

ROUND 1: THE SIMULATION CHALLENGE

Phase 1 (Weightage 35%)

Round Duration: 20 minutes | **Submit response by:** 2220 hours or (10:20 PM)

Google response sheet link: <https://goo.gl/forms/UnClVoYWF5Eu8rdA2>

You are the CFO of a Multinational Automobile Company, based out of the USA. The company was established in the 1940s and initially began production with just 2 models. It now has 20 different models, 12 subsidiaries, and is operating in 7 different geographies. As a result of carefully executed strategy to explore into new businesses in different geographies, the company has managed to capture value within all the industries it has ventured into.

Over the past few months you have been contemplating whether you should foray into new geographies to further boost scale and diversification. There are 5 shortlisted projects in 5 different countries presented to you by the in-house corporate strategy team. You are required to take the final investment decision to invest a total \$200 Lakhs amongst the 5 options presented below.

Project	Initial Investment (\$)	Probability	Demand in Units	Cost of Capital
Project 1	50,00,000	0.1	15,005	10%
		0.2	41,895	
		0.5	36,395	
		0.05	47,645	
		0.15	47,540	
Project 2	45,00,000	0.3	21,575	12%
		0.1	15,150	
		0.05	10,420	
		0.2	45,665	
		0.35	10,805	
Project 3	50,00,000	0.3	25,385	8%
		0.1	24,180	
		0.2	38,550	
		0.1	10,280	
		0.3	36,600	
Project 4	50,00,000	0.25	38,775	9%
		0.15	5,195	
		0.2	10,000	
		0.25	14,955	
		0.15	28,870	
Project 5	40,00,000	0.05	14,465	11%
		0.2	34,305	
		0.2	15,000	

		0.3	16,845	
		0.25	26,470	

The CFO has decided not to invest more than \$80,00,000 in any project. Suggest the optimal combination of investment across these 5 projects.

Demand increases by 10% every year. The project duration for all projects is 5 years. The demand function follows the equation: $Q = 20,000 - 60P$. The net profit margin of these projects is 20%. For ease of calculation, ignore depreciation and taxation. Assume that the increase in returns is proportional to increase in investment.

Kindly note the constraints below which will impact your decision:

Phase- 1

Time limit: 20 mins

1. The minimum amount to be invested in each project has been given. If you choose to invest in any project, you need to invest the minimum amount prescribed.
2. You cannot invest more than the maximum amount prescribed. If you invest more than the maximum amount prescribed or less than the minimum amount in the projects you have decided to invest in, your team will be disqualified.
3. The objective is to maximise profitability from your investments in the projects.

We will declare results of market share at the end of round 1.

Points distribution:

Round 1 (35% weightage)

Points will be awarded based on the accuracy of profitability calculations on the basis of which teams will make the initial investment decision.