



It's Best to Improve before You Start!

Case Study by James La Trobe-Bateman

Are you a “**Right First Time**” person? With the idea that if you are disciplined and professional enough at your jobs, the result of your efforts will come out right and need no further tinkering to make it better. Sometimes you *must* think this way: if you are putting a man on the moon, for example.

Or is your attitude more “**Let's Get Started**, because we can always fix it later”? Having something to experiment with, find out what really happens and then improve it, will get results faster than trying to foresee everything and then still being off the mark at the end of it. It would probably be best to think this way, if you are blazing a trail with something really novel. You probably won't know what the market really wants until it sees it.

In general, neither approach is realistic. What you really need to know are which things have to be “Right First Time” and which can be “Fixed Later”. You need your A-team on the vital few, but first you want to narrow them down and then be sure that you are not missing something else important. This is vital, because you will make decisions on these key issues that will set the way you conduct business for the lifetime of the product. Making these kind of changes later will be uneconomic, because they will be tantamount to creating a new business to compete with your old. You've got competitors who are doing that already!

Let's investigate what this would mean by looking at a real life example.

We will look at a new business involving a medical device supplied as a piece of hardware plus some items that need to be regularly replaced. It compares the profitability and risks between the sponsor's own first ideas and a better way of looking at it.

Our assertion is that if you see how manufacture of the product you are designing now will look, then you will improve it before you create it. You avoid having to say that “we can fix it after we start making it”. In practice, that is often very hard to do and will be limited in scope.

Let's examine some decisions made for a new business before the product concept has been frozen. At this stage there is no hard information from the market about performance or service. We have created two scenarios using a numerical model in order to compare outcomes. In one case we look at the approach that would have been taken by the proponents “As First Planned”. In the other, some of the key assumptions are challenged to predict a different outcome. The point here is that you may have a great business idea, the drive and finance to make it happen, but you can still improve it before you start by challenging your own assumptions.



The table outlines some of the main differences. Notice that in both cases the product is physically the same: it is not the design of the **product** that we are challenging. Instead it is the pricing policy (Many people talk about their “business model”...) or the way that the service is offered to customers. The situation in this case is similar to office printers where revenues come from both the printer sale and ongoing toner sales. You will also see that the impact of marketing effectiveness is taken into account, in order to explain why a much higher level of marketing effort is wise for the “revised plan”.

	As First Planned	Revised Plan
Product Performance	To Plan	To Plan
Marketing Effort	Minimal	5 x 1 st plan
Hardware Price	Small	3 x 1 st plan
Consumable Price	Equal to equivalent items already purchased by customers	80% x 1 st plan
Profitability	<40% IRR	More than 4 x as good

In simple profitability terms (both ROI and NPV), the revised plan shows much bigger figures.

That’s welcome, of course, but a much clearer picture of the business environment is provided by a sensitivity analysis, shown on the next page, where the outcome is checked with key inputs being different to expectations, both more and less.

Traffic light colours are used to show risks and opportunities. Many inputs can give rise to opposing pairs of risks and opportunities: if things go well, you do better than you thought; if they don’t you do worse. However, this is not always the case. Sometimes there is not an equal balance, for example a yellow to a green.

In one case, the situation is even more precarious: if you can’t realise the consumable item sales price, then profitability slumps, as it also does if you push too hard on this price. That’s a tight-rope if ever there was one!



		As First Planned		Revised Plan	
Sensitivity to things being different from plan Key: High Risk Some Risk Opportunity		<i>If less than expected</i>	<i>If more than expected</i>	<i>If less than expected</i>	<i>If more than expected</i>
<i>Within Your Control</i>	Performance	High Risk	Opportunity	High Risk	Opportunity
	Consumable manufacturing cost	Opportunity	High Risk		
	Hardware manufacturing cost reduction with volume	High Risk	Opportunity		
	Time to Prove Performance in practice		Some Risk		
	Hardware Sales Price			Some Risk	Opportunity
	Consumable Sales Price	High Risk	High Risk		
<i>Outside Your Control</i>	Sensitivity of customer to performance change	High Risk	Opportunity	High Risk	Opportunity
	Customers use of consumables	High Risk	Opportunity		
	Sensitivity of customer to consumable price	High Risk	Opportunity		Some Risk
	Hardware Years of Life				Some Risk
	Count of Risks/Success factors	Risks Opportunities	8.5 6	Risks Opportunities	3.5 3



However, the conundrum is avoided altogether by the revised plan, which has a much cleaner list of risks and opportunities. With fewer risks, there are fewer things to get “right first time”, but at least your mind is focussed on the few that really **do** matter. Of course, the analysis reminds you of the obvious by clearly showing that the product must **perform** in order to be a success. So product design still matters.

The message to the business directors becomes quite simple:

1. Make sure the product works
2. If the customers can see the benefit of small incremental improvements to performance, then continuously develop the product to provide them
3. Set up an effective marketing program: defined as “one that gets x% of the target market to be aware of the product for a cost of \$M per year”
4. Do your best to get the best price for the hardware

Conclusion

If you use a modelling methodology that uses ALL the knowledge you have when you start a project to predict the outcome, then it will be better.

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