In this final example of this case, the third in this series, this last example is a case where I would probably give an A- grade, or on a 100% scale, I would probably give it a 92% grade in terms of its quality. Overall the analysis was good, a good balance of qualitative versus quantitative. The only difference between an A- and an A+ or a 92% versus a 100% grade is: the synthesis or the statement of the conclusions could have been better. And so you'll see me comment on that throughout the case, but listen to that and also listen to how quick the tempo is.

This entire case was completed in about seventeen minutes, and the last case was done in about twenty-five minutes, and the very first case we talked about, the very first example of this particular case where the person did *not* get the right answer, it took over forty minutes and they still were nowhere close to actually solving the case. So notice the specific data that he asks for, and notice how quickly he is able to solve this case, while being extremely efficient in the problem-solving process.

Interviewer: This first case involves a company that manufactures and prints signs for retail stores. It's a small business, it is really a business of a family friend of yours, and the company used to be profitable. It's no longer profitable, and their sales have fallen by 30 or 40 percent in the past year, and they'd like you to help figure out what to do about that. How would you set that up?

Candidate: Okay, if I take a minute just to summarize, and make sure that I understand what the problem is. What we are looking at is a small business owner who manufactures signs, mostly for retail. This is a business that used to be profitable, but in the past year, the profits have been down 30 to 40 percent. If we talk about the goal of the problem, it is basically to return this business to profitability.

Interviewer: Correct.

00:01:58

Candidate: Okay. I'm going to take just a second to sketch out my thoughts here. Since this is a profitability problem, we first want to take a look at the profits. You've already mentioned that the profits have been down 30 to 40 percent over the past year, so we have some sort of trend over the past year. We may want to look even further back to see over what period were they profitable, how profitable were they? And I think I would like to do this for two reasons: one, to understand the scope of the challenge, how much do we have to correct in order to address this problem; and two, to maybe make note of any inflection points where things may have changed.

Interviewer: Sure, let's say that profits have been pretty healthy, at say $10,000 a month for the past several years, and then this last year they are now zero. It's a cliff.

Candidate: It's a pretty steep drop off. After taking a look at profits and the problem at a high level, I next want to break profits down to its component parts. Profitability is made up of cost and revenue; I think that would be my next level of analysis. So again, in order to try and hone my analysis and get to the root of the problem as quickly as possible, I'd want to look at these individually also over the past year or two years, where we are looking for the same type of cliff. Can we see this in either the trends of the revenues or the costs?

Interviewer: Sure, which one would you like to see first?

Candidate: First I'd like to take a look at the revenues.

Interviewer: Okay, revenues have historically been at $30,000 per month, and they are now down to $20,000 per month.

Candidate: Okay, it looks like— that the revenue has dropped about $10,000 per month over the same time period that we are looking at. Looking back at the profits, it looks like we used to be at $10,000 a month per profit and now we are pretty much zero. So, looks like there may be some correlation with the revenue drop and the loss in profitability. Okay, so in order to really understand what's driving the revenue drop, we'll have to dig into the revenues a little bit deeper. Before doing that, I think I'd like to take a look at the cost side to see if something's going on there.

Interviewer: Sure, what would you like to know?

00:03:46

This was a pretty good conclusion statement or interim conclusion statement, so the data— in this particular case, the candidate noticed that the drop in profits was equal to the drop in sales. So his refined hypothesis, although he didn't use that word, was that: he doesn't have a profitability problem; he really has a revenue problem. And he's going to double check costs just to be sure, but that's his new hypothesis. It would have been better if he had said that's his new hypothesis, but he did arrive at that conclusion based on the data provided without me having to say, "This is a revenue problem."

Candidate: If I look at the costs, I would also like to look at the trends over the past year to understand if there's been a steep change in terms of our costs.

Interviewer: Sure, our costs have gone down over the past year.

Candidate: Okay, well given that the costs have gone down, that doesn't necessarily lead to a drop in profitability, so before going deeper on costs, I think it makes more sense to take a look at the revenues.

Interviewer: I agree with that.

Candidate: And go deeper into what could be the cause of the revenue drop. If we then think about what makes up the revenues for this particular business, we'd want to start to break it down into the segments of: what are the natural segments for this business? So since we are making signs, are we selling mostly to businesses? Or, I guess we could do it by product line, so we could look at it. Before trying to break down the problem, I may want to go to the client and ask them: what are the segments of his business, the buckets that he puts his business into?

Interviewer: Let's do this for a second. Why don't you synthesize what you think you already know right now? What is the more specific question we're now trying to answer? And then just give me the structure of how you'd like to figure out how to solve the more specific problem that you have now narrowed it down to.

So here's another opportunity for you to practice what I call *synthesis*. Why don't you follow the exact same instructions that I gave to the candidate and go ahead and synthesize what you think you know already. What is the open question issue that remains, in terms of: what's your hypothesis, and what specific data do you need to actually test your hypothesis?

Candidate: Basically, it looks like in terms of the overall problem that profits are down, it looks like – based on looking at a high level of the revenue and costs – the revenues are also down. So now the problem is: we have to really get to the root cause of why the revenues are down. We need to take a closer look at what comprises this business; what are the sectors and what are the biggest segments of his business; and how are each of them growing over the past year?

00:06:08

Interviewer: Seems very reasonable. What would you like to know first?

Candidate: If we look at the overall revenues for his business, or their business, if we break that down to: what are the logical components of that business? If we look at sign making as a whole, who are the people who are buying these signs?

Interviewer: I'll say that in terms of the customer segments, the major buyers historically and today are all small businesses. And small businesses encompass 100 percent of sales historically and today – no change.

Candidate: I guess in terms of the customers, it doesn't look like there's a good segmentation to be drawn there. So then we would want to look at: what are the products that we are selling these people? Has there been a steep drop off in a particular product line, or are they all down?

Let me give you a really advanced tip, sort of a secret technique that I would use a lot. It's very clear that this candidate wants to segment the revenue data, and that is in fact the right next step. And what he's struggling with a little bit is: he's trying to guess at what the right segmentation pattern should be. Should you segment by product line? Should you segment by region? Should you segment by distribution channel? There are lots of ways you can break down revenues into its component parts. Or you could segment them by price versus quantity, lots of ways to do it.

So what happens is: as a candidate it's— oftentimes you don't know which is the most useful way to segment, and so the specific phrasing you want to use is the following, *"I would like to break down revenue into its component parts," or "I'd like to understand where the revenue is coming from today. Do we have any more detailed data on that?"* And that is code for asking the interviewer to give you segmented revenue data. And it is also code to have the interviewer tell you what the segmentation pattern is, without you having to guess for it.

And the reason this is practical and I think actually a very reasonable approach is: in real life when you are a consultant and you want to segment revenues, for example, you don't know what the best way to segment the revenues is – segmenting revenues by geography, by distribution channel, by product line, which of these ways is actually the most insightful approach?

00:08:08

And so in practice in the real world, we actually segment all of the ways, we do all of it. And then we find that three out of the four weren't really useful, we kind of toss the three of the four out, and then we use the one of the four that actually is somewhat interesting. And so to shortcut that process in a case interview, rather than you suggesting a segmentation pattern, it is useful to sort of ask in a more open way by saying, "I'd like to breakdown revenue into its component parts, do we have any more detailed data on that?" Or "I'd like to segment revenue into its various segments, do we have any additional data on that?"

And I would say in most interviews, every interviewer I had as a candidate would in fact give me that data and would in the process of giving me that data, would give me the segmentation pattern that was the most appropriate one to use. So this particular technique I think saves about one to three minutes every time you use it, and it's one that I think from the interviewer standpoint is a perfectly reasonable way to ask that question, and is actually very time efficient. So I definitely would encourage you to use that approach.

Interviewer: Sure, there are two major product lines that this company sells. One would be what we call illuminated signs – these are the signs over a Starbucks, or more like a local café. They are illuminated, they have light bulbs, they shine at night above a new retail store. The other signs would be plastic sort of vinyl banners, that are more temporary in nature, and those are the other product lines that the company sells today.

Candidate: In looking at the overall business, do we have any data from the client with respect to how much of the business each one of these comprised?

Interviewer: Yes, for what time period would you like that information for?

Candidate: I think we'd like to look at it over the same period that we are seeing the drop in the profitability, so if we're saying the profitability has dropped in the past year, we'd like to look over that same period.

Interviewer: The total revenue from what we call the "illuminated signs" has fallen from about $30,000 a month to about $5,000 per month. And revenues from, we'll call them temporary signs if you would, has grown from in the past historically, none of the revenues, to this year, they are contributing about $15,000 a month.

00:10:07

Candidate: Okay, so in terms of the product lines, it looks like one of the product lines has been declining at the same time the other one has been picking up, and the aggregate— in aggregate, we've been down overall.

Interviewer: Yes.

Candidate: So, in order to address the profitability problem, we'll want to look at ways that either we can— we want to look at the reasons why the illuminated sign business has been falling.

Interviewer: Okay.

Candidate: And find out if there are ways that we can address that to increase that business, and in a parallel track, we would also want to consider why the plastic vinyl banners are growing, and if there is something that we can do there.

Interviewer: Okay, where would you like to start of the two options?

Candidate: I'd first like to take a look at the illuminated signs to understand, since this was such a big revenue stream for us, what's happened? So to break that down, I'd like to— so we've gone from $30,000 down to $5,000 on that.

Interviewer: Yes.

Candidate: So, we want to look at what— we've already looked at the trends. We want to look at: is this something that's happening industry-wide, or is this something that is specific to our business?

This is a great question to ask. So the candidate is trying to figure out: is this an industry wide problem, or is this a problem specific to our business?

You'll notice on my handout on the frameworks, one of the tips I include on there is always asking, when you get a piece of numerical information, *always asking for historical data for that same number, as well as comparing that number to other competitors.*

So when you have sales numbers – when people say, when someone says, "Sales are $10 million," you have no idea if $10 million is good or bad. Or if you know sales have declined by 20 to 30 percent, you still don't know if that's good or bad, unless you know what sales used to be, or unless you compare to what other competitors are facing in terms of their sales changes. And so it's a great question to ask, and this particular candidate does a really good job, so he really practiced a lot in following those particular tips to a tee.

And notice in the next thirty seconds or so how quickly he gets to the useful insight. And not by rushing through the process, but by asking what I consider high probability questions, which is comparing a piece of data you have about a company relative to its historical pattern and relative to other companies in the industry. Those are extremely high probability questions, they're on my "to do" list, or my checklist of questions to ask and tips to ask during a case interview on that handout, and they're on there for a very specific reason: they work a really high percentage of the time.

00:12:30

So pay attention in the next thirty seconds or so how quickly this candidate gets to the right conclusion in very little time with very little effort. And it's important to keep that in mind, and I encourage you to ask these high probability questions as well, in your own cases.

Interviewer: Okay, it turns out for all the competitors, they have experienced a similar reduction in sales and revenue for illuminated signs.

Candidate: Okay, well given that everyone has seen this same type of drop-off, we would next want to look at: what is the root cause of this? Perhaps there is something economy-wide that's going on. People are cutting back and spending less on illuminated signs perhaps.

Interviewer: Okay, that's an interesting hypothesis, what data would you need to figure out whether that's true or not?

Candidate: Well, the two pieces of data we have so far are that the illuminated signs are dropping; the plastic signs are increasing. So we want to look at: what are the reasons people usually buy these signs? It's at a high level, I think; people are buying illuminated signs when they are opening businesses.

Interviewer: Yes, and the data would confirm that that's the primary reason they buy these illuminated signs.

Candidate: So we would want to look at perhaps the people who are buying plastic vinyl banners, and look at what they are using those for.

Interviewer: Okay, before we do that, why don't you give me a synthesis of where we're at, what's the new hypothesis and what you are thinking?

Candidate: Okay, so based on where we're at, it looks like revenues are down. Looking at the individual product lines we have, illuminated sign business is down and plastic vinyl banners are picking up. Since this is a macro trend that all of our competitors are seeing, it seems like it may be indicative of a shift in what our customers want, and a shift in terms of the economy as a whole – perhaps they are scaling back. In order to confirm this hypothesis, the data we would need is to look at: are plastic vinyl banners now being used in place of where people were previously using illuminated signs?

00:14:18

This was a very good synthesis. It would have been better if the candidate had synthesized the case without me prompting him to, but once I did prompt him, he actually did a pretty good job. And so again, keep that in mind and pay attention to when the synthesis points are – they are usually at natural transition points within the case, transitioning from one part of the framework to another, or from one framework to another. Those are very good times to synthesize and to refine your hypothesis as you go.

Interviewer: Okay, the answer to that is "No."

Candidate: Okay. So they're not replacing the illuminated signs. So then the next hypothesis would be: since illuminated signs are slowing down, perhaps that's indicative that less businesses are opening.

Interviewer: And what data would you need to know to verify that?

Candidate: We would want to look at the types of businesses that we typically sell to and look at the rate that they have been opening over the past year.

Interviewer: Okay, it turns out that that has changed quite significantly in the past twelve months. The number of what we call "new retail store openings" has fallen about 90 percent.

Candidate: Okay, well that seems like a pretty good indicator of why our demand for illuminated signs has been dropping. Based on that, it looks like this is a macro trend, all of our competitors are seeing it, and there may not be something that we can do to necessarily pick up this business.

Interviewer: That seems like a reasonable conclusion.

Candidate: So the next thing we want to look at is the plastic vinyl banners. Perhaps the reason that— the hypothesis here would be: because small business owners are now all struggling and they are using plastic vinyl banners to promote their businesses, to try and grow their businesses during tough times. So we'd want to look at the people who are buying plastic banners, and try and determine what they are using them for.

00:15:58

This is a very good hypothesis that the candidate has stated. It is good for two reasons: one is the hypothesis is derived from the existing data; and second the hypothesis is very testable, which means you can verify it with additional data. And this hypothesis is useful because it narrows and focuses the remaining effort in terms of analyzing this particular case, making it much more efficient to do so.

Interviewer: Seems very reasonable. It turns out these continue to be small businesses. These are generally businesses who have been in business for a while, and the number one use for these temporary vinyl signs is to print up "going out of business, everything's on sale" signs.

Candidate: Okay. Well, while it's encouraging that this is a growth business, that there is a revenue stream that is picking up where their other business is failing, this doesn't seem like in the long term that this is going to lead to a profitable business in sign making.

Interviewer: And what data do you have that would support that particular conclusion?

In this particular conclusion that the candidate has made, there is a mistake that he's made, which is: he's drawing the conclusion without supporting it with factual data. So the conclusion was that perhaps you could sell more signs to companies that are going out of business, but perhaps this is not a good opportunity because eventually all the businesses are going to go out of business, and there won't be any left. Now that is factually true, but there is a question of time frame. How fast are the businesses going out of business and how many will be left? That is an important question. So he sort of jumped to the conclusion a little prematurely, and did not actually provide data, and this conclusion could be refined with data. It's actually a good hypothesis, it's testable, and if he tested it with data. he'd find that it was actually incorrect and would have a more precise conclusion.

So this particular case, since I knew he was doing a pretty good job overall, he sort of benefited from his prior performance and so I ended up calling him on it by asking him if he could prove his particular conclusion. Because I really sensed what he thought was his conclusion was really a hypothesis, and I wanted to force him to prove it.

00:18:04

And I think if you do extremely well in the earlier parts of the case, you know, you get a little more leeway with an interviewer. You get the benefit of the doubt, the interviewer just assumes that perhaps you just overlooked something or sort of like more of a careless error, rather than you just didn't have the skills, and so I sort of made that assumption here. In your own cases, you don't want to rely on that. It's nice to get when you can get it, but if you make a conclusion, you always have to support it. That's the golden rule of consulting: once you get the job, you never say something to a client you can't prove. And if you know you can't prove it, then you qualify it by saying, "This is just an initial hypothesis; this is my guess. I need to do more research; my preliminary thoughts are this," you know, those kinds of words to basically— so you can never be proven wrong.

That was always the thing that ruined your reputation internally within McKinsey, is if you said something to a partner or to a client (and they are essentially one and the same) and you were factually incorrect. You know, your reputation basically got ruined, almost immediately, particularly for that particular client team, and sometimes within the whole firm.

So you can never, ever say anything that is wrong. You have to prove everything you say, and this is one situation where this candidate did not prove what he said, and I called him on it. And he did a good job of testing and figuring out his mistake and recovered from that, but not every interviewer is going to be so kind in letting him do that.

Candidate: Well, if we're selling to other small businesses who are primarily buying plastic vinyl banners to go out of business, they're eventually all going to go out of business and our customer base will be gone. We won't have anyone else to sell "going out of business" signs to.

Interviewer: And how would you estimate how long a duration you have before that happens?

Candidate: Well, I would try and estimate where my customer base is located.

Interviewer: All within 50 miles, I would say.

Candidate: And I would try and estimate the rate at which they are going out of business. And based on those two pieces of data, I should have an idea of when they will all be extinguished.

Interviewer: Okay, so let's assume that four to five percent of the businesses that exist went under.

Candidate: Okay. So four to five percent yearly decay in terms of —

00:20:04

Interviewer: So far, yes.

Candidate: And has this rate been increasing or decreasing over time?

Interviewer: Yes. From a net number of new openings, let's say it's a four to five percent shrinkage. In the years prior, it was a net positive of say two to three percent. So take new stores opening, subtracting out number of lost, it's a net loss. Does that make sense?

Candidate: Okay, so in order to find out when we will be out of customers, basically, we will want to take this four to five percent decay rate, use that to calculate how long it will take.

Interviewer: So assuming they all go out of business, how long would it take for them all to go out of business?

Candidate: That's a good question.

Interviewer: And let's assume it's not four percent or five percent of each year's total, let's say it's four to five percent of the current base. So if we have 100 businesses, five will go out of business every year.

Candidate: Okay. At five percent, then we would say in twenty years, they would all go out of business.

Interviewer: Okay. What are you thinking now? Why don't you synthesize and tell me what you are thinking?

Candidate: Okay, well based on data we have, it looks like that both of our product streams are in shrinking businesses. In order to return this business to profitability, we'll either need to find a way to cut our costs in order to stay profitable, or we're going to need to find new revenue streams in order to grow our business. So in order to do that, we would want to perhaps take a look at: now that we've isolated the problem, that we need to either find new products or look at costs – we've already looked at costs, they're down – so perhaps the next logical thing to look at is what other products could this business sell in order to become profitable?

Interviewer: Okay, why don't we take a little break here? I'll do a quick debrief and we'll do another case, because this is the hardest part for you, this structuring.

So, very good by the way – very, very structured, very logical. A couple of things: you did a very good job at diagramming out what you were thinking; you did a very good job at communicating, you had more than one branch of analysis you could do. A lot of people will skip that – they'll do it implicitly – you did it explicitly, which is good.

Candidate: Okay.

Interviewer: It makes it easier for someone else to follow. Very logical in terms of your conclusions, very precise in asking for data, so overall sort of an excellent job on that. From a delivery standpoint: smile more is good, make some eye contact is good. It is a relationship business. You can do the math, but if you're an automaton at it, then it's not cool, not fun. So show the natural man, smiling, laughing.

00:22:10

Candidate: It's hard to be.

Interviewer: It is.

Candidate: It's hard when you're working so hard.

Interviewer: And it looks like you're working hard, so the trick is to look like it's effortless. So that's an advanced thing, it's not that big a deal, it wouldn't get in the way, but if you can at least do that, it doesn't have to be consistently throughout, but at certain points to show that, hey there is a personality there, not just a human like calculator, that is a good thing.

Candidate: Right.

Interviewer: And then I think towards the end, I probably would have gone a little differently. The case I had intended for this was to really focus on growing – growing that even though… but it was a time-limited opportunity, it wouldn't last forever. And also if you started to explore that more – I think you've exhausted the usefulness of this framework. You know what the problem is and you know what the problem is not, but it's a little harder to know if this opportunity is a good one without more information. And at this point, I would probably switch to like a business situation framework and understand what are the competitors doing. You understand the customers, what are the competitors doing, what is this company doing differently, perhaps.

Candidate: It makes sense, twenty years is still a long time to sell signs. But mechanically, that's the thing, I get so focused on mechanically going through it, you lose sight of "Yeah hey, so what? It will go away eventually, but you might as well take advantage of it while it is there and try it out."

Interviewer: And the other question is: what are the competitors doing, right? And if you had asked, I would have said the competitors are ignoring it entirely. So, that's another thing to question.

Candidate: So that's what I was going to do next, I was going to do it in the scope of "Hey, what other products can we sell?" but I was getting ready to switch to the other framework.

Interviewer: Okay, I would do that, and generally if you've reached a – what I call a "process of elimination conclusion," it's usually a good time to go broad again. To figure out the full context, now we've narrowed down the issue, now the question is: what do we do about it? So the profitability framework is very good for isolating the problem, it is not very good for figuring out what to do to fix it. And then I usually switch to business situations to kind of get a more holistic view of the business overall.

Candidate: And the other thing I felt like I didn't do as well was: you kept prompting me for the hypotheses; I should have been building those as I was going.

Interviewer: You were doing it implicitly, which is what I did when I interviewed, and I had no problems with it. People could see I was doing it, I was hypothesis driven, but not explicitly. So that wouldn't hurt you, but I could see you were doing it. So, actually for selfish reasons, for the sake of the recording, I wanted you to say what the new hypothesis was, because you were clearly thinking about one.

This concludes my comments for this particular example of this case. Last point to keep in mind was how quickly this case was solved from beginning to end. Excluding my commentary, the case was about seventeen minutes long, and it just shows when you are asking the right questions, asking for the quantitative as well as qualitative data at the right points in time in the case, that's it's possible to solve cases fairly quickly and get to the right answer in a very efficient way. So let's go ahead and move on to an entirely new case.