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Data quality

Part 8: Information and data quality: Concepts and measuring

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

The committee responsible for this document is Technical Committee ISO/TC 184, *Industrial automation systems and integration*, Subcommittee SC 4 *Industrial data*.

ISO 8000 is organized as a series of parts, each published separately. The structure of ISO 8000 is described in ISO/TS 8000–1.

A complete list of parts of ISO 8000 is available from the Internet:

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Introduction

The ability to create, collect, store, maintain, transfer, process and present information and to support business processes in a timely and cost effective manner requires both an understanding of the characteristics of the information and data that determine its quality, and an ability to measure, manage and report on information and data quality.

ISO 8000 defines characteristics of information and data that determine its quality, and provides methods to manage, measure, and improve the quality of information and data.

When assessing the quality of information and data, it is useful to perform the assessment in accordance with documented methods. It is also important to document the tailoring of standardized methods with respect to the expectation and requirements pertinent to the business.

ISO 8000 includes parts applicable to all types of data, and parts applicable to specific types of data. ISO 8000 can be used independently or in conjunction with quality management systems.

This part of ISO 8000 can be used on its own or in conjunction with other parts of ISO 8000.

This part of ISO 8000 is intended for use by those actors that have a vested interest in information or data quality, with a focus on one or more information systems both inter-organization and intra-organization views, and throughout all life cycle phases.

When assessing whether the quality of information and data is sufficient, it is necessary to establish the threshold, pertinent to the business, for each object to be measured. This part of ISO 8000 does not set these thresholds.

When talking of measured values, it is important to state the scale used. This part of ISO 8000 does not define the scales against which the quality of information and data are measured, but call for them to be stated.

When communicating the result of the quantification of the quality of information and data, it is useful for the receiver to be able to understand the confidence of the result. In particular, it is important to know if any rule was not applied, or if any information or data was not checked.

This part of ISO 8000 provides the following:

— a definition of information and data quality;

— a structured way to plan and perform information and data quality measurements;

— prerequisites for measuring information and data quality;

— requirements for reporting information and data quality measurements.

This part of ISO 8000 is applicable independent of status of organization, type of information or data, hardware storage medium, software, information security and information life cycle stage.

This part of ISO 8000 can be used in relation to activities that use or depend on information or data.

These activities include capturing, storing, archiving, retrieving, tracking, transferring, displaying, delivering, and disposal of data.

NOTE The planned ISO 8000–9[1)] is intended to provide guidance on how to apply this part of ISO 8000 in a quality management system and through the life cycle stages of systems and software.

1) Under preparation.

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Data quality —

Part 8:
Information and data quality: Concepts and measuring

1 Scope

This part of ISO 8000 describes fundamental concepts of information and data quality, and how these concepts apply to quality management processes and quality management systems.

It also specifies prerequisites for measuring information and data quality when executed within quality management processes and quality management systems.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 8000–2, *Data quality — Part 2: Vocabulary*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 8000–2 and the following apply.

3.1
data
reinterpretable representation of information in a formalized manner suitable for communication, interpretation, or processing

[SOURCE: ISO/IEC 2382:2015, 2121272, modified — Notes to entry have been removed.]

3.2
entity
concrete or abstract thing in the domain under consideration

[SOURCE: ISO 19439:2006, 3.29, modified — The word “any” has been removed at the start of the definition.]

3.3
information
knowledge concerning objects, such as facts, events, things, processes, or ideas, including concepts, that within a certain context has a particular meaning

[SOURCE: ISO/IEC 2382:2015, 2121271, modified — Field of application and notes to entry have been removed.]

3.4
metadata
data that defines and describes other data

[SOURCE: ISO/IEC 11179-1:2004, 3.2.16]

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