

Czestochowa University of Technology

**Jacek Selejdak
Tatiana Čorejová
Robert Ulewicz**

Total Quality Management

Monograph

Częstochowa 2016

**Jacek Selejdak
Tatiana Čorejová
Robert Ulewicz**

Total Quality Management

Monograph



Publishing Office
of Faculty of Management
Czestochowa University of Technology

Częstochowa 2016

Reviewers

dr hab. inż. Magdalena Rzemieniak, prof. PL

Technical Editor

Marcin Pilarski

Cover Design

Marcin Pilarski

ISBN 978-83-65179-65-4

© Copyright by Wydawnictwo Wydziału Zarządzania
Politechniki Częstochowskiej
Częstochowa 2016

Wydawnictwo Wydziału Zarządzania Politechniki Częstochowskiej
42-200 Częstochowa, al. Armii Krajowej 36 B
tel. 34 325 04 80, dystrybucja 34 325 08 67
e-mail: wyd.wz@zim.pcz.pl

CONTENTS

1. BASIS OF QUALITY	5
1.1. The essence and the concept of quality	5
1.2. Terminology associated with quality	8
1.3. Total Quality Management conception	9
2. THE ROLE OF STANDARDS	
IN SYSTEMS QUALITY ASSURANCE	16
2.1. Standards of ISO 9000 series	16
2.2. Standards of ISO 14000 series	24
2.3. Occupational Health and Safety and OHSAS	32
2.4. ISMS – Information Security Management System	37
2.5. Food safety systems	39
2.6. Requirements ISO 16949 in automotive industry in mass production and in production of spare parts	48
2.7. Revision of standards	52
2.8. The European Quality Prize (ENJ) for European organizations using the EFQM model of excellence	58
2.9. Integrated Management System	65
3. QUALITY MANAGEMENT OF QUALITY ASSURANCE	
IN PRODUCTION AND SERVICES	66
3.1. QFD method (Quality Function Deployment)	66
3.2. Taguchi method	70
3.3. Philosophy Kaizen	73
3.4. Zero defects method	75
3.5. FMEA method (Failure Mode and Effect Analysis)	76
3.6. Servqual – method of testing the quality of services	84
3.7. Critical Incidents Technique	90
4. TRADITIONAL QUALITY MANAGEMENT TOOLS	94
4.1. Ishikawa diagram	94
4.2. Pareto-Lorenz diagram	97
4.3. Histograms	100
4.4. Block diagrams	103
4.5. Control sheets	106
4.6. Diagrams of two variables	108
4.7. Control charts	111

5. NEW TOOLS OF QUALITY MANAGEMENT	126
5.1. Diagram of Planning Decision Making Process (PDPC	126
5.2. Matrix data analysis	127
5.3. Affinity diagram	130
5.4. Interrelationship diagram	131
5.5. Systematic diagram	134
5.6. Matrix diagram	136
5.7. Arrow diagram	137
6. SUPPORT INSTRUMENTS	140
7. QUALITY MANAGEMENT IN THE SUPPLY CHAIN	144
8. CONCEPT OF SIX SIGMA AND LEAN SIX SIGMA	147
9. PROCESS CAPABILITY	152
BIBLIOGRAPHY	156