

Six Simple Questions

Anybody who advises SMMs on strategies such as developing new products should also help them answer the money questions involved. New product development is an investment and may require a significant amount of capital to be successful. These are decisions with considerable risk and every effort should be made to help the manufacturer do a good diagnosis before offering a prescription.

New product development begs a lot of money questions such as:

1. How much will the total project cost?
2. What price will users pay for this product?
3. Is the sell price comparable to competitor prices?
4. What is the estimated cost and margin?
5. How many products can I sell per year?
6. How many years will it take to get my investment back?

These can be daunting questions to answer depending on the type of new product and risks involved. Perhaps it is easiest to address money questions by starting with the spreadsheet on the next pages that shows the owners, investors, and shareholders when they will get their money back- and before they make the final decision on whether to fund the project.

The example is a simple 1-page spreadsheet that is entitled Return on Investment. The product is a small material handling machine I will call and SF100. This form is usually the last slide presented late in the new product process after most of the critical information has been gathered. To give this exercise even more importance, I will also add that the owner of the manufacturing company will have to mortgage his house, and borrow money from the bank and from family and friends. Let me explain the form in a step by step manner showing how it was developed.

Return on investment analysis (in thousands)

		2003	2004	2005	2006	2007
	MARGINS					
4	Forecast - Number of Machines	1	5	12	16	20
1	Average sell price	50	55	55	60	60
4	Total projected sales	50	275	660	960	1200
2	Project margin %	30%	30%	30%	30%	30%
	Total Projected Margins	15	98	198	288	360
	INVESTMENT EXPENSE					
	R & D base machine	250	50	25	0	0
	R & D options	35	25	10	10	10
	Marketing expenses	35	25	25	25	25
	Commission % and expenses	0	0	0	0	0
3	Total Investment/Expense	320	100	60	35	35
	PROFIT ANALYSIS					
	Yearly projected profits	-305	-2	138	253	325
5	Total Projected Profits	-305	-307	-169	84	409
					6	

1. AVERAGE SELL PRICE- To be able to set a sell price, the manufacturer must know something about competition in the marketplace. Customers usually have competitive products that they are already purchasing, so they will want to know two things:

- What is the advantage of your machine over the ones they can already purchase?
- How does your price compare to the competition's prices?

It is important to find the answers to these 2 questions before you have developed a prototype and are trying to sell it in the marketplace. So at a minimum, someone needs to find out how many direct and indirect competitors are already in the market, what their sell prices are, and the proof that you have a competitive advantage over existing competitive products

2. MARGINS/COSTS – Management usually has a minimum margin that they would like to attain in any new product. In this case the margin is 30%. So when you have decided on the sell price and margin, it means the total cost of the product must be at 70% of the sell price. If you don't think it is possible to build a machine for this cost, then you need to make an early decision about the viability of the project.

3. **TOTAL COST OF PROJECT** – It is also important to accurately estimate the total costs of developing the new product. This includes all engineering, building the prototype, tooling, necessary options and all marketing costs.
4. **SALES FORECAST** – This is probably the most important number of the whole exercise because it is the multiplier of all costs and margins. If I were the owner and sticking my neck out to finance this project, I would want to know how the team arrived at this number in terms of units and sales. Even if the numbers are just estimates the owner and investors will want some kind of evidence that customers will eventually buy the new product.

You might begin by trying to find out how many competitor machines have been sold per year which at least show the size of the market. Or you might get testimonials from prospects and customers on why they might buy the machine.

5. **TOTAL PROJECTED PROFITS** – If your numbers in 1 through 4 are fairly accurate it is pretty easy to project the total yearly profits by subtracting the total projected margins each year from the total cost of the project. In the early years when sales are just beginning and the total cost of the project is being absorbed, this will be a negative number. But as sales and margins begin to increase they begin to pay for the project costs.
6. **PAYBACK IN TERMS OF YEARS** – The final number is the year when all project costs have been paid off and the new product sales really begin producing profit for the company. It is totally up to the owner at what year he wants to pay off the project and begin making money. Most owners of midsize manufacturing companies with a board of directors don't like to fund projects that have more than a 4 year payback

The primary reason for the failure of new product projects is that sales do not materialize. It goes without saying that if the sales forecast was inaccurate and sales do not materialize as projected the payback on the project may not happen. This can be a serious problem for the owner who has borrowed from the bank and friends with an agreement to pay the money back on a term loan with fixed dates.

Now I know what you are probably thinking. Gosh do I really have to all of this stuff? The answer is that it depends on the cost of the product and where the money comes from.

1. If you are trying to raise money from a venture capitalist or venture angel you had better do your homework

Wayne Embree of Cascadia Pacific Management looks at many new product and technology ideas and reviews a lot of business plans. There

are hundreds of new business plans submitted every year and hundreds of new product ideas that are ingenious and innovative. But, only about 1 or 2% of the business plans and product ideas however get serious consideration for investment.

When asked what these inventors and entrepreneurs can do to increase their chances of commercializing their product idea, Wayne says, “ that they should spend a lot of time developing a case as to how their product idea is going to have compelling competitive advantage.” This translates into gathering lots of information on competitors, channels of distribution, and customers if you’re going to convince anybody to invest money in your product idea. Wayne’s summary expression is “An ounce of marketing beats a pound of technology”.

2. If you are borrowing money from the bank, refinancing your house, or getting personal loans from family and friends, you had better do your homework.

It isn’t just your money and you owe these investors your best effort at trying your best to find the answers to these 6 questions. This is equivalent to “betting the farm” and there is a lot of risk for a lot of people.

3. If it is only your money you are spending or if the product is low cost you can take shortcuts.

If it is a simple low cost product, you can simply build a prototype and go out and do some kind of test marketing to find out if it is salable or must be modified for the market. Or if it is all your money and as an entrepreneur you trust your gut instinct then go for it. On the other hand if it were all the money you have and you have a sick feeling in your stomach, maybe it would be wise to find a quiet place and re-read the basic questions **THAT SHOW YOU THE MONEY**.