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

GB/T 19027-2025

Replacing GB/Z 19027-2005

**Quality management - Guidance on statistical techniques for
GB/T 19001-2016**

质量管理 GB/T 19001-2016的统计技术指南
(English Translation)

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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 for standardization documents" Drafting is required.

This document replaces GB/Z 19027-2005 "Statistical Technical Guidelines for GB/T 19001-2000" and is consistent with GB/Z 19027-2005.

In addition to structural adjustments and editorial changes, the main technical changes are as follows.

--The scope of application of the standard has been changed (see Chapter 1, Chapter 1 of the 2005 edition);

--Added terms and definitions (see Chapter 3);

--Changed the quantitative data that may be involved in the activities related to each clause of GB/T 19001-2016 (see Table 1, 2005

Table 1);

-- Changed the applicability of selected statistical techniques (see Chapter 6, Chapter 4 of the 2005 edition);

--Changed the relevant technical requirements for each statistical technique (see Chapter 7, Chapter 4 of the 2005 edition).

This document is equivalent to ISO 10017:2021 "Guidelines for statistical techniques for quality management ISO 9001:2015".

Introduction

It is well known that there is inherent variability in the execution and results of all processes and activities, even in apparently stable conditions.

Variation can be observed throughout the product life cycle, in quantifiable characteristics of the process, and in the final products and services.

Statistical techniques help measure, describe, analyze, explain, and model variation (whether dealing with relatively limited or large data sets).

Statistical analysis of the data can provide a better understanding of the nature, extent, and

causes of variation, thereby helping to address or even prevent the adverse events that may result from these variations.

problems that could arise and reduce the risks that could be caused by these variations.

Analyzing data using statistical techniques can aid in making decisions, thereby helping to improve the performance of the process and the final output.

Data for use in a wide range of industries, with potentially beneficial outcomes.

The final decision on the criteria for determining the need for statistical techniques and whether the statistical techniques selected are appropriate lies with the organization.

This document is intended to help organizations identify statistical techniques based on the elements of a quality management system as defined in GB/T 19001-2016.

These statistical techniques can produce certain gains in quality, productivity and costs.

This document can also be used to support other management systems (such as environmental management systems, occupational health and safety management systems) and their supporting standards.

Statistics of Quality Management GB/T 19001-2016 Technical Guide

1 Scope

This document provides guidance on the selection of appropriate statistical techniques, regardless of the size or complexity of the organization.

It is useful to implement, maintain and improve a quality management system that meets the requirements of GB/T 19001-2016.

This document does not provide guidance on how to use these statistical techniques.

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document.

For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to this document.

GB/T 19000-2016 Quality Management System Fundamentals and Vocabulary (ISO 9000:2015, IDT) ISO 3534-1 Statistical vocabulary and symbols Part 1: General statistical terms and terms used in probability (Statistics-Vocabulary and symbols-Part 1: General statistical terms and terms used in probability) ISO 3534-2 Statistics - Vocabulary and symbols - Part 2: Applied statistics Part 2: Applied statistics) ISO 3534-3 Statistics -