In this third example of the steel industry case, here we're going to see a very different kind of example. In this particular one, I did not have the candidate run through the whole case, rather I intervened every few seconds to work on the candidate's verbal communication of the hypothesis, as well as a synthesis between transition points in the case. And there are a lot of subtle phrasing elements – how you present the hypothesis as well as how you synthesize where you are in a case. And so I basically have the candidate state a hypothesis or synthesize the case. And then I gave him feedback on it and we fine-tuned how he presented that information.

So this case is an example of what I would consider probably a B+, more likely an A- level performance, had I not intervened, and you can see the process of making very small changes takes it from say an A- performance to more of an A or A+. So you will see they're very subtle. This case – had this person presented this case without my intervention – probably would have passed, particularly a first round. And you'll notice how much stronger it sounds with these specific pieces of feedback that I give, and how I make the candidate restate and repeat and refine every transition point in the case.

Pay close attention to this – I think it's actually very useful. It is the best example I have of fine tuning synthesis and hypothesis statements inside of a case interview. So I encourage you to listen to it carefully.

Interviewer: Alright this case is about a company that manufactures steel rods. This company does about $120 million in sales historically. But this most recent year, they have dropped quite significantly to about $100 million a year in sales; and the company's profits used to be $20 million a year, and now they have a loss of about $10 million this past year. The company's CEO is really worried for obvious reasons, and has asked you to help figure out if this profitability situation can be turned around; and if not, whether he ought to think about selling the business.

00:02:09

Candidate: Okay, so just to make sure I understand, this manufacturer of steel rods – it looks like they are having a profitability problem. They went from $20 million in profits down to negative $10 million, and over the same period, they went from $120 million in sales down to $100 million in sales.

Interviewer: Correct.

Candidate: Okay, so since this is a profitability problem, I think it makes sense to look at— we are going to want to break profits down to its component parts, to try and isolate what the problem is. So, since we are on the phone, it would probably make sense that we draw this out together so that it is easier to follow.

Interviewer: Okay.

Candidate: So, on the top level, what I am drawing is "profits," and from that I have "revenues" and "costs" coming out from there.

Interviewer: Okay.

Candidate: So, we have already talked about some of the revenue trends. You mentioned that the revenues are down from $120 million to $100 million, so I think I would like to start on the cost side first.

Interviewer: Okay.

Candidate: On the cost side, I would like to try and understand whether over this same period if costs have increased, decreased, or stayed the same?

Interviewer: Costs have actually— costs per rod have actually gone up from about $100 per rod to $110 per rod.

> Just a quick note before this segment of the case that you're hearing now – we had already established that a million units have been sold by the client, and so the numbers you hear are a per unit cost, based on a million units sold.

Candidate: Okay. And to try and determine if this is something that's specific to this company or perhaps indicative of something happening in the industry, do we have any data with respect to what their competitors' costs have trended over the same period of time?

Interviewer: Yes, over the same period of time, competitor costs have, let's see, have also gone up, but they have gone up from $95 per rod to $100 per rod.

00:04:00

Candidate: Okay, well, that's interesting. It looks like that the general trend is that the costs are increasing, but for whatever reason our costs are increasing more quickly than the competition.

Interviewer: That's fair, that's correct.

Candidate: Okay, well to try and understand why that might be different, I would like to break— I would now like to – from the cost box – I would like to break that down into the logical parts for this business. So since they make steel rods, I think a logical way to break it down would be to look at the *labor costs* and the costs of *raw materials.*

Interviewer: Sure, that's fine. Actually, those two costs really comprise the majority of the manufacturing costs per rod.

Candidate: Okay. Do we have any specific data with respect to what the raw material costs—how the raw material costs have changed over the past year?

Interviewer: Sure, raw materials used to be about $70 per rod, and today they encompass, they comprise about $80 per rod.

Candidate: Okay so, and again, it makes sense that we would like to understand competitively what kind of price increases our competitors are seeing.

Interviewer: For raw materials, you mean?

Candidate: For raw materials.

Interviewer: Yes, raw materials – they have experienced a price increase from about $70 a rod to $75.

Candidate: Okay, well that's interesting. Again, this is kind of along the same… it's showing the trend that we saw on the cost on the high level with the cost for our competitors are increasing, but at a slower rate.

Interviewer: Yes.

Candidate: Okay, so in order to understand why our competitors' costs are lower, we will want to try and understand why that is. So, do we have any data with respect to why our competitors' prices are lower than what our prices are?

Interviewer: The costs, you mean?

Candidate: Yes.

Interviewer: Yes, the competitor costs are lower primarily because they buy in larger quantities.

Candidate: Okay, so sounds like our competitors are buying in larger volumes and they're getting a better price.

Interviewer: Yes, that's right.

Candidate: Okay, so that's one thing as we move forward in the case, and once we move into what we can do about this situation, we'll want to figure out is that something that we can address.

00:06:00

Interviewer: Okay.

Candidate: So, now I would like to take a step back and again, when we broke up costs, we looked at raw materials and labor. So I would now like to take a look at the labor side of that.

Interview: Actually, I am going to just interject for one second here. On that last point, just a little coaching point, I think that a good question to ask – because you got really close – I would push a little further on this one and ask, "How much more do they buy to get the discount? Is it a little, is it a lot?" You don't need to know— it does not need to be that precise. But just some magnitude I think is useful.

Candidate: Yes, that's true. Very good point.

Interviewer: Alright, so why don't we just take it back starting from that question I guess.

Candidate: Okay, so it seems like our competitors are leveraging buying in bulk to improve their price. Do we have any data with how much more they are buying in compared to what we are buying to get that cost?

Interviewer: Most of the competitors, the major competitors in the marketplace – they typically will buy in order sizes about five to six times larger than this company.

Candidate: Okay, so we are talking about a pretty significant difference in terms of the amount of raw materials they are buying so —

Interviewer: At one time, correct.

Candidate: — so, that is something we will want to keep in mind as we move forward, but we may not be able to turn up the knob five to six times on what we are buying today, but it's something that we should consider in the holistic.

Interviewer: Okay, actually one more interjection, this is a side note. To really nail a client, what I'm driving towards is to try to eliminate this path, and also to flush out any other insights. And the other one is: *there is the absolute number of how much steel you buy at one time, but then there's also how many weeks' or months' worth of steel they buy at one time.* It's subtle, because it is possible they buy half a year at a time and we buy a month at a time. Same size business, right? Or the other way to figure that out is – which this would prompt, and you may not want to ask the question now but I probably would, I could go either way – is *how much bigger are these companies, to get some order magnitude.* And then I think you could move on to the rest. But I would, *before you move on and you close off a branch, you either want to X out the branch, saying it's a dead end, or make a mini conclusion.*

00:08:06

Candidate: So basically that is how you should gauge it, drive it until you can close it —

Interviewer: Yes, close it all the way. Slam that door shut.

Candidate: Because I am kind of leaving it open, like, "Okay well, I need to ask more questions about size and whatever," but I should just ask those closers and then move on to the next one.

Interviewer: Yes, because you get great credit for opening the issue, I give you points for drilling down. And then I want to give you points for shutting the thing down, but you didn't really fully shut it down, nor did you reach a firm conclusion or revised hypothesis, nor did you drive the rest of your analysis through that hypothesis with that particular hypothesis in mind. So that last step, I think you really will get a lot more points if you just finish those two extra steps to make sure that you can either close it down, or really it has an impact to your hypothesis, one or the other I think is useful.

> I can't emphasize enough how important it is to really follow through to completion the process of elimination. When you have a framework or you have an issue tree and you have multiple branches of analysis, as you reach a dead end and realize one of your branches of analysis is not where the answer or insight is, it's very important that you say that. And it's very important that you do the last one or two analyses and ask one or two questions that will truly allow you to eliminate what the possible solutions are. So it's very important, I can't emphasize how important it is, and I want to make sure you are clear on that.

Candidate: That's great feedback. Okay, should I do it again?

Interviewer: Yes, do it again, let's make this one perfect.

Candidate: So looking at the costs, we mentioned— we found out the competitors are buying, are getting a price discount because they are buying in more volume. Do we have any data with respect to how much more they are buying?

Interviewer: Yes, they typically buy about five to six times more than our competitor for any given order.

Candidate: Okay, and do we know if they are buying in the same time increments that we are buying our orders in?

00:10:03

Interviewer: What do you mean by that?

Candidate: Basically are they ordering two, three, four times a year, and how does that compare to how many— basically are they making less often bigger orders, or are they just ordering the same amount of big orders as we are?

Interviewer: So what is their frequency of order? Is that your question?

Candidate: Right.

Interviewer: Okay, everyone in the industry, industry standards – everyone orders twelve times per year, once per month, buying enough steel to cover about thirty days worth of raw material requirements.

Candidate: Okay, so it sounds like they are just buying a lot more raw materials than we are.

Interviewer: Correct.

Candidate: So, it would be interesting to— are these companies much bigger than where we are?

Interviewer: They are roughly about five to six times larger in terms of revenues and number of shipments, number of units sold – so they're quite a bit bigger.

Candidate: Okay, well that all lines up. Based on the data we have collected, it looks like our competitors are a lot bigger, they are leveraging that size to get a better price point, and in the short term, it does not seem like we are going to be able to build up to that scale. So it does not seem like this is a path that is going to really help our profitability situation.

That's a very concise and excellent conclusion statement that really eliminates one branch of analysis as a possible option to consider.

Interviewer: Okay.

Candidate: So I would now like to take a step back and look at the other component of costs. So I would now like to take— we looked at raw materials; I would now like to look at labor and try and look at how that is impacting our overall cost per rod.

Interviewer: Okay. Labor costs have held flat. They have historically run at about $30 per rod. And this year they remain at $30 per rod.

Candidate: Okay, so it looks like that our costs haven't really increased at all, but the other thing we want to look at is how this compares to what our competitors are doing. Do we have any data on what our competitors are paying in terms of labor?

Interviewer: Sure. Our competitor labor costs have remained flat as well. They contribute about $25 in labor per rod, and they continue to remain at $25 in labor per rod.

00:12:06

Candidate: Oh, that is interesting. So our competitors are doing something to get a $5 savings per rod in terms of labor. So we will want to try and dig into that a little deeper and understand what is really behind that savings.

> That is a great observation, as well as an indicator of what's next to come in the case.

Interviewer: Okay, sounds like a plan.

Candidate: So in order to understand why their labor costs are lower, we will want to understand: is it that the cost of labor, or is it their output? I will break it down into what we pay per hour and our number of units per hour.

Interviewer: So, are they using more labor or does labor cost more? Is that your question?

Candidate: Right.

Interviewer: Okay. On an hour-to-hour comparison basis, it is the same across the industry. The industry is very unionized, so the rates and wages are fairly comparable. But in our particular case, this client company – they use more hours than their competitors to produce a single rod.

Candidate: Okay, that is interesting. There must be something about the way that they are processing the steel or the equipment that they are using that makes them take a longer amount of time. Do we have, do we know how the manufacturing process is different between our competitors and what we are doing?

> Here the candidate asks a great "how" question. "How is the manufacturing process different between our competitors and our client's company?" These "how" questions give you really a lot of insight as to literally how something is different. It seems quite obvious, but you would be surprised how few candidates actually ask "how" type questions. It's a great question, it's a key question, and notice from the time stamp that it basically occurs about twelve minutes into the case, which is perfect timing, extremely efficient, and something that you want to keep in mind as you do your own cases. Ask "how," ask "why" questions – the qualitative questions – to help you get a firm conceptual grasp of what's going on in the particular situation.

00:14:03

Interviewer: Yes, actually, the competitors' machinery, their equipment and their manufacturing facilities are substantially bigger. They are much more expensive; they can process a lot more steel at one time. And because it is more automated and able to process larger "batch sizes" (is what they call them), the amount of labor needed per rod is lower, but the amount of capital needed to build the factory to start was much higher.

Candidate: Okay, so it sounds like because our competition is much bigger, they have been able to invest in very sophisticated production facilities, and that's kind of led into having better productivity.

Interviewer: Yes, and the original focus of the client company, their process is geared towards manufacturing much smaller batch sizes – which is what their factory technology is geared towards – and to produce those batch sizes much more quickly than the big factories.

Candidate: Well that is interesting. It seems like we are competing with people who can really leverage volume and scale but really our strength seems to be in how our production is set up as to be able to be quick and nimble basically.

Interviewer: Okay.

Candidate: So one thing we want to understand is, in terms of batch size— I guess there is two variables that go into efficiency. So, if we look at efficiency, we can look at the number of batches we can do and how long it takes to do those. So how long does it take to do a batch, basically, and how does that compare to what our competition is doing?

Interviewer: Sure, for the very large companies that are very efficient on a per unit basis, you know, their batch runs will typically take between thirty to sixty days. And the runs that our client can manufacture, they will typically do a batch from start to finish in about two or three, maybe sometimes four days.

Candidate: Wow, so it seems like we are really quite a bit— while we do not have the efficiency that our competition does, we are really quite a bit faster in terms of turn time.

Interviewer: Yes, I think the technology is capable of doing that. That is true.

00:15:56

Candidate: Okay. Well, is there any other data that we should collect on the labor side? So, basically just to sum up where we are, we have taken a look at the costs, the raw materials, we have decided that our competition is leveraging their scale to get a better cost structure. On the labor side, we have looked at— our costs are a bit higher, but that really drives down to a difference in how our factories are set up and what each of those are good at. What we have identified is that while the competition can get a lower price point, they are not able to match us in terms of speed. *So I think moving forward, one of the things we will want to consider is if we can leverage that to grow this business.*

This is a pretty good synthesis. I probably would give it a B+ or A- synthesis; certainly it would not prevent someone from progressing in a particular case. But in a few seconds, you'll notice that I give some fine-tuning points to make the synthesis even a little bit stronger. So pay clear attention to that.

Interviewer: Okay.

Candidate: Before we move on to that, I think I would now like to take a step back. I think we have done a good job looking at the cost side. Before moving on, I would like to take a look, take a moment to look at the revenue side.

Interviewer: Great, let's do a quick "time out," a little coaching point here. I think if you can wrap up your conclusion just a little tighter, I would say that, "Given the competitors are bigger, and given the way their manufacturing is set up, there is no way we could match them in terms of raw material costs. And there is no way we could match them in terms of labor costs, if we are competing against them in the exact same way."

Candidate: Okay.

Interviewer: "So my hypothesis is that maybe we can find some way to leverage the speed aspect, to win on speed, rather than on price or cost."

Candidate: Got it.

Interviewer: And then you say, "Now I want to look on the revenue side with this particular hypothesis in mind of: How can we grow this business by leveraging the faster turnaround time of the manufacturing process, and is this indeed actually a viable way to drive more growth."

Candidate: Okay.

Interviewer: So then you are hypothesis-driven. You have really sort of said, "Okay, ain't happening in costs because of an economies of scale and guess what, we don't got it. So this sucker ain't happening from an economies of scale standpoint. Okay, so let's not look there anymore; let's move on to somewhere else."

00:18:08

Candidate: Got it. Okay, can I do it one more time then?

Interviewer: Yes, go ahead.

Candidate: Okay, so just to recap, we have looked at the costs, we have looked at the raw materials, and we have looked at the labor. Based on the data we have collected, it

looks like our competitors are really leveraging economies of scale and we are not going to be able to compete with them on costs delivering the same product. So the interesting thing we did find though was that the way our factories are set up, we can deliver a product much faster. We can deliver it in two to four days, as opposed to thirty to sixty. So moving forward, I would like to focus on if there is a way that we can grow this part of the business, and if this is valuable to customers.

Interviewer: A little fine tuning, if that is alright?

Candidate: Yes.

Interviewer: So you said, "We looked at labor costs, we looked at raw material costs, and our competitors have a lower cost." I would actually flip it around and say, "It looks like our competitors have a major structural advantage in labor costs, and a major structural advantage in purchasing costs for steel, and we looked at..." And then explain why you think that. So conclusion first, reasons why second. I would not have penalized you the way you said it, but since we are practicing for perfection, we might as well —

Candidate: Yes, it sounds a lot better when you said it, the way you said it —

Interviewer: So do you want to try it one more time?

Candidate: So, recapping on the costs, we've looked at costs on the top level and we have determined that on costs alone, we can't compete in this market. To deliver the same product at the same price, our competition has advantages in both labor and raw materials by leveraging economies of scale. On the good side, we have identified that we have, in terms of our manufacturing flow, we are set up a little bit differently. It makes us less efficient in terms of our cost structure, but moving forward, we would like to examine if we can leverage this quick turnaround time in order to grow that part of the business.

00:19:52

Interviewer: Okay, time out. That is perfect. That is like textbook perfect. Textbook, textbook perfect. Okay, so great. So, let's move on then. That shuts down this particular branch of reasoning. And it does basically— you did not use the word, but you basically created a new hypothesis that, "Hey we can grow, taking advantage of this new capability of being able to turn around, manufacture quickly, because obviously we cannot manufacture more cheaply." And that is the right hypothesis. If you wanted to use the word "hypothesis," that's a small bonus. It is not necessary, because you clearly, you challenged the original hypothesis, you shut it down, now you have a revised one and now you are moving on. That's textbook perfect, and you said the conclusion first, which is, "Dude, we don't have a cost structure to compete on cost, here is why. We got to compete on

something else. By the way, we have this interesting thing around turn-around time. Let's see if we can make that work, let's move on." So that works.

Candidate: Like I want to say it all at the same time. Like you need to just say the concise part at the beginning and fill in the details afterward.

Interviewer: And by the way, you do not need to feel bad about it or anything, because it is what most first-year consultants, they have the most difficulty with. They want to say, "Well I have been running around for a week. I did this analysis, I did that analysis," and the CEO is like, "Well I only got thirty seconds, I got to jump on a plane. So what did you find out?" "Oh, I didn't finish."

And so all the coaching conversations you have with first-year associates and analysts is always about, "Dude, get to the point!" Get to the point first. Start with the point and then tell them why. Because you don't have time to tell them why, at least they got the point, and they have something to work with. And don't tell them about the 9 million spreadsheets and how you were here until four o'clock in the morning, they don't care! They just want to know what the point is. So that is the reason I want to sort of nitpick on this one because it is actually very useful in real life. And it is an advanced skill in case interviews.

And I think it is useful to do this kind of mini-conclusion – what McKinsey would call "synthesis" – when you are changing gears. Moving from one framework to another, or shutting down one branch of a framework moving on to the next, that is a good time to do a quick synthesis of what we know and what we are thinking going forward.

Candidate: Okay.

Interviewer: Great, so what do you want to do now?

Candidate: So basically we've decided we can't compete on cost, we have decided we also want to see if we can grow this part of the business. Before taking a closer look at that, we want to— while keeping that in mind, we are going to want to take a step back. We have exhaustively looked at the cost side of this business; we are also going to want to look at the revenues side of this business.

00:22:06

Interviewer: Great, let's do it.

Candidate: So on the revenue side, I would like to break that down into number of units and price per unit.

Interviewer: Okay, so this company sells a million units a year. That was true a year ago, two years ago, as well as this particular year. The price per unit or the price per rod has changed from about $120 per rod to $100 per rod.

Candidate: Okay. So basically it looks like in terms of number of units, there has not been a lot of change there, so that is probably not the issue. Looking at the price though, we have decreased our price substantially in the past year. I think it would be interesting to know: how have our competitors adjusted their prices over the same time period?

Interviewer: Well, let's see here. Yes, the same time period, competitor pricing has matched our pricing, or I should rather say more accurately, the company or client's pricing has matched the competitor pricing. Competitors used to price at $120 per rod, and now they are pricing at $100 per rod.

Candidate: Well that's interesting. So it seems like the whole industry has moved to a lower price point.

Interviewer: Yes.

Candidate: Well thinking about the problem a little bit, we are losing money and we have followed our competition in driving down prices. So given what we know about costs, it could be that they have the cost structure in order to offer this price and we don't. Do we have any data regarding profitability at the new price point for us and then for the competition?

Interviewer: Sure. Like I mentioned before, our cost consists of about $110 per rod in the current market environment, and our competitors – their costs are $100 per rod.

Candidate: Okay, so it looks like given that our competitors have a superior cost structure, they are able to meet this price and still not lose money, whereas, for each rod that we are selling, we are losing $10. So, it looks like we are not going to win this battle on price alone, for this product.

Interviewer: So how can we win this battle then? What are our options that are left?

00:23:58

Candidate: So, I think at this point, I would like to switch gears a little bit, and kind of— now we have kind of identified the problem now. So this company, like we said, we cannot compete in this market at this cost. We are losing money, and our competition is at least staying afloat. We are not going to be able to increase our scale to match them. So really what we need to do is find another niche in the market to try and grow, and a more profitable niche at that. So, in order to do that, I think we will want to take a look at four key areas.

Interviewer: Actually, let's do a quick "time out." Let me give you some feedback on this one. So pretty good, I would be a little more precise in your language though. And I would be as explicit as, "It is not really a revenue problem; it really is a price problem, because even if we double the volume, we would just go out of business twice as fast. So really the question we *thought* was: how do we turn this business around, how do we be profitable? The more specific question we are now trying to focus on is: can we sell something at a higher price such that we can be profitable?

Candidate: Got it.

Interviewer: Once we figure that out, then we can look at whether we can increase volume. But right now, more volume does not help.

Candidate: Got it.

Interviewer: A little more precise. It has to be at a higher price first, before you can consider volume. And then I do agree with you, you have to transition gears and go after your next four major areas.

Candidate: Okay, so let me just hopefully do this in one shot, redo it.

Interviewer: Okay.

Candidate: So based on these data, we are going to lose $10 for every rod we ship at this price, so this is not a volume problem. So the more volumes we ship, we will go out of business that much faster. Really what this is— is we need to find a new product that we can sell at a price that we can make money at. So what I would like to do now is shift gears, and take a look at this business as a whole to try and determine if there is another market where we can get a higher price to grow the market.

00:25:52

This is an excellent synthesis that is used to transition from one framework to another. Again, when you transition from one framework to another, it is useful to summarize where you are, what's still left to be understood, and what data you need to continue the case and to test your hypothesis. And in this particular case, the candidate wanted to switch from a profitability framework to a business situation framework, mostly because the profitability framework has exhausted its usefulness. And again, that is quite common in a lot of more advanced cases, probably a third to half of the cases you'll get are ones where one framework alone isn't sufficient, and you do have to deviate from that framework in order to ultimately solve the case.

And keep in mind, a framework is just a starting point. Oftentimes it is not the appropriate ending point, and the synthesis used to transition between the two was a good example of how this should be done.

Interviewer: Okay, great.

Candidate: In order to look at that business, what I want to do is look at four key areas. I want to look at the customers. I want to look at the product. I want to look at the competition. And I want to look at the company.

Interviewer: Okay, where would you like to start?

Candidate: So, first I would like to take a look at the customers and get a better feel both qualitatively and quantitatively for what this market looks like. The first thing I would like to know is: what does the overall market for steel rods look like in terms of growth?

Interviewer: The market overall has been fairly flat, in terms of number of units sold. On a revenue basis the market has shrunk, mostly because the prices have come down in the past year.

Candidate: Okay, and I guess really what we're trying to identify, given that data we already have, is: what we would like to do is find out if there is someplace for this niche that we found. So what we… if we can leverage our strength in terms of speed. So on the customer side, we would like to know: what is important to them when they are buying steel? When do they— so is speed important to the customers?

Interviewer: Okay, let me give you a little feedback on this case, because sometimes you struggled in this particular part of the framework before. When you get into customers, and particularly as you transition into this framework from a different one, I find it is useful to not be as hypothesis-driven, I guess, to start. *And to just get some basic background information, and then sort of use the hypothesis to drive the rest.* And when it comes to customers, the questions that I have asked for many years are: "*Who are the customers? What do they look for when they buy? Are there different segments of customers? What are the segments?"*

00:28:24

So, the basics of: "How big is this segment? Is it growing or shrinking? What does each segment want? Are they happy? Are they unhappy?" So they're very qualitative. "Who is this market?" And then after you get that, then say, "Hey, it sounds like this turnaround time thing might be interesting to this segment, do we have any more data…" and then you can drill it down. But start with the basics, because you don't get the basics. I find a couple of times you have missed, you just miss stuff because you just were not even aware of it because you were so focused on the hypothesis and maybe the hypothesis was, you know, maybe it

was an interesting one, but it wasn't the right one. And then when that becomes a dead end, you have no background knowledge to go back on. And you are kind of like, "Well, what now?" And it's very confusing.

Candidate: Got it. Okay, so I would like to look at four key areas. I would like to look at the customers, the product, the competition, and the company. I think I would like to start by taking a look at the customers.

Interviewer: Okay.

Candidate: To get started, I'd just like to get a feel for: who are these customers?

Interviewer: Generally speaking, the companies that are buying steel rods are construction companies, commercial builders building large structures using concrete. So any kind of commercial office building, hotel, hospitals, anything more than typically one or two stories tall, they use steel inside the concrete to reinforce it, to make it strong, so to make sure that the buildings do not collapse.

Candidate: Okay. And then do we know, in terms of when they buy steel for their projects, what do they look for, what are they looking to buy?

Interviewer: The two things they look for are price and availability, so it is important that they get a good price, but they actually have to get the steel at a very precise time in their overall building schedule for the steel to be useful.

Candidate: Okay, well that is interesting. So price and availability, so in terms of— so it is interesting to note that availability is one of the metrics that is important to customers. So while I'm trying to keep that in mind as we move forward, the other thing I am interested in finding out is what are the segments of… how does this market break down, and what are the segments of it?

00:30:19

Interviewer: Sure, I would say there are probably two major segments of buyers in this market. Keep in mind, this company competes in the western United States, which is a regional market, and steel is sold generally within a particular 1,000-mile radius just because it's so expensive to move, in terms of shipping. And in the western United States, which is a little different than the rest of the U.S., there are companies and builders that are building in one of two different scenarios. One is they are building in seismically stable areas; and the others – they're building in seismically unstable areas. And cost is generally the most important factor for those that are in seismically stable areas; and availability and costs together are usually more important to people who are in seismic areas.

Candidate: Well that is interesting, because based on the data we have collected already, we may want to try and leverage the segments of the market that value availability. So do we have any data with respect to the growth rate of these segments?

Interviewer: Both have been fairly stable in terms of units of rods required over the past year or so.

Candidate: Okay, so I guess the other thing we would like to find out is: how do these customers usually buy steel? Like what is their preferred way to buy steel?

Interviewer: Their buying process consists of talking to sales reps, asking for bids. The bidding process usually takes place generally about 90 days in advance of when they think they will need the steel, and sometimes that may change last minute. And generally it's a bidding process much like a lot of things are sold, and the price is quoted back, and then the customers decide which vendor to use, and then they expect delivery 90 days later from them.

Candidate: Okay, so if the typical sales cycle is ninety days, are there any— is there currently a portion of the market that is looking for something less than that?

00:32:04

Interviewer: Okay, so let me give you a little— just a little "time out" here. Three specific suggestions: there are three opportunities in the last five minutes where I think you could have asked for more information, but yet you didn't. And the specific question that I think you could have asked was the question "why." So I mentioned that some of the customers felt availability was important – not all the customers, but some of them. So you could have asked, "But why do— the customers who value availability, why do they value it? What is in it for them?" On a separate note, you could have asked, "Which segment is bigger?" That is useful to know. You mentioned growth rate, which is good, but size is useful.

Second one is: I mentioned that I did segmentation by seismic zones, and I sort of implied that the needs of people in seismic zones were different – the builders were a little bit different, and they had different needs. And you could have asked why that is the case. And then I mentioned there was a ninety-day advanced buying window, and I am not saying that is right or wrong, I am just saying that is factually what is happening, correct? And you could ask, "Well why do they buy ninety days in advance? Or are there any situations where— what percentage of orders are change orders? What percentage of the time are the customers happy?" You know, there are a lot of things you can do sort of around that. But to really understand *why*, not just *what* the customers do – which you asked really good questions around "what" – you don't ask enough questions around "why" to understand what is driving behavior.

Candidate: Okay.

Interviewer: And on the customer part of this framework, that's probably one of the most important questions that will usually uncover the key insights, is that question "why."

Candidate: Okay. Yes. You told me that on the last one. I think, you can probably hear it, how much I want to put this hypothesis aside and just gather data or how much I— right? Because a lot of these questions, oh it's interesting no matter what, right? I mean, "Wow, that is interesting because there are these two different segments that are seismic and non-seismic, why does that matter?" I guess irrespective of the hypothesis, they are good questions.

00:33:53

Interviewer: And I will tell you, I will put it in real life context. And so the case interview, I tell everyone to be hypothesis-driven, but in real life when we start with a new client, we are not. The first week to two weeks, we have no hypothesis generally speaking, although we tend not to admit it. We will basically do these basic questions: How fast is the market growing? Are the growth rates different by region? Are the growth rates different by vertical industry? Are they different by segment? Who are the most profitable sales people? By how much, how come? Which product lines are selling most, which ones are growing faster? Which ones have better margins? Have the margins changed over time? If they changed over time, have they changed over time for competitors?

And really just what we call— it's called a "fact pack," which is basically just: get everyone on the same page looking at the same raw data in terms of a solid base of facts, as opposed to everyone making decisions off of their opinions. Then let's come up with our hypotheses with the client, and then let's go do some more target analyses. That is usually a one- to two-week process.

So I think it is okay to do some of that. I think it is very important that if you are going to do that, that you mentally – or actually, I would do it physically – take your pencil or pen and box the working hypothesis, so you don't forget that you still have to come back to it. I think you could spend three to seven minutes just gathering some basic facts, particularly if you are transitioning into really understanding the business. I think that is very reasonable. What is useful though as you are gathering facts is: as I give you information, you could say, "Huh, that would sort of further reinforce the hypothesis that perhaps there is an opportunity to use this turnaround time in this market. Let me ask you a couple more clarifying questions, and then I would like to come back to really test that particular hypothesis." That is a reasonable balance between the two.

So you get credit for not forgetting the hypothesis. But you are gathering some facts, and as you are gathering facts, you are relating them back to the hypothesis,

so you are still showing you are on track, but you are still sort of gathering information in an exploratory way.

Candidate: Got it. "Why." "Why" is a good question.

Interviewer: Tattoo it on your hand. Want to take another crack at it?

Candidate: Sure.

Interviewer: On customers?

Candidate: Sure. So we have now isolated the problem. Looking at the business overall, is there a space in the market where we can leverage our strength and grow that into a profitable business? So to start with, I think I would like to take a look at the customers, and just get a feel qualitatively and quantitatively for what this market looks like. So to start out, I would like to get an idea of just who these customers are.

00:36:16

Interviewer: These customers are commercial builders, and they build large buildings with concrete. And any time you build a building say more than one story tall, you generally need steel inside the concrete to reinforce it, in the foundation, in the walls, to make sure that it does not fall down.

Candidate: Okay, and looking at the people who buy this, what are the segments of this market?

Interviewer: Well, there are actually two different kinds of buyers in this market: there are those who are in what I call "seismically neutral" zones; and there are those who are in seismic areas, and their buying needs are different.

Candidate: Well, that is interesting. Why are their needs different, based on whether they are in seismic or non-seismic areas?

Interviewer: Well, the amount of steel you need depends a lot on the soil. And in seismic areas where you have a lot of soil variation, oftentimes you do not know how much steel, what quantity of steel, what kind of strength of steel you will need until much later in the construction process than you normally would. In contrast, when you are in a seismically neutral area, the soil conditions are fairly easy to determine, and you know them at the outset of the project. And it is a lot easier to predict your needs, and therefore, people tend to order in advance for that and have no problems doing so.

Candidate: It seems— given the dynamic nature of building in seismic areas, it seems like the change in requirements could change your need for materials, and being able to

deliver those quickly could be an advantage. So we will keep that in mind as we keep digging further.

Interviewer: Okay.

Candidate: The next thing I would like to get a little more information about is just how people typically buy steel.

00:37:42

Interviewer: The way the process works is at the outset of a project, they have a structural engineer come in which assesses the architect's plans, and they determine how much steel they think they need. They will do soil testing, or at least preliminary soil testing, to get some sort of assessment as to what they think they need. And then at the beginning of the project, an estimate is determined in terms of how many units of steel they need, what kind of strength is required, the size, dimensions, girth, and width of the steel. And most commonly, about ninety days in advance of when you actually need to use the steel in the construction process, the general contractor will issue the order to buy the steel with expectation of delivery ninety days from the order. That is the most common process.

Candidate: Okay, well that is interesting. Do we know why or where that ninety-day requirement comes from?

Interviewer: Yes, most of the major suppliers in the industry have a ninety-day lead time on all orders. So the general contractors know this, so they know that if they wait too long, the steel will be late, which causes problems. So they all tend to order about ninety days in advance of when they think they need the steel.

Candidate: Okay, well that's interesting. So, they are not necessarily ordering it because they want to order it that far in advance. They're ordering it because that is when they think they need to order it to get it.

Interviewer: Correct.

Candidate: So far, it looks promising. So specifically for builders building in seismic areas, it looks like there could be a need for quick turn steel, and then we could leverage the fact that our competitors can't deliver in those types of small time frames.

Interviewer: Okay, that is an interesting hypothesis. What data would you need to test that idea?

Candidate: So we have already discussed the builders in seismic areas. Do we have a breakdown of how big those segments are, in terms of the overall market seismic and non seismic?

Interviewer: Sure, about I would say 75 percent of the construction projects are in non seismic areas, and about 25 percent of the projects are in seismic areas.

Candidate: Okay, so it looks like at least a quarter of the market— there is a quarter of the market that we could target and try to evaluate whether this product that we are considering has value to them.

Interviewer: Okay.

Candidate: So there's a few things that we are going to need to figure out next. So my hypothesis so far is: we have this capability to create steel more quickly than our competitors. It looks like there are certain segments of the market that this may be important for. And what we would like to do next is really explore that, and find out: is that going to be a good business?

00:40:07

Interviewer: Okay.

Candidate: So we have determined that… we have kind of looked at the size of the market. I think it makes sense now to take a look at— we would want to try and estimate how much people might be willing to pay for this product. So given that there is no existing product in the market that does this today, I think we would want to look at what kind of value that builders would get from being able to leverage getting steel more quickly.

Interviewer: Okay.

Candidate: So in order to charge more for this steel, the builders are going to have to see some value. If they need steel at the last minute and they can't get it, they likely have construction delays, which are very expensive for them. So I think a good place to start would be to look at what their costs are.

Interviewer: Okay.

Candidate: Do we have any data with respect to how delays impact the cost of these projects?

Interviewer: Sure, when there is a delay (which can sometimes be a little bit difficult to predict) but when there is a delay for a typical project – let's say that it is a $25 million budget over let's say a 10-month build period – when the steel is late, it generally costs about $2 million a month for every month that the steel is late.

Candidate: Wow, so that seems like based on those data that delays are very costly to these builders. And do we have any data with respect to how much they are spending on steel for these projects?

Interviewer: Yes, generally about $500,000 in steel for a project like that.

Candidate: Okay, so looking at what they are spending on steel and what the potential delays are costing them, it seems like there would be a lot of value that, if you could save them a month or two months of time and get them steel in a quicker fashion, then that would be something that they would be willing to pay for.

Interviewer: Okay, and how would you test that?

Candidate: So in order to find out if that is true, really I think we would have to go and we would want to define, first define: what is our product? So what is the product that we are going to try and sell? So it seems, based on the data we have collected, that we can do quick turn steel. We will have to define in what quantity and how fast we can deliver that, as step one. And as step two, we would want to go and target, try and talk to some of those customers that are building in seismically active areas to determine if that is a product that would be interesting to them.

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Notice the last sentence in the candidate's statement that he would like to talk to some of the customers to figure out if this is a product that would be interesting to them. Notice how this is a request for qualitative data, and in particular, qualitative data coming directly from the customer. Now the reason I mentioned this is because this is a great question to ask frankly. And a lot of candidates don't think to ask it. They just sort of assume that as a consultant and as a candidate, you get access to reports, you can get market share data, but you for some reason can't get access to the customer. And I think that's a bad way of thinking – it's completely inaccurate.

As a consultant, you oftentimes will get data directly from customers. And so whatever you would ask for as a consultant, like, "Can I talk to a customer?" – which is a really smart thing to do, by the way, as a consultant – it is fair game to ask for the same questions in an interview. So if you want to ask to speak to customers, and you'll see how I handle this as an interviewer in a second, that is fair game and sometimes it's a pretty smart thing to do.

Interviewer: Okay. And what questions would you ask them if you had the opportunity?

Candidate: Basically you want to get a feel for, hey is this something that's interesting to them, and try and get a sense for how much they are willing to pay for it. You would want to get some idea of how often they would need this, what percentage of the steel that they buy in total would encompass this kind of quick turn business.

Interviewer: Okay, so let's say it turns out the company has done a little bit of market research on this. And it turns out for those builders in the seismic zones, again about 20

percent of the time, let's just say, what they thought they needed in terms of steel is not what they actually end up needing. But again, it is very hard to predict when that is going to happen.

00:44:09

Candidate: Right. So it looks like in terms of size, 20 percent of 25 percent of the market – we are getting down to about five percent of the overall market which may be interested in buying this kind of quick turn steel service. One thing you mentioned was that it is difficult to predict, so we would want to get some data from them in terms of what their typical use model would be – how they would order, how quickly they would need steel to really flesh out the details of the product that we would try and offer.

Interviewer: Okay, so let me give you a little suggestion here as a "time out." I still think you're missing a little bit of background information. You are trying to jump a little too fast to "what is the product." And I don't think you understand what happens right now.

So you talked about the buying process – that was good. A question you didn't ask was, "When there is this uncertainty, how does it appear?" Or "When there is a change in specifications, what happens to the process then?" We know it costs more, but why does it cost more? How does it cost more? How do they actually get their steel? How long does it take to get their steel? How long is the delay? So a lot of getting to understand that process.

So I think— and here is why, I will give you the insight we are looking for because I know we are running a little out of time. So here is the thing I was going towards, and I don't think you would have gotten there by just jumping to the product – you had to understand them at a basic level first – is only five percent of the market needs the steel quickly, but 25 percent of the market worries about whether they are going to be in the five percent.

Candidate: Okay.

Interviewer: Turns out this is actually insurance business, which is more complicated than a traditional one. So it is not the five percent, it is the 25 percent who worry about the five percent. So you sell life insurance to people who are not dead, you sell life insurance to people who are *worried* about dying. Right? *So the actual market for the product is much larger than the portion of people who actually have a negative outcome.* So that is the same thing here.

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So if you jump right to the product, you are going to ask, "Well what do the five percent want?" It is going to be different than "What do the 25 percent want that

are worried about the five percent?" So the way you get at that from a process standpoint is you just need to kind of go step-by-step a little slower, and really understand: how does the process work when they have this issue, what happens then? And really being able to, in your mind, have a very clear picture of the customer behavior – what they do, why they do it, and how do they do it. And then you figure out where you can figure your strategic competitive advantage in.

Candidate: Okay.

Interviewer: Do you want to take another shot sort of right in the middle of that?

Candidate: Sure. Okay, so you mentioned that builders who are building in the seismic areas – they sometimes have needs that their requirements change midstream. I guess, what actually changes, and how does that play out in terms of a building plan?

Interviewer: Normally, you figure out what kind of steel you need, you place the order 90 days in advance. Ninety days passes, you get the steel, you put it in, you use it and everything is great. When there is an issue (which tends to happen more often in seismic areas), you place your order 90 days in advance, and then about two weeks before you're actually expected to receive that steel, you suddenly realize the specifications you thought you had in mind are wrong – you need steel to be used more often, in tighter spaces, you need a thicker steel, a longer steel, or some aspect of the requirements changes very suddenly. And typically what will happen is that the builder will then issue a new order for steel and will place that order, and they will expect the steel to arrive in about three months or twelve weeks. And they realize that that will be about a ten-week delay from when they actually would have ideally preferred to get the steel. And in that particular situation, they are double ordering, because they still have to pay for the original order because they are contractually bound to pay for that, and that's how that process works.

Candidate: And I guess, the other question is: while they are waiting for the steel, how does that impact their overall build schedule?

00:48:03

Interviewer: They have to put a lot of parts of the process on hold, because the steel – you can't obviously start working on the second floor of the building until the first floor has been laid. And so if the first floor is delayed, then everything, the whole team for the second floor, you are still paying for an awful lot of that cost, and you are paying them to wait.

Candidate: I see. So based on this, it seems like waiting for steel is a very costly business for these people.

Interviewer: Definitely, absolutely. They would agree with that.

Candidate: So waiting for steel costs them – not only in project delays, but also in materials because they are paying for the same materials twice.

Interviewer: Twice, correct.

Candidate: So this seems like a pretty big problem, in terms of a gap in the market.

Interviewer: Okay.

Candidate: The next step would be to try and understand— it seems like there's a lot of value in being able to deliver steel quickly to the people who have this problem. The next thing I'd like to understand is how many people – how much of the market has this problem?

Interviewer: The people in the seismic area, which again is the 25 percent of the market – I would say about 20 percent of the projects end up having this problem. Although none of the people— no one thinks they are going to have the problem, but 20 percent actually end up having the problem.

Candidate: Then the question I have is just how do people know if they're going to have this problem?

Interviewer: They don't until the very last minute before that normal steel order is due to be delivered. And the way it works: as they are getting closer and closer to that part of the process, they get better and better soil samples. And then they suddenly realize there is some kind of problem that now requires a stronger or thicker or more pieces of steel to basically make the foundation or that part of the building stronger, to better support the weaker soil that they discovered very late in the process.

Candidate: Okay, so it seems like this is a problem that really could happen to any 25 percent of these people, but it only ends up happening about five percent of the time.

Interviewer: That is fair. Yes it actually ends up happening about 20 percent of the time or five percent of the market; that is correct.

Candidate: Okay.

Interviewer: Yes, 20 percent of the 25 percent. Okay. Why don't you do a synthesis, so what do you know, and what is left, if anything?

00:50:01

Candidate: So what we have looked at is the different segments of the market. We've determined that between builders that build in seismic and non seismic areas, builders that build in seismic areas often have very dynamic requirements that

require last-minute changes. When they have these delays, they are very costly, and it results in a lot of wasted money and materials and schedule and man hours. This 20 percent of the overall market – 25 percent of the builders are in these seismic areas, and of those 25 percent of those, or 20 percent of those, end up needing to do this last-minute adjustment in their materials.

Interviewer: So some final tips – I think overall, I would say, when it is straightforward math, you are pretty good. So when it is quantitative analysis, you are pretty good. When there is some qualitative stuff – the whole "why" thing – I think that is one area you got to look out for, and I think this process has helped you be aware of that. And then as you transition, particularly with the business situation framework and especially the customer portion, if you will notice the questions I had you ask that kind of led to uncovering the raw information – those are the exact questions in the framework sheet. I mean they are there for a very particular reason, because they are very what I call very "high probability questions." So if you ask them a good percentage of the time, you are going to uncover some useful information.

So I would not rush the process. *Don't feel the pressure or need to be overly hypothesis-driven early in the case.* I certainly never did that, both in real consultant work as well as when I was interviewing. *And make sure you are getting a good qualitative understanding that matches what I think is your quantitative strength.* You got to sort of blend the two together, see both sides, and that is usually where you kind of come up with the interesting insights. And then when you close, you just need to work on the close so that it is conclusion first, a few supporting data elements in advance, and pointing out the interesting connections that might be counter intuitive or not exactly obvious to a client or to an outsider.

Candidate: Okay. Sounds easy enough.