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First edition
2015-12-01

Quantitative methods in process improvement — Six Sigma — Competencies for key personnel and their organizations in relation to Six Sigma and Lean implementation

*Méthodes quantitatives pour l'amélioration des processus — Six
Sigma — Compétences pour le personnel clé et leur organisation en
relation avec la mise en œuvre du Six Sigma et du Lean*



Reference number
ISO 18404:2015(E)

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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 WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

The committee responsible for this document is ISO/TC 69, *Applications of statistical methods*, Subcommittee SC 7, *Applications of statistical and related techniques for the implementation of Six Sigma*.

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Introduction

This International Standard sets out to clarify the required competencies for personnel and organizations in Six Sigma¹⁾, Lean and “Lean & Six Sigma”. Because of the ambiguity of the many combinations of Lean and Six Sigma, currently termed “Lean Six Sigma”, this International Standard will use the term “Lean & Six Sigma”. Before this, there had been no universal standard on what constitutes a Black Belt or what is required in an organization which deploys these approaches.

For example, if an organization advertises for a Six Sigma Black Belt, how can they be sure of the level of ability of a “Black Belt”? If a supplier says it is deploying Six Sigma or perhaps Lean, how can a customer be sure of their real abilities? A fundamental purpose of this International Standard is to assist in the answer of such questions.

Much debate has been had on the nature of Six Sigma and Lean, their commonality and their differences. Protagonists have argued over the content, overlap, application, supremacy and purpose of the two approaches. Various combinations of the two approaches exist, many under the umbrella title of “Lean Six Sigma”. Six Sigma and Lean have a commonality of field of application, i.e. process improvement. Lean focuses on reducing ‘chronic’ waste and Six Sigma focuses on reducing the variation and thereby its adverse effects.

This International Standard therefore sets out the separate competency requirements for Six Sigma and Lean implementation; it also sets out a combined competency framework for “Lean & Six Sigma”. In so doing, it focuses on the competencies (skills and abilities) to deliver benefits to an organization rather than defining the specific educational level required for each role.

Candidates will be expected to demonstrate that they have an adequate level of competence, an amalgamation of education, training, skills and experience necessary to fulfil their roles.

In its preparation, it has been seen to be helpful to prepare this International Standard by focusing on Six Sigma, Lean implementation and “Lean & Six Sigma” separately and the user will come across different tables dealing with these subjects.

1) Six Sigma is a trade mark of Motorola, Inc.