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Why Aspirational Goals: Geometric Explanation

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Abstract Business gurus recommend that an organization should have, in addition to clearly described realistic goals, also additional aspirational goals – goals for which we may not have resources and which most probably will not be reached at all. At first glance, adding such a vague goal cannot lead to a drastic change in how the company operates, but surprisingly, for many companies, the mere presence of such aspirational goals boosts the company's performance. In this paper, we show that a simple geometric model of this situation can explain the unexpected success of aspirational goals.

1 What Are Aspirational Goals

Business gurus recommend that, in addition to realistic achievable goals, organizations and people should also have *aspirational* goals: goals which may never be achieved, goals for which we do not have resources to achieve – and maybe never have such resources; see, e.g., [1].

For example, a small-size US university may have realistic goals of becoming the best of small-size universities in its state or even in the US as a whole, but its aspirational goal may be to overcome MIT and other top schools and become the world's top university.

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2 Can Aspirational Goals Help?

A clear formulation of realistic goals helps the company – or an individual – to progress towards these goals. One of the main reasons why realistic goals help is that they provide a clear path to achieving these goals.

From this viewpoint, one would expect that vague pie-in-the-sky aspirational goals cannot be of much help. (Yes, sometimes, a visionary reaches his or her goals, but such situations are rare.)

3 Surprisingly, Aspirational Goals Do Help

Contrary to the above-mentioned natural pessimistic expectations, in practice, aspirational goals help: their presence often helps a company to achieve its realistic goals – provided, of course, that these goals are properly aligned with the realistic goals.

4 But Why?

A natural question is: how can we explain the success of aspirational goals?

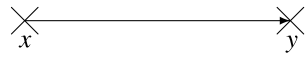
In this paper, we provide a simple geometric explanation of this success.

5 How to Describe Goals in Precise Terms: A Simplified Geometric Model

To describe the current state of any system – in particular, the state of an organization or of an individual – we need to know the current values of the numerical characteristics $x_1, \ldots, x_n$ characterizing this system. Thus, the current state can be naturally described as a point $x = (x_1, \ldots, x_n)$ with coordinates x_i in an n-dimensional space.

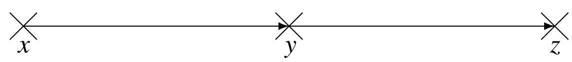
A realistic goal is, in effect, a description of the desired reasonably-short-term future state of the system. So, from this viewpoint, a goal can also be represented by an n-dimensional point $y = (y_1, \ldots, y_n)$, where $y_1, \ldots, y_n$ are the values of the corresponding characteristics in the desired future state.

We want to go from the original state x to the state y corresponding to the realistic goal. In general, the fastest way to go from x to y is to follow a straight line from x to y:



6 In This Simplified Model, Aspirational Goals – Even When Perfectly Aligned – Cannot Help

In this simplified description, if we supplement a realistic goal y with an additional aspirational goal $z = (z_1, \ldots, z_n)$ – even the one which is perfectly aligned with the realistic goal y – the path from x to y remains the same.



In other words, in this simplified model, the addition of an aspirational model cannot help:

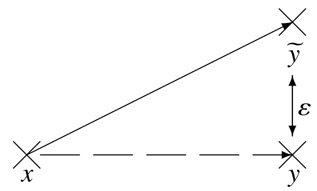
7 A More Realistic Geometric Model

Let us now consider a more realistic geometric model, namely, a model that takes uncertainty into account. Specifically:

- we usually have a very good information about the current state x of the system,
- however, we usually only know the future state with uncertainty.

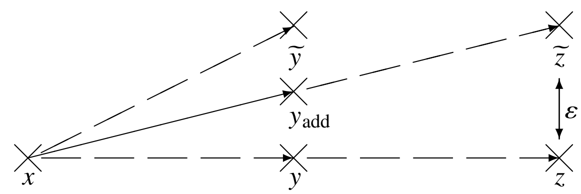
For example, a university knows exactly how many students are enrolled now (e.g., 23,456) but even a realistic plan for increased future enrollment cannot be that accurate – it may say something like “around 30 thousand students", meaning, e.g., anywhere from 28 to 32 thousand.

From this viewpoint, since we do not know the exact future state of the system, the resulting trajectory is oriented not exactly towards the actual future goal y, but towards a point $\widetilde{y}$ which is ε-close close to y, where ε is the accuracy with which we can determine future goals:



8 What If We Now Add a Second Longer-Term Goal?

Let us see what will happen if in this more realistic geometric model, we add a perfectly aligned additional longer-term goal – for which the corresponding state z is also known with the same accuracy ε:



Let us show that in this case, the deviation of the actual trajectory from the desired one is smaller than without the additional goal. Indeed:

- Without the additional model, the angle α between the actual and desired trajectories is approximately equal to

$$\alpha \approx \frac{\varepsilon}{d(x, y)},$$

  where $d(x, y)$ is the distance between the current state x and the state y corresponding to the realistic goal. Thus, the deviation d of the resulting state $\widetilde{y}$ from the desired state y is approximately equal to

$$d \approx \alpha \cdot d(x, y) \approx \varepsilon.$$

- In the presence of a perfectly aligned additional mode, the angle α_{add} between the actual and desired trajectories is approximately equal to

$$\alpha_{\text{add}} \approx \frac{\varepsilon}{d(x, z)},$$

  where $d(x, z)$ is the distance between the current state x and the state z corresponding to the additional goal. Thus, the deviation d_{add} of the resulting state y_{add} from the desired state y is approximately equal to

$$d_{\text{add}} \approx \alpha_{\text{add}} \cdot d(x,z) \approx \varepsilon \cdot \frac{d(x,y)}{d(x,z)}. \tag{1}$$

The additional model is a more longer-term goal than the realistic goal. Thus, the state z corresponding to the additional goal is located further away from the current state x than the state y corresponding to the realistic goal y, i.e., $d(x,y) < d(x,z)$. So, we have

$$\frac{d(x,y)}{d(x,z)} < 1$$

and therefore,

$$d_{\text{add}} \approx \varepsilon \cdot \frac{d(x,y)}{d(x,z)} < \varepsilon = d.$$

So, indeed, the addition of a longer-term goal – in particular, the addition of an aspirational goal – leads to a better system's performance.

9 How Longer-Term Shall We Go? Explanation for Using Aspirational Goals

We explained why addition of an aspirational goal helps, but our explanation applies to adding any long-term goal – so why use aspiration goals and not other long-term goals?

According to the formula (1), different additional long-term goals help decrease the deviation from the desired trajectory. A natural idea is to select an additional goal for which this deviation is the smallest possible. According to the formula (1), to get the smallest deviation from the desired trajectory, we need to use the additional goal for which the distance between the states x and z is as large as possible – in other words, we need to select a goal z which is as far in the future as possible. This is exactly what aspirational goals are about.

Thus, we have explained why namely aspirational goals are recommended – and why they work so well.

Acknowledgments

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