

Nesma on benchmarking

In this whitepaper Nesma presents information to enlarge your knowledge about benchmarking and to support your activities in this area.

The information is structured around four subjects:

1. Benchmarking an external supplier
2. Benchmarking your own organization
3. Sources of benchmark data
4. Benchmark tooling

1. Benchmarking an external supplier

How do I measure real supplier performance?

Selecting a proposal

Benchmarking supports bid evaluation in the selection phase of a Request for Proposal (RFP). This support is not in the first place for selecting the cheapest proposal. It helps you with selecting the best and most suitable proposal.

In case there is a large difference between the proposal and the benchmark, serious question marks must be placed with the proposal. Important questions to take into account are then:

- Did the supplier understand the RFP?
- What are the reasons that the bid is much cheaper / more expensive than the benchmark?

In this way customers can determine the validity of the various estimates from the proposals, taking into account the project and proposed execution constraints like quality or duration. This avoids the pitfall of selecting the cheapest bid and afterwards finding out that you've selected the wrong bid.

The execution phase

During the execution of a contract, the actual performance of the supplier should be compared with the planned performance. In this way a timely warning will be provided if the delivery starts deviating from the agreed timelines, cost and/or quality.

Project completed - What now?

When the project has been completed, the actual realized performance of the supplier can be calculated. This is useful input for the next RFP because then the actual performance of the supplier can be used to evaluate the proposal.

2. Benchmarking your own organization

Why should I benchmark my organizations' performance?

Measuring the mean performance of projects in your own organization acts as a reliable predictor for the performance of your future projects, based on your own results from the past. Furthermore, by determining the competitiveness of your IT department you can decide whether or not investments and targets are necessary to improve your IT performance and whether or not it is necessary to outsource this part of the value chain.

Measuring the functional size of the delivered software

After completing a project, the functional size of the delivered software is measured. The project size covers all the functionality that is realized, changed and deleted during the project.

Based on the actual effort spent, the duration of the project and the defects found in the different test phases, the project performance can be assessed. As the functional size is measured with an ISO standard, there is a basis for comparison of these metrics, which enables to benchmark a project internal as well as external.

Measuring the functional size within Agile projects

Within Agile projects, each sprint can be seen as a small project for which the functional size based estimates, control and benchmarks can be performed. From a statistical point of view, a sprint might be too small to show reliable results. In that case, a set of sprints can be used.

3. Sources of benchmark data

Reliable data: crucial for benchmarking

The [International Software Benchmarking Standards Group](#) (ISBSG) has defined some metrics that enable the industry to use the same definitions and to be able to benchmark against other industry data. The ISBSG collects data from the industry and grows, maintains and exploits two repositories: 'New developments and Enhancements' and 'Maintenance & Support'. These two repositories are an invaluable source for any organization that uses functional sizing, as it enables them to:

- estimate projects in technologies of which they do not have their own data
- check existing estimates to industry averages
- benchmark completed projects to understand the competitiveness of the organization
- assess the reality value of a request for proposal
- build estimation models
- analyze effects of specific cost drivers

4. Benchmark tooling

Reliable tooling: crucial for benchmarking

Normally, benchmarking is done by the use of a software tool that includes benchmark data and benchmark process knowledge. The most well-known tools for this purpose are:

- [Galorath SEER for software](#)
- [ISBSG Productivity Data Query tool](#)
- [QSM SLIM Suite](#)

Nesma is a member of the [International Software Benchmarking Standards Group](#) (ISBSG), which is an independent not-for-profit organization that collects industry data for projects and maintenance. As transparency is key, Nesma advises to use ISBSG productivity data for benchmarking.

An example of a benchmarked project

An example of a project benchmarked against its peer group is given below. In this example the red dot is the project being benchmarked. Its position below the benchmark line indicates that it's cheaper than other projects with a comparable size.

