CHAD: Hi, this is Chad and you are listening to The Everyday Innovator podcast. If you like what you learn from this podcast, I want you to know I also provide online training; training that turns product managers into product masters. See how to become a product master using my free Product Mastery Roadmap, which is conveniently at the same place where you'll find the all-important show notes for this episode. That's www.theeverydayinnovator.com/096. You will want to go there to get a very special offer that my guest is providing. More on that in a moment. This episode is about market research. What's in your toolbox for conducting consumer and market research? Does it include conjoint analysis? Well, if not, it will after you listen to this episode. To explore the topic and walk through an example with using conjoint analysis, I tracked down a previous guest. Way back in episode 008, the 8th episode, one of my first ones, he discussed quantitative and qualitative tools but he didn't go into any details about applying conjoint. That guest is Brian Ottum. He's a market research specialist with 30 years of experience in new product development. He started as a chemical engineer and joined Proctor and Gamble, contributing to products you would know—Charmin, Pampers, and others. He went on to earn a PhD in market research and today he helps companies with product development. He has also developed a new online course called Tools for Early Innovation, that you can find at Udemy. It's a little over an hour of videos, case studies, and downloadable materials. The usual price is $30, but he's making it available to listeners of this podcast for just $10 for a limited time. You want to check soon, because the coupon might not work anymore after a while. To get that discount, that coupon that you need, you'll want to go to the show notes. Again, that's www.theeverydayinnovator.com/096. I think you'll find the discussion with Brian really interesting and a good example of applying conjoint analysis that will be helpful. Enjoy the interview.

[2:26]

CHAD: Brian, thanks so much for coming back to the Everyday Innovator.

BRIAN: Thank you. I'm glad to be back after months of absence.

CHAD: It's good for you to be here again, as far as I'm concerned, because you were on Episode 8, one of the very early ones, got ahold of some really good people such as yourself in those early episodes, and now we're up to…by the time this is produced, probably around 100. Pretty close to that century mark here, almost two years later.

BRIAN: Holy cow, you're going to be able to sell yourself into syndication!

CHAD: It is nice. I still typically go out of my way to find good guests, guests that bring knowledge I think my audience cares about, but every week I get someone asking to be on the show, and it's nice that it's gotten that kid of recognition. Everyday Innovators, I do appreciate you listening, and of course, some of you have done this already, if you ever have suggestions for topics, you're welcome to get ahold of me. The easiest way to do that is just through the contact page on my website. You can go to www.theeverydayinnovator.com, and that will take you to the blog site, or connect with me on Linked In, just Chad McAllister, PhD. I say PhD just because that's the easiest way to find me, because there are a few other Chad McAllisters, even though that name is a bit unique. Brian, you did that PhD thing, too. You got this PhD in marketing research, right?

BRIAN: Yeah. I was at Proctor and Gamble and took one of those personality tests and it explained that I was a square peg in a round hole. It said I really need to become an expert in something, I really need to become a guru and to help people. I decided to really drill down into this whole innovation thing, because my whole life I'd been obsessed with new products since I was a kid. It's just more of the same, just digging into what makes a successful new product versus a failure. That's what I studied and that's what I've done ever since.

CHAD: Very good. We're going to dive into one of those marketing research topics together. In Episode 8, you went through, kind of at a high level, four key tools—two quantitative tools, two qualitative tools. Today, we're going to dive into how to use specifically one of those quantitative tools, which is conjoint analysis. Let's start—can you just describe what conjoint analysis is used for?

BRIAN: Well, an innovator has a tool box of lots of tools they can use. I'm the tools guy. I like to really study those tools and find out which tools are used when. I think that the most powerful tool in the toolbox in conjoint analysis. It is a highly quantitative, sophisticated tool, and we use it to try to predict what are people going to do in the future? We actually ask them some structured questions and we present scenarios to them and see what they do. It relies on the old human adage, "You don't know how important something is until it's gone." So what conjoint does, is it offers people things and then takes them away. Then you find out which things were missed the most.

CHAD: Okay. And in terms of trying to understand customers' preferences, what kind of problems is this good for? Is it useful for a brand new to the world kind of product, that we haven't explored before, or for that iteration on an existing product to make it better?

[5:39]

BRIAN: It can work on both, but I've seen it used more in the latter.

CHAD: Okay.

BRIAN: Usually it…yeah, more iterations. It usually comes on in the middle to the late part of the design process. Usually the perfect situation is where the developers say, "Hey, you know, this thing, we could put 10 different features on this new product but the marketing people and the finance people said we can only afford 3." Well, which 3 are you going to put on? That's what conjoint does so well. It helps you pick. It helps you use the customers to pick which of those 3 are going to make you the most money and sell the most new products.

CHAD: Okay. So it's really a quantitative tool to look at analysis for that feature prioritization when…like you said, okay we have 10 things we could do, which ones are really providing the most value to our customer?

BRIAN: Exactly. I've done this in software, like a new piece of software. You just say, "Well, it will have this functionality or not, it could do this or not, it could look like this or not." Then you prioritize those. Or, if you're doing a study with cars, you could test what's the optimal level of horsepower? I could be saying 100, 120, 150, 200 horsepower. You find out what is the optimal horsepower there, given how much people are willing to pay.

CHAD: Okay, I think of product management, this full spectrum in terms of the IDEA Framework. To help me just package things and just remember in my own brain, I needed a simple acronym, and that's IDEA, and the I is Ideation and for Everyday Innovators who have heard this before, let me just walk through it real quick. That's kind of the traditional fuzzy front end. Where do we get the ideas and what is the product concept? The D is Develop. We actually go through these steps to make the product or service real. Then the I, D, E. The E is Evolve, where we're launching the product to the marketplace and going through the product lifecycle, the lifecycle management steps, to really try to optimize its performance against competitors and add value for customers. Then the A, because IDE doesn't really sound like anything, the A on the end is just for Accelerate. It's all the activities that make everything else better. For conjoint analysis, then, it sounds like this is a tool that fits into that early product concept sort of activities, or when we're doing those sort of activities back in the product lifecycle to try to make the product better. Is that correct?

BRIAN: That's right. Yep, the I and the D for sure. Yes. It really helps you figure out how do we fine tune? How do we optimize? We got some variations in the theme. Well, which variation, which flavor do we need to go with?

CHAD: Yeah, and I like your toolbox analogy. I like simple frameworks like this IDEA framework, because I think of it as pegs in the garage above the work bench to hang your tools on, so I can just keep track of where things are. They help me stay organized as a product manager.

[8:33]

BRIAN: Exactly, because there's a lot of different tools in the toolbox, and some of them, like ethnography, that's way at the beginning. That's way even kind of the early part of I.

CHAD: Yeah. It's good to know where they apply. So, let's talk about conjoint analysis, specifically how we get this done. What are the steps for performing, conducting that conjoint analysis?

BRIAN: Well, conjoint kind of gets a bad rap, because I think people say, "Oh, it's hard. It's difficult." Well, the first step is really the only hard part. The first step is usually when we work with the team to figure out exactly which features, which levels, which prices are you going to test. The thing is that conjoint has a constraint. You can't test everything. You can't test every feature and you know how new product teams are. They want to test everything, right? They have a universe of possibilities, they have 30 different things they want to jam into this new product, right? No, you can't. So one of the issues with conjoint, and the reason it comes a little later, maybe, is because you can only test maybe 6-8 different features.

CHAD: Let me dig into that a little bit, because I imagine there are some people who have done feature prioritization and done it with customers and maybe they're using some kind of priority board with customers, a website, and they're actually saying, "We have 100 features on our list." And customers are voting for them, and then we use that to prioritize and going, "Of course you can write 100 things." The distinction here is, are we really understanding the relative importance of one feature to another one, and doing that in a very credible way that we can defend what really is important to the user. Can you just talk about this distinction?

BRIAN: This is a very, very important step, because innovators will have done their voice of the customer research, they have developed some ideas for new features and new benefits they could offer, and they get a long list. Like you say, it's 100, and prioritizing that list is absolutely critical and needs to use customers to help do that. The developers themselves should not sit in a conference room and do it by themselves. That prioritization needs to happen, needs to cut down.

CHAD: Yeah. And that's just because we're not the customer.

BRIAN: No, we're not. No. Even if we think we are.

CHAD: Exactly. We're not. And the best I've seen is about 50%. Even when we think we're the customer, we get it right maybe half the time and that's why we really want to listen to the customer.

BRIAN: And the higher, unfortunately, you are on the organizational chain, sometimes the further you are from reality, yet, the most vote you sometimes have. You need to cut down that list of 100. There's a lot of techniques. Now, there are many flavors of conjoint, and there's one called max-diff. That's one where you could have dozens and dozens of versions and you basically are throwing groups of four at people and you'll say, "What's your favorite, what's your worst, what's the best, what's the worst out of this list?" Click, click. What's the best, what's the worst? Click, click. You just keep on throwing groups of four, groups of five at people and they just do click, click. That's a version of conjoint where it's really great for cutting that list of maybe 60, maybe 100 if you really have sample size, and cut that down to the top dozen.

[11:57]

CHAD: Okay, but we're not going to dive into max-diff today…

BRIAN: No, that's just a cousin to the main conjoint I'd like to talk about. There are many cousins, but this one is like, that's one of the new cousins, but not the meaty one I want to talk about.

CHAD: Okay. So this is when, you know, we have a list of a few factors that we're trying…a few features that we might prioritize, and we need to first start with identifying the features to actually test.

BRIAN: That's the tough part. The first step is, and so we've assumed that you've already done your homework, you've cut that 100 down to seven, but now we've got the seven, but the finance people say we can really only include three in the new product, so what are the three? And, how much are people willing to pay for each one of those three? Conjoint can give you that information. The first step is then to take the seven, and design a questionnaire which offers various scenarios of the new product having a different mix of those seven.

CHAD: Okay. Is this typically done through a survey, when you say questionnaire? Or is it done in-person interviews? How does it play out?

BRIAN: Good question. It is an interview; it is a survey. It's basically offering usually 16 scenarios to the customer and asking them what they would do in each scenario. You can collect the data any way you want. I've seen business to business folks do this at trade shows, and it's been done in person, it can be done over the phone, if it's a simple conjoint, but nowadays people are doing it online, because you can also show pictures and video.

CHAD: Okay. So, lots of ways to actually do it. That makes sense to me. We collect data through surveys, through in-person interviews, using that survey guide as a tool to collect the data. You said something else there in passing that I think is really important: sixteen scenarios, and by that you're talking about how you combine the features that you're trying to assess which ones are most important?

BRIAN: That's right. You use something called an experimental design, that sometimes engineers know well from quality movement. You basically are offering not all different possibilities but many different possibilities for the scenario. So some features, some of the scenarios will have features A and C. Some will have B and D. Some will have A and F. Some will have B and G. So you can see that all the different scenarios are different. And by watching what the customer does when they take the survey, you see, oh, look at every time that they saw feature C, the scores jumped. Therefore, we know feature C is the winner, and you can then actually create a graph to see which feature had the most pull in the consumer's mind.

CHAD: Okay. So, one scenario might be, correct me if I'm wrong on this, comparing the price level and if the automobile has some kind of cool sync system with my iPhone or not. Different price levels that I might like that package versus not having that sync capability at all.

[15:00]

BRIAN: Exactly. Yes. So that sync capability is really only one feature, right? It's either there or not there, or you could test, what I usually see is we'll test four different versions of that sync system. One version or one level is no sync at all. Two is kind of a not-so-good one, a difficult to use, then there's another one that's a little bit better, then you've got your super-duper at the top that is just automatic and quick and everything, and we can test that with, let's say, four different price levels, and you get done with that study, you know how much people are willing to pay for each incremental improvement in your sync system.

CHAD: Okay, and I threw price there as one of my features, it's not really a feature, but one of the criteria to test. Does conjoint analysis get used often in that context, to try to examine the right pricing for a product?

BRIAN: Yes. Pricing I always say, is the most treacherous of all market research topics.

CHAD: Sure is.

BRIAN: I've seen and we've seen so much bad research when it comes to the pricing research. It is so difficult, because the answer totally depends on how you frame the question. A lot of times we frame the question very stupidly. We'll say, "Oh, how much are you willing to pay for this new car?" "Well, I'm going to think about that, if I give him a high answer he's going to charge me a lot. I think I'll lowball him." And so people go through all these mental gymnastics in answering these questions, so most pricing research is garbage. On the other hand, conjoint seeks to be realistic. I offer you a realistic car. Here is it with all the features, here's the price, what do you think? In hopes of being realistic in your answer. It works very well. Conjoint is one of the best tools we have to actually measure price sensitivity to find out the optimal price.

CHAD: Okay. I want to walk through an example with you, so this is really applicable for all of us. Have we covered the steps here? We've got the features to test, we're going to develop the scenarios and represent them in a questionnaire so we can actually collect the data. There must be a data analysis step, I guess, after this.

BRIAN: Yes, the data analysis step is a little complex, because we have this experimental design. We use a version of regression analysis. Remember that back in college? We did regression, statistical regression. We basically used that, but nowadays Excel can do that. So we use a tool like Excel or one of the statistical packages to crunch the numbers to really then create a very simple chart of, hey, here's the top feature, here's the next and here's the next, here's the next. Then here's the price sensitivity curve. Here's what happens to people saying they're willing to buy at each of your four price points. You can see it drop down. A lot of times there's a big cliff and you want to avoid the cliff when you are trying to do pricing.

[17:51]

CHAD: Okay, good. So a tool just like Excel, we can use to evaluate the data we're getting back and it will do the statistics for us. I know last time I had to set this up in Excel, I don't know if this has changed or not, or if you know…inside Excel, you had to go into the Options area and turn on the data analysis package and then you get this whole suite of statistics, which is, you know, it's not replacing a statistics package, like SPSS or something, for those in the audience who do stats, but it gives you a lot of statistical capability and tests there. Do you recall having to do this to analyze? Sounds right?

BRIAN: Yes.

CHAD: Okay. So turn on the data analysis package?

BRIAN: You have to turn on the data analysis tool pack.

CHAD: Okay. That's it. Good. Thanks for clarifying the name. I knew there was some extra step you had to do there.

BRIAN: It works well. And correlation is fun. That's a tool that a lot of people use. That's inside there—correlation. You can just correlate two columns. It's really good.

CHAD: Correlation is a tool that helps us to make relationships when we say, "I've noticed when I walk into someone's house and there's lots of books around, their kids tend to do better in school." We're just making the correlation, not suggesting that lots of books mean better students, just that we see those two things appearing together frequently.

BRIAN: Exactly.

CHAD: Okay. So, let's walk through an actual example so we can make this clearer in my mind and The Everyday Innovators, also, how to apply conjoint analysis.

BRIAN: Okay. This is an example I use in my teaching and have done for a long time. It's because I also like bicycles. Let's assume that we are Trek or Specialized and we're designing the bike for the 2018 season. So 2018 is a little bit in the future, but we've got, you know, we're new product developers.

We've got to do our homework well in advance. Let's say that the R&D folks there at the company have come up with three features that they want to add for 2018 but really got to pick the best one or two and how much, and really have to figure out how much people are willing to pay and can we really put out a competitive bike?

CHAD: Yep.

BRIAN: So, let's say the engineers have four features and these four are: 1) a full-suspension frame, okay, and this is a new type of suspension that's just super-duper. It works better than the current and it's lightweight by itself and it really absorbs the bumps, so you can have a bike with a full suspension on the front and the back, or you could have a bike without it.

CHAD: Okay.

BRIAN: So, that's pretty straightforward. You could also have a frame that folds up. So the frame will fold up and you can actually throw it in your trunk. That's an innovation. So they've got a way for it to quickly, easily fold up. They have a new type of carbon fiber, super-duper and nice and strong, every bit as good as the regular frame, and that would shave 10 lb. off the frame.

[20:45]

CHAD: Low weight.

BRIAN: Low weight, yeah. Of course, that comes at a price. We've got to figure out, are people willing to pay that price? So those are the three features: suspension, folds up, light weight. I'll test four different price points, from kind of a cheap bike all the way up to an expensive bike.

CHAD: I like the example. I'm trying to remember which one was my first mountain bike. It was either, I think it was a Trek. It was a Trek aluminum frame and I had a Cannondale aluminum road bike which I just loved. It was this nice, stiff aluminum frame. It was very efficient and lots of fun. Then my Trek got stolen, unfortunately. But I can relate well to the mountain bike example and I suspect others can, too. Do you want to just walk through how that questionnaire would work?

BRIAN: Well, then, what we would do is we now have three features and we have four prices. The tough part is right at this point we have to know something about experimental design. So we've got to look up in an experimental design book, or software that does that. SPSS will also do it for you. You basically feed it in, you've got three features, each one either being there or not being there, so that means that each is an on-off or a two-level feature, and then price has four levels. We're going to test four different prices, from $300 all the way up to $1200. So, you create the experimental design and what it spits out is your 1 scenarios. Every one of these scenarios is different, it has a different mix of features and price.

CHAD: Okay, so I'm trying to walk through that in my brain a little bit, and I won't attempt to…you know that numerics class where you learned about permutations and combinations? It's too rusty for me to do this, but we come up with lots of possible combinations there, for sure. Does the experimental design, is it trying to do the optimum mix of combinations? And then, do you find you have to tweak that as a professional, with your insights? Talk through how that works.

BRIAN: I only have to tweak if we get really huge and complex and the client really wants to go through, like say, a dozen or two dozen features. If we have a smaller amount, we can just feed it into a program like SPSS or others, and it will spit out in a design, and there are two things about the design, now we're getting into the weeds, but there's two things about the design that you've got to have, is balance and orthogonality. Those are big words: balance and orthogonality, but they're not complex, really. Balance means, hey, if I'm going to offer you 16 bikes, half of them should have the suspension, half should not.

CHAD: Makes sense.

[23:24]

BRIAN: Half should be lightweight; half should be not. If I have four prices, a quarter of the questions should have the lowest price, then another quarter on the next price and another quarter on the next price and finally a quarter at the highest price. That's balance. Otherwise, you're not fair. It would be stupid to test 14 of my scenarios at the cheapest price and then the other two at higher prices.

CHAD: Right. That makes sense.

BRIAN: That's called balance. The orthogonality means we want to test things with all different possibilities if we can. So it would be stupid to test folding up and suspension always together, because if you don't test them apart, you don't know their independent value.

CHAD: So I'm getting in dangerous waters, since I don't know how the experimental design approach here works. Would it be foolhardy if I wanted to come up with 16 scenarios given a handful of features, maybe we add a couple more here, but the suspension frame, yes or no, folding bike, yes or no, carbon fiber versus steel as choices. Could I just take a spreadsheet and, knowing that I wanted to end up with 16 scenarios and the first column, go down and say, ok, eight of my scenarios, to have that balance issue, eight of them are going to be full suspension, because I really want to be sure I deal with that factor, and then the next eight won't be full suspension. Then the next element of that scenario, go down and say, folding frame is going to show up four times on full suspension and four times on not.

BRIAN: It's possible to do that, as long as you've got a small one like our example here. You can do that. You can do that when you only have three features here, and four prices. You can do that. But there's two things you've got to make sure of. Check your balance, which means, first find out how many times you've tested folding, how many times have you tested not-folding. Make sure it's eight and eight. So you've got to test your balance and all your different columns and then test your orthogonality. You know how to do that? Use that correlation. Use the correlation. You correlate the two columns against each other. If the rows are your 16 scenarios, the columns are your different features, if you just correlate one column of 16 versus the next one of 16, you want a correlation of zero.

CHAD: Okay. So you just run a correlation analysis using the data analysis tool kit.

BRIAN: Yes. And then, so that's perfectly fine for people to do this by themselves, as long as it's small, that'll work. If it gets bigger, what you could do is you produce all possible permutations in your spread sheet.

CHAD: Okay. So you do cover all combinations.

BRIAN: You create a sheet with all possible combinations. You know, that can be 256, it could be 512, but remember, we can only test 16. What can work, is you use the random number generator and randomly pick 16 of those rows.

CHAD: Oh, that's a good approach. I know this is hard to just talk through, when we get through this…

BRIAN: Yes, this is a very visual thing here, yes.

[26:30]

CHAD: When we get through this example, between us, maybe we can put together a spreadsheet, and I'll include the view of that spreadsheet, the table, in the show notes for this episode. So please go check that out, and then this will help the discussion. So let's assume people are looking at that spreadsheet in the show notes. Let's walk through that questionnaire together, then.

BRIAN: Okay. So if this were real, if we were Trek or Specialized, you would be my target customer, you'd have match the screener requirements, meaning you're somebody who is a biker, who may possibly be in the market in a couple years, and so you're the right person to take the survey. So after going through that part of the online survey, then we would just then say, "Okay, I'm going to offer you some scenarios and you're simply just going to tell me what you think of each bike. And your rating scale is from 1 to 5, and 1 is "I definitely would not buy that bike" and 2 is, "I probably wouldn't buy that bike." In the middle is, I might, I might not. And then a 4 would be, "I probably would buy that bike." We don't even have to use these numbers, but that's how you code it up in the spreadsheet. And then the 5, the highest one, is "I'd definitely buy that bike."

CHAD: Okay. And so this essentially ends up, the questionnaire, being, I think of it as like, brochure, the elements in it. Or looking at a product catalog and saying, "Here's one configuration of the product. Do you like it or not? Here's another configuration of the product. Do you like it or not?"

BRIAN: This is right. For this example, I'm going to take you through the first five of the 16 pages of the catalog.

CHAD: Excellent. Let's do it.

BRIAN: Okay. On the first page, this is the new Specialized mountain bike. It's got suspension, so it absorbs the bumps, it'll fold up so you can put it in your trunk, it weighs the conventional 30 pounds that you're used to today, and it's $600. What do you think of that? Rate it from 1 to 5.

CHAD: I'm going to say 3 for that.

BRIAN: Okay. So you're a might.

CHAD: I might.

[28:32]

BRIAN: Alright. Then the next bike, flip the page, it's got the suspension, it folds up, but it's got that carbon fiber frame that gets it down to 20 pounds. That's 10 pounds off the weight. It's $1200 bucks.

CHAD: Hmm. I'm going to go with a 3 also.

BRIAN: Okay. And the next one has the suspension, again, it does not fold up, though, and it weighs the standard 30 pounds, regular frame, it's $900. What do you think of the $900 bike?

CHAD: For the regular frame, that's kind of pricey. No, I don't like that configuration. It's a 1.

BRIAN: Okay. Alright. Our fourth bike: suspension again, so it's got the suspension, it does not fold up, it weighs the conventional 30 pounds, but it's $300.

CHAD: Definitely. That's a 5.

BRIAN: Okay. You like the $300. Then our last one in this example does not have suspension, but it does fold up, weighs 30 pounds, $900.

CHAD: No. 1.

BRIAN: Okay. So…

CHAD: And, before you talk about the data, let me just talk through that a little bit with you. So, in my mind, I'm thinking in terms of being, I'm not nearly the mountain biker I used to be, but being a decent mountain biker and that the suspension frame was real important to me, and the low weight, I liked the idea of that and the stiffness of the carbon fiber, it would be more efficient. But that was a good combination. The folding frame, for that scenario, I was suspicious of, because I think that would erode some of that stiffness. So I weighted the ones lower. If I was a different customer persona, so we both happen to be into RVing some and have done these RV trips different times in our lives. As an RV person, being able to throw a bike in the back of the trunk of the car, that folds up, then I would rate that one probably a lot higher. When you're doing this kind of conjoint analysis, do you also have, do you often find yourself pursuing some kind of market segmentation information, demographics, psychographics to help identify segments responding to this?

BRIAN: Exactly. Yes. Because when you do a conjoint, you're actually creating the optimal bike for each and every individual respondent. So yes, we would then use the results, and we can segment them in using cluster analysis, and we can find out. There's always the super-duper people who say, "Give it to me. I'll pay for it." The top 10%, right? There's always another maybe 20% who are like, "Well, maybe I shouldn't have taken this survey. I really don't want to spend any money." And then you have these different segments in the middle, where you might have the segment who says, "Yeah, I do a lot of down-hilling, I've got to have that suspension." Then you've got your travelers who want the folding, so you have different segments. So, absolutely, this is a wonderful tool for slicing and dicing the results, and I've even seen people use a simplified conjoint to actually do market segmentation at the beginning of an innovation project.

[31:40]

CHAD: Okay, to identify a segment, maybe to pursue.

BRIAN: That's right, yes. So how many, or what percentage of a market really are the light weight people who really carbon fiber? So that's a simple conjoint, a more general conjoint you might use for segmentation, but whereas this one is very specific.

CHAD: Okay, good. Thanks for that little aside. The data analysis based on the results I gave you.

BRIAN: Well, I didn't run the numbers yet. I could if we did all 16, and then I could run the Excel. But basically I can tell that you're price-sensitive, you're very much looking…it would be very unlikely I could find any of these combinations where you'd pay $1200. But like you said, you had some interest in the folding but you're kind of afraid, but it was the light weight, it seems like, it was light weight and price, of course, that were the two biggest ones you were looking at.

CHAD: Okay, good. So even just with those responses we can start seeing some patterns, and then actually do the data analysis. Walk us through that piece one more time, for how you would run the data analysis to identify the correlated segments.

BRIAN: Well, you have, basically it's a table with 16 rows and a column for each one of your features and price, and then the last column you just then manually enter the scores. So you can say mean score, or you can actually use a percentage of people who said I probably would definitely buy, which is called your top two box. You have that table, you have it in Excel, you select that table with your dependent variable being people who say they'd buy and your independent variables, which is the other columns, and you just select regression and you run it, it does an output with an R-square. I recently did this with a class of like 30 students and I got an R-square of 0.85. So we can be 85% confident in the results and people were very consistent. You can get a significance of 99.99% and then really, lower down it tells you, okay, what is the incremental value of the suspension? Then we can actually graph it out. The best graph, the most powerful graph in any time when I do a conjoint, when I show the client the results, the most powerful graph is, here are your features, and the vertical axis is how many dollars they're willing to pay to get each one.

CHAD: So you have a very clear pricing strategy approach, based on the feature prioritization.

[34:18]

BRIAN: Exactly. And so if I look at this class of 30 people who took it, the suspension was worth $150. But getting light weight, the carbon fiber, was worth $260.

CHAD: So a lot of people like me, are willing to pay more for that.

BRIAN: So, if you're an R&D engineer then, at Specialized, and you see that the customer is willing to pay $260 to get that carbon fiber frame, now you've got to look at the cost of that frame, and you know if you've got a feasible operation here. A lot of times, though, the promises I made, the 10-pound decrease, I think that might cost a lot more than $260.

CHAD: Right. But a manufacturing engineer, an R&D engineer can look at that and say, can we offer that for a price that we can make money at and have a more attractive product for a larger segment of customers.

BRIAN: Exactly. And then my last point is that when I've done this, first classes, almost every time, folding has a negative value.

CHAD: Okay. So they're not the traveler scenario. My first scenario, the way I answered the questions was, I like the suspension and that frame, but I think the folding part is going to mess it up.

BRIAN: That's exactly right. When people take this, they always are worried about will the frame fold up when I'm heading down the mountain? So it has negative value. So that's it. And the other chart you produce is, hey, here's how much people are willing to buy. How many are willing to buy at each of the four price points? $300, $600, $900, $1200. You usually have a nice downward curve, but I oftentimes see a real cliff after $900 because there's often that psychological pricing like, I'm not spending $1000 dollars for a bike.

CHAD: Right. Except if you're a real hard-core mountain biker, then that's starting stakes.

BRIAN: You're exactly right.

CHAD: I was in Crested Butte, Colorado, which is a great place for mountain biking, last summer. Made the mistake, so to speak, did not come out with a new bike, but went into one of the bike shops there, just to see what they had and what was going on. The beautiful bike in the window that they told me all about, was about $8/$9000, something like that. You can go up from there, still. There is a whole class of mountain bikes that can get very involved.

BRIAN: The innovation in mountain biking is astounding.

CHAD: Oh, it's amazing. There's like that little feature, this is geeking out too much on things, right, but that little feature that you can adjust the height of your seat up and down from your handlebars. That's handy when you're going up hills.

BRIAN: It is, because you're going up, then you're going to go down, then you're going to go up, then down, and you really want to vary that seat height each time, otherwise you're going to feel like you're going to fall off when you're heading down.

[37:04]

CHAD: Okay. So we got side-tracked a little bit on geeking out on bikes, but the cool thing here, of the tool, is you get real data and incredible analysis that you can explain to executives behind it, that shows you information like how much people are willing to pay for a certain product configuration. It would be interesting, like in your example, of the sensitivity to the folding frame, that that could even be a point where you could go, "I think we have a way to innovate in that area and a really good story to set us apart from others who are making compact bikes in a way that doesn't muck with the suspension or frame integrity."

BRIAN: Exactly. If you can get around that concern about it folding up at the wrong time, it would be a highly valuable feature and a conjoint would help you do that testing.

CHAD: Yeah. Good, okay. So thanks for walking through that example and how we would look at the analysis. We kind of left out some of the details, but more than we can get done in one podcast for how do you go through that Excel evaluation. It sounds like it's just straight-forward regression testing and there's really good tutorials built in to Excel for how you do that and there's obviously more on YouTube you can find, too. Is it okay if we put a spreadsheet up on the show notes, about what we talked through?

BRIAN: Absolutely. We'll produce it and we'll make it look just like what we just talked about.

CHAD: Awesome. That will be very helpful, I think, for everyone. Good review of conjoint analysis. As listeners know, I always like these innovation quotes, and of course I asked you to bring an innovation quote for us, too. Can you share that with us?

BRIAN: Well, this was something in Mark Cuban's recent book, and he's a highly famous, but important and very successful innovator himself.

CHAD: Shark Tank.

BRIAN: He said something, "Your customers can tell you things that are broken and how they want to be made happy. Listen to them. Make them happy, but don't rely on them to create the future roadmap for your product or service. That's your job."

CHAD: I like it.

BRIAN: Love it. So often, as a market researcher, people will come to me and want to do a survey that has the customer tell them what to do. Just have them tell us what to do. I keep saying, "That's your job."

CHAD: Right. Our job, and I think there's a subtle line here that people miss some of the time. In the very beginning of our discussion, we talked a little bit about how you do feature prioritizations and there are those companies, and this is a good tool to use, that will ask their customers to vote on features, right? Nominate features, vote on them, and then the ones that kind of bubble up to the top get put into the pipeline earlier, into the roadmap. But if that's all you're doing, our job as product managers is to understand the customer's core problem and think how to solve that in a way that brings in more value, and just like any one of us, we're almost always too close to our problem to have any meaningful insights into it. We get stuck thinking the same way, and we need a designer or product manager to help us really recognize how value can be added to the solution.

[40:04]

BRIAN: Yep. That's the magic that actually is innovation right there, is using what they hear from the customer, then turning that into a very new idea.

CHAD: That's a great quote. I think Mark captured that balance well. It's not don't ask the customers what they want, which is sometimes where the emphasis is put, but it's we shouldn't just ask straight on what is it you need, and only do that.

BRIAN: Exactly. It's really bad in business to business world, where we see so much research about what would you like to see? What kind of new products? Customers will always say, I want it faster, I want it cheaper, I want a little bit less blue. That's all they can do. That's all they can do. So it's your job to really jump higher and do something that's really exciting and different.

CHAD: Brian, thank you for that quote, and thank you for diving into the detailed information in approaching conjoint analysis. For anyone who is listening and wants to look back on the four tools you talked about before from market research, including a high level view of conjoint analysis, you did that back in Episode 008, so it's www.theeverydayinnovator.com/008 and since then you've also packaged up some training, right? To help people understand those tools better?

BRIAN: Exactly. I've developed an online training course. It's called Tools for Early Innovation, because I'm a tools guy. You can easily find that by simply googling my last name, Ottum, and the word Udemy. That will bring up the course at the udemy.com website and I cover the four tools, my four favorite market research tools.

CHAD: Very good. And so Udemy, for people who don't know, is this place where lots of courses are offered, and really good information. I've gone through several of them on Udemy. So you have a course out there, and it's called Tools for Early Innovation?

BRIAN: That's right. Tools for Early Innovation.

CHAD: For anyone who just goes to udemy.com can also find that. By chance, do you have any kind of promotion available for Everyday Innovators listening?

BRIAN: Absolutely. The course is normally $30, but I have a coupon code that I'll give right now, for people to get $20 off. So that gets it down to a $10 course. The coupon code is CHAD10.

CHAD: Okay. All caps. Easy for me to remember. It's a $10 course now. Thanks for providing that. That's a great discount. So, $10 to go through your four tools using the discount CHAD10. I will put that in the show notes, too, to make it real easy to you can just go click on it and get straight to the course and I'll put the reminder in there for what that code is so you can pick it up for $10. Typically, these Udemy coupons run for a limited time, right? How long can listeners expect to have this one work?

[43:04]

BRIAN: I want to make this one available for a few weeks, so definitely until the first of December.

CHAD: Okay, and as far as that date specifically, I'm not quite sure when this podcast will get published, so how about if we just agree it will run for four weeks after the day this comes out?

BRIAN: Absolutely.

CHAD: That'll be great. So four weeks of coupon time. So if you're listening to this, and it's published and we're in that December time frame, probably, but it's good for four weeks to use that code and you can check out Brian's four tools for market research that take place in that Ideation part, the Idea part of my framework, that fuzzy front end. Learn more about market research and consumer research there. Brian, I really enjoy your time because you know so much about different market research tools. Thanks for peeling back the mystery a little bit, about conjoint analysis and what that thing is, and how valuable it is to think about these different product configurations and use this tool to measure our customer response to different configurations that provide them value.

BRIAN: Happy to be here. Thank you. I always enjoy it and conjoint is something that people shouldn't be afraid of, because everybody can use it on their project.

CHAD: Statistics aren't scary, it's just a little math.

BRIAN: That's right.

CHAD: Great. Thanks, Brian.

BRIAN: Bye-bye.

CHAD: Thanks for listening. To see the show notes, with a summary of this discussion with Brian, including that discount code that he's making available for his Tools for Early Innovation course, which is only $10 for a limited time, please go to www.theeverydayinnovator.com/096. Also, from the same page, you can download my Product Mastery Roadmap that shows you how to go from product manager to product master. That, and more, is at www.theeverydayinnovator.com/096. Keep innovating!