

Target Setting and Reducing Volume at Risk

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Setting sales growth objectives in a corporation and allocating these as sales volume targets to managers should have only one purpose:

Increase the probability of success.

Importance of Setting Correct Targets

Every year thousands of corporations around the world spend millions of man hours to produce their annual budgets and setting targets for revenue and productivity growth. Only a few corporations question the optimality of their target setting by applying the following tests:

1. A hard-working and creative sales manager is highly likely to achieve his/her target, and
2. Upon target achievement, all stakeholders are happy with the implied outcome.

It is hard to know beforehand whether a target setting process will pass these tests. One thing that certainly makes stakeholders happy is growth. Even so, there are various trade-offs that need to be balanced when setting sales targets:

1. Is the target likely to be achieved but not too easily achieved (disappointment and complacency trade-off),
2. Is the target setting process transparent (process efficiency and negotiation trade-off), and
3. Will achieved targets make customers happy (new/repeat customers and efficiency/quality trade-off).

The sweet spot of these trade-offs will increase shareholder value, keep customers coming back and give employees a sense of pride and focus.

Volume at Risk

By “Volume at Risk” we mean lost sales, due solely to inappropriate target setting, when these trade-offs are not optimized correctly. In our opinion “Volume at Risk” has at least three components:

1. Forecasting Related Risk
2. Allocation Related Risk
3. Compensation Related Risk

Forecasting risk is simply either running out of a product when there is demand or spending resources to prepare for sales that do not materialize. To put it more bluntly, it is the risk of not being prepared or over preparing. Forecasting risk is not our topic in this paper.

We will focus on allocation risk and compensation risk.

Allocation Risk

We separate allocation risk from forecasting risk because we can optimize and control allocation risk but detailed forecasting is very unpredictable (how many yellow plaid shirts will we sell next month?). We do allocation by EPO (Enterprise Performance Optimizer), our proprietary optimal benchmarking system. We allocate detailed targets based on like-for-like comparisons by benchmarking peer groups among themselves based on real data.

In this paper we focus on situations mostly observed in the service sector. The sales manager can typically influence the volume in these situations (create demand rather than rely on walk-in demand), and therefore his/her compensation has an incentive component. Given the corporate expectations, most sales managers will try to meet or exceed expectations. Very few will try to greatly exceed them to avoid setting up a too high expectation bar for the future.

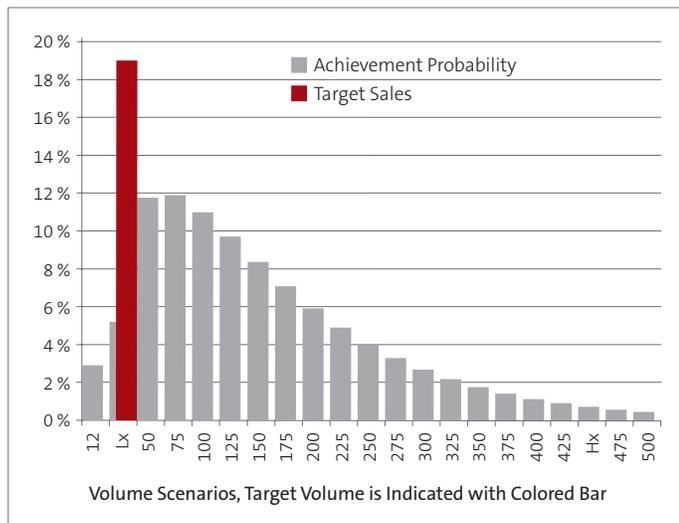


Figure 1: The target Lx has more than 97% chance of being realized.

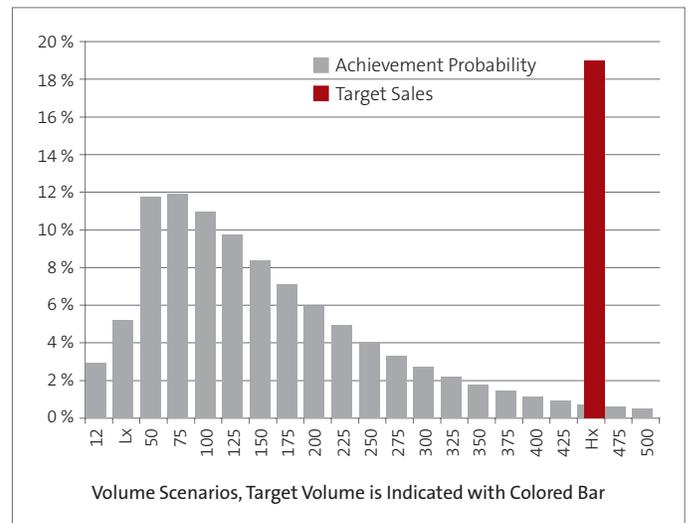


Figure 2: The target Hx has less than 2% chance of being realized.

Let's get back to allocation risk. Guessing that the possible outcomes and likelihoods may look something like the gray bars, a typical corporation may set a stretch target at level Hx (red bar). *Hx is a high target in relation to the spectrum of possible outcomes.* Regardless of why it happens, this is an example of misjudging the likely outcomes that a sales manager can deliver. The market potential, the skill level, the product mix, or the support resources may be misjudged. The primary reason a corporation sets out of kilter targets is because it does not have a means to discover the possible outcomes (gray bars). **Using EPO, we can infer a much better estimate of the possible outcomes and set better targets.** With a small probability, the economy might grow at an unprecedented and unexpected rate next year, the volume may be available for the taking, and there may not be a problem. But this is not the sales manager's expectation. What is more likely to happen is the following sequence of events:

First, there will be many corporate discussions and precious time will be spent on re-negotiating the targets rather than working to achieve them. **This is why planning and budgeting takes so long.** It does not have to. Not having been successful in negotiating the target, the sales manager will realize that the target is beyond what can be reached just by being proactive and creative. He may look for games that he can play, and may even resort to questionable behavior to achieve the targets. Even when successful, this track will not make any of the stakeholders happy. The sales manager doesn't typically want to resort to such tactics. **Customers and shareholders will certainly not be happy when the bottom line contradicts the sales manager's achievement.**

In the end, most sales managers will give up, realizing that there is very little chance they will achieve expectations. The corporation may lose valuable people who are probably very good, but mis-assigned.

An example from the opposite end of the spectrum is when the corporation cannot estimate the growth potential or does not allocate the growth to the right people. This kind of mismatch may result in a lower than appropriate target (Lx) for a particular manager as shown in the Figure 3 below. *Lx is a low target in relation to the spectrum of possible outcomes.* In this case, the likely sequence of events is somewhat different that before but equally undesirable.

There is a small chance that volume will be difficult to get, realized around 50 units. What would have been a “wrong” target for this department/manager, will turn out to be correct. There is also a small chance that the volume will be available at a higher level (more than 100 units) and the sales manager will spend extra effort to reach 100, four times his target. But most likely, a volume of 100 to 200 units could have been achieved but will never be realized, because at 50 units, the sales manager had already doubled his target assignment. Complacency will set back the corporation.

The above two examples illustrate two cases where sales volume would be put at unnecessary risk. When the targets are set significantly wrong, they become irrelevant. Whether they are too high or too low, achievement will not be influenced by the target. We claim:

1. If targets are significantly wrong, they become irrelevant to the degree that which direction they are wrong at is not significant.
2. If targets are significantly higher than optimal, less volume will be achieved compared to when the target was set lower to begin with! We discuss these in the next section.

Incentive Compensation Risk

A sales manager influences the volume of sales and therefore his compensation has an incentive component. A manager who wants to maximize his compensation will work at a different intensity level when faced with a different likelihood of the desired outcome. Intensity is the level of sales manager focus as time passes and volume is achieved. Working on realization of outcomes that will bear fruit, he makes the trade-off of between next year’s relationships and this quarter’s volume. Faced with multiple product targets, he focuses only on the outcomes that are likely to bear fruit. In Figures 3 and 4 we show the reaction of a typical sales manager to perceived probability of targets set for him. The blue lines depict the intensity with which the sales manager is focused on achieving the set targets as time passes.

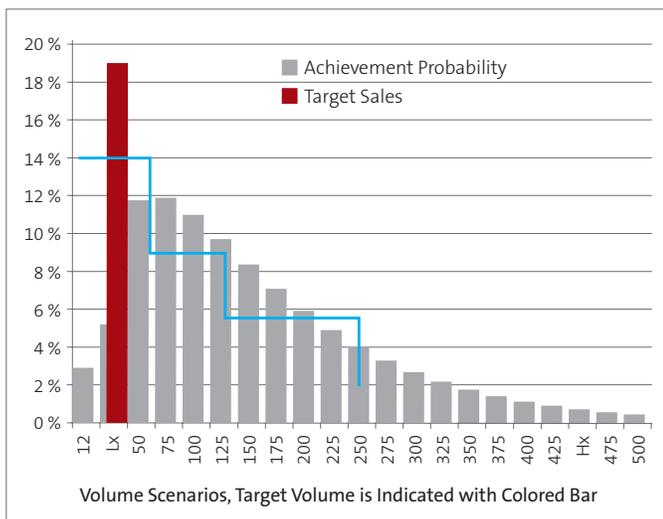


Figure 3: The manager intensity as sales accrues and exceeds the very easy target, Lx

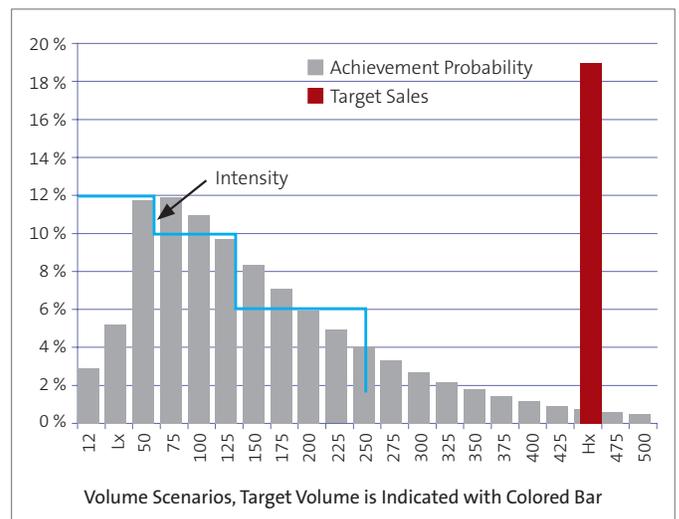


Figure 4: The manager intensity as sales accrues towards the improbable target, Hx

Typically, the intensity level is normal to high until the target is within reach. The intensity level becomes very high around the time when the target is being reached or moderately exceeded. The intensity level dies down and focus is diverted to next year's problems and other projects as further volume does not impact his compensation. This virtuous cycle between probability and intensity is best realized if targets are more than likely to be achieved, but not likely to be exceeded greatly. We illustrate this effect with the three graphs in this section, assuming typical organizational behavior.

What happens with the sales manager who is assigned too low of a target? The corporation essentially wastes the incentive compensation. The manager did not need to be incented to achieve what he achieved.

What happens with the sales manager who was assigned an inappropriately high target? He typically spends too much time in corporate discussions trying to change expectations. His intensity never reaches that high level we observe around targets. Even when he is not discouraged and works with 100% intensity, he does not receive much incentive compensation.

We should emphasize that a simple intensity adjusted likelihood calculation will result in an expected outcome of 110 units in both cases. The manager with the high target is likely to give up and the manager with the low target is likely to slow down after sufficiently exceeding his target. Hence, the most likely volume is the same (110 units) in both cases.

Let's talk now about what was supposed to happen. In a similar environment, suppose the target was set at 125 units, as shown in Figure 5. Typical behavior would be to work at 100% intensity until about 100 units are sold, and then to work at 120% intensity to secure or moderately exceed the target. The sales manager is likely to achieve 140 units rather than 125. Add to this the time he does not waste in negotiating and looking for short-cuts, he may achieve even more, say 150 units. This extra volume over the likely volumes with too high or too low targets (likely volume in these cases was 110 in our examples) is what we call the "Volume at Risk". In the Right-Target case shown here, the intensity adjusted most likely volume is 140 units.

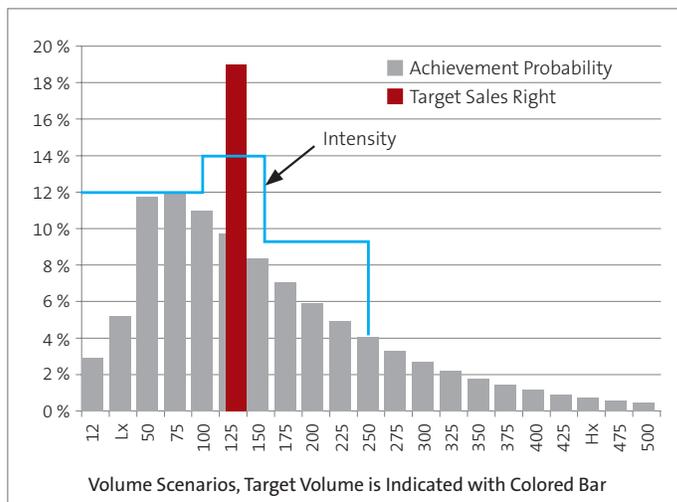


Figure 5: The manager intensity for a target that has a perceived achievement probability of 60%.

The primary reason a corporation sets out of kilter targets is because it does not have a means to discover the possible outcomes (gray bars). Using EPO, we can infer a much better estimate of the possible outcomes and set better targets.

What to do?

It is fair to ask why something that seems so straight forward becomes a time consuming and contentious process in a typical corporation. It is because setting the right targets that eliminates “Volume at Risk” must have a factual and analytical bases and the process must have certain characteristics like transparency and measurability.

Setting targets would be easier (with a high chance of success) if only these conditions were true:

1. Compensation is directly proportional to performance (this would imply no salaries),
2. There is one and only one measure of performance (be it profit, unit sales, revenue or growth),
3. All managers were at the same skill level and uniform (some are good at customer service, others are good at cost effective delivery),
4. Managers are risk neutral (in fact, they are risk loving when they have nothing to lose such as the High-Target assignee, but they are risk averse when they have too much at stake),
5. Each manager has enough data and analysis capacity to discover performance possibilities,
6. The headquarters have enough data, analytical power and data mining insight to correctly allocate overall targets among hundreds of managers, and
7. Externalities (credit crises, consumer tastes, natural disasters, regulatory environment) were more predictable.

Rather than dismissing these conditions as unrealistic, we at Alta Bering address most of these items with EPO, our Enterprise Performance Optimizer:

1. EPO brings Actual to Target proportion to a narrow range where incentive compensation is directly proportional to performance.
2. EPO handles multiple performance measures and performance factors simultaneously.
3. EPO discovers the optimal peer group for each manager.
4. By being able to explain to managers how their targets are derived, and by narrowing the range of shortfall, we bring the manager to the risk neutral region of performance.
5. Transparent and systematic approach that EPO takes allows managers to review their targets quickly rather than re-invent it themselves.
6. Data visualization, correct segmentation and performance optimization allows the corporate analyst to create models with EPO for appropriate target allocation. For each performance measure, EPO discovers correct peers for each manager. Why the target is the target is transparent to the manager. This increases buy-in as well as target achievement rate.
7. We do not increase or decrease the probability of externalities but we mitigate their impact by reducing the “Volume at Risk”.

Levend Beriker - Managing Partner

Levend Beriker is Alta Bering's founder (1994) and managing partner. Alta Bering's practice is built upon many years of hands-on business experience and cooperation with international practitioners of value management and corporate strategy.

Mr. Beriker has contributed to the success of a broad range of businesses from financial services to retail by facilitating orchestration of corporate skills and management technology for competitive advantage. Mr. Beriker is a graduate of Cornell University School of Engineering (IE/OR) and Kelley School of Business, Indiana University where he received his MBA in Finance.

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Mahmut Karayel is the chief scientist at Alta Bering, responsible for solution integrity and algorithmic design. Since becoming a partner in 2007, Dr. Karayel has expanded Alta Bering's mathematical technology for specific client needs, and provided financial modeling, optimization and risk management solutions. Throughout his career, he held various engineering, managerial, investment banking and academic positions. Prior to joining Alta Bering, Dr. Karayel was the global head of the analysis at Babcock & Brown. Prior to B&B he held positions at GATX Capital, Ford Motor Credit Company, Bogazici University, Lawrence Berkeley National Laboratory. He is a graduate of the University of California at Berkeley where he received a Ph.D. in Operations Research.

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