate this to real world situations or problems?

Miguel: That's easy. When we say that we transform the data, just to give you an example most people deal with data that is really messy, that is not in the best way to be used in pivot tables or in Excel in general and so they have to do a lot of cleaning. That's what I mean by transform. So, they transform some messy way and transform it or clean it into something that is far more useful for Excel analysis. We clean the data that we get from anywhere - Excel files, text files or anywhere. The second part is integration. A common task that people actually have - you might, for example, have data for last year in a different Excel file - or you can actually have it in a different Excel spreadsheet or worksheet - and you want to integrate or combine those two which is an append operation. Whenever you want to do an append operation or any type of merge operation, you can do it with Power Query. So, you can integrate those two sources, tables or data sets to come up with the end result which is basically like an append operation of two years or two months or all the months that you have in your workbook. That's as far as integration goes. So, we clean up our data and then we integrate our data and last, but not the least, we can actually enrich the data. By enriching we mean that we can create new columns and we can summarize the data that we have. So, we can add using functions that actually are in Power Query. We can add pretty much anything that we want - any type of columns or any type of calculations that you can possibly think of or you can just summarize data that can be later analyzed or consumed in an Excel table or an actual data model with Power Pivot. That's the beauty of it. You can clean it, you can integrate it and you can make it even better by enriching it with Power Query.

Chandoo: Awesome. I think these are the three main problems that people will face when they want to analyze data and build a report or create a model or anything like that. The first stage happens to be having the right data. Now, even though it looks like one step in the process, people go through a lot of whoops just to get the right data. They need to first obtain this data from wherever the source is and they need to bring it from there to Excel. Then, they have to scrub it and clean the data. Sometimes the data is missing or it is not correct. Then they have to enrich the data and only then is it in a position



where they can actually start analyzing the data. From my experience, when I was working or even today, if I am just using plain Excel, I find that a good 30-40% of the time goes into this stage where we have to get the data, clean it and make it ready for the analysis. And, then, everything else falls into place very quickly. Just to give you an example, I run a forum on <http://chandoo.org>. I don't know if you are familiar with it. It is quite a popular forum with lots of members and Hui, one of our forum administrators and who is also a MVP, asked me a while ago that he wants to know some statistics about the forum because he wanted to showcase those statistics to somebody. He wanted to know how many posts he is making every month, how many likes he has received, how many posts he has made in a month that are a reply to somebody's question and things like that. Now, it is a very simple question. Essentially, he wants me to analyze the forum data and give him these answers. So, what do I do? I go to my forum database and download it. It is actually a 300 MB sized database; it is quite big. So, I grab all the data. The forum runs on a MySQL server. So, I took a dump of the data and loaded it to my local computer MySQL and looked at the tables. The data was all scattered all over the place and everything was everywhere. And, I couldn't answer Hui's questions very quickly. I knew that all the data was there but getting his answers was going to take me forever. Fortunately, I know one way to do all these steps - integrate, transform and enrich data - so I used SQL to do this and I got him answers. Now, to me, it sounds like what Power Query does is that it is like a replacement to SQL but more suitable and friendly for Excel users. Would you say that?

Miguel: Yeah. People say it is basically a user-friendly way for you to create queries, i.e. like an assistant to create queries. That is basically what it is.

Chandoo: I think that's also why they probably named it Power Query because **a big part of Power Query is querying** which is nothing but what SQL does but instead of trying to write complex SQL queries and memorizing the syntax and the functions and clauses and everything, you are now simply clicking on ribbon options just the way you would in Excel and get your data cleaned, transformed and enriched for you. So, really, I think this is an exciting technology for anybody dealing with data and using it to do something valuable. The first time that I heard about Power Query, I was like "Oh my God; I must have it. I must use it". I never felt that kind of enthusiasm even for Power Pivot. But, I felt that Power Query is a must-have tool for me in my computer because I deal with lots of data and I could use some help when it comes to scrubbing the data and making it ready for the next stages. So, it is good that Microsoft has launched such a technology. Now, let's talk a little bit about how an ordinary user can get this on their computer. What are the steps involved to obtain Power Query?

Miguel: The **first step is to have either Excel 2010 or Excel 2013**. Then, all you have to do is **download the tool**. I am sure that we are going to have a download link somewhere in this podcast and you can just download it - 32 bit or 64 bit - and simply install it. In the event that you don't have Excel - for some reason you're using Excel 2007 or Excel 2003 - all you have to do is **download the Power BI Desktop** and you are going to be able to use Power Query completely for free with this tool.



Chandoo: So, I understand how it works on Excel. You download it and install it and it becomes an add-in and shows up as a separate ribbon in Excel. And, when you do something with Power Query, we will talk more about the process later on but eventually the data ends up in Excel or as part of the data model. I am curious to know what this Power BI Desktop or Power BI Designer that you are talking about is. How does that relate to the Excel work that people do?

Miguel: Well, **Power BI Designer** is an actual free tool that Microsoft created to be the tool for their Power BI which is supposed to go for general availability on 24th July. So, this tool is not a replacement for Excel. It is just simply another tool to **give you just a quick way to create your reports with all the Power BI tools that you already know about.** So, **Power BI Desktop is simply Power Pivot, Power Query and Power View all integrated into one.** That is actually the Power BI Desktop.

Chandoo: What does it produce? I have downloaded Power BI Designer on my laptop but I haven't had a chance to play with it yet. Once you set up your entire thing in Power BI Designer, what does the output look like?

Miguel: Well, for the output of those charts, you are going to first have your data model. Your data model is going to be in that Power BI Designer file. Once you actually have your data model in that, you can use a new Power View which is completely HTML-5 based and so it is going to render on any device, i.e. it is HTML-5 compatible. And, you are going to have a lot more charts than the ones that you actually see in Excel nowadays like gorges, field maps etc. There are a lot of new charts and graphs that you can actually use in this Power BI Designer or Power BI Desktop. Once you create this massive, amazing piece of art which is your creation, you want to publish it and share it with someone else. All you have to do now is simply click on a single button and then it is going to publish that same report/model that you just created with your Power BI Designer/Desktop to your Power BI account where you can actually share it with anyone. And, that report that you created in there is going to be available or is going to be consumed on any smart phone device. They actually have native apps for the Android and iPhone. You have an iPhone, right Chandoo?

Chandoo: Yeah.

Miguel: You can actually download the Power BI app right now and you will be able to see all the samples that they have available for any users on how the end result of the Power BI Designer will actually look like on your iPhone.



Chandoo: Awesome. I will save the Power BI Designer topic for another podcast. I want to talk about it more but I think that it is something that we can talk about a little later. Now let's switch back to Power Query. So, you go and download Power Query and install it on your computer with Excel 2010 or Excel 2013 and then, what's next? How do you get started with it? What are the first steps that you would do to get into Power Query?

Miguel: Once you install this, you need to take into consideration that Power Query or the concept behind this tool is that it is an **ETL tool**. ETL is an acronym that most technical or IT users actually use. That acronym stands for **Extract Transform Load**. So, it extracts, transforms and loads the data. So, when you go to Excel, you will notice the new Power Query ribbon. Once you click on that, you are going to be able to see a whole section dedicated to get data. You can get data from Excel files, text files, databases and even from SAS and other applications - there are so many that to be able to keep up, Ken and I will be writing another book just about connecting to data because you can basically connect to any data that you can possibly imagine! Once you connect to it and once you input the server address or file location then you will get a new window which is the Power Query Editor window. Within that window, you are going to scrub, transform or integrate your data. That's basically your focus in your Power Query window.

Chandoo: Okay, great. So, in a way, with Power Query once you load the data then the way to work with data or transform or enrich or clean this data will happen in a **separate window**. This is similar to how you would do VBA coding or deal with Power Pivot. The initial step is in Excel but everything else happens in a separate window where you do all the stuff and once you've done it, you ask it to bring it back to Excel and then it comes into Excel. So, it is a concept similar to what many people are familiar with. Even if you have never used Power Query, if you have done a bit of VBA programming or if you've done something with Power Pivot then you can relate to the idea of Power Query because it is similar. It takes your data, takes it to the Power Query window where we do all the steps and then we come back and put it in Excel. Now, because this is an audio podcast, some of these steps can be a little bit confusing, so I will provide some links and resources in the show notes where people can learn more about these initial steps. Now let's talk a little bit more about what happens in the Power Query window, i.e. what do we see once we get there, what are the key things that you would notice and why they are there and how they can help?

Miguel: The Power Query team did an amazing job with the UI. Everything that you can possibly imagine is one click away. So, let's say that you actually load the data from an Excel or text file. You notice that the first row is the one that actually has the headers and we need to promote those headers or that row as the headers. With just 2 clicks you can promote those to be the headers of a table. If you want to remove some columns, all you have to do is right click and choose Remove Columns and they will be removed. The concept behind this is that everything should be one click away from you. That can be adding new columns, removing columns etc. Transformations should be maximum two clicks away. Three clicks may be a bit too much. They are probably all kind of two clicks away if I remember right.



Chandoo: Yeah, okay. I have played with Power Query quite a bit and I totally agree with you. I think you will immediately feel the power part of it once you see the Power Query window. It's like "Oh God, I can do this!" If you were trying to do such clean-up or transformation steps either manually or through some formulas or VBA, some of them would take a lot of code and a lot of extra steps and a lot of work and thinking whereas it is just one button or two clicks on your Power Query window and your data is clean. To give you a very simple example, many times you get data that looks like a pivot table and you want to un-pivot or de-pivot this data so that you could do some further analysis. I have written some articles about this as well and I find it amazing that you can just click a button in Power Query and it un-pivots the data for you. So, you can then move on to doing other things with your data rather than thinking about the formulas or VBA to do the un-pivoting. How amazing is that?

Miguel: That is truly amazing.

Chandoo: Can you tell us some of the common transformations that can happen like maybe your favorite transformations that you can do in Power Query.

Miguel: Well, I would say that my favorite transformation would be to '**Group By**'. I use it a lot. Basically, it finds the rows that have matching values and it simply groups them basically like how you actually do a pivot table. You try to group things on a column or row basis. You can do pretty much the same stuff in the Power Query window.

Chandoo: Yeah, I think the Group By is essentially the step for going from raw data to reports level. I remember that back when I was learning SQL in 2003, I finished my studies and started a job as a Software Developer and I was building reports for Reebok, the shoe company. We were building some systems for them and my part was to develop the sales force reports and every day I would write these dozens and dozens of SQL queries and all of them just had Group By. Until that time, even though I learnt SQL in college, I would never use Group By. I would think why I would need to use it. But, I realised that this is all people need in the business world. Nobody wants to look at all the million rows of data; they want to group it at a higher level and then just look at the summarized view. Group By is such a powerful feature. Obviously, in Excel, a similar feature would be pivot tables where you take data and you pivot it which is nothing but grouping and it gives you the results. But, sometimes, we want to go two levels, i.e. we take the data and create a pivot and then we want to analyze the data in the pivot to do something. This is where I find the manual process or even the process of using pivot tables is considerably time-consuming whereas with Power Query, you could load the raw data to Power Query and do the Group By there and then load that data to Excel directly so that you can focus more on the analysis and it does not take a lot of time. It is just amazing that they have such a feature in Power Query.



Miguel: One of the key features about how Power Query essentially works or the workflow of it is that it actually feels like you are working with VBA. I don't know pretty much anything about VBA. I only know that it actually exists and when I create anything related to VBA, I use the Macro Recorder which basically records every step that I do. With Power Query, it essentially records a macro. Every time that you do any type of creation, it is a step. It works on a step-by-step basis that you can even see and audit yourself on the writing (called Step Dialog) and you can even go forward in time and see your last step or go prior to that one and do any modification at a specific step. So, it has a lot of similarity to VBA especially with that Record Macro situation and it gives you the flexibility where you can just go back in time and add any new type of requirements that you actually have. Another thing about Power Query and VBA is that your results - most of the time that I actually dealt with VBA, the code actually does all of it for you - so when you finish running the VBA code you are going to get a clean report. You can do the same with Power Query. The reason why I would choose Power Query over VBA is that the actual engine has some optimization so it can actually run faster or it can actually push the work at the source and actually work locally in your computer.

Chandoo: Yeah, I think where I find Power Query to be a winner is that anytime that you deal with data related problems - data manipulation, data transformation, data changes, and data removals or clean up - all of those are incredibly faster and very easy to think and do in Power Query. Although VBA does have an edge, for example if you want to automate the creation of a bunch of charts then naturally VBA would be the right fit for you. But, your raw data processing is where Power Query will give you that extra processing power and ease of use. Now, let's talk about the **Steps Recorder feature** of Power Query a little bit because I think that is another area of Power Query that every time I see, I feel amazed at what it is. Because, in Power Query (you can correct me or maybe you can add on) let's say that you are doing a couple of steps like you are bringing some data from your corporate database and removing a bunch of columns and for the remaining columns you are running some steps like a Group By or whatever, at every step, you will see that Power Query has done something and that step is recorded. It's not recorded just so we can see what it is doing. It is basically a **script for processing data**, isn't it? So, anytime your data changes and you run a refresh, Power Query will go through the steps again and produce a new set of data. When the data changes, you don't have to re-do the steps. You just refresh and all of those 75 steps will happen again and you will get clean data for your reports or analysis, isn't it?

Miguel: Yeah, that's the **amazing part about Power Query**.

Chandoo: It is **re-usable**. In a way it is better than VBA in that sense because when you record a macro with VBA, many times even if something slightly changes in your workbook settings or data, for example you record the macro from cell A1 and you want to do the same thing but in cell B7 then the macro may not work correctly. Whereas, with Power Query, when the data changes, every one of those steps will happen to the changed data and it will work. Probably the only exception would be when the table



structure changes but as long as that remains the same, you don't have to do any extra steps. Just refresh and you get your new data.

Miguel: Yeah, that's an amazing thing about Power Query. Let's say that you create the step-by-step basis and suddenly something that should happen isn't happening because it is a completely new requirement, you can go into that step and then add that new logic or enrich the data however you want. One of the cool features about Power Query is that once you actually know how to move around your UI, your experience is greatly improved. The actual interface is completely user-friendly. You don't need to know any code to get working with Power Query. You can learn more, of course, with the M code and with the Power Query programming language but the idea is that you can do a lot with just the UI. So, they got it right with the user experience where you simply just jump right into it and get things done. You don't actually need to learn any code to get things done. You just simply jump right into it and do it. It is completely intuitive.

Chandoo: Yeah, it is. We will talk about the M code part a little later. I totally agree with you. I think the interface is fairly intuitive especially for somebody who deals with data and who knows what they want to do next, i.e. the kind of transformation they are looking for; they are going to immediately find it in the Power Query ribbons because everything is spelt out and everything is out there, neatly arranged and it is easy to get going. As I said, we will talk about the M language part a little later. So, these are the transformations, i.e. how to change data. Apart from transforming data, what else can we do with the Power Query window? What are the other things that you commonly do?

Miguel: One scenario that we handle with Power Query is the common VLOOKUP matching. We can only use VLOOKUP or the INDEX-MATCH combination to get data from another table. Now, with Power Query, you can do something call a 'join' which is basically creating a relationship between these two tables - our reference table and the table that has duplicates - and simply do a VLOOKUP. It is a VLOOKUP completely within the user interface of Power Query. Simply select the tables that you want to combine. You tell them which column from each table to use to actually unite or create the union between these two tables. Once you actually click on OK, it will actually create this merge from these two tables. With just a few clicks (3 clicks I believe) you actually get this completely native VLOOKUP that is way faster than the VLOOKUP that you can actually use in Excel.

Chandoo: Yeah. Is this the same as the 'merge' feature?

Miguel: This is 'combine'.



Chandoo: Then, let's talk about this a little more because I am curious to know, for example I understand what this is doing but can you give me a scenario where we may have to use such a feature. When would you use it? Can you give us an example from the recent past maybe?

Miguel: Yeah. It is normally used by Analysts. Analysts usually create pivot tables and they need to actually get the data into one table. So, to get most of the data that we can possibly find into just one table, they can create a pivot table because they can only use one table at a time. So, let's imagine that this Analyst is dealing with sales data. It is basically just a table with three fields. It has a date, the ID of the product and the total amount sold of that specific product on that specific date. This also has another table with a unique list of all the products that they actually sell. So, he wants to combine these two tables - the products table with the one for the sales. He will actually do this on the sales table using a VLOOKUP to get more of the data from the products table. What you will do with Power Query is simply import those two tables into the Power Query window. Then, you will go to Power Query again and in the Power Query ribbon there is a group called combine and inside that group you will notice merge. You will click on merge and it will simply merge those two tables. The result of that merge operation is simply going to be the sales table plus all of the VLOOKUP operations that you can possibly imagine already done by the combination of these two tables. So, it is going to be that sales table plus all of the corresponding fields from the products table. What do you think?

Chandoo: I think this is something that is really powerful and very useful. I would use this kind of a feature all the time. In fact, many times because they don't have Power Query or they don't know that such a thing exists, people write these VLOOKUPS on the sales table. And, what usually happens with tables like the sales table is that they are very long, probably like 100,000 transactions or half a million transactions or whatever. So, essentially, you have these 100,000 VLOOKUPS running just to get the product details which will slow down the workbook and keep it un-responsive and anytime that a change happens, you will have to do this again and it can have a significant performance impact. So what people do is that they write the VLOOKUPS and then they replace the VLOOKUPS with just values, i.e. they copy and paste the formulas as values so that the workbook is faster. This means that anytime the data changes, they need to re-write the formulas. So, some people even use VBA to do these steps automatically. All of these are unnecessary if you could use Power Query to merge multiple tables to come up with one view that you are after. Now, I know that the merge feature is very relevant for many Analysts who deal with data that is in different places as in different tables. But, how would you feel about the new feature in Excel 2013 which is data modeling and relationships. We could use them to combine tables as well. So, what are your comments about this? Would you use a data model or would you use Power Query to combine the data?

Miguel: Well, it depends. It really depends on what your end goal is. Both are completely understandable and both of them can work. The benefit of using Power Query over the data model or Power Pivot is that in Power Pivot you can only use one type of relationship that is the one-to-many relationship where you need to actually have a table that has unique values. The way that actually works



with Power Query is that you can do any type of relationships between two tables. This is going to get really technical right now but with SQL, you can do an inner join, left join, right join etc.

Chandoo: I understand what you mean. We could come up with all combinations - the left joins and the right joins. Okay, I understand where Power Query will be better. And, probably the other aspect is that with the data model feature of either Excel or Power Pivot, it can only be used in the context of a pivot table. Whereas, if all the data is combined with Power Query, you could then use it in your formulas or your VBA or whatever because all the data is there and you can access it. Yeah, I think those are two places where the Power Query option would be significantly better. This is very interesting to know. Now, obviously, people who are listening to the podcast might be left wondering what an inner join is. I don't want to ask that question because I know it is a very technical concept and people who are just getting started with Power Query might feel frustrated if they try to understand inner join on day 1. So, we will leave that out as a resource for them to figure out and learn but I think we've had quite a good and interesting discussion where we covered a lot of ground on Power Query, how to get started with it, some of the common things you can do, how the process is similar to VBA or Power Pivot where everything happens in a separate window and where Power Query is different, for example it uses its own Steps Recorder and you can re-apply those steps, you can edit them, you can change the order of these steps and what not. Now, we talked a little bit about the M language which you mentioned a few times in the call. Let me ask you what this M language is and why it is named so?

Miguel: Well, I really don't know why it is M!

Chandoo: Is it M for Money?! That's what your book is.

Miguel: I really don't know why it is called M! For a bit of history, it is really old ever since back in 2003 and it has been undergoing changes and getting better and better and what we see now is the improved version after so many iterations. Power Query, just like Power Pivot, has its own language. Whenever you actually click on any of the buttons of the Power Query window, the engine is actually creating a specific code for you. It is writing its own code for you. So, you don't actually need to know any M to work with Power Query because Power Query takes care of that for you. Now, **M is simply a functional language**. By functional we mean functions like the ones that you actually write in arithmetic where:

$a+b=c$

$c=20+d$

Those are two functions. That's the way you can actually work with Power Query. It is a functional language.



Chandoo: Yeah, I think when somebody with VBA or any other programming experience moves to a functional language kind of style, it can be a bit of a learning curve, isn't it?

Miguel: Yeah, well it depends. The good thing about this language is that in the way that someone delivers the actual basics of it, i.e. if someone can actually teach you the basics of it, you can learn this language way faster than you can learn a language like the Excel language - way faster than the one VBA has. This is a conversation that I have had a lot with Ken because, again, I don't really know that much about VBA and so I rely heavily on Ken who is an Excel guru. He knows a lot about VBA. We talk about it a lot on how much time he actually spent to know what he actually knows about VBA and how much in comparison it actually took him to learn Power Query. The difference is humongous; it is years against a few days or even months. So, to be honest with you, for Power Query, it can be a really short learning curve.

Chandoo: I understand. I think that once you overcome the initial apprehensions and doubts about it and actually start using the add-in, you can immediately start seeing the benefits. There are lots of low-hanging fruits in the Power Query garden. You just go and pluck a feature and use it on your data and you say, "Wow, how much time am I saving with this?!" That is like a positive feedback loop. Every time that you feel like you want to do more, within six weeks, you are doing awesome stuff with Power Query. So, I totally agree with you. I think the M language is something that you don't even have to get in to until very late in the game; unless you want to really know what's going on, you don't even have to look at it. Just to be honest, because I am immensely curious about these things, I downloaded the M formula reference guide which is nothing but the M language guide from the Microsoft website and I started reading it but I felt that I didn't understand all of it and what this and that does. Then, I realised, that I don't even have to learn this. I can use Power Query. I can use the ribbon and I can play with it and I can get a lot done. Nowadays, I rarely touch the Script Editor screen and I can still do most of what I want to do with Power Query. There are some places where I would spend some time on Google or on your website but, for most part, I can get things done without ever worrying about the M language. That said, let's talk a little bit more about if I am an Analyst and if I am getting started with Power Query and I am very curious about this technology and I want to learn more about it, what kind of resources would you recommend for such a person?

Miguel: I'm glad you ask. Ken and I created this website and its sole purpose is just to give everyone the resources that they need to get started with Power Query.

Chandoo: What is it called?

Miguel: The actual site is <http://powerquery.training>.



Chandoo: I'll make sure that I link to this URL in the show notes but it is <http://powerquery.training>. It can't get easier than that; it's an awesome website name! So, what kind of resources are we talking about here? Can you briefly mention about them?

Miguel: What we provide on this website is simple to use products. These are ready-to-go products like the one that we spoke about here where we actually merge tables from the sales table and the products table; it is already in there. You can just jump right into it, download the sample workbook and simply see how you can put this tool to the test with your own data. We actually provide a lot of resources in terms of explaining what Power Query is, why you should actually use it, the comparison between VBA and Power Query and the Excel language. That sort of stuff is actually on that site. Nonetheless, besides providing all of this free material, we also provide live online workshops. The live online workshops are basically just 4 hours on 2 days. The first day is dedicated to the basics of Power Query and the second day is to make you a pro and an Excel guru in terms of Power Query and the actual M language.

Chandoo: These are live classes where people will attend at a specific time and they will attend the session conducted by you and Ken and go through all the steps of Power Query?

Miguel: Yeah.

Chandoo: When is the next batch starting for this?

Miguel: We actually had a workshop scheduled for 12th August but it got sold out in less than 3 weeks! So, we are going to be launching a new set of dates for the 26th August.

Chandoo: So, the next one is on 26th August. How often are you running these by the way?

Miguel: The actual concept or goal is to have one such event per month. The idea of why we are actually doing this is because Power Query is being constantly upgraded and more features are being added. So, every month you are going to be getting a new version of Power Query and that is amazing because they are actively working on this. It is not something that they are going to take lightly. They are actually investing a lot of time in this. The way that we want to take advantage of that is that we want this workshop to provide the latest and the greatest.

Chandoo: Great. So, the next batch is on 26th August which will be around the corner when this podcast goes live and so that gives 3 weeks' time to people who listen to it as soon as the podcast is out to



participate in this class. But, if they miss out, they can always catch the next session which is once a month at least. That's good to know. Maybe I will sign myself up for one of these classes once I have better bandwidth and watch you and Ken talk about this and learn from you live. I will leave a link to the training program on the show notes page on <http://chandoo.org/session40> so that people can go for it. Can you briefly tell us the cost for this live class and if you have any discount or anything for <http://chandoo.org> visitors.

Miguel: Yeah, we are going to leave a discount for you guys. The actual list price is \$595. Hopefully, we are going to give you a really good discount for being an active listener for this podcast.

Chandoo: Thank you so much Miguel. I will put up the link for the training program web page and offer the discount code in the podcast show notes page. That's good to know. Apart from the training program, do you want to talk a little bit about the book that you and Ken authored?

Miguel: As part of this entire environment that we are creating where we provide the ready-to-use products, provide all of these resources to actually get to know Power Query and provide this course, we just finished writing a book. The name of this book is '**M is for Data Monkey**'. To be honest, I don't really know what this means but it is more of a US or Canadian kind of name. I actually speak Spanish and so I don't know that much but I like it.

Chandoo: The first time I saw the book name I thought it was funny. I kept laughing so it is good. Yeah, please tell me more about the book.

Miguel: The actual book has really unique cases and some of them that we actually cover in the actual workshop that are never before seen. These are basically products that we haven't published on any of our blog posts or You Tube videos or anything like that. This is really great and unique content that we haven't published that you are going to be getting in this workshop and also in this book. So, it is never before seen and you better get it.

Chandoo: When is this book releasing?

Miguel: Hopefully, it is already on pre-order on Amazon. You can pre-order it. If you actually take the workshop, we are going to be giving you the digital copy of this book as well once it becomes available but it should be available by October of this year.



Chandoo: Great. I assume you have done the writing part of the book and it is now in the copy-editing and production stages. Is that right?

Miguel: Yeah, well, we actually delayed the release date because there were some things that were not published yet and so we waited so they were actually published so that we could actually write about them especially about the Power BI integration and all that good stuff. What you can expect from it is just awesome content. You know Ken; he is amazing.

Chandoo: Yeah, I have no doubts about that. I know both of you are very passionate, knowledgeable and enthusiastic people and so I am just waiting for the book to come out so I can grab a copy of it. Miguel, I just want to thank you for sparing an hour and talking to our audience about Power Query as a technology. It is a really transformative tool and I have been promising my podcast listeners about a podcast dedicated to Power Query for quite some time and so I am very happy that I am talking to you. I know we have scheduled this a couple of times but due to travel or one thing or another, we couldn't do it earlier. So, I apologize for the delay but I am very happy about this call and this podcast. I think this is a really informative session and I am sure our podcast listeners are going to love this.

Miguel: Thank you for the actual opportunity.

Chandoo: Thank you so much for joining me once again Miguel. I'll connect with you once the podcast goes live.

Miguel: Awesome.