



INTERVIEW GUIDE 05

The PE Case Interview

A framework for evaluating any business, two fully worked cases, judgement questions, estimation drills and mental maths.

How to use this guide

This guide covers the part of the process where candidates are compared most directly: the case. It pairs a framework you can apply to any company with two worked examples and the open-ended questions interviewers use to test judgement.

Most questions have two layers. **What to say** is a short answer you could give in an interview. The notes underneath explain why it is right, so you can handle the follow-up.

Do not memorise answers word for word. Learn the logic, then practise saying it out loud.

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A note on conventions

Worked examples use a 25% tax rate unless the question states otherwise. Where U.S. GAAP and IFRS differ in a way interviewers ask about, the guide says so. Most African markets report under IFRS; U.S. firms will expect U.S. GAAP. Say which you are assuming.

How PE case interviews work

Technical questions show you know the tools. The case shows whether you think like an investor. Most offers are decided here.

The formats you will meet

Format	What happens	What they are testing
Paper LBO	A short verbal or written prompt; you calculate returns by hand in 10 to 30 minutes	Speed, structure, mental maths
Modelling test	Build an LBO in Excel from a prompt, typically in one to three hours	Mechanics, accuracy, organisation
Take-home case	A CIM or data pack; you build a model and write a memo or short deck over a few days	Judgement, prioritisation, communication
Verbal business case	"Would you invest in this company?" discussed live, often with little data	Business sense, structured thinking, asking the right questions

1.1 What separates strong candidates?

- **They take a position.** "I would invest, subject to confirming X" beats a balanced list of pros and cons.
- **They prioritise.** Three risks that could break the deal matter more than fifteen that could not.
- **They connect the business to the numbers.** Every thesis point should show up in the model, and every model assumption should have a business reason.
- **They think about the downside.** What has to go wrong to lose money, and how likely is it?
- **They ask good questions.** In a verbal case, the questions you ask are part of the answer.

1.2 How should you open a verbal case?

What to say

Restate the question, ask two or three clarifying questions that would change your answer (what the company sells and to whom, rough size and growth, why it is for sale), then lay out how you will approach it before diving in: "I'd like to look at the market, the company's position, how we could improve it, the price and structure, and the exit."

The AWI case framework

Five questions, in order. You will not need every sub-question in every case; use them to make sure you have not missed something important.

THE FRAMEWORK

Five questions for any business

1. **Industry.** Is this a market we want to be in?
2. **Company.** Why does this business win, and will it keep winning?
3. **Levers.** What can we change to make it more valuable?
4. **Deal.** Why is it for sale, and can we pay this price and still make our return in a downside case?
5. **Exit.** Who buys it from us, and why will they pay more?

1. Industry

Area	Questions to ask
Size and growth	How big is the market and how fast is it growing? Is growth driven by volume, price or new customers, and will it last?
Cyclicality	How did the industry perform in past downturns? Is demand tied to GDP, interest rates, commodity prices or government budgets?
Structure	Is it fragmented or consolidated? Does one player tend to win most of the market? Is it consolidating, which could create an exit?

Competition	How do companies compete: price, quality, service, brand, convenience? Are margins stable or under pressure?
Power in the value chain	Who are the suppliers, distributors and end customers? Who has the bargaining power, and who owns the customer relationship?
Threats	How easy is it for new competitors to enter? Could a substitute product, new technology or a well-funded large company disrupt the market?
External risks	Regulation, litigation, labour relations, currency, inflation, public perception.

2. Company

Area	Questions to ask
Business model	What does it sell, to whom, and how does it get paid? One-off or recurring? Contracted or discretionary?
Competitive advantage	Why do customers choose it? Scale, cost position, brand, technology, network effects, licences, switching costs? How durable is the advantage?
Customers	How concentrated are they? How sticky: retention, churn, contract length? How essential is the product to them, and how big is it in their budget?
Growth	How much has come from the market, from market share gains, from price and from acquisitions? Which of those will continue?
Pricing power	Can it pass on cost inflation? When did it last raise prices, and what happened to volumes?
Cost structure	What share of costs are fixed? What are the key unit economics? How much operating leverage is there?
Capital needs	How much capex is maintenance versus growth? How much working capital does growth absorb? How much of EBITDA turns into free cash flow?

Management	How experienced is the team? Who is critical and who could be replaced? How are they paid, and on what measures?
Quality of earnings	Are the numbers reliable? What adjustments has management made to EBITDA, and would you accept them?

3. Levers

Lever	Examples
Revenue	Pricing, new products, new customer segments, new geographies, new channels such as online, better sales execution
Margins	Procurement, automation, footprint consolidation, overhead reduction, better product mix
Cash	Working capital discipline, smarter capex, sale of non-core assets
M&A	Add-on acquisitions in a fragmented market, vertical integration, divesting unprofitable lines
Professionalisation	Finance function, reporting, systems, governance, management depth, often the biggest lever in founder-owned businesses

For each lever, ask how much it is worth, how confident you are, how long it takes and what it costs.

Deal, financing and exit

4. Deal

3.1 Why is the company for sale?

What to say

Every buyer needs a seller. A founder retiring, a sponsor at the end of its fund life, or a corporate selling a non-core division are benign reasons. A seller who knows something bad is coming is not. Understanding the motive tells you where to dig.

3.2 What about the process?

What to say

A broad auction usually pushes the price up and limits diligence time; a proprietary or limited process gives more time and often a better price. For a public company, ask why the market is undervaluing it and what changes under private ownership.

3.3 How much debt can the business support?

What to say

I would look at it several ways: leverage that lenders are currently providing for similar businesses; interest coverage, especially after capex; how much of the debt the company can repay from free cash flow over the hold; and whether it can still pay interest and meet covenants in a downside case. The lowest of those answers is the one I would trust.

Also consider the equity cushion: how much of the purchase price is equity, and therefore how far the business value can fall before lenders are at risk.

3.4 How do you think about returns?

What to say

Build a base case and a downside case. For each, show IRR and multiple of money, and break the return into EBITDA growth, debt paydown and multiple change. Then work backwards: what is the most we can pay and still hit our target return in the base case, and do we avoid losing money in the downside?

Valuation is the output of the thesis, not the reason for it. If the deal only works because of a high exit multiple or an aggressive plan, it does not work.

5. Exit

3.5 What should you consider about the exit?

What to say

Who the likely buyers are, whether strategic acquirers, other sponsors or public markets, and why they would pay more than we did: a larger, more diversified, better-run business with a stronger growth story. Also whether exit routes in this market are reliable, and how long the hold might need to be.

In African markets

Exit routes are often the hardest part of the thesis. Local stock exchanges have limited liquidity, so most exits are sales to strategic buyers, often multinationals entering the market, or to other funds and DFIs. Currency depreciation over the hold can erase local-currency gains in dollar terms. Strong candidates address exit and currency directly rather than waiting to be asked.

Presenting a recommendation

3.6 How should you structure an investment memo or case presentation?

Section	Content
Recommendation	Invest or pass, at what price, and the three to five reasons why
Business and industry	What the company does, where it sits in its market, why it wins
Key risks	The few risks that could break the thesis, and how you would mitigate each
Financials	Historical performance, the projection and the key drivers behind it
Deal and returns	Price, sources and uses, capital structure, credit statistics, base and downside returns, sensitivities
Diligence priorities	What you still need to confirm before committing

A worked case

A fictional example to show how the framework and the numbers fit together. Company, figures and market details are invented for practice.

THE PROMPT

Savanna Cold Chain

A founder-owned refrigerated storage and distribution company serving food producers and supermarket chains in East Africa. EBITDA of \$20m. The founder wants to retire and has invited three bidders. The asking price is 8x EBITDA. Lenders will provide 3x EBITDA of debt. Your fund targets a 20% IRR over five years. Would you invest?

Clarifying questions worth asking

- How much of revenue is under contract, and for how long? How concentrated are the top customers?
- How much capex does the business need to maintain its facilities and trucks, and how much for growth?
- What has growth been, and how much came from new sites versus existing ones?
- Does the company earn in local currency, and is the debt in local currency or dollars?

Applying the framework

Question	Observations
Industry	Demand driven by growth in modern retail, food exports and food-safety regulation. Capacity is scarce and fragmented, which favours consolidators. Exposure to power costs and currency.
Company	Scale and locations near major cities create an advantage. Long-term contracts with supermarkets would make cash flows sticky; concentration would be a risk. Capital-intensive, so free cash flow conversion matters.
Levers	Pricing on renewals, solar power to cut energy costs, add-on acquisitions of smaller operators, better route planning, a professional finance team.
Deal	A founder retirement is a benign reason to sell. Three bidders means price discipline matters.
Exit	A regional logistics group, a global cold-chain operator entering the region, or a larger fund.

The numbers

Base case	\$m	Downside case	\$m
Entry: \$20m × 8x	160	Equity invested	100
Debt: 3x EBITDA	60	Year 5 EBITDA (flat)	20
Equity invested	100	Exit at 7x	140
Year 5 EBITDA	30	Debt after \$25m repaid	(35)
Exit at 8x	240	Exit equity	105
Debt after \$40m repaid	(20)	MOIC / IRR	1.05x / ~1%
Exit equity	220		
MOIC / IRR	2.2x / ~17%		

A strong answer

What to say

I like the business: structural demand growth, a fragmented market we could consolidate, and a clear set of operational improvements. But at 8x, the base case gives about 17%, below our 20% target, and the downside roughly returns our money. I would bid, but at around 7x, where the same base case clears 20% and the downside still returns a little more than our money, and only after confirming contract terms, customer concentration and maintenance capex. I would also want local-currency debt, or a hedge, to avoid a currency mismatch.

Check: at 7x entry, enterprise value is \$140m and equity is \$80m (debt still \$60m). Base case exit equity of \$220m gives 2.75x and about 22%. Downside exit equity of \$105m gives about 1.3x and 6%.

Business judgement questions

5.1 You can ask a CEO one question before deciding what to pay. What do you ask? And a follow-up?

What to say

How much free cash flow the business generates, and how that has changed over time.

Follow-up: what drives it, and what could make it fall. Cash flow and its durability are what we are really buying.

5.2 Two companies in the same industry with the same capital structure: one grows EBITDA 10% a year, the other 20%. The industry grows 15%. Which would you invest in?

What to say

I would want to know why each differs from the market before choosing, and what each costs. The 20% grower is gaining share, which is attractive if it comes from a real advantage, but it will likely be more expensive and the growth may need more capital or rely on aggressive pricing. The 10% grower is losing share, which is a warning sign unless it is deliberately focusing on profitability or has a fixable problem we could solve. My default is the 20% grower at a sensible price, but I would need to understand the quality of its growth.

5.3 A manufacturer and a consulting firm each produce a constant \$50m of EBITDA. Which is worth more?

What to say

Probably the consulting firm, because more of its EBITDA turns into cash: it needs little capex, while the manufacturer must keep reinvesting to maintain its plant. But the consulting firm's earnings depend on people who can leave, while the manufacturer has hard assets that support borrowing and protect lenders. I would compare free cash flow and the durability of each business.

With 25% tax, \$10m of depreciation and matching capex for the manufacturer: manufacturer free cash flow is $\$50\text{m} - \$10\text{m tax} - \$10\text{m capex} = \$30\text{m}$. The consulting firm, with no capex or depreciation, generates $\$50\text{m} - \$12.5\text{m tax} = \$37.5\text{m}$.

5.4 What is the difference between cyclical and seasonality? Are they bad?

What to say

Seasonality is a predictable pattern within a year, such as retail peaking before holidays. Cyclical is exposure to the economic cycle over several years. Seasonality is manageable with the right liquidity. Cyclical is more dangerous for a leveraged company, because a downturn can arrive when debt is highest, so it calls for lower leverage and a conservative entry price.

5.5 How do you think about maintenance, growth and acquisition capex?

What to say

Maintenance capex is the cost of standing still and should be treated like an operating cost when judging cash generation. Growth capex should be judged on its return. Acquisition spending should be judged like any investment: price paid versus the cash flow acquired. Management often labels too much as growth, so I would test the split against depreciation and history.

5.6 What makes a good business model?

What to say

Recurring, predictable revenue; customers who need the product and find it hard to switch; pricing power; low capital intensity and strong cash conversion; a durable competitive advantage; and room to reinvest at high returns. Few businesses have all of these; the question is which ones matter most for the price.

5.7 Management gives you their five-year plan. What do you do with it?

What to say

Compare it with the company's actual track record and with the market's growth. Break the growth into volume, price, new products and acquisitions, and test each against evidence. Check that margins and capex are consistent with the growth. Then build my own case, usually more conservative, and a downside, and see what the deal looks like under each.

5.8 How do you judge how stable a company's cash flows will be?

What to say

Look at the history through at least one downturn, the share of revenue that is recurring or contracted, customer retention and concentration, the cost structure and operating leverage, and how essential the product is to customers.

5.9 Why should a company's going-concern value usually exceed its liquidation value?

What to say

Because an operating business earns returns from its assets working together: its customers, brand, people and processes. Selling the assets separately loses that, and forced sales usually happen at a discount. If liquidation value is higher, the business is destroying value and should probably be sold off or restructured.

5.10 Would you rather invest in a business with a large competitor that has unlimited capital?

What to say

Only if the business has an advantage money cannot easily buy: regulatory licences, a local network, deep customer relationships, or a market too small to be worth the competitor's attention. It is a useful test for any thesis: if a well-funded rival decided to compete, what would stop it?

Mental maths and brainteasers

These test composure as much as arithmetic. Talk through your method; interviewers care how you get there.

6.1 What is the angle between the hands of a clock at 3:15?

What to say

7.5 degrees. The minute hand is on the 3, at 90 degrees. The hour hand has moved a quarter of the way from 3 to 4. Each hour is 30 degrees, so it is at $90 + 7.5 = 97.5$ degrees.

6.2 What is 21×23 ?

What to say

483. It is $(22 - 1)(22 + 1) = 22^2 - 1 = 484 - 1$.

6.3 What is 1,007 squared?

What to say

1,014,049. $(1,000 + 7)^2 = 1,000,000 + 2 \times 7,000 + 49 = 1,000,000 + 14,000 + 49$.

6.4 A $10 \times 10 \times 10$ cube made of 1,000 small cubes is dipped in paint. How many small cubes have no paint?

What to say

512. The unpainted cubes form an inner cube with one layer removed from each side: $8 \times 8 \times 8$. So 488 cubes have at least one painted face.

6.5 80 rises by 25%, then falls by 20%. What is the result?

What to say

80. It rises to 100, and 20% of 100 is 20. A 25% rise and a 20% fall cancel because $1.25 \times 0.8 = 1$. The percentages differ because each is measured on a different base.

General rule: to reverse a rise of x , you need a fall of $x \div (1 + x)$. To reverse a 50% loss, you need a 100% gain.

Techniques worth practising

Technique	Example
Difference of squares	$48 \times 52 = 50^2 - 2^2 = 2,496$
Round and adjust	$7.5\% \text{ of } 480 = 10\% \text{ of } 480 \text{ minus } 2.5\% \text{ of } 480 = 48 - 12 = 36$
Multiples and yields	A 12.5x multiple is an 8% yield; 8x is 12.5%; 20x is 5%; 25x is 4%
Rule of 72	At 9%, money doubles in about 8 years
Compounding shortcuts	$1.1^5 \approx 1.61$; $1.15^5 \approx 2.01$; $1.2^5 \approx 2.49$; $1.25^5 \approx 3.05$
Percentage of percentage	Growing 10% then 10% again is 21%, not 20%

6.6 A company has \$30m of EBITDA and \$20m of levered free cash flow a year. A sponsor bought it for \$300m with \$100m of debt. With no growth, what is the break-even exit multiple after two years?

What to say

Equity invested was \$200m. Two years of free cash flow repay \$40m of debt, leaving \$60m. To get \$200m of equity back, enterprise value must be \$260m, which is about 8.7x EBITDA, versus 10x at entry.

6.7 Subway tokens cost \$1.50 today and will cost \$2.00 tomorrow. How many do you buy?

What to say

Buying now earns a 33% return on each token you will actually use. It is worth pre-buying as long as that beats what the cash could earn elsewhere over the time before you use the tokens. At a 10% return, $1.1^3 \approx 1.33$, so roughly three years' worth, ignoring the risk of losing them or the price changing again.

More judgement questions

Open-ended questions with no single right answer. What is being graded is whether you reason from the economics of the business rather than from a template.

7.1 How do you test whether a business has pricing power?

What to say

Look at what happened the last time it raised prices: did volumes fall, and did customers leave? Then at gross margin through a period of input cost inflation, because a business that passes costs through keeps its margin. Then at the customer's perspective: what share of their budget is this, what would switching cost them, and is there a cheaper alternative that does the job.

7.2 A company's revenue is growing 20% but margins are falling. What do you conclude?

What to say

Nothing yet; I would decompose it. Falling margins with rising revenue could be deliberate investment in sales capacity, a shift in mix towards a lower-margin product, discounting to win volume, or input cost inflation the company cannot pass on. The first is fine, the third is a warning. I would look at gross margin separately from operating margin: gross margin erosion points to pricing or mix, operating margin erosion with stable gross margin points to spending.

7.3 Would you rather own a business with 100 customers at \$1m each or 10,000 at \$10,000 each?

What to say

It depends on switching costs and cost to serve. The concentrated business has fewer relationships to manage and often deeper integration, but losing five customers is catastrophic and each renewal is a negotiation where the customer has power. The fragmented business is more resilient and usually commands a higher multiple, but it needs a real acquisition and service machine. For a leveraged deal I would lean towards the fragmented base, because lenders and buyers both pay for predictability.

7.4 A business has one customer at 60% of revenue. Would you invest?

What to say

Possibly, at the right price and with the right structure. I would want to know how long the relationship has lasted, whether there is a contract with a term and change-of-control protection, how deeply the product is embedded in the customer's operations, whether the company is sole-source, and the profitability of that account. Then I would use less leverage, price the risk in, and consider an earn-out or escrow tied to retention. What I would not do is model it as though the risk were not there.

7.5 How do you evaluate a franchise model?

What to say

The franchisor's economics are royalties on franchisee revenue: high margin, capital-light, and resilient, so they command high multiples. The key risks are franchisee profitability, because unprofitable franchisees stop opening and eventually stop paying, and the strength of the brand and the system. So I would look at unit-level economics for the franchisee, new openings versus closures, and the age profile of the estate.

7.6 How would you assess a retail rollout plan?

What to say

Unit economics first: the cost to build a store, the revenue and store-level EBITDA it reaches at maturity, the ramp period, and therefore the payback. Then whether the new sites are as good as the existing ones, because the best locations are usually taken first, and whether new stores cannibalise old ones. Then the capacity to execute: property pipeline, management bench, supply chain.

Illustration. A store costs \$500,000 to build, matures at \$250,000 of store EBITDA in year three and produces \$150,000 in year one. Payback is under three years, which supports a rollout. If the next fifty sites deliver \$150,000 at maturity, payback is over three years and the plan is worth less than the plan says.

7.7 Subscription or transactional revenue: which do you prefer, and when is the answer not obvious?

What to say

Subscription, generally, because it is predictable and supports leverage and a higher multiple. But a subscription is only as good as its retention: a contract that renews annually with 30% churn is less valuable than transactional revenue from customers who come back every week out of habit. The real question is behavioural stickiness, not the billing model.

7.8 What are the risks in a roll-up?

What to say

Integration capacity, paying up as the pipeline thins, debt accumulating faster than synergies arrive, reported EBITDA loaded with unrealised savings, culture and key-person departures at acquired businesses, and an exit where the buyer sees a collection of companies rather than one platform. The best test is whether acquisitions made three years ago are performing better now than when they were bought.

7.9 What is different about buying from a founder rather than another sponsor?

What to say

A founder-owned business usually has more low-hanging improvement, because it has never been professionalised: no proper reporting, under-priced contracts, no procurement discipline, personal expenses in the accounts. But diligence is harder, the numbers are less reliable, and the business may depend on the founder's relationships. A sponsor-owned business has clean data and a management team, but the easy levers have been pulled and the price reflects it.

7.10 How would you think about a business with a unionised workforce?

What to say

As a constraint to understand rather than a disqualifier. I would look at the current agreement's term and terms, the history of disputes and stoppages, pension and benefit obligations, and how much of the cost base is fixed by the agreement. It reduces the speed of cost-based value creation, so the investment case has to rest more on growth, pricing or capital efficiency.

7.11 How do you decide whether to invest at the top of a cycle?

What to say

Normalise earnings to a mid-cycle level rather than using peak EBITDA, use less leverage, and test the downside against the worst historical trough rather than a mild recession. If the deal only works on peak earnings at a peak multiple, it is a pass. Where I would still invest is a business whose demand is not cyclical even if its sector is, or one where the price already reflects a downturn.

7.12 What would you diligence first with only two weeks?

What to say

The two or three things that could break the thesis. Usually: customer retention and concentration through direct customer calls, the quality of EBITDA through a focused quality of earnings, and the maintenance capex requirement. Everything else can wait or be covered by warranties and price.

7.13 How do you think about management when the plan depends on hires that have not been made?

What to say

I would treat the plan as unfunded until the hires are costed and the recruiting has started. Ask who is missing, what they would cost, how long they take to find in that market, and how long they take to become productive. Then push the plan's revenue out by that lag and see whether the returns still work.

7.14 How should ESG factor into an investment decision?

What to say

As a source of risk and of value rather than a separate exercise. Regulatory and transition risk can shorten an asset's life, safety and labour practices can create liabilities, and governance quality determines whether the numbers can be trusted. On the upside, assets built to recognised standards sell to a wider pool of buyers, particularly where DFIs and institutional investors are involved.

7.15 What would make you walk away after three months of work?

What to say

Evidence that the numbers cannot be relied on; a customer or supplier issue that changes the growth case; a maintenance capex requirement far above what was presented; a management team I would not back; or a price that the seller will not move on once the diligence findings are known. Sunk cost is not a reason to proceed, and the willingness to walk is what gives a fund pricing discipline.

A second worked case

A different sector and a different shape of problem: a services roll-up with a founder seller. Company and figures are invented for practice.

THE PROMPT

Lagoon Diagnostics

A chain of 22 diagnostic imaging and pathology clinics in two West African cities, founded and majority-owned by a doctor who wants to step back but keep a stake. Revenue \$30m, EBITDA \$8m, growing revenue at 12% a year. Around 60% of revenue is paid in cash by patients, the rest through three insurers. The market is fragmented: roughly 200 independent clinics in the two cities. Asking price is 9x EBITDA; lenders will provide 3x. Your fund targets 20% over five years. Would you invest?

The questions this prompt invites

- What is the revenue and utilisation per machine, and what is the maintenance and replacement capex cycle for imaging equipment?
- How do the insurer contracts price and pay, and how long are receivables outstanding?
- How much of EBITDA depends on the founder's referral relationships with doctors?
- What do new clinics cost, how fast do they ramp, and what is the payback?
- Are the smaller independents actually acquirable, and at what multiple?
- What licences are required, and are they transferable on a change of control?

Framework view

Question

Observations

Industry	Demand driven by population, urbanisation and rising insurance coverage; highly fragmented, which supports consolidation; equipment is capital-intensive and imported, so currency matters
Company	Scale and brand in two cities; cash-pay revenue reduces receivable risk but is sensitive to household income; insurer concentration is a risk on the other 40%
Levers	Price and payer mix, utilisation of existing machines through longer hours, procurement of consumables, new clinics, and acquiring independents at lower multiples
Deal	Founder stepping back is a benign reason, but referral dependence and management depth are the central diligence issues; a rollover stake helps alignment
Exit	A regional healthcare platform, an insurer integrating vertically, a larger fund, or a DFI-backed platform

The numbers

Base case	\$m	Downside case	\$m
Entry: \$8m × 9x	72	Equity invested	48
Debt at 3x	24	Year 5 EBITDA (referrals lost, no add-ons)	9
Equity invested	48	Exit at 8x	72
Year 5 EBITDA (organic plus add-ons)	14	Debt after \$10m repaid	(14)
Exit at 9x	126	Exit equity	58
Debt after \$18m repaid	(6)	MOIC / IRR	1.2x / ~4%
Exit equity	120		
MOIC / IRR	2.5x / ~20%		

A strong answer

What to say

I would invest at 9x, subject to three conditions. The base case reaches about 20%, and most of it comes from EBITDA growth rather than the multiple, which I prefer. The downside returns capital rather than losing it, because leverage is modest at 3x and the business is cash-pay. My three conditions: the founder rolls a meaningful stake and stays on a defined transition with a referral retention plan; we hire a CEO and a CFO in the first six months, costed in the plan; and we confirm the equipment replacement cycle, because imported imaging capex is the item most likely to be understated and it is dollar-denominated against local-currency revenue. I would also want a first add-on identified before closing, to prove the consolidation thesis is executable rather than theoretical.

Note how the answer takes a position, names the two conditions that de-risk the main concerns, and attaches the currency issue to a specific line item rather than mentioning it generically.

Estimation drills

Interviewers use these to watch you structure a problem. There is no correct answer; there are defensible assumptions and arithmetic you do out loud.

THE METHOD

Four steps, every time

1. State what you are estimating and in what units, and check the question.
2. Pick a route: population-based, capacity-based, or spend-based. Say which and why.
3. Lay out the assumptions in round numbers and calculate step by step.
4. Sanity-check the answer against something you know, and say which assumption the answer is most sensitive to.

9.1 How many petrol stations are in Lagos?

Worked answer

Say Lagos has roughly 20 million people and about one vehicle per 20 people, so 1 million vehicles. A vehicle buys perhaps 40 litres a week, so 40 million litres a week. A busy station might sell 400,000 litres a week, which suggests about 100 stations; that feels too low, so I would revisit the station throughput. At 100,000 litres a week, the answer is about 400 stations, which is more plausible. The answer is most sensitive to litres per station, which is the number I would ask about.

Notice the self-correction. Interviewers reward it more than a confident wrong number.

9.2 How large is the market for school uniforms in Kenya?

Worked answer

Population about 55 million, with roughly 30% school age, so about 16 million children, and say 80% enrolled, so 13 million pupils. Assume one uniform set a year at an average of \$15, allowing for cheaper rural and pricier private schools: about \$190m a year. The answer is most sensitive to price and to how many sets per pupil, so I would check whether most families buy one or two.

9.3 How many haircuts does a barbershop sell in a year?

Worked answer

Three chairs, open ten hours a day, six days a week, so 180 chair-hours a week. At 30 minutes a cut and 60% utilisation, that is about 216 cuts a week, or roughly 11,000 a year. At \$3 a cut, revenue is about \$33,000. Useful as a unit-economics check on any consumer services rollout.

9.4 How much cement does a city of 5 million consume a year?

Worked answer

Per capita cement consumption in a fast-urbanising middle-income country runs in the region of 100 to 300 kg a year. Taking 200 kg, a city of 5 million consumes about 1 million tonnes. At \$100 a tonne, that is a \$100m market. I would sanity-check against national production figures, since cement is a regional business limited by transport cost.

9.5 How many rooms does a hotel need to justify a \$20m build?

Worked answer

Work backwards from return. A 15% unlevered return on \$20m needs about \$3m of EBITDA. At a 35% EBITDA margin, that is \$8.6m of revenue. At an average rate of \$120 with 65% occupancy, each room earns about \$28,000 a year, so roughly 300 rooms. If the site supports only 150 rooms, either the rate or the cost has to change for the project to work.

9.6 How many ATMs does a bank with 2 million customers need?

Worked answer

Assume half the customers use ATMs and each makes three withdrawals a month, so 3 million transactions a month. An ATM can handle perhaps 3,000 transactions a month before queues become a problem, which suggests about 1,000 machines. Mobile money adoption is the assumption that would change the answer most, so I would ask how transaction volumes have trended.

Quick-fire bank

Question	Answer
What is the first question you ask about any business?	How does it make money, and why does the customer choose it over the alternative?
What single number tells you most about a business?	The conversion of EBITDA into free cash flow, because it captures capital intensity, working capital and earnings quality at once.
How do you spot a moat?	Stable or rising market share with stable or rising margins over a long period. Talk is cheap; that pattern is not.
Recurring or contracted revenue: what is the difference?	Recurring means customers habitually repurchase; contracted means they are obliged to. Contracted is stronger, and the contract term and termination rights are what matter.
What is a toll road business?	One that sits between two parties and takes a fee on transactions it does not have to fund. Attractive until someone routes around it.
Why care whether costs are fixed or variable?	It determines how profit behaves in a downturn, and therefore how much leverage the business can carry.
What does high customer churn do to growth?	It forces the company to run to stand still, so acquisition spend rises and the lifetime value of each customer falls.
How would you improve a struggling distributor?	Pricing and discount discipline first, then route and inventory efficiency, then supplier terms; each is quick and within management's control.
What is your view on a business whose main asset is one person?	Buy it only with a structure that keeps them, or a plan and a budget to replace them, and with less leverage than the numbers suggest.

Why is a fragmented market attractive to a sponsor?	It allows consolidation: buying smaller companies at lower multiples and selling a larger, more diversified platform at a higher one.
What is the danger of the phrase "market leader"?	It often means the largest of several undifferentiated players in a market with no barriers. Ask for the share and how it has moved.
How do you sanity-check a management forecast in 30 seconds?	Compare the forecast growth rate with the last five years' actual growth, and the forecast margin with the best margin the company has ever achieved.
What do you do when you have no data?	Estimate, state the assumptions, and say which one you would test first. Refusing to answer is the only wrong response.
How do you close a case presentation?	With the recommendation, the price, the two conditions you would attach, and the one thing that would change your mind.

Test yourself

Answer each one out loud before checking.

#	Question
1	What is the angle between the clock hands at 6:30?
2	What is 99×101 ?
3	A company is bought for \$500m with \$300m of debt. Five years later it is sold for \$700m with \$100m of debt. What is the MOIC, and roughly the IRR?
4	Give three questions you would ask to judge customer stickiness.
5	A business's revenue is 60% from one customer. Name two ways to mitigate the risk in a deal.
6	A stock falls 40%. What rise returns it to its starting price?
7	A $6 \times 6 \times 6$ cube is painted on the outside. How many small cubes have exactly three painted faces?
8	Give two reasons a founder-owned business might offer more value creation opportunity than a sponsor-owned one.

Answers

#	Answer
1	15 degrees. The minute hand is at 180. The hour hand is halfway between 6 and 7, at 195.
2	9,999, which is $100^2 - 1$.
3	Equity in: \$200m. Equity out: \$600m. MOIC 3.0x, IRR about 25%.
4	Examples: What is gross and net revenue retention? How long are contracts, and how many renew? What does it cost a customer to switch? How long have the top customers been with the company?
5	Examples: confirm a long-term contract with change-of-control protection; pay part of the price as an earn-out tied to retaining the customer; use lower leverage; price the risk into the valuation; build a plan to diversify.
6	About 67%. From 60 back to 100 is a rise of $40 \div 60$.
7	8, the corner cubes. Every cube size has exactly eight.
8	Examples: no professional finance function or reporting; underinvested sales and pricing; no acquisition strategy; key-person dependence that can be fixed by building a management team.

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