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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 41866.1-2022

**Systems and software engineering - Information technology
project performance benchmarking framework - Part 1:
Concepts and definitions**

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foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for Standardization Work Part 1. Structure and Drafting Rules of Standardization Documents" drafted.

This document is the first part of GB/T 41866 "System and Software Engineering Information Technology Project Performance Benchmarking Measurement Framework".

GB/T 41866 has released the following parts.

- Part 1. Concepts and Definitions;
- Part 2. Benchmark measurement requirements;
- Part 3. Report preparation;
- Part 4. Data collection and maintenance.

This document is identical to ISO /IEC 29155-1:2017 "Systems and Software Engineering Information Technology Project Performance Benchmarking Measurement Framework No. Part 1. Concepts and Definitions."

Please note that some content of this document may be patented. The issuing agency of this document assumes no responsibility for identifying patents.

Introduction

Benchmark measurement refers to the activity of evaluating the characteristics of the object by comparing each "object of interest" with each other or with a benchmark.

In GB/T 41866, "object of interest" refers to the performance of an IT project, while characteristics refer to an aspect of an IT project, for example, productivity.

Benchmarking is one of the fastest growing technologies in the field of IT project

management. Generation and Development of IT Project Performance Benchmarking Instances

For a variety of reasons, the most common of which are.

- a) the need to compare the productivity of projects in similar industries;
- b) need to compare different project types and technical productivity;
- c) the need to find the most effective goals when improving the IT development process;
- d) the need to compare productivity between different suppliers;
- e) the need to improve project management maturity;
- f) The need to improve project estimation capabilities.

The relevant experimental literature on the implementation of IT project performance benchmarking measures shows that the failure rate of benchmarking measures is relatively high, and the statistical data also proves that

up to this point. The failure of benchmarking measurement is mainly due to the inconsistency between the selection of measurement objectives and the selection of business objectives, as well as the inconsistency between project level and project group

Misunderstanding of the relationship between co-management levels. When measurements and results are inconsistent, teams still spend unnecessary effort collecting item counts

According to the report, this will reduce the incentive to continue and institutionalize benchmarking.

As shown in Figure 1, GB/T 41866 intends to include the following parts.

--- Part 1. Concepts and Definitions. Provides an overarching framework model for benchmarking IT project performance. It includes successful identification,

The necessary activities and components required to define, select, apply, and improve benchmarking measures also provide an overview of IT project performance benchmarking measures.

Terms and Definitions.

--- Part 2. Benchmark measurement requirements. Describes what is required to conduct and/or support an organization's successful completion of benchmarking activities

Task.

--- Part 3. Report preparation. Provides general requirements and guidelines for the report preparation process and typical report content.

--- Part 4. Data collection and maintenance. Provides activities for collecting IT project data

for entering and maintaining a benchmark metrics data warehouse

General requirements and guidelines for movement.

IT Project Performance Benchmarking is a combination of different advanced techniques and practices in the field of quantitative analysis and management. Therefore, this document presents

The framework is built on a variety of standardized key technologies such as.

- project management (for example, ISO 10006);
- System and software measurements (for example, ISO /IEC /IEEE15939);
- software life cycle processes (for example, ISO /IEC 12207);
- system life cycle procedures (for example, ISO /IEC /IEEE15288);
- functional scale measurements (for example, ISO /IEC 14143 series);
- System and software quality assessment (eg, ISO /IEC 25000 series).

This document is compatible with ISO /IEC 12207 (Software Lifecycle Process), ISO /IEC /IEEE15288 (System Lifecycle Process),

ISO /IEC 14143 series (functional scale measurement), ISO /IEC 15504 series and ISO /IEC 33000 family of standards (process evaluation),

ISO /IEC /T R12182 (Classification of Systems and Software Products) or ISO /IEC 14764 (Software Life Cycle Process Maintenance)

Concepts harmonize.

Figure 1 Overview of the IT Project Performance Benchmarking Framework

Systems and Software Engineering Information Technology Project Performance

Benchmarking Metrics Framework Part 1. Concepts and Definitions

1 Scope

This document establishes a framework for information technology (IT) project performance benchmarking measures (eg, development or maintenance productivity) and related aspects

(eg, data collection and software classification).

The framework contains a series of necessary activities and components needed to successfully identify, define, select, apply and improve benchmarking metrics, and also provides

Definition of IT project performance benchmark measurement terms, which can be used in

other parts of GB/T 41866.

This document is intended for use by stakeholders of IT project performance benchmarking measures.

NOTE. The following are examples of situations where this document is used.

- The benchmark measurement service provider expects its benchmark measurement process to be consistent with this document;
- Benchmark users (or third-party agents) to evaluate the performance of IT projects;
- In order to meet specific information needs within the organization.

This document does not prescribe how to organize benchmarking activities. The name, format, or details of the documentation produced by the benchmarking process

Specifications are outside the scope of this document.

2 Normative references

There are no normative references in this document.

3 Terms and Definitions

The following definitions and terms apply to this document.

The web site of the terminology database maintained by ISO and IEC for standardization is as follows.

3.1

attribute attribute

A characteristic or characteristic of an entity that can be quantitatively or qualitatively discerned by human or automated tools.

[Source. ISO /IEC /IEEE15939.2017, 3.2]

3.2

benchmark

A reference point against which to compare.

Note. In GB/T 41866 (all parts), the object of comparison is IT project performance.

3.3

benchmarking

benchmark comparison