AS/NZS ISO/IEC 25012:2013
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Australian/New Zealand Standard™

Software engineering—Software product Quality Requirements and Evaluation (SQuaRE)—Data quality model

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee IT-015, Software and Systems Engineering. It was approved on behalf of the Council of Standards Australia on 2 May 2013 and on behalf of the Council of Standards New Zealand on 29 April 2013.
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For more frequent listings or notification of revisions, amendments and withdrawals, Standards Australia and Standards New Zealand offer a number of update options. For information about these services, users should contact their respective national Standards organization.

We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Please address your comments to the Chief Executive of either Standards Australia or Standards New Zealand at the address shown on the back cover.

This Standard was issued in draft form for comment as DR AS/NZS ISO/IEC 25012.

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee IT-015, Software and Systems Engineering.

The objective of this Standard is to define a general data quality model for data retained in a structured format within a computer system.

This Standard is identical with, and has been reproduced from ISO/IEC 25012:2008, *Software engineering—Software product Quality Requirements and Evaluation* (*SQuaRE)—Data quality model.*

As this Standard is reproduced from an International Standard, the following applies:

(a) In the source text 'this International Standard' should read 'this Australian/New Zealand Standard'.

(b) A full point substitutes for a comma when referring to a decimal marker.

References to International Standards should be replaced by references to Australian or Australian/New Zealand Standards, as follows:

Reference to International Standard		*Australian/New Zealand Standard*	
ISO/IEC		AS/NZS ISO/IEC	
25000	Software engineering—Software product Quality Requirements and Evaluation (SQuaRE)—Guide to SQuaRE	25000	Software engineering—Software product Quality Requirements and Evaluation (SQuaRE)—Guide to SQuaRE

The term 'informative' has been used in this Standard to define the application of the annex to which it applies. An 'informative' annex is only for information and guidance.

CONTENTS

INTRODUCTION

The quantity of data and information handled by computer systems is increasing worldwide; data quality is a key component of the quality and usefulness of information derived from that data, and most business processes depend on the quality of data.

A common prerequisite to all information technology projects is the quality of the data which are exchanged, processed and used between the computer systems and users and among computer systems themselves.

Managing and enhancing the quality of data is important because of:

— the acquisition of data from organizations of which the quality of data production process is unknown or weak;

— the existence of defective data contributing to unsatisfactory information, unusable results and dissatisfied customers;

— the dispersion of such data among various owners and users. Data captured in accordance with the workflow needs of a single organization often lack a coherent and integrated vision which is necessary to ensure interoperability and co-operation;

— the need for processing data which are not immediately re-usable because of semantic ambiguity or lack of consistency between such data and other existing co-related data;

— the co-existence of legacy architecture and computer systems with distributed systems designed and realized at different times and with different standards;

— the existence of information systems (such as the world wide web) where data change frequently and integration is a special issue.

The data quality model defined in this International Standard aims to meet these needs, taking into account that the data life cycle is often longer than the software life cycle; it could be used, for example, to:

— define and evaluate data quality requirements in data production, acquisition and integration processes;

— identify data quality assurance criteria, also useful for re-engineering, assessment and improvement of data;

— evaluate the compliance of data with legislation and/or requirements.

The detection of errors or inefficiencies due to data gives rise to enhancement and corrective interventions concerning data and other components of the system in which data reside, for example:

— data (e.g. redesigning, parsing, cleansing, enriching, transforming, matching);

— software (e.g. modifying source programs to implement consistency controls);

— hardware (e.g. upgrading a computer system to improve response time);

— human business processes (e.g. user training to avoid errors in the data entry process; improvement of accounting processes that manage data).

The data quality model defined in this International Standard is intended to be used in conjunction with the other SQuaRE series International Standards, which are represented in Figure 1 (adapted from ISO/IEC 25000).

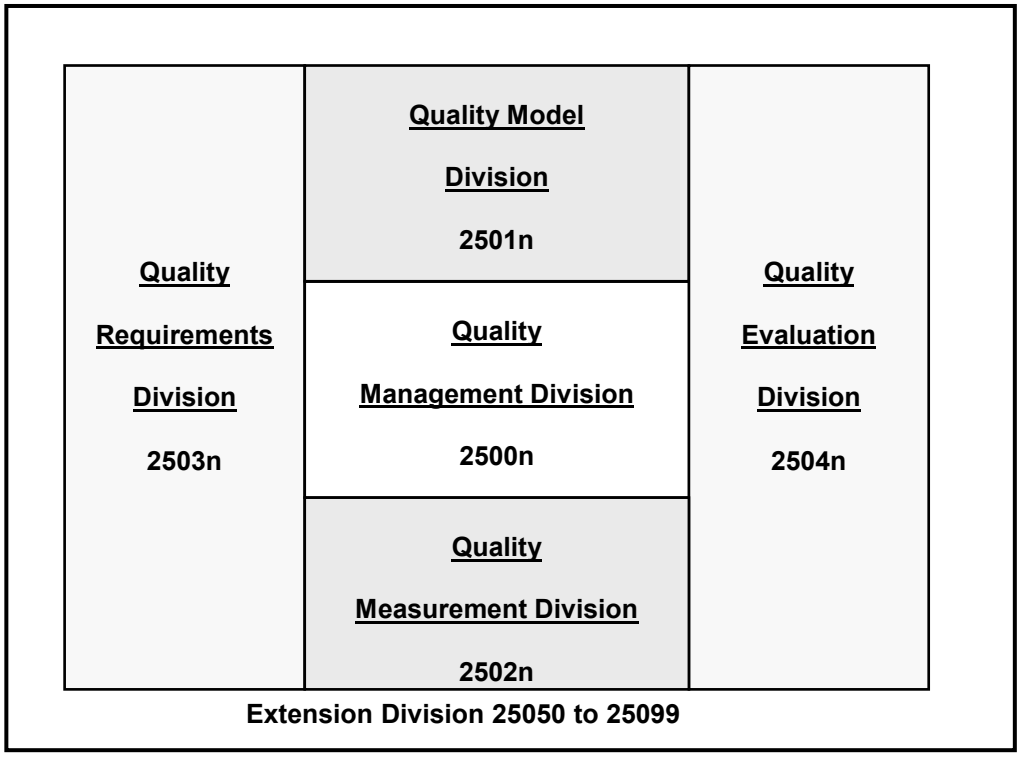

Figure 1 — Organization of the SQuaRE series of International Standards

The divisions within the SQuaRE series are:

— **ISO/IEC 2500n - Quality Management Division**. The International Standards that form this division define all common models, terms and definitions referred to further as all other International Standards from the SQuaRE series. Referring paths (guidance through SQuaRE documents) and high level practical suggestions in applying proper standards to specific application cases provide help to all types of users. The division also provides requirements and guidance for a supporting function which is responsible for the management of software product requirements specification and evaluation.

— **ISO/IEC 2501n - Quality Model Division**. The International Standards that form this division present detailed quality models for software and data. Furthermore, in the software quality model the internal and external quality characteristics are decomposed into subcharacteristics. Practical guidance on the use of the quality models is also provided.

— **ISO/IEC 2502n - Quality Measurement Division**. The International Standards that form this division include a software product quality measurement reference model, mathematical definitions of quality measures, and practical guidance for their application. Presented measures apply to internal software quality, external software quality and quality in use. Quality Measure Elements forming foundations for the latter measures are defined and presented.

— **ISO/IEC 2503n - Quality Requirements Division**. The International Standard that forms this division helps to specify quality requirements. These quality requirements can be used in the process of quality requirements elicitation for a software product to be developed or as input for an evaluation process. The requirements definition process is mapped to technical processes defined in ISO/IEC 15288.

— **ISO/IEC 2504n - Quality Evaluation Division**. The International Standards that form this division provide requirements, recommendations and guidelines for software product evaluation, whether performed by evaluators, acquirers or developers. The support for documenting a measure as an Evaluation Module is also presented.

— **ISO/IEC 25050 to ISO/IEC 25099** are reserved for SQuaRE extension International Standards, Technical Specifications, Publicly Available Specifications (PAS) and/or Technical Reports.