Performance Engineering Model

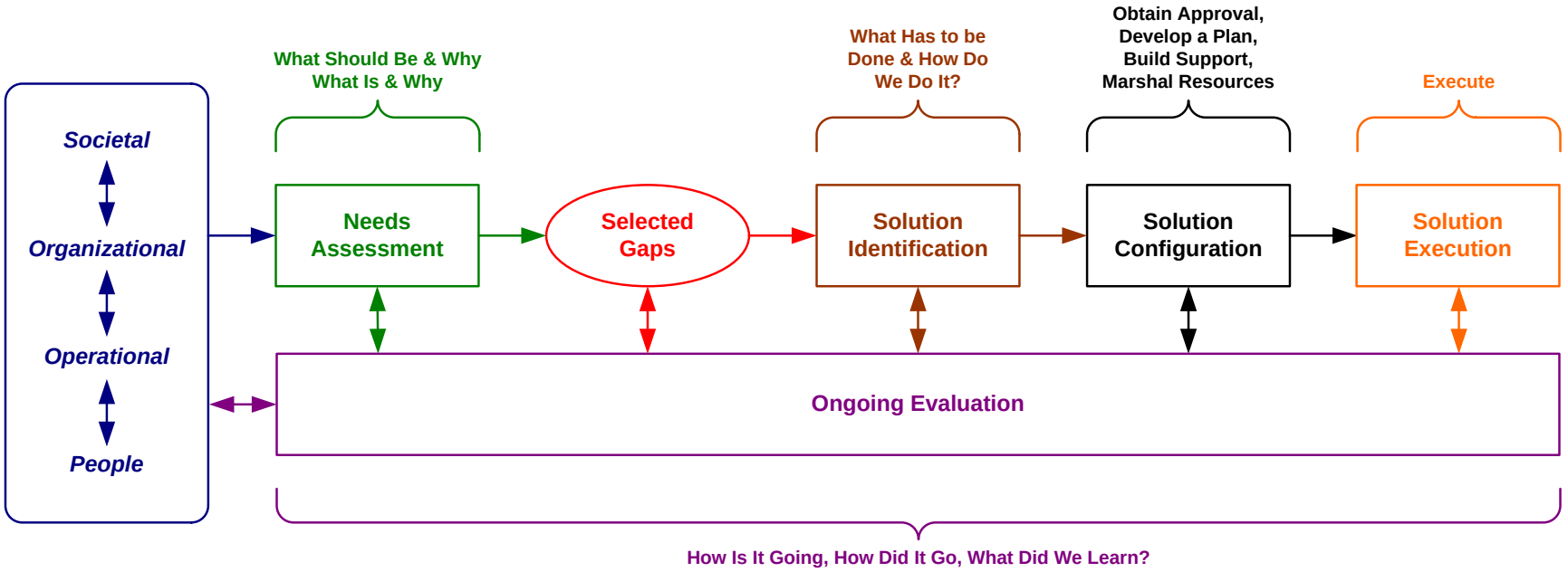

Figure 1

Description

The Performance Engineering Model begins with a needs assessment, an assessment of required and realized performance, what some people refer to as "what should be" and "what is." This assessment can be undertaken at any level of performance (people, operational, organizational or societal). It can encompass more than one level or it can encompass all four levels. It can also begin at the bottom and work upward or it can begin at the top and work its way down. It can even begin in the middle and fan out in both directions. Decisions regarding how many levels of performance to include, where to start, and how to proceed are affected by many factors; in particular, the restraints and constraints under which the analysis is being conducted. In all cases and at all levels, the analyses of required and realized performance are expressed in terms of results, not conditions or resources or activities.

With the assessment of required and realized performance in hand, gaps between the two can be identified, some of which can be selected for resolution. The world is full of gaps or discrepancies between the way things are and the way we would like them to be. Not all gaps are worth bothering with and there aren't enough resources to address all the gaps we might consider important. We must be selective. Some of the criteria to consider in selecting gaps for resolution include the following:

- The cost of the gap itself
- The payoffs of closing the gap
- The costs of closing the gap
- The likelihood of successfully closing the gap
- The time it will take to close the gap
- The kinds of resources required to close the gap

Once a gap has been selected for resolution, attention turns to engineering a solution, a course of action that will close the gap. In many cases, closing a gap requires changing some aspects of the situation in which the gap manifests itself. Two factors are central here: (1) what has to change and (2) how can those things be changed? This is almost always the case when the aim is to improve upon existing arrangements. On occasion, a gap in results occurs because brand-new goals or targets have been set. There are no existing arrangements. Here, the task at hand is to design and build a performance system that will yield the desired results.

Identifying a solution is only part of the engineering task. Approval must be obtained; a plan must be developed; resources must be marshaled and support must be garnered. All this is by way of preparation for implementation or execution.

Assuming everything is ready (or at least as ready as it can be) attention turns to execution, to implementing the identified solution.

The model shows evaluation as what some might call the last step. However, as the text indicates, evaluation is an ongoing process. The two-way arrows between evaluation and the other elements in the process indicate that this part of the process is iterative and that subsequent steps can "feed back" and affect earlier ones. This is especially true in situations where circumstances and conditions are dynamic, fluid and ever-changing. So, evaluation is being conducted all along the way. Early on, evaluation is for the purpose of keeping track of how things are going, and where necessary, adjusting and adapting so as to keep things on track. Once the effort is completed, the focus of evaluation turns to how things turned out and what was learned.

Is That All There Is?

Yes. Certainly more detail could be provided but it would necessarily take the form of this author's experiences and preferences. Much is known about how to carry out the steps and stages of the model shown in Figure 1. Entire books have been written about the subject. Moreover, there are many capable practitioners who have their own notions about how these stages should be carried out. There is available a wealth of information, tools, methods and techniques related to engineering performance. My goal in this paper is simply to frame the practice of performance engineering in a way that will provide a common mental model on which many practitioners might agree and still leave room for them to practice their craft and further develop and refine the practice.

Contact

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