

## A Case Study On A Re-look at Break-Even Analysis



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**M**/s Innovative Ventures Private Limited (a manufacturing company) currently manufactures a variety of products and their product portfolio essentially comprises cosmetics and toiletries. Their products particularly appeal to a select group of quality-conscious customers in the high-income category and the superior quality of their products had been instrumental in positioning their company as a dominant market player so far as their current product range is concerned. Over the years, the said company had successfully applied a simple yet effective business model which involves the following steps :

(a) Conduct a detailed market survey in order to identify the “gaps” that exist in the cosmetics and toiletries sector coupled with a detailed analysis of prospective future demand that may emerge in case such “gap” is addressed

(b) Innovate, design, develop & launch a product that would fulfill such “gap”

(c) Swiftly capture the market comprising target customers through aggressive advertising and marketing clout.

Such marketing and operating strategies had proved to be extremely effective over the years and the same had been appropriately reflected in terms of impressive growth in top line, bottom line and operating cash flows of the company.

However, of late, the last two product launches failed to fetch the desired results. In fact, in these two instances the company had experienced adverse impact on their bottom line and operating cash flow performances. Naturally, these two product launches involved substantial quantum of initial investments and the final outcome could not justify the productivity of such investments. The company had

undertaken a post mortem analysis of such failures and tried their level best to identify the root causes that culminated in such dismal performances. Such a post mortem study essentially hinted at wrong estimation of prospective future demand and inability to visualize and mitigate a few operating risks inherent in such investment options as the major reasons for failure. Having burned their fingers with these two product launch experiences, the senior management of the company had consciously decided to be more cautious in respect of future product launches.

Now, currently, Mr. Dasgupta (the CEO of the company) is toying with another fresh proposal of a product launch which essentially appears very attractive at the first glance. However, he had already learned from his past experiences that an investment proposal which looks very “rosy” at the inception stage may actually result into disastrous consequences as well. Moreover, by this time, Mr. Dasgupta also understands and appreciates that once a capital investment fails to deliver the desired results and the venture translates into failure—the exit options become quite limited which in turn magnifies the monetary losses making the situation even worse than anticipated.

Mr. Dasgupta distinctly recalls that failure of the previous two product launches was essentially attributed to “over-estimation” of product prospects in terms of their market demand, revenue and profit generation possibilities etc. In view of the same, Mr. Dasgupta contacted Ms. Bose (the Finance Manager) and requested her to develop a “worst-case” scenario in respect of the fresh proposal pertaining to the new product launch in consultation with the Production and Marketing Divisions of the company. He had also clarified (to her) that this “worst-case” scenario is

actually required in order to counter the “over-estimation” phenomenon that had occurred in the previous two product launch circumstances that had adversely affected the final outcome.

Ms. Bose had since worked on the said proposal and developed such “worst-case” scenario (as per the advice of the CEO) in consultation with the concerned personnel of various departments of the company and her estimations are provided in Exhibit I (enclosed) for ready reference.

Mr. Dasgupta studied the “worst-case” scenario as developed by Ms. Bose (in depth) and commented that it appears that she had missed out on the “working capital investments” aspect that may be specifically required in the instant case. However, Ms. Bose opined that the “working capital investments” that may be specifically attributable to the case under review may be regarded as “negligible” due to the following reasons :

(a) As the company intends to operate on “cash and carry” basis so far as this new product is concerned, the investment in debtors may be ignored altogether.

(b) So far as this new product is concerned, the production schedule would only be developed based on orders received from prospective customers and, hence, the investments in finished goods inventory would be negligible as well.

(c) Moreover, the raw material required for production of this new product is readily available from suppliers and, hence, lead time in delivery of raw material is not a crucial consideration in the instant case. Therefore, the company would operate the “just-in-time” model so far as raw material inventory management issues are concerned and as hence, there is no need to provide for investments in raw material inventory in the proposal under review.

Mr. Dasgupta was pretty impressed (rather, convinced) with the arguments provided by Ms. Bose and they both agreed that the crucial parameter that needs to be thoroughly examined before going ahead with the said product launch happens to be the “minimum average annual market demand” of this new product. Thus, naturally, the next assignment to be undertaken is a detailed market survey/demand analysis exercise in order to assess the prospective future demand of such new product in the market.

Ms. Bose commented that while the marketing team undertakes such market survey/demand analysis assignment, she would simultaneously undertake a simple exercise of computing the “break-even point (in units)” based on the “worst-case” financial estimates as already developed by her. She explained that if the outcome of the market survey report finally suggests that the “average annual market demand” of the product would exceed the “break-even level” (to be computed by her, shortly) comfortably, the product launch (as currently being contemplated by the CEO) is bound to succeed. Mr. Dasgupta naturally saw lot of merit in the approach suggested by Ms. Bose and requested her to undertake such “break-even analysis” exercise. He agreed that this exercise may aid in visualizing and ascertaining the crucial operating risk exposure of the proposal under review.

Ms. Bose had since conducted a simple break-even analysis (based on the “worst-case” financial estimates) and generated the “break-even” information as well. Such “break-even analysis” is provided in Exhibit II (enclosed) for ready reference.

Once Mr. Dasgupta observed that the new product would break even at average annual demand of 7 lakhs units, he instructed his marketing team to undertake a detailed market survey/demand analysis exercise. He specifically requested their team to spell out the minimum anticipated annual demand of the product under a “worst-case scenario” as well. The market survey was duly conducted by the marketing team and key information obtained from their report is provided as :

(a) Average Annual Market Demand would range between 9 to 10 lakhs units

(b) Even in the “worst-case scenario” annual demand would amount to 8 lakh units

Mr. Dasgupta was extremely happy with the outcome of the market survey report because he realized that the new product launch is sure to succeed.

The evening before he was officially expected to give clearance to the new product launch proposal, a relieved Mr. Dasgupta was attending an informal get-together where he happened to meet one Mr. Basak who is a renowned freelance financial consultant by profession. In course of the conver-

sation, Mr. Dasgupta cited the above case facts to Mr. Basak while clarifying how he tried to visualize, ascertain and address the risk exposure of a real life project. The case facts naturally interested Mr. Basak and fortunately, Mr. Dasgupta still had the papers available with him in his attaché case, which he readily shared with Mr. Basak. Mr. Basak studied the case related papers for half an hour or so and commented :

“Mr. Dasgupta, I suggest that you give a second thought before clearing the proposal tomorrow morning. Since you and your entire team had heavily stressed on the worst-case scenario while evaluating the proposal, I guess that possibility of such a scenario emerging may not be ruled out altogether. I can tell you one thing for sure. In such worst-case scenario, your project won't break even at 7 lakh Units at all. The break-even analysis conducted by your finance manager is characterized by a conceptual limitation because it happens to ignore one crucial—yet significant—“cost” in relation to the project under review. Therefore, the break-even figure of 7 lakh Units that your finance manager had actually arrived at has distorted the reality. As per my guess the actual break-even for this project (under the worst case scenario) is far higher than 7 lakh Units. In fact, such break-even would actually exceed the minimum market demand of 8 lakh Units of the new product (under the worst-case scenario) as captured in your market survey report.”

#### List of Review Questions

- Do you agree with Mr. Basak that the break even of 7 lakh Units as arrived at by the finance manager depicts distorted reality?
- In case you agree with the views expressed by Mr. Basak, please clarify the conceptual limitation that the break even analysis given in Exhibit II actually suffers from.
- Mr. Basak had also commented that the break-even analysis provided in Exhibit II actually ignores one crucial—yet significant—“cost” in relation to the project. What “cost” is he referring to?
- Suggest an alternative method of arriving at a more reliable break-even number and compute such break-even sales (in units).

### Exhibit I New Product Launch – The Proposal (The “Worst-Case” Scenario – Estimated Financials)

Capital Investment Required	Rs. 20 Crores
Useful Life of the Capital Asset (Estimated Salvage Value – ZERO)	10 Years
Depreciation Policy (As would be allowed by IT Authorities in the instant case)	Straight Line
Effective Tax Rate	35%
Mode of Financing of the above capital investment	Internal Accruals
Expected Returns of Equity Investors	18%
Selling Price Per Unit of this new product (Minimum)	Rs. 500
Variable Cost Per Unit (Maximum)	Rs. 400
Attributable Annual Fixed Cost – Other than Depreciation (Maximum)	Rs. 5 Crores
Annual Average Market Demand of this New Product (In Units)	“Subject to Market Survey”

### Exhibit II New Product Launch – Break-Even (Based on the “Worst-Case” Estimated Scenario)

Details	Level of Operation – New Product		
	4 lakh Units Rs. lakhs	7 lakh Units Rs. lakhs	9 lakh Units Rs. lakhs
Revenue (@ Rs 500)	2000	3500	4500
Variable Cost (@ Rs 400)	(1600)	(2800)	(3600)
Contribution	400	700	900
Attributable Fixed Costs	(500)	(500)	(500)
Depreciation Charges	(200)	(200)	(200)
Profit Before Tax (PBT)	(300)	0	200
(Tax Charge)/Tax Savings	105	0	(70)
Profit After Tax (PAT)	(195)	0	130
<b>BE Level</b>			
<b>Break Even Sales (in Units)</b>	<b>7 lakhs Units</b>		
<b>Break Even Sales (in Rupees)</b>	<b>Rs 3,500 lakhs</b>		