

MEASURING PROJECT SUCCESS BEFORE FINANCIAL RESULTS MATERIALIZE: A COMPARISON OF PROCESS AND FINANCIAL KPIS

N.T. Andguladze, *Independent Researcher*
(USA, Denver)

DOI:10.24412/2411-0450-2025-10-12-17

Abstract. *This article examines ways to measure project success before financial results materialize. The nature and scope of financial and process metrics are defined, their comparative characteristics and limitations of use in the early stages are clarified. The problems of forecasting financial KPIs and the role of process indicators as an alternative for managing performance and assessing project success are illustrated. Sets of metrics and an algorithm for evaluating project success in the absence of revenue are proposed.*

Keywords: *project success, project management efficiency, financial performance indicators of project management, operational project metrics, assessment of project success in the early stages.*

Modern project management conditions are characterized by an increasingly complex organizational environment, the parallel development of the innovation component, and growing internal requirements for performance assessment. Naturally, tracking project results becomes challenging, as the set of metrics and performance indicators expands. Traditional indicators of project success assessment are financial and economic measures associated with time and quality of implementation (the so-called project triangle); however, evidence indicates that the main problem of measuring project success lies in the significant gap between the completion of individual stages and the ability to measure (and, most importantly, to measure reliably) the overall financial result. Thus, a project may be considered successful from a management perspective but fail to deliver the expected benefits to the organization, or, conversely, generate significant impact despite partial deviations from planned parameters. This contradiction highlights the need to distinguish between “financial performance” and “process performance,” as well as to search for tools to link them. This task becomes particularly relevant in the context of identifying ways to measure project success before its financial results materialize, since at the project planning stage it is critical to evaluate precisely the process metrics that make it possible to capture results (managerial and organizational) prior to the emergence of cash flow. In the long term, process performance becomes one of the factors that may

influence the financial success of the project, which determines the subject and scope of the present study.

The aim of this study is to characterize ways to measure project success before financial results materialize.

Considering the concept of project “success,” it should be noted that it is multidimensional; the systematization of research in the field of project performance measurement demonstrates the co-existence of various, sometimes opposing models and criteria that reflect both the perspectives of project teams and the perceptions of external parties (e.g., stakeholders). Thus, as early as the 1990s, M.A. Freeman and P. Beale emphasized the multidimensionality of the “success” category and the necessity of taking into account not only financial indicators but also customer satisfaction, team status, and its readiness for future tasks [1]. Later studies support this thesis and propose different sets of indicators that prove applicable under conditions of extreme uncertainty [2-5].

In our view, project success is determined by how well the project’s objectives (including later adjustments), concept, and financial and process performance align. With regard to financial and process metrics, they represent two poles of project evaluation: its outcomes and the manner in which project management is organized. The relationship and interconnection between financial and process metrics are illustrated in Figure 1.

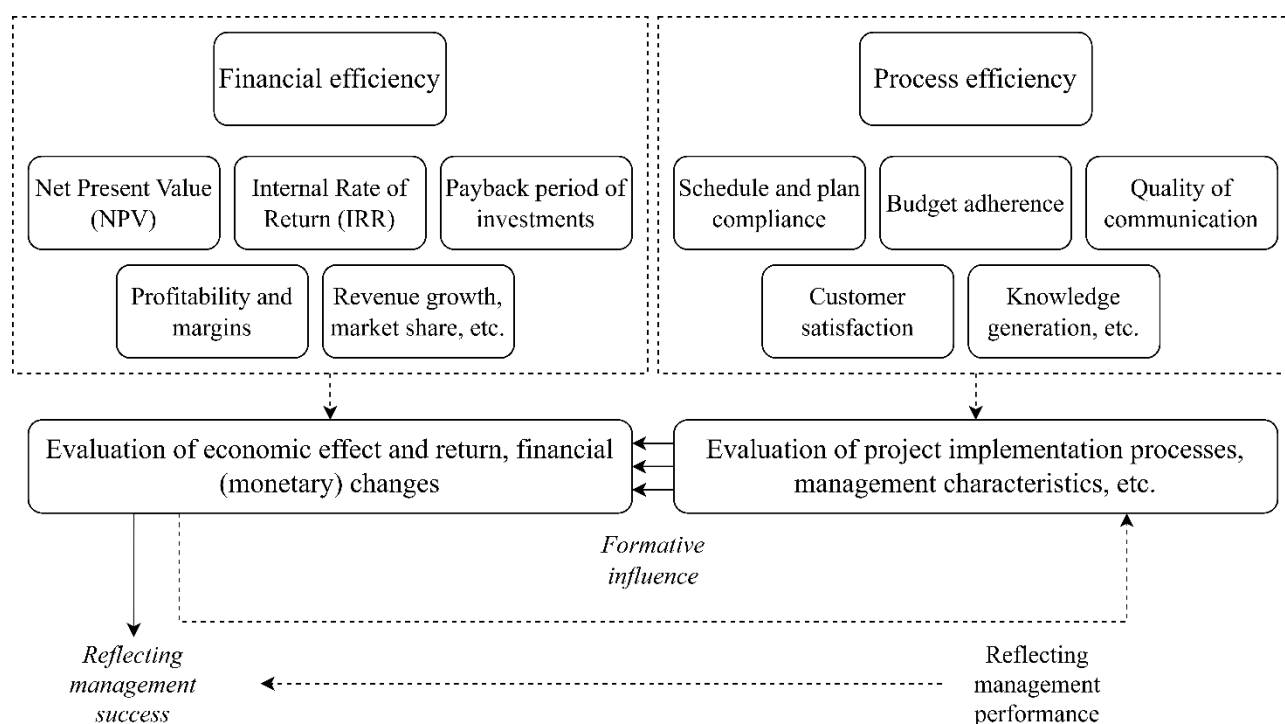


Figure 1. Relationship between financial and process metrics of project success

It should be noted that the category of project success (or performance) reflects its ability to achieve objectives under conditions of limited resources and external uncertainty. Financial performance, in particular, reflects the economic outcome – it is defined as the degree to which financial goals and indicators, expressed in monetary terms, are achieved, thereby capturing project performance through the lens of its economic return. Financial performance indicators allow an assessment of how well the project has met investor expectations and aligns with the organization's strategic objectives. Financial performance is the most commonly used criterion, as it is directly related to business effectiveness, its goals (profit generation), and scaling potential. However, an exclusive focus on financials reflects only one aspect of success and disregards process and intangible outcomes, which often form the basis of future revenues [2]. Process performance, on the other hand, is defined as the degree of successful project management and the organization of internal project processes. Unlike financial indicators, the essence of process performance lies less in the ultimate benefit and more in the quality of execution. Process metrics enable the identification of problem areas even before final financial results materialize. Authors note that process performance ensures the “timeliness of success,” i.e., the ability to adjust the project implementation strategy promptly and

preserve its potential [3]. Evidence indicates that the project implementation strategy underlies its financial performance and the possibility of its successful completion.

At the same time, the concept of process performance is broader in its definition; it also encompasses aspects such as adherence to the project's technical parameters, the level of team engagement and activity, the quality of interactions, user satisfaction, and so forth. Often, these process elements generate long-term project value but are not directly reflected in financial reports [4]. Thus, financial performance reflects the final outcome, whereas process performance breaks it down into individual stages and allows for tracking each advancement. This makes monitoring process performance particularly appropriate in the early stages of project implementation, when tracking financial indicators is either impossible or impractical due to the delayed effect of their realization.

Nevertheless, the most effective approach, despite the formal distinction between these project success measurement indicators, is a hybrid one, which prevents any one factor from prevailing and thereby reduces imbalances between them [5]. Moreover, the distinction between financial and process performance depends on various circumstances, such as the industry context. In particular, in innovative projects, process metrics acquire primary importance, as they enable

the capture of knowledge, experience, and new technologies generated during project activities. This position is supported by L. Sastoque-Pinilla, S. Artelt, A. Burimova, N. Lopez de Lacalle, and N. Toledo-Gandarias, who note that in research projects the main criteria are goal achievement, customer satisfaction with work quality, and knowledge generation (novel insights) [6]. Similarly, in the startup domain, process indicators are considered predominant, since early-stage success is determined less by profit and more by the team's ability to achieve interim objectives, adapt, and develop the business model.

Building on the aforementioned studies, it should also be noted that financial metrics (key performance indicators) of project success are promising in the context of comparing investments, but they are not always applicable. This is due to several circumstances.

First, financial indicators are limited in early-stage forecasting, since before cash flows materialize, financial planning is based on assumptions and factors that are highly variable. Moreover, depending on the project's specifics, the degree of "hypothetical" financial planning increases.

Second, financial indicators are characterized by an illusion of precision, which can lead to an increase in erroneous decision-making. As noted by T. Korhonen, A. Jääskeläinen, T. Laine, and N. Saukkonen, a project may be successful from a management perspective but financially ineffective [7]. This is often due to the fact that managers frequently make decisions based on forecasted ROI or IRR values without considering that these figures are based on assumptions and do not always align with actual data. Furthermore, many projects undergo several cycles of business plan adjustments.

Third, depending on the project implementation context, industry-specific characteristics, the emergence of intangible effects, their overestimation or, conversely, underestimation, the validity of forecasting, and a multitude of other factors, the final outcomes and overall project success

may vary. Consequently, there arises a need to examine the relationship and mutual influence of financial and process metrics on each other.

When considering process metrics and indicators as an alternative to financial ones, it should be noted that they are most applicable during project initiation. The reason is that process metrics provide early feedback, enabling the monitoring of project activities against the plan and the identification of deviations before they lead to financial losses. In addition, process metrics allow for the consideration of qualitative success factors, which are not directly expressed in monetary terms but have a significant impact on the final outcome.

Process metrics can be categorized into four groups (Figure 2). It should be emphasized that the use of process metrics as an alternative to financial KPIs is justified in cases where the project is in the initiation phase and revenue is absent, as process metrics allow for the formation of a substantiated picture of success that can be presented to investors and management. At the same time, it is important that the set of metrics developed by the team corresponds to the project's specifics. Often, process metrics become the primary tool for demonstrating the project's viability.

Based on the groups of process metrics, it should be noted that they cannot fully replace financial KPIs. Their main limitation lies in the fact that they capture only intermediate results and do not always guarantee future profitability, which is why they are often used as a supplement to financial indicators. Nevertheless, in the context of project initiation, they serve a critically important function – enabling management of project development in the absence of reliable financial data.

Based on recent approaches [8, 9], several groups of metrics can be identified that are advisable to use in the absence of revenue (Table).

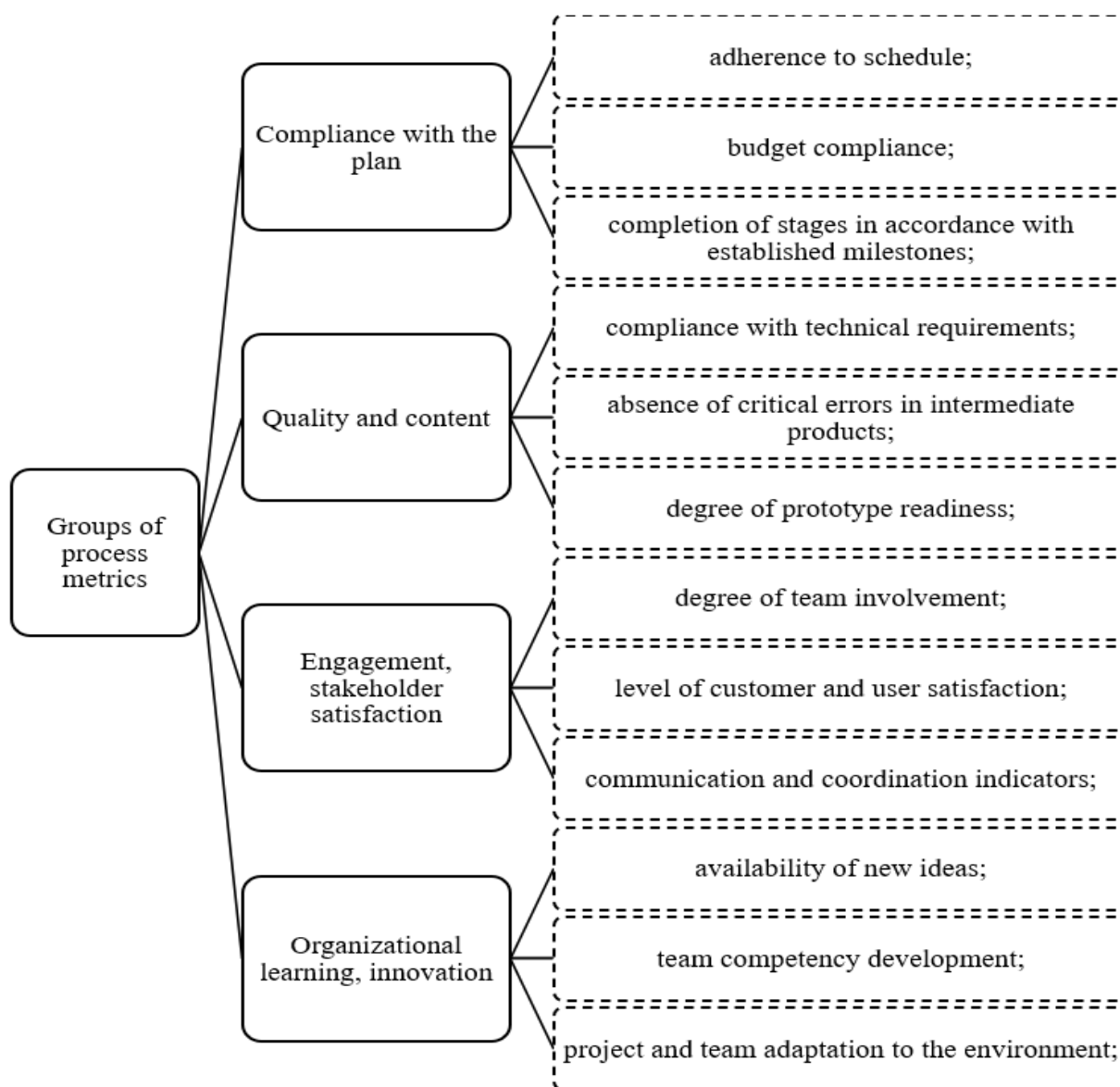


Figure 2. Groups of process metrics for measuring project success before financial results materialize

Table. Sets of process metrics used to measure project success before financial results materialize

No.	Metric Group	Indicators
1	Strategic metrics	- alignment of the project with the organization's strategic objectives; - degree of achievement of key milestones; - presence of long-term value generated as a result of project activities;
2	Process metrics	- adherence to budget and schedule; - number of successfully completed stages; - quality of communication and risk management;
3	Customer metrics	- level of customer satisfaction with intermediate results; - readiness of users to test prototypes; - perception of the quality of services provided;
4	Innovation and organizational metrics	- number of patents, publications, and developed prototypes; - growth of team competencies; - level of organizational learning;
5	Social and reputation metrics	- expansion of the partner network; - positive mentions in professional communities; - improvement of the company's image;

Based on the table, it should be noted that measuring project success in the absence of revenue is best conducted using the following step-by-step process (Figure 3).

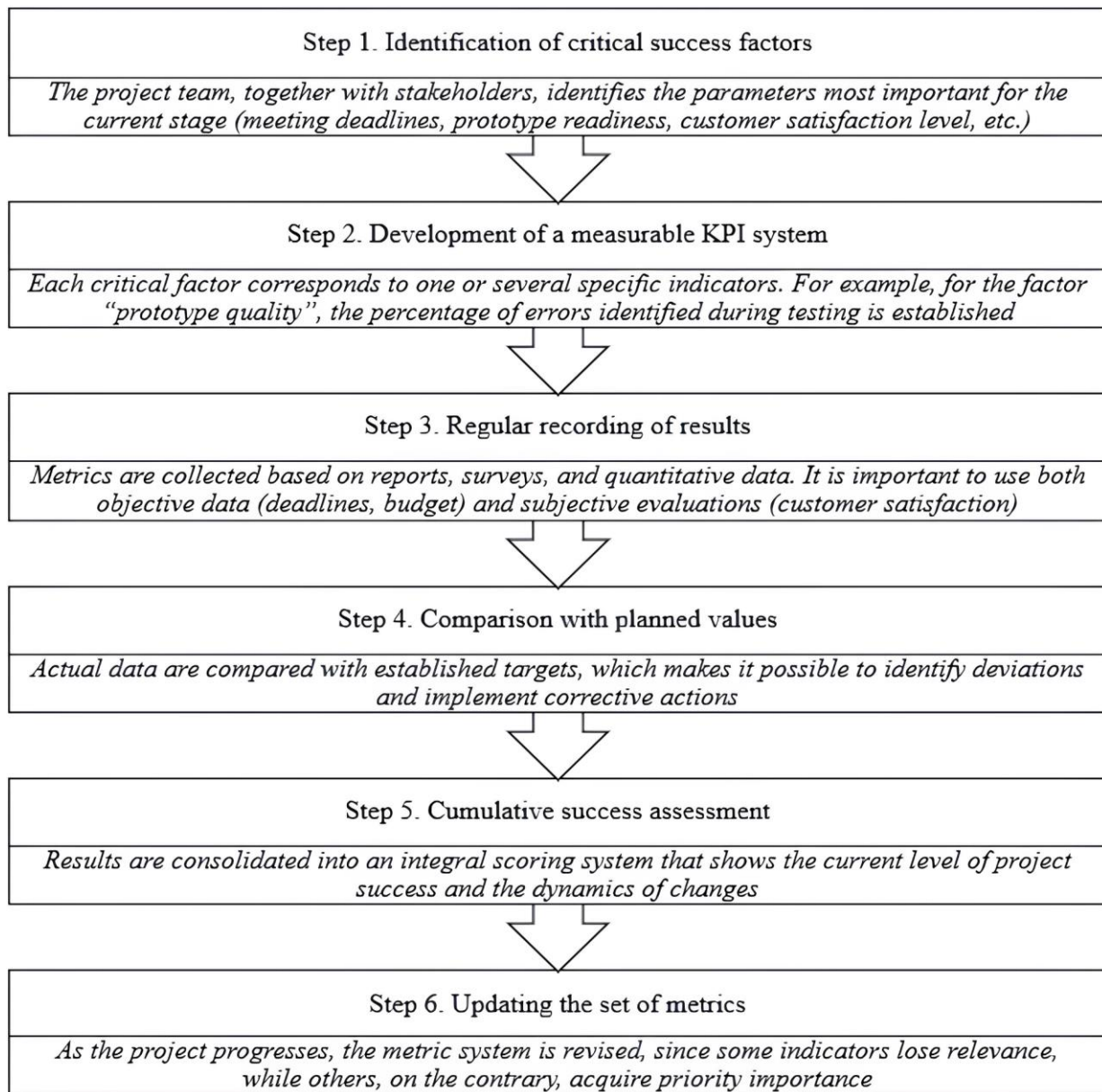


Figure 3. Step-by-step process for measuring project success in the absence of revenue

The proposed approach enables the evaluation of projects in the absence of direct financial data, providing managers and investors with reliable information for decision-making. At the same time, it is recommended, whenever possible, to incorporate financial metrics and economic indicators into the assessment to strengthen and refine the evaluation. Overall, the proposed algorithm provides a structured use of performance metrics, allows for tracking intermediate achievements, maintains investor confidence, supports strategy adjustments, and establishes a foundation for ensuring the project's financial sustainability in the future.

Thus, project success cannot be measured solely through financial indicators. Consequently, the need for using process metrics increases, as they allow for demonstrating intermediate achievements, managing project dynamics, and maintaining investor confidence even before the product reaches the market. At the same time, the distinction between financial and process performance does not imply their opposition; an effective practice is the construction of hybrid measurement systems in which both groups of metrics, wherever possible and available, complement each other.

References

1. Freeman M.A., Beale P. Measuring project success // Project Management Journal. – 1992. – Vol. 23, № 1. – P. 8-17.
2. Kee D.M.H., Abdul Rahman N. How to measure start-up success? A systematic review from a multidimensional perspective. – 2020. – 11 p. – URL: <https://www.ssrn.com/link/ICOBMIT-2019.html>.
3. Jahangirian M., Taylor S.J.E., Young T., Robinson S. Key performance indicators for successful simulation projects // Journal of the Operational Research Society. – 2017. – Vol. 68. № 7. – P. 747-765. – DOI: <https://doi.org/10.1057/jors.2016.1>.
4. Pereira J., Varajão J., Takagi N. Evaluation of information systems project success – insights from practitioners // Information Systems Management. – 2021. – Vol. 39. № 2. – P. 138-155. DOI: <https://doi.org/10.1080/10580530.2021.1887982>.
5. Volden G.H., Welde M. Public project success? Measuring the nuances of success through ex post evaluation // International Journal of Project Management. – 2022. – Vol. 40. № 6. – P. 703-714. – DOI: <https://doi.org/10.1016/j.ijproman.2022.06.006>.
6. Sastoque-Pinilla L., Artelt S., Burimova A., Lopez de Lacalle N., Toledo-Gandarias N. Project success criteria evaluation for a project-based organization and its stakeholders – a Q-methodology approach // Applied Sciences. – 2022. – Vol. 12. № 11090. – DOI: <https://doi.org/10.3390/app122111090>.
7. Korhonen T., Jääskeläinen A., Laine T., Saukkonen N. How performance measurement can support achieving success in project-based operations // International Journal of Project Management. – 2023. – Vol. 41. № 1. – Article 102429. – DOI: <https://doi.org/10.1016/j.ijproman.2022.11.002>.
8. Ahmed R. Project performance measures and metrics framework // Research Handbook on Project Performance. – 2023. – P. 11-22. – DOI: <https://doi.org/10.4337/9781802207613.00007>.
9. Varajão J., Lourenço J.C., Gomes J. Models and methods for information systems project success evaluation – a review and directions for research // Heliyon. – 2022. – Vol. 8. № 12. – Article e11977. – DOI: <https://doi.org/10.1016/j.heliyon.2022.e11977>.

СПОСОБЫ ИЗМЕРЕНИЯ УСПЕШНОСТИ ПРОЕКТА ДО ФОРМИРОВАНИЯ ФИНАНСОВЫХ РЕЗУЛЬТАТОВ (НА ПРИМЕРЕ СРАВНЕНИЯ ПРОЦЕССНЫХ И ФИНАНСОВЫХ КРІ)

Н.Т. Андгуладзе, независимый исследователь
(США, г. Денвер)

Аннотация. Статья посвящена анализу способов измерения успешности проектов до формирования финансовых результатов. Раскрыты сущность и содержание финансовых и процессных метрик, уточнены их сравнительные характеристики и ограничения применения на ранних стадиях. Продемонстрированы проблемы прогнозирования финансовых КРІ и роль процессных показателей как альтернативы управления эффективностью и успешность проекта. Предложены наборы метрик и алгоритм оценки успешности проектов в условиях отсутствия выручки.

Ключевые слова: успешность проекта, эффективность проектного управления, финансовые показатели эффективности проектного управления, операционные метрики проекта, оценка успешности управления проектом на ранних стадиях.