Earned Profit Management: Rethinking Value in Project Monitoring and Control [1]

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Introduction

The project management community widely accepts that all projects are investments, which exist to generate value. Therefore, project performance, progress monitoring, and control should be based on created and expected value. This presents a challenge, as well-known methods like Earned Value Management do not measure the actual value of the work performed or the project outputs created.

This article introduces **Earned Profit Management (EPM)**, a practical method developed through my personal experience in researching and applying approaches for measuring project value.

EPM views the project as an investment that should generate either financial or non-financial profit for the investor. The method can also be applied from the perspective of any other stakeholder.

EPM is built around three key metrics, which can be calculated **at any given point in time**:

- Genuine Earned Value (GEV)
- Net Earned Value (NEV)
- Earned Profit (EP)

Genuine Earned Value

The value of the work performed on a project can be measured through the value of its result—that is, the value of the project outputs. Measuring the value of completed or partially completed project outputs means calculating "earned value." However, this cannot be achieved using the *budgeted cost of work performed*, as this approach assumes that value is always directly proportional to and based solely on the incurred costs. Instead, we need a different approach—one that assesses earned value through… *value* itself.

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The ability of a project output to generate value-added or cost reduction **benefits** determines its value. For clarity, we will refer to this benefits-driven, value-based earned value as "*Genuine Earned Value*."

Genuine Earned Value can be calculated using three main approaches:

1. **Revenue.** For projects that generate revenue during their implementation, GEV can be directly measured by the revenue generated.

Examples: paid events, client-contracted projects, or constructing residential buildings where units are sold "off-plan."

2. **Market Price.** The market price of tradeable project outputs determines their GEV as it represents their ability to generate benefits and profit.

Example: In a residential building construction project, the building can be sold either as a completed or unfinished structure at its market price, generating revenue for the project. Even if the building is intended for use by the investor rather than for sale, the market price reflects the ability of the project output to generate revenue and profit. In this example, market price and revenue approaches can be combined if some units are sold "off-plan" while others are assessed at market price.

3. **Use Value**. The value of non-tradeable project outputs can be determined by their ability to influence the revenues (benefits) or costs of the investor, provided the outputs are used as intended.

In a sales process improvement project, the value of the project output (the improved process) can be measured by the expected incremental sales it generates.

In a public infrastructure project, GEV can be assessed by the incremental revenues/benefits and the reduced costs for businesses and citizens impacted by the new infrastructure.

In a regulatory project, GEV is determined by avoided costs like fines, reputational damages, and business interruption expenses.

Scrap value, *residual value*, and *liquidation value* can be measured either through market price or use value, which is why they are not considered separate methods for calculating GEV.

Any **intangible benefits** arising from the project work and the use of project outputs (like the value of experience, value of knowledge, social value, etc.) should also be measured and added to GEV if they are used in the project's justification. **Dis-benefits** should also be measured similarly and subtracted from GEV.

All estimates, apart from those based on already generated revenues, are probabilistic and represent **expected values**.

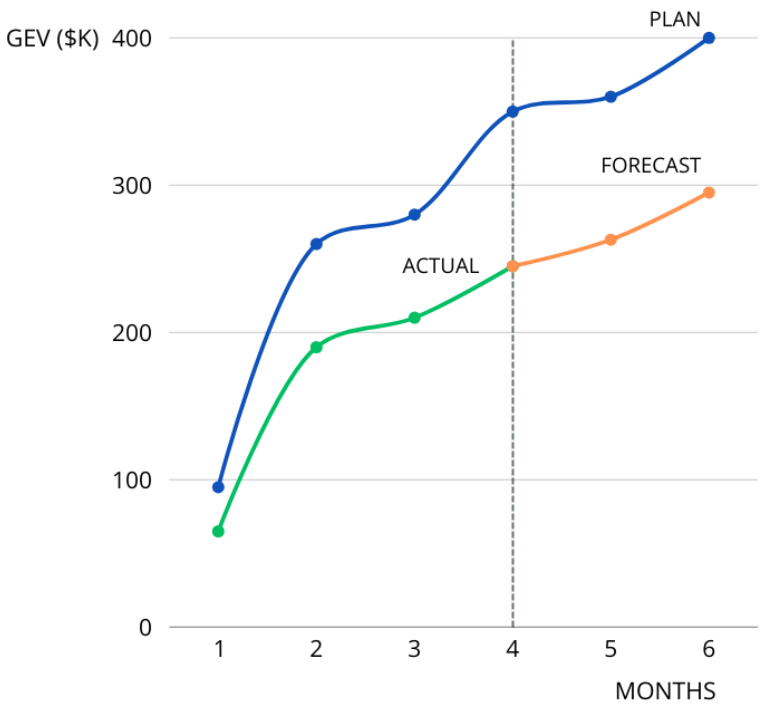

Figure 1: Example of planned, actual, and forecasted GEV and expected variance for a fixed due date project

The planned GEV function can be modeled based on historical data from similar projects. If the actual GEV follows the same or a comparable pattern, it can be used to forecast the updated expected values for GEV.

For projects with fixed or flexible due dates, the expected variance can manifest differently in terms of the value of GEV and the projected timeframe needed to reach the planned GEV.

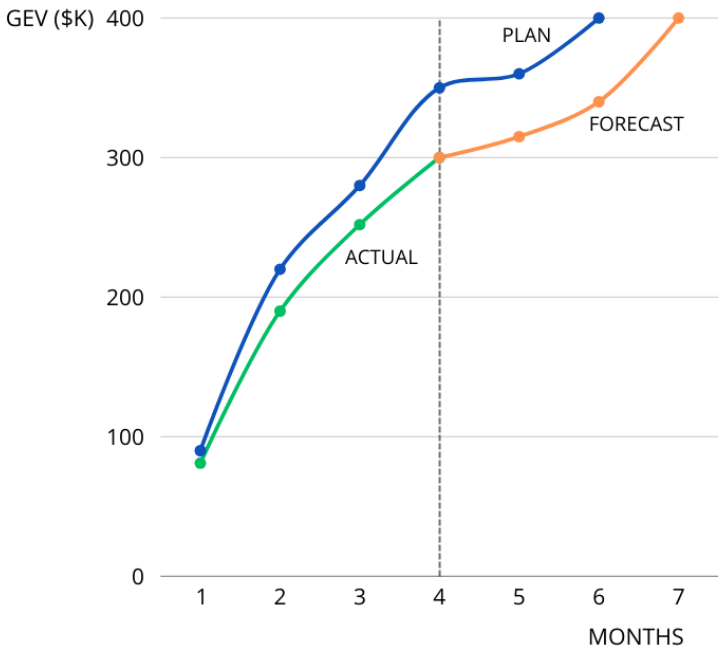

Figure 2: Example of planned, actual, and forecasted GEV and expected variance for a flexible due date project

Potential Genuine Earned Value

Certain project outputs have zero GEV unless they are fully completed and put into use. A new process or a bridge that is 99% finished is typically unusable in its current state. In such cases, a proxy metric can be applied: *Potential Genuine Earned Value (PGEV)*.

PGEV refers to the GEV expected upon output completion and its implementation (*GEV at Completion – GEVC*), minus the estimated costs needed to complete it (*Estimate to Complete – ETC*):

PGEV = GEVC - ETC

Example**:** Currently, the new process is incomplete and has a zero GEV, as it is entirely unusable. Completing and implementing the process will require an additional $230,000. Its estimated GEV upon completion is $1.8 million. Therefore, its current potential GEV is $1.57 million.

Net Earned Value

To realize the GEV of a project output, certain conditions often need to be fulfilled.

Subtracting the Cost of Value Realization (CVR) from the GEV yields the NEV:

NEV = GEV - CVR

The Potential Net Earned Value (PNEV) is calculated in a similar manner:

PNEV = PGEV - CVR

Table 1: Examples of conditions for realizing GEV and the required costs

Project	GEV Measurement Method	Conditions for Realizing GEV	Cost of Value Realization
Development and implementation of a new process	Use value	Application of the new process over a period of 5 years	Incremental costs of applying the new process for 5 years
Organizing a paid event	Revenue from ticket sales	Hosting the event	Costs for completing the project
Construction of a residential building	Market value of the partially built structure	Sale of the building in its current state	Transaction costs
Construction of a road	Use value	Operation and maintenance over a period of 99 years; land reclamation	Costs for operation, maintenance, and land reclamation

Earned Profit

Earned Profit represents the difference between the NEV of the project output at a given point in time and the funds (resources) invested in it up to that point (*Invested Funds – IF*):

EP = NEV - IF

If necessary, applying discounting or compounding techniques can refine EP calculations.

In many cases, EP is expected to start off negative or increasingly negative at the beginning of a project before gradually improving and eventually turning positive.

The Earned Profit Management method can be used to forecast the break-even point for EP in terms of:

- The required investment
- The timeframe for achieving break-even

During project implementation, EPM monitors EP in real-time and updates forecasts for the expected EP at project completion, as well as for the break-even point.

The tracking of EP may also continue after the project's completion, during the output's utilization phase.

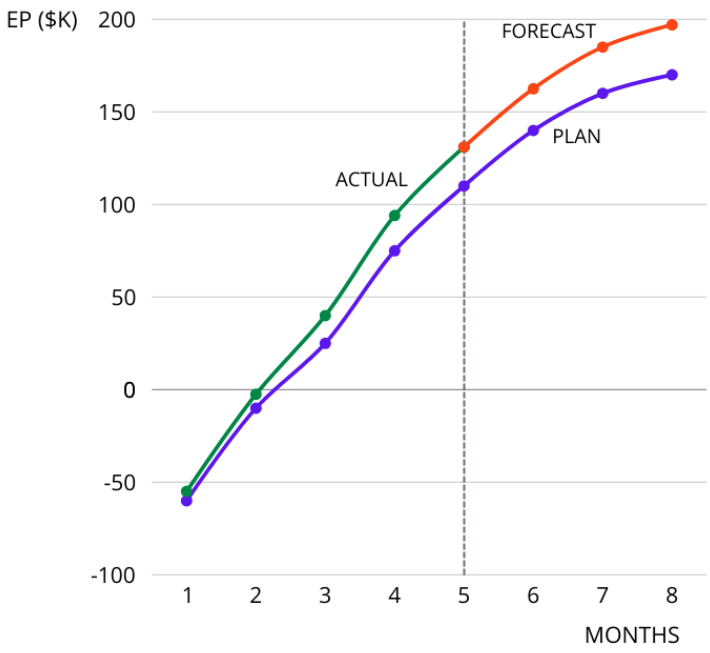

Figure 3: Example of planned, actual, and forecasted EP and expected variance

Any change to the anticipated project completion date must be evaluated in terms of its impact on the forecasted EP. To achieve this, it is necessary to assess how the change affects:

- Genuine Earned Value
- Cost of Value Realization
- Cost of Dis-Benefits
- Investment Cost

Performance Indexes, Variances, and Management Decisions

Project performance indexes of EPM represent the ratios between the actual or forecasted GEV or PGEV, NEV, and EP and their planned values:

Earned Profit Performance Index (EPPI) = Actual EP / Planned EP

or

EPPI = Forecasted EP / Planned EP

EPM performance variances are the differences between the actual or forecasted GEV or PGEV, NEV, and EP and their planned values.

Performance indexes and variances provide crucial insights into the current status of the project (program or portfolio) and the trends in value creation.

EPM can be used for real-time management decisions by comparing the expected EP under different scenarios:

- Project completion without intentional changes
- Project termination
- Project completion with intentional changes (e.g., acceleration, delay, postponement, or scope adjustment)

Decisions should aim to maximize profit or minimize loss for the portfolio and the organization as a whole.

Conclusion

This article presents the fundamentals of Earned Profit Management, a method for value-based project monitoring and control. EPM facilitates:

- Benefits-driven, value-based monitoring and control of projects, programs, or portfolios
- Decision-making aimed at maximizing profit or minimizing loss for the project portfolio and the organization
- Managing all types of projects as investments

If appropriate, GEV, NEV, and EP can be measured in units other than monetary ones, which will not affect the principles of EPM.

About the Author

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Alexander Apostolov holds a Master's degree in Economics and a PhD in Project Management and Sustainable Development. He has 25 years of experience in project management for new product development, construction, IT, events, and more.

He is currently the managing director of a project management consulting firm and the Lean Project Management Foundation. His interests lie in the development and implementation of holistic project management methods and tools.

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