

Comments on Stephen Devaux's Paper on The Program-Level Breakdown Structure ¹

LETTER TO THE EDITOR

25 July 2024

Ref: Devaux, S. (2024). *The Program-Level Value Breakdown Structure: How It Can Revolutionize Program Scheduling*; featured paper, *PM World Journal*, Vol. XIII, Issue VI, June. Available online at <https://peworldlibrary.net/wp-content/uploads/2024/06/pmwj142-Jun2024-Devaux-program-level-value-breakdown-structure-can-revolutionize-program-scheduling.pdf>

Dear Editor and PMWJ Readers,²

I did enjoy reading Stephen Devaux's paper and feel that some of the work I have carried out in the same area can usefully complement his ideas.

I will roughly follow the order of ideas as presented in the paper, giving each one a short title.

Terms

I am not as unhappy with the standard definition of a program as Stephen Devaux, however I fully agree with him on the ever-present confusion around the use of the word "project". This issue probably originates from the fact the idea of structuring the discipline of project management into three main categories came relatively recently. This would not have been a problem if more thought had been given to naming the categories. I have no issue with "program" and "portfolio" but reusing the term "project" for the name of one category as well as for the whole discipline has been a recipe for confusion³.

¹ How to cite this work: Piney, C. (2024). Comments on Stephen Devaux's Paper on The Program-Level Breakdown Structure, Letter to the Editor, *PM World Journal*, Vol. XIII, Issue VIII, August.

² Note: Before I had completed this document, David Pells put me in touch with Stephen Devaux and this document has been able to benefit from insightful feedback from Stephen, as we have found that we are broadly thinking along the same lines.

³ We see similar category errors in many other domains. For example, although the human race does not only include men, up until fairly recently, individuals of any gender were referred to as "men" (e.g., chairman) and there is no incontestable set of gender-neutral pronouns.

Is it too late to solve this issue? Would the Editor like to sponsor a competition to find a generic term for the whole discipline that would encompass projects, programs and, possibly, portfolios⁴.

The Program Schedule

I think that my approach as outlined in a series of articles in PM World Journal⁵ is similar to the description in the paper, although I address the challenge of actual scheduling much later in the planning process than suggested by Stephen.

I do not completely agree with him when he writes “All this starts with the estimation of the value to be generated for each scope item in a program-level value breakdown structure (PgVBS)”. Although the need for these values is unarguable, this is not the first step that I recommend. My first step is to define the overall objective of the program as a whole, including constraints, with a statement of the corresponding benefits in monetary or other quantifiable terms. The necessary set of components can then be identified, and the way in which they can deliver this objective can then be planned. This set of components is the basis of the PgVBS. In my approach, this information provided in the initial (skeleton) map is then progressively complemented with information on benefits contributions, cost allocations, dates and lead-times.

Although my terminology is slightly different, the steps for carrying out this planning are described in my “compendium” paper mentioned above. The fully quantified resulting breakdown structure in the form of a “program benefits map” then serves as the basis for determining the schedule, evaluating options, managing the risks⁶, etc. I will therefore use the term “benefits map” when referring to my version on the PgVBS.

Fractal?

I suggest that the relationship between activity, work package, project, and program is one of “nesting” and that the term “fractal” is much better suited to the structure of programs with sub-programs, etc., due to their complexity and the self-similarity of structure at each

⁴ I will start this off by proposing: *Projam management*.

⁵ Piney, C. (2019). Benefits Realization Compendium: Benefits Integration Techniques for Tracking, Execution and Realization; Series on Applying Earned Benefit Management. PM World Journal, Vol. VIII, Issue IV (May). Available online at <https://peworldlibrary.net/wp-content/uploads/2019/05/pmwj81-May2019-Piney-Benefits-series-part-9-Benefits-Compendium.pdf>

⁶ To use an example from Stephen's paper: “Without the efforts to reduce mosquito-borne diseases, the canal may never have been completed”

level. The nesting model is the basis for the breakdown structure for programs into projects, deliverables, capabilities, outcomes and benefits.

Stephen remarks that the value of activities can be difficult to discern. However, once the benefits map has been fully quantified and the dependencies between the components in the map have been characterized and quantified, the corresponding value of each step can be evaluated.

To pick up on a topic in the paper relative to value creation, one major difference between projects and programs is that, in projects, the potential contributions of component tasks are additive, whereas, in programs the contributions of their components are synergistic⁷. Another major difference is that for projects, the actual value depends on how you use its capabilities and when these become available. For programs, the specified benefits define the value to be realized and can start to become available before the program has been completed.

Project Categories

Stephen refers to categories of projects (enabler, etc.) whereas, in fact, these components could also be sub-programs – complex undertakings that need to be organized as programs in order to manage them effectively⁸. More importantly, however, in my model, the category applies to the link representing the component's contribution and not to the component itself. This approach is taken because programs should be seen as complex adaptive systems. In such a system, the outcomes are governed by the interactions between the components rather than simply by the cumulative effect of the individual elements.

In addition, I have found the need to define the concept of an “essential link” (and not “mandatory component”) for the case where the dependent component cannot operate without the contribution from the source component. This focus on links is important because a given source component that contributes to more than one dependent component, may only be essential to a subset of these⁹. The concept of essential links is very important for developing the corresponding program schedule as explained later.

Benefits Maps as a Visual Tool

As Stephen rightly says, it is important to allow multiple stakeholders to see the big picture.

⁷ As mentioned in Stephen's paper: “After completion, the output of a project may be combined with the outputs of other value-driven projects to create a more complex product of greater value.”

⁸ This is another argument in favour of crafting a new term to designate both projects and programs.

⁹ As a simple example, on a camping trip, a match is essential for lighting a fire but is simply a potential, non-essential, additional source of light.

In my opinion, the examples of such an approach that he gives in his paper are not visually meaningful to most stakeholders. This is why my approach is based on a more pictorial approach (a “benefits map”) that can be used progressively to develop the program strategy, identify the components (deliverables, capabilities, outcomes and benefits, and the links between them) required to achieve the beneficial result. The benefits map then provides the basis for quantifying in an objective manner all of its components from the point of view of their contribution to the overall benefit along with the corresponding financial allocations of costs to the overall budget.

As an example, Figure 1 below shows the first pass at designing the solution strategy of a program aimed at increasing profits by enhancing the company’s level of customer service.

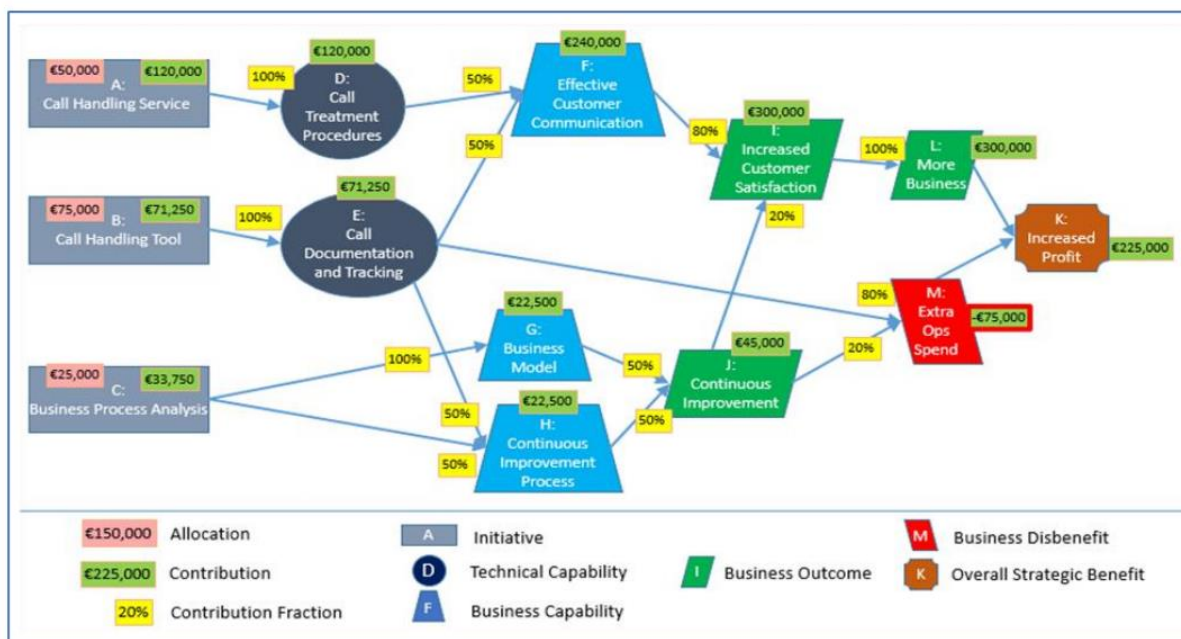


Figure 1: Benefits Map showing contribution percentages from source to destination nodes

Figure 2 shows the contributions and corresponding allocations of each component as evaluated by the respective analysis algorithms.

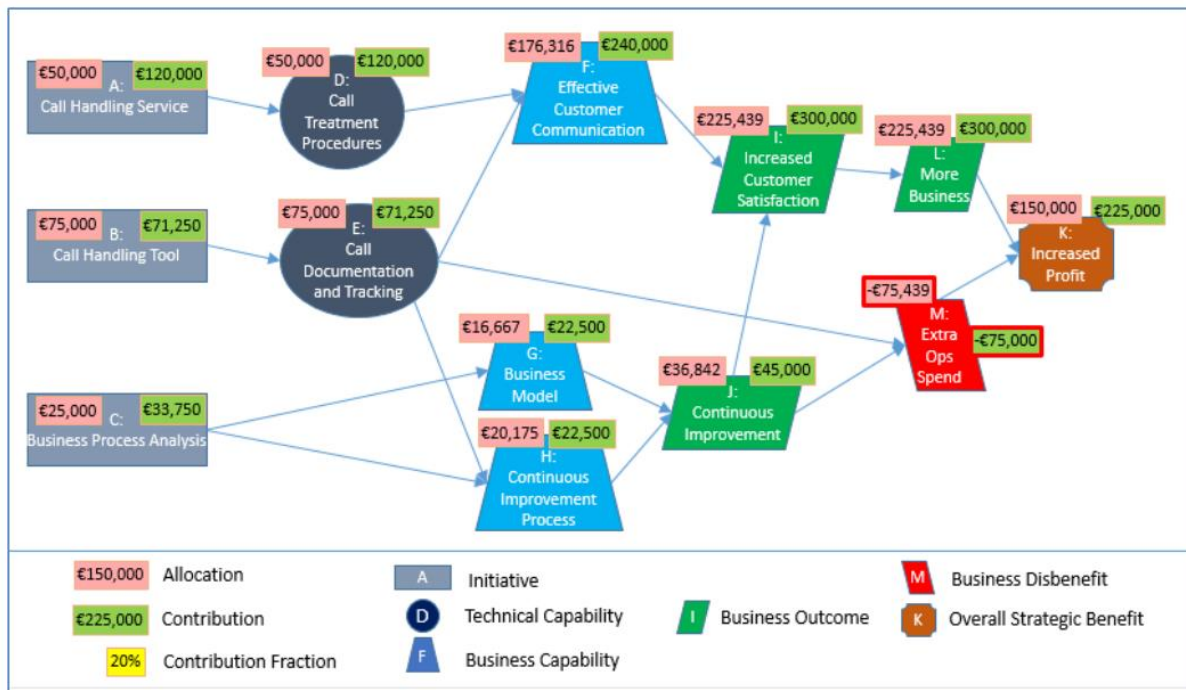


Figure 2: Benefits map showing contributions to the benefits and corresponding calculated cost allocations

Scheduling Considerations

Stephen explains that critical path drag is the amount that an activity adds to the critical path duration, with the effect of delaying the date at which the project delivers its output. This concept is certainly a major consideration for optimizing the value of a project. However, programs normally start to generate benefits before all of the implementation is complete. In addition, the amount of contribution, the rate at which this contribution comes on-stream as well as the corresponding dates makes the analysis much more complicated in programs.

This concept of phased benefits realization can be demonstrated by adding planned dates to the specified initiatives, plus any cause-to-effect lags on the links as shown in Figure 3.

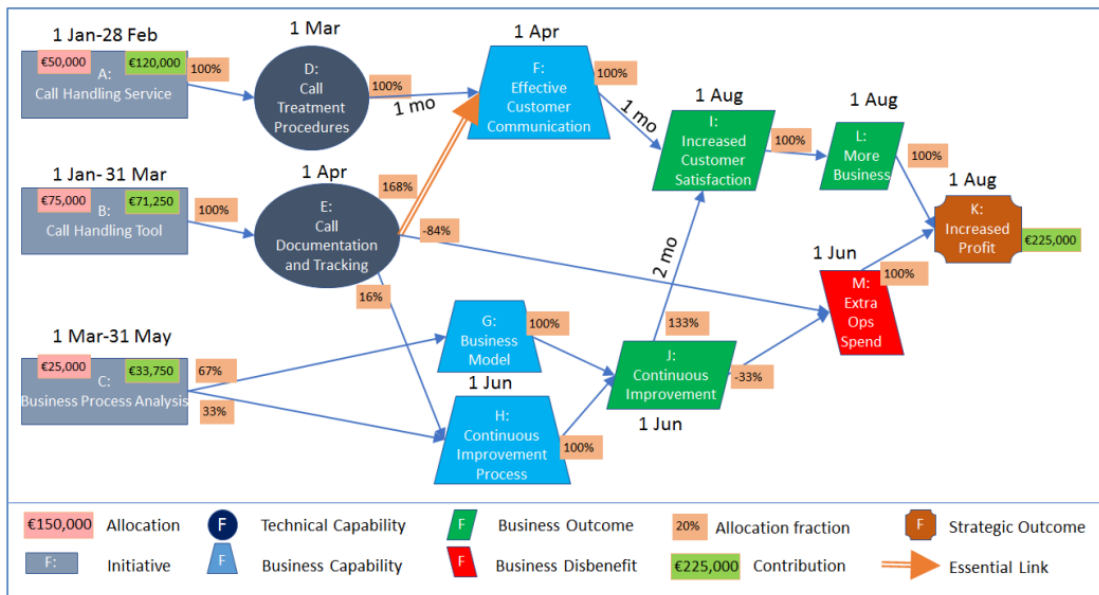


Figure 3: Benefits map showing direction of flow of contributions and the corresponding dates

This set of information then allows the corresponding cash flow to be calculated as shown in Figure 4. Overall optimization of benefits realization entails evaluating the trade-offs between the possible delivery dates of each initiative in order to achieve the most effective cash flow taking into account net present value.

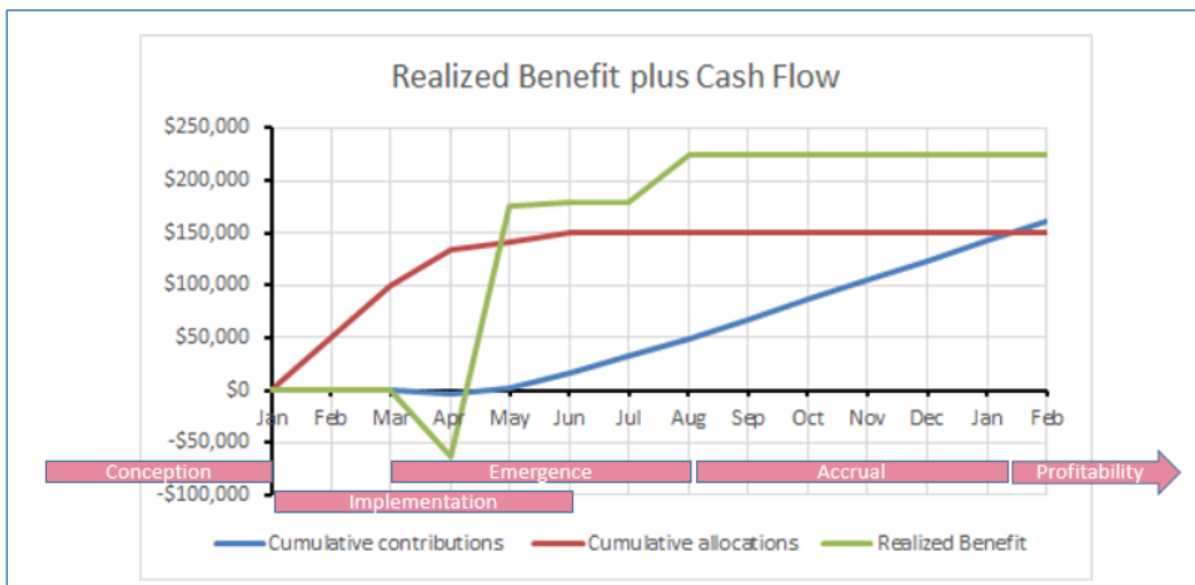


Figure 4: Cash-flow based on the additional schedule information

Optimization

In programs, the question is not “how soon will we finish?” but “how do we optimize the realization of benefits?”. The answer to this question entails prioritizing the contribution of each component and then optimizing the overall result based on the corresponding delivery dates.

It would seem to be logical that prioritizing the initiative that gives the greatest value for money most rapidly would be the strategy for achieving the largest gain in the shortest time. However, this optimization also needs to take into account the ways in which actions to reduce the schedule drag on one initiative might increase the drag on one of the other key contributors.

In addition, achieving the corresponding benefits might be conditioned by an essential link from a less-obviously important initiative. These features need to be taken into account in any optimization process. For example, the delay, failure or removal of a given initiative can have a negative effect on the overall benefit that far exceeds the apparent value of that initiative.

Conclusion

The quantified benefits maps coupled with Stephen Devaux's concepts and examples of schedule drag help to illustrate the importance, as he underlines, of forecasting, planning and optimizing future revenue generation.

I suggest that the Benefits Map using my Earned Benefit algorithms provides a valuable visual approach to planning and analysis that, coupled the Stephen's expertise in drag costs, could be used to improve the success rate of programs in every domain.

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