

In this final example of the steel industry case, this is an example of where I ended up interviewing myself since I didn't have a candidate who actually did the entire interview from beginning to end without my coaching and complete it successfully. And so let's go ahead and get started.

Interviewer: This final example of this case is what I would consider the “best practice” version, where it is done hopefully perfectly. I didn't have anyone that I interviewed do this case and do it extremely well. I had some people get fairly close, particularly with some coaching. So I thought I'd give you a version of this case where I am interviewing myself, so you can hear what it sounds like when it's done as best as possible.

The other thing I will note about this particular case was: I found this was probably *the* toughest case that the people I interviewed had to deal with. And so I think in many respects, this case is one that really differentiates extremely strong performers from those who are just merely good, and obviously those who aren't prepared or aren't skilled enough to handle these kinds of cases. So I would encourage you to pay attention to this.

The company that we will talking about today is a steel company, and this company seems to have suffered financially in the past year or so, and the CEO is looking for your help in turning around the business and to see if it's possible to turn around the business. And this company has generated historically about a \$20 million a year profit (and that was its income last year), and this year, the company has a \$10 million loss. Obviously the CEO is not very happy about this, and is looking for your help to turn this business around.

Candidate: Great. So this company is in the steel industry and has a \$20 million in net income, which has fallen to a \$10 million loss or \$30 million swing. I'd like to break down where the net income comes from. And in particular, I'd like to look at sales versus costs in the same two time periods. Do we have any information on that?

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Interviewer: Revenues last year for this company were \$120 million; this year, revenues are \$100 million. And the costs last year for the company were \$100 million, and costs this year for the company are \$110 million.

Candidate: Well that's interesting. So it looks like revenues have fallen by \$20 million, while net income had dropped by \$30 million, and the difference is a \$10 million increase in costs. So initially, it looks like this problem is a complicated one because it's being driven by both a decline in sales as well as an increase in costs.

So it looks like we're probably going to have to analyze both sides of the profitability equation. What I'd like to do is start really on the costs side first and

break down cost into its components to figure out why costs have gone up before switching over to the revenue side. As a next step, I'd like to look at costs in more detail. Do we have a breakdown of what the components of costs are?

Notice how when I open this case, I present the structure I intend to use, I give a big overview of the areas I intend to analyze, and tell you where I start, tell you where I plan to end, and really give you an overview of what I intend to do. If you follow along visually, you'll notice (on the drawings that I have included) how "draw-able" my structure is. That's very easily laid out, it makes sense, all the categories stand alone in terms of each one is independent, so there is no overlap between the categories, and it's a very clean structure to structure the case with.

Interviewer: Yes, the two major components of costs for this steel company are materials and labor, and the materials costs have gone from about \$70 million in materials costs to \$80 million this year, and labor costs has remained at \$30 million.

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Candidate: And with respect to costs, are there any fixed costs or is there a further breakdown of labor that is fixed versus variable?

Interviewer: You can assume in this particular case that there are actually no fixed costs and all the costs I've mentioned are in fact, variable costs.

Candidate: Well, great. Then if I know what the overall costs are, these are all variable costs. It will be useful to know how many units of this particular product the company manufactured, so that I can calculate a per-unit cost. Do we have any data on how many units of this particular good that the company manufactured this past year?

Interviewer: We do. This company sold one million units of its product, which are steel rods that are used in the construction industry to build concrete buildings that are taller than say one or two stories tall. The company did manufacture a million rods this year as well as last year.

Candidate: So that's interesting. So the actual manufacturing volume has not changed, but clearly materials costs have. So it looks like we have shifted from what used to be \$100 million in cost divided by a million units, it's about \$100 per unit. And if you further break down that into materials versus labor, it looks like it's about \$30 in labor, and that raw materials cost (or steel cost) has gone from \$70 per rod to \$80.

I'm wondering then if this is, this change in materials cost, if it is a company specific problem or if it's an issue that's impacting the industry overall. Do we have any data on our competitors' costs – either total costs or materials or labor costs?

Notice how I ask for historical information for this company and then I compare those same numbers to our competitors. You'll notice that on my cheat sheet for the case interview frameworks, I always recommend whenever you get a number about a client, you always compare that number for the client to its trend line within that client's company, as well as compare it to competitors. Always compare numbers – a number by itself is generally not very useful; a number in comparison to something will tell you something.

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So if you compare numbers against the history and it has changed, it means something has caused it to change. If you have a number that's changed and the competitors have changed in a similar pattern, it means an industry specific issue, and not a company specific one. And then you want to look at industry level analyses rather than client ones, in order to figure out why that's happening.

Interviewer: We do. We do know that overall, for the other competitors – their average cost per unit of steel manufactured is about \$100 per unit, and that is an increase from about \$95 per unit from the prior year.

Candidate: That's interesting. So at \$100 a unit today, they have a \$10 per unit cost advantage versus us. And it looks like their costs last year were \$95, which was a \$5 cost advantage versus us. It looks like they're actually being more cost-effective and separating the cost differential versus our client, even more this year than in the past. Do we have a further breakdown of materials costs per unit manufactured as well as labor costs per unit?

So this is an example of brief synthesis, which is interpreting the information that has already been provided by the interviewer. It's not a summary – a summary or re-statement is regurgitating whatever the interviewer has told you. Rather this is synthesizing, which is taking it up a level and interpreting the big picture of what the data means, and then continuing with what's next to be analyzed. It's a good habit to emulate.

Interviewer: We do. We do know that the materials costs have gone from about \$70 a unit to \$75 a unit, and we know that labor cost has remained flat at \$25 a unit.

Candidate: So that's interesting. So I'm just looking here at my notes, and comparing the unit cost for client versus our competitors, it looks like our labor costs are \$30 a unit, and our competitors are at \$25 a unit. And if we look at materials costs, our material costs are \$80 a unit, and the competitor unit costs are \$75 a unit.

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So then it looks their cost on materials have increased, but not as much as ours has. So, it looks like we have two key issues we need to further figure out: why is

our labor cost higher than our competitors; and also why is our material cost higher than our competitors?

So, it looks like we do have to analyze both of those particular issues. What I'd like to do now then is I'll just start on the labor side and then circle back to the materials, and unless I miss something, that should really finish our analysis on the cost side. As I mentioned earlier, I'll probably end up going back to the revenue side, because we do have a problem on revenues as well.

So notice how I have deepened the issue tree that I've used to make it more detailed, and in communicating that, I've also explained or reminded the interviewer where I am in the overall issue tree, the overall analysis of where I am now, and where I still need to go after I'm done with this particular branch of analysis. Again, that's a very good habit to get into. It visually conveys what's going on in the case, and it helps you frankly remind yourself what's left that you still have to analyze.

So, in terms of the labor cost, do we have any data as to how much labor we use in the manufacturing process? So I guess my question is: are we using more labor when we manufacture, or is our cost of labor – per person or per hour, is our cost higher?

Interviewer: Actually, if you look at the hourly wages of labor, this industry is heavily unionized. So all the major employees earn the same amount per hour and per day. So to answer your question, this company or client actually uses more labor in its manufacturing process.

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Candidate: Hmm, that's interesting. So, the price of labor or cost of labor is the same, but our client just uses more labor... I wonder why?

This is an example of thinking out loud, which is a good habit to get into. And you'll also notice this is an example of asking a qualitative question or a "why" type question. It's very useful in getting a conceptual understanding of what is going on in this particular situation. Again, both are good habits to get into.

Candidate: Do we have any data on any differences in the manufacturing process? Is there a particular reason why we use more labor than our competitors? Obviously this seems very important, so I'd like to better understand what the difference in the process is that would require us to have more labor.

Interviewer: Yeah. The manufacturing lines between our client versus the competitors are set up very differently. The competitors are substantially larger, so when they do one run of steel production, they usually manufacture much greater quantity of steel at

one time, so their overall process is more efficient. And meanwhile, our manufacturing line is geared much more towards— rather than producing big batches, it's geared towards producing smaller batches.

Candidate: I see, so that's interesting. So, the competitors are bigger. Related to that, do we have—I'm curious, how much bigger are these competitors, and actually how many of them are there? Just as a point of comparison.

Here is an example of quantifying information you receive on a qualitative basis. Whenever you ask a qualitative question like, "Are our competitors bigger or smaller than us?" And the interviewer says, "They're bigger." The next appropriate question to ask is, "Okay, how *much* bigger are they?" You always want to quantify qualitative responses whenever possible. It gives you a greater level of precision, in terms of what's going on with that particular situation.

Interviewer: Well, most of the competitors are about five to six times larger than this particular company, and there are four major competitors in this marketplace, all about the same size. Each has about 24 percent market share, in comparison to our client, who has about a 4 percent market share.

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Candidate: Huh! That's interesting. So, they're not only a little bigger, they're like a lot bigger than we are, and it looks like *all* the competitors are a lot bigger than our client is. Now are all these competitors – are their manufacturing processes set up the same way to do these large production runs?

Interviewer: Yes. You can assume that they're all fairly similar – geared towards large production runs.

Candidate: So I'm going to create a hypothesis here that perhaps there are things we can do in the manufacturing process to reduce the amount of labor, and I'm wondering if we have any data on that. Is the manufacturing process such that it's easy to change, or are there technologies that are available that makes it easy to upgrade the technology, such that we could in fact realize a lower labor cost? Has the client looked into any of these particular options?

Interviewer: The client actually has looked into these options, and the cost of the equipment to redo the production line to run much larger batches is extraordinarily expensive (we are talking half a billion dollars or more), and it's not feasible at this time. And the nature of the technology – both our client's technology as well as the competitors' technology – they're both fairly current and pretty modern, but the technologies were designed for different purposes: the competitors' technology was designed to do very large production runs; and the client's technology was geared towards doing much smaller production runs.

Candidate: So it looks like in the big picture here, that it doesn't seem like there's a big opportunity to improve our labor costs or at least not very easily. And so it looks like our cost of labor is the same and we simply use more labor, and it doesn't look like there's an easy way to use less labor. Before I conclude on this particular branch of analysis, I'm just wondering: are there opportunities to reduce the price of labor, you know, per hour per day? I know the companies have unionized labor, but I thought I'd look at that just to make sure that it is not an option before moving on. Do we have any data on that?

Interviewer: Oh, that's interesting question. The client does have a unionized labor contract. It's set to expire three years from now. Very difficult, if not impossible, to change the hourly rates paid to these workers without a major distraction, strike, you know, those kinds of things to the company.

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Candidate: Okay, I see. So it sounds like labor cost is extremely difficult to change, both on a per hour basis, as well as the total amount of labor we need to manufacture these steel rods. So I'm going to conclude that this is really a dead end, and on my issue tree here I'm going to X out labor here as not really an option for turning around the profitability of this company, which is now down about \$30 million in net income.

Notice how deliberate I am about taking the process of elimination step to eliminate one of the branches of analysis and literally Xing out the part of the analysis that is a dead end. Again, it's very common – it's extremely common, I should say – that if you have to analyze three or four different areas, that most of them will be dead ends. And oftentimes, the interviewer will deliberately point you down a dead end, just to see if you can figure out that you came up to a dead end. And by dead end, I mean you asked for data, and you used the data to conclude that the solution does not lie in a particular area. So if you're looking at profitability, your costs analysis data leads you to conclude that cost cannot be changed or cannot be fixed, and therefore to fix the profitability problem, you've got to go look at revenue. That's an example of that.

What I'd like to do now then is actually shift gears and look at the materials cost. I do know that materials costs have gone up for both competitors and our client, but it has gone up more for us than for our competitors. So, I'm going to create a hypothesis here that perhaps we can find ways to reduce materials cost. And I would like to do that and test the hypothesis by looking at, you know, how do our competitors buy their raw materials, and compare that to how we buy raw materials as well. Do we have any information on that?

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Interviewer: Well the purchasing process is fairly similar – steel is purchased on the open market. They are traded just like the New York Stock Exchange trade stocks. There are markets that trade raw steel, and all the major companies and competitors buy steel from the same place.

Candidate: I see. So all the competitors buy steel from the same place. Are there alternative suppliers that we might be able to explore for lower cost steel, or are there any other options for buying steel?

Interviewer: No, due to the weight of steel, most steel is purchased on a regional basis. This company, as well as the competitors, is based in the western side of the United States, and they buy steel from the open market and they buy it regionally as well.

Candidate: I see, so we're buying it from the same place, we can't change where we buy it from, and yet our competitors are getting a lower price. Do we have any data as to why the competitors are able to get a lower price? Are they perhaps buying in larger volume, getting some sort of volume discount, because I know they are bigger? Do we have any data on that?

<p>Here's another example of a synthesis where I recap what we know and what the current conclusion is. Notice that a recap or synthesis is not just repeating the data, but rather interpreting what the data means. In McKinsey, we used to call it the "so what." So given all this data – "so what?" What does it mean? And that's what you want to state in your synthesis or recap.</p>
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Interviewer: Yes, we do know that in the open market, the larger quantity of steel you buy, the lower the price. So there are volume discounts available in this particular marketplace.

Candidate: I see. So I'm going to actually refine my hypothesis and make the hypothesis that perhaps we can order/buy more steel in time to take advantage of these volume discounts. And so what I'd like to know is— in order to test this hypothesis, I'd like to know, you know, how much worth of steel we buy at one time. So do we buy a month's worth or two month's worth or three month's worth, and how does that compare to what our competitors do?

Interviewer: So currently the client buys roughly 30 days worth of steel at any one time, and the competitors also buy about 30 days worth of steel at any one time.

Candidate: I see. So it sounds like that 30 days worth of steel – it's about a month worth of steel – and I know that the competitors are six times larger, so presumably if we were able to buy say six months worth of steel, we could in theory get the same price per unit of steel if we were able to do that. Is my understanding correct?

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Interviewer: Yes, that is true that if the company were able to buy a larger quantity of steel six fold, that they would be able to realize the better price.

Candidate: I see. Next thing I'd like to understand to see if this hypothesis would work is: I imagine there's probably two major factors determining whether the client can actually buy six months worth of steel at one time. The first factor is: do they have enough cash to buy that much steel and have it sit? And the second is: do they actually have a place to put the steel in inventory while it's waiting there to be used? Do we have any data on either of those two factors?

Interviewer: We do on both sides. This company is running very lean. So there is not a lot of extra cash or financing available, certainly not enough to finance six months' worth of steel. And in response to your other question regarding a storage space, this company does not have extra storage facilities that would make it easy to store this additional steel. They could procure it and get that space, but it would be... we can assume it's cost prohibitive at this point.

Candidate: So, with respect to my earlier hypothesis that perhaps we can match the competitors in materials costs, it does not look favorable at this point. We are not able to reduce our frequency of orders and order in larger quantities per order due to limited cash flow and cash resources, as well as storage space. And given our sales volume is one-sixth of our competitors, there is no way to overnight increase our volume to a level that would be comparable to our competitors.

I guess my next question, related to this hypothesis, is: are there gradations in pricing, like at what level of ordering do you need to get to in order to get that price discount? So, I know we're off by \$5 relative to our competitors. If we bought 10-20 percent more at a time, would that be enough or do we have to order several hundred percent more in order to get that price break?

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Interviewer: Oh, that's an interesting question. Looks like we are quite a bit away from having enough volume to get the next price discount. The next price discount would be roughly equivalent to five times larger volume per order than we currently do, in order to get that extra \$5 discount.

Candidate: Wow, okay, so that's a tough one. So, I don't think we can realistically get 500 percent increase in sales or increase in order size to get that extra \$5 discount. So I am going to conclude here that my hypothesis of reducing materials cost to help turn this profitability situation around is also not going to be an option.

So, I'm going to X that out on my issue tree here. And just stepping back for a second – looks very discouraging, to be quite honest. So in looking at a \$30 million loss overall – we had a \$20 million drop in revenues and a \$10 million increase in cost. And those increases in cost are coming out of labor cost, which



is structurally higher labor cost relative to our competitors, because we just use more labor in our manufacturing process. And on the materials cost, we're so small that we can't get the big discounts that our competitors can, so we're also at a structural cost disadvantage there as well.

So it looks like this cost thing is really difficult to change, and it looks like we just kind of have to live with it. So given that, I am going to shift gears and look on the other side of my issue tree on the revenue side. So basically, we are going to have to find some way to improve revenues pretty substantially to offset this structural difference in cost on the cost side relative to our competitors.

Here is another example of thinking out loud and using a very conscious process of elimination effort, literally Xing out branches of analysis that are essentially dead ends that cannot be where the solution remains. And notice how I restate what's left to be analyzed, so if we have several branches of analysis and we've eliminated two or three of the branches, I still want to deliberately mention which ones are still left that we have not fully analyzed. That paints a good clear picture of where we are in the analytical process, and also it's a good reminder for you – to remind you where you need to pick up.

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So, I'm going to go ahead and shift gears and talk on the revenue side. And if I recall, we had a \$20 million drop in revenues – from \$120 million a year last year to \$100 million a year this year. Do we have a breakdown of those revenues, perhaps, how many units do we sell and what is the average price per unit? I think we mentioned that we sold a million units this past year, is that correct?

Interviewer: Yes, we did sell a million units this year, and we sold a million units last year. And the average price per unit used to be \$120, and this year it's \$100.

Candidate: That's interesting. So volume shipments have not changed, but the prices have dropped a lot. And so prices are now at \$100 per unit. Again, I am trying to figure out if this is a company specific issue or an industry one. Do we have any data on the volume of steel rods shipped by our competitors over this past year and a half or so?

Here is another example of getting a number from a client, and comparing that number to its history within the client's company, as well as comparing that number to the competitors. Again, those are two standard comparison points you want to really apply to every number that you get.

Interviewer: We know that the unit shipments for the industry overall have not changed, and most of the competitors have continued to ship the same number of units this year as last year.

Candidate: That's interesting. So really all the changes in this industry on the revenue side are coming out of pricing. Do we have any data on what the competitors' pricing has been over this last twelve-month period or so?

Notice how systematic I am at getting data. I indicated I wanted to look at revenues, I looked at each piece of revenue (each component), and then for each component of revenues, I looked at the history trend line within the company, and also compared that particular number (particular component of revenues) to the competitors. One at a time, systematically, step-by-step – that's exactly how you want to do it when you do this.

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Interviewer: We do, we know that the competitors' pricing... the four major competitors – they all price fairly similarly. And the pricing has changed from \$120 per rod to \$100 per rod. So the competitors' pricing has followed a similar, or actually identical, pattern as our client.

Candidate: Okay, so just sitting back for a second, I'm looking at opportunities to improve revenues. And it looks like that the quantity has been flat, and in terms of why revenues have dropped by so much is not a drop in volume, but rather a substantial decrease in price. And I'm just looking at our competitors' pricing – they're pricing at \$100 today, and I'm looking at my notes, and it looks like their unit costs are also about \$100.

So it looks like our competitors are able to break even at this current price point, given their more attractive cost structure. And then looking at our client's company – at a \$100 price point, our unit costs, looking at my notes here, are \$110. So for every unit we sell, we're losing \$10.

So that makes sense. We are selling a million units, we are losing \$10 a unit, and we have a \$10 million loss this year that we did not have in the prior year. So clearly this is a pricing problem, because if we doubled our volume, we would simply just double our loss. So the real question here is: can we find some way to improve our pricing, such that the margin on this business (the profit margin) is positive, which would then restore profitability to this particular company.

Here is an example of where the profitability framework has ceased to be useful. The profitability framework is great for process of elimination, it's very good for figuring out what is *not* the problem, and it really helps narrow down and isolate what is the core problem. But the profitability framework doesn't tell you what to do about it. The profitability framework doesn't give you enough information to figure out what to do about a particular problem. What it does do is help you figure out and define what precisely *is* the problem that needs to be solved.

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So it's great for narrowing down a problem, but is not good for coming up with solutions. So notice the transition here from the profitability framework, which is no longer useful, to a broader one – in this particular case, the business situation framework – that gets you more of that qualitative information.

Interviewer: So the client says, “Well that’s an interesting idea. I think I follow what you’re saying. What do you suggest we do about this?”

Candidate: Well, I think to really see if we can increase prices by a fairly substantial amount, just thinking out loud here, you know, we would have to have to either sell some sort of product that is worth more or a bundled together solution that has more value and can charge a higher price, or perhaps serve a particular customer segment or a portion in the market that has different needs that could command a higher price... something along those lines.

So what I think we need to do now is: now that we know that this problem really is a question around, “can we sell products at a higher price?” I think we need to step back for a second and change gears and look at the business and the marketplace more holistically, to figure out if this is indeed possible or not, and to do that I’d like to look at four key areas.

First, I’d like to look at customers; and then the product itself; the client’s operations and capabilities is the third area; and fourth, I’d like to look at the competitors. And the over arching question is, “Can we improve pricing by at least \$10 a unit?” Actually, that’s good question – do we know from the client’s standpoint what their objective is? Are they just trying to get back to breakeven? Are they trying to get back to where they were last year? What’s the overall goal for this particular client?

Interviewer: Actually, that’s a good question; I forgot to mention that earlier. The company is looking to at least break even, but preferably return to profitability at a similar level they were at last year. So for the sake of argument, we can say that the goal is to get profits back to \$20 million.

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Candidate: Okay. So I’m drawing here, on a new piece of paper, the objective of improving pricing by actually improving pricing to \$120 a unit, which is an improvement of \$30. And potentially, if we’re able to actually increase the volume shipments while improving price, obviously we won’t need to improve the price by as much.

And again, the four areas we’re looking at are: the customers, the product, the competitors, as well as the client’s operations. So I’d like to start with the customers first and really understand who they are, if there are different segments – what is each segment looking for? So if we could start with just who are the customers, I can get a general idea I think; that’d be very helpful.

Interviewer: Yes, customers are general contractors, so they are construction companies that build tall buildings. So any kind of building you see out there made out of concrete, over one- or two-stories tall, usually involves using steel rebar to reinforce the steel to make sure that it doesn't collapse. Steel is used in a variety of construction industries, but both the competitors we've been talking about and the client are really focused on commercial builders, which basically build office buildings and other kinds of tall buildings.

Candidate: Are there different segments of customers? And if there are, what are the differences between the segments?

Interviewer: Actually, there are builders in two different sub-geographies that are a little bit different. There are builders that are in seismically active zones, and there are builders that are in non-seismically active zones – so builders who build in places where there's a potential for earthquakes, and those that do not.

Candidate: And what are the— are the needs of these builders different, whether they are in earthquake areas or not?

Interviewer: What builders are looking for are really three things: they want to make sure the steel matches their specifications of the right length, girth, quantity, that kind of thing; they want to make sure that the steel is available when they need it, so not too early, not too late – if it's too early, there's nowhere to put the steel, if it's too late, everyone's waiting around for the steel to show up, which is very expensive; and then obviously price is an important factor as well.

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Candidate: And is there any difference in priority for these particular two different market segments – those that are in seismic earthquake areas and those that are not? Is it that the builders in earthquake areas, are they trying to— do they need thicker steel, stronger steel, or what's the big difference between the two?

Interviewer: The builders in each segment are looking for the same kind of things. The only sort of complication that the builders in earthquake areas have that their counterparts do not is: sometimes in the middle of the building process, its builders will discover that the soil that they're working with is perhaps different than what they originally tested at the beginning of the project. And sometimes their needs, in terms of what kind of steel they need, may change at the last minute.

Candidate: Okay. I think I understand. So with the earthquake builders, their process is just a little bit more complicated, and it sounds like their orders potentially may change. Well that's interesting. Do we have any sense of how big these two segments are? What percentage of the market is each segment?

Interviewer: We do. We know that again, this is in the western part of the United States where there are certain parts of the region that are in earthquake zones, but 75 percent of the builders are not in earthquake zones, and 25 percent of the builders, or projects rather, are in earthquake zones.

Candidate: So this is interesting, it sounds like these two different types of customers potentially have slightly different needs. I'm curious, in terms of a sales process, do the competitors and this client – do they sell to these different kinds of customers in different ways, or is the selling process fairly uniform?

Interviewer: The selling process is pretty uniform. It's a sales force based distribution model. So each company has a sales force, they go and talk to the builders, they end up recommending that the company (the builder) use steel from their company. They write up a proposal and typically the builder places an order and then typically 90 days later, the steel actually arrives on site as is promised.

Candidate: I see, okay I think I have a good grasp of who the customers are. I think I'd like to, at this point, really better understand the product itself. I understand it's steel rebar, it's used in construction, are there any real differences in the quality of the rebar, the strength, or what are the major product attributes that are related to this particular product?

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Interviewer: Oh, the steel rebar is fairly uniform, in terms of the actual physical product. The strength of the rebar and how often it needs to be used is regulated by government building codes, and all the major competitors comply with those codes, as do the builders, so it's a fairly uniform product.

Candidate: So it sounds like the core product itself is a bit of a commodity. I'm curious if there are differences in services related to the product?

Interviewer: The major service is really just delivery time frames, so this delivery time frame again is very important for the builders. They don't want it too early, because they don't know where to put the steel; they don't want it too late, because they're paying for everyone to wait around until the steel shows up. So really it's the core product and delivery that seem to be the two most important factors in this particular market.

Candidate: So, let me just do a quick recap here so far. It looks like there are two major customers segments: one in earthquake zones, one that are not. They have slightly different needs – mostly the earthquake builders tend to have last minute changes, in terms of the product itself. It seems like the core physical product is similar, perhaps some differentiation is possible on delivery side, but that's still to be determined.

What I'd like to do now then is shift gears and talk about the client company itself, and I'd like to understand the company's operations better and in particular, how they are potentially different than the competitors. So let's start with the company's capabilities first. I do know from what we mentioned earlier that they manufacture steel in small quantities. Can you elaborate on what this company does unusually well, relative to its competitors?

Interviewer: Yes, what you said earlier is correct. The company's manufacturing process is geared towards manufacturing smaller quantities of steel fairly quickly. And this is different from the competitors, which I mentioned earlier, that are geared towards producing large quantities of steel very cheaply. From a sales and service standpoint, the client is fairly similar to its competitors.

Candidate: So this is interesting. With respect to this speed difference, you mentioned that our client manufactures steel more quickly. Do we have any idea how much more quickly the manufacturing process is, relative to the competitors?

00:34:05

So here's an example of quantifying qualitative information that you receive from the interviewer. So in this particular case, the interviewer mentioned that the client manufactures steel more quickly, and it's useful as a candidate to ask, "How much more quickly do we manufacture steel?" You always want to quantify whenever you get qualitative information.

Now, here's a little side note: *as an interviewer, oftentimes I will be deliberately vague*. So I could have said how much faster the manufacturer is relative to its competitors, and I could have volunteered that specific piece of information when the candidate asked. But oftentimes, I will deliberately be vague and say, "We're better, we're faster," and not say how much better or how much faster, how much more profitable we are. And I'm trying to test whether the candidate will ask me to be more precise.

So that's a little tip for you: *when you get a general answer, try to always quantify and be numerically specific when you get a general piece of information from an interviewer*.

Interviewer: Yes, we do know. Our client is able to produce a production run of steel in about three to four days at its fastest, and can do this fairly consistently.

Candidate: I see, that's interesting. And just as a point of comparison, how quickly do the competitors manufacture steel when they do a similar type of production run?

Interviewer: The competitors usually do a production run – it takes them about 90 days to complete a run.

Candidate: That's interesting. *Why* is there such a big difference between the two? Our client's doing it in three days, and the competitors are doing it in 90 days.

Here is that "why" question again. Again, "why" questions are great for trying to understand at a qualitative level what is really going on in a particular situation.

Interviewer: One of the reasons the competitor is able to make very large production runs is they have this equipment that's really geared towards doing very large runs. And so what they typically do is: when they get a small order, they just wait until they get enough orders to do a very large production run. So a big portion of the time is really just in waiting for enough orders to accumulate to be worth the effort of actually doing a production run.

**00:36:15**

Candidate: I see, so this is very interesting. So I'm actually going to refine my hypothesis. Based on what we do know, it sounds like we have a competitive advantage here in producing smaller quantities of steel faster; the competitors have the advantage of producing larger quantities of steel less expensively. So that's one factor that's interesting. It looks like from a customer's standpoint, my hypothesis is that potentially there is an opportunity to serve the earthquake segment. It seems like their needs tend to vary more suddenly, and potentially there could be some sort of match between what their needs are, relative to our client's ability to provide steel more quickly.

So to test this hypothesis – whether we can serve this particular market segment and earn a premium price – I want to look at three areas: one is what are the customer's needs; second is can we fulfill those needs; and third is if we were to do that, what would the pricing impact be, and is it enough to turn around the profitability of this company?

So what I'd like to do now is better understand how this particular builder buys our steel, how they use it in their process, and to better understand any problems they may have with how that whole process works today.

So here's another example of where the business situation framework has exhausted its usefulness, because now I have a more precise problem which requires a more precise problem-solving approach, and essentially end up creating a customized issue tree to look at a more specific problem.

Interviewer: Sure. The builder typically in an earthquake zone will place an order for steel 90 days in advance of when they think they will need it, which is fairly typical in the industry overall. Then what happens in about one out of five cases roughly: about one or two weeks before the steel is due to arrive – now that they've dug the foundation deeper, they get better soil samples, particularly in seismic zones

where the soil can potentially be very inconsistent across the entire site, and particularly, as you get to different depths – they discover that the steel that they have on order is no longer appropriate, and they need to make a change. Typically then the builder will place a change order, and especially if they place it with one of the larger competitors, that order is then reissued and the steel is then scheduled for delivery generally about two to three months from that point in time.

**00:38:34**

Candidate: So this is interesting. So if these builders know that there's some risk of changing their orders at the last minute, why do they order 90 days in advance?

Here's that "why" question again. Always asking, trying to figure out qualitatively what's going on. I like asking "why" questions a lot when I'm a candidate. I also like asking "how" type questions. "Why" and "how" questions help you understand qualitatively what's going on. It gives you a conceptual understanding of the business, which we then go back in and try to quantify numerically.

Interviewer: They order 90 days in advance because they want to get the lowest price, and all the major companies, including our client, basically request a 90-day lead time on any new orders.

Candidate: Well, that's interesting. So I'm curious, why does our client require a 90-day lead time when they're able to turn around their orders in three or four days?

Interviewer: Well, when you ask the client that, they have a policy of trying to match the competitors. So whatever the competitors do, both in price and turnaround time, historically their policy has been to basically match what they do, and historically it has worked and been profitable.

Candidate: So it sounds like there's an opportunity to deliver much more quickly, that the client is able to do that, and it would benefit this particular customer segment. One thing I did forget to ask is: is it easy for our competitors to change their process to deliver as quickly as we are capable of doing, but currently don't?

**00:40:02**

Interviewer: It would be very difficult for a competitor to actually make the changes to deliver as quickly as we do.

Candidate: Oh, that's interesting. So I'm liking this more and more. So not only can we deliver very quickly, but it looks like our competitors can't deliver very quickly. And it looks like our customers – at least one out of five cases, our customers in that earthquake zone segment – have the need for getting steel more quickly, but



it sounds like they just haven't had the opportunity to buy it on shorter turnaround times. Has the company tried to sell a faster turnaround time, perhaps at a premium price? Do we have any feedback from customers as to why they don't find our fast turnaround time appealing? It seems like at least on paper they ought to.

Interviewer: Yes, actually. The chief complaint the customers have is that particularly at the start of a project, they don't want to pay a higher price for the steel. And because most of the time they don't need the faster turnaround time, ordering 90 days in advance is just fine.

Candidate: So in the circumstances where the builder does need to change the order, what is the process they go through, and what are the financial implications or costs associated with making that change?

Interviewer: The builder will make the change order with the manufacturer of steel – either us or a competitor, depending on whomever they have the original order with. The way these contracts are written, it's generally financially favorable to keep your business with the same provider that provided the original steel. And rather than paying 100 percent of the original price for the steel, when you make a change order that late, especially with the competitors, you end up having to pay for that first order, as well as pay for the new order. So the total price really is around 160-170 percent of the original order. So that's still cheaper than ordering the steel all over again, and the customers have tended to do that, mostly because they didn't realize there was another option available in the marketplace.

Candidate: So it sounds like once the builder realizes that they screwed up the specification process and need to order new steel that it's too cost prohibitive to switch their order from one of the larger competitors to us, and so we don't get that emergency order. And at the same time, if we were to price our steel at a price that is profitable on the first order, then we don't get the business because our prices are too high, especially if the builder does not need the emergency order.

**00:42:19**

Interviewer: Well, the CEO walks into the room and realizes that you've been working very hard on this case. He only has a few seconds before he's got to take off on an airplane and would like you to summarize what you've learned, and if you could do that, that would be great.

Candidate: So Mr. CEO, I believe this company can be returned to profitability. I think the key recommendation here is to focus the business on one particular segment within the market that's currently being underserved. This market segment is builders that are in earthquake zones. I feel this is the right move for three key reasons.

Reason number one is: these customers oftentimes will have the need to change their order for steel at the very last minute, and it seems like one of the pain points they have is to be able to do this change fairly easily and without severe financial penalty.

Second is: the existing competitors are not able to fulfill this need of changing orders at the last minute. Because there are long production lead times for large competitors to get these lower prices, they are unable to be flexible at the last minute. So because of this, they've instilled very large stiff financial penalties whenever there is a change order, which causes a headache for these particular customers.

The third reason is: our manufacturing process is actually very different than our competitors. We are geared towards manufacturing smaller quantities of steel very quickly – three days turnaround time versus 90 for our competitors. And since our competitors are not able to match our turnaround time and it would be very difficult for them to do so, we have this natural competitive advantage that I think we can use to serve this particular market segment that is really desperately in need of making change orders for their steel rebar at the last minute.

**00:43:54**

So for those three reasons – underserved market segment, competitors' inability to serve that marketplace, and our unique skills in serving that marketplace – I think that's the right market segment for the company to focus on.

The only open issue that remains is to quantify what kind of financial cost the customer incurs when they have a change order and they can't get it, and to compare that cost of delay, relative to what kind of price we could charge as a premium priced offering.

So that computation still needs to be done and to be determined. But directionally, I feel that we should command some sort of pricing premium in that market segment, and hopefully that would be enough to turn around the business and restore its profitability. But again, that last piece of analysis would still need to be done in order to determine that fully.