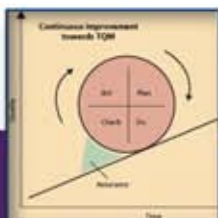
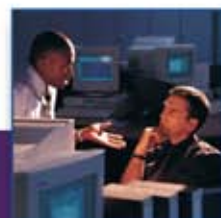


Frameworks for IT Management

The
Leading
22

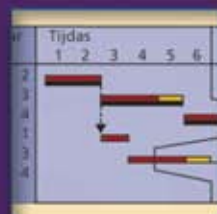


TQM
ISO 9000
TickIT
ISO 27001
ISO 20000



ITS-CMM
Six Sigma
eSCM
IT BSC
AS 8015

COBIT
M_o_R®
PrimaVera
ASL, BiSL
ISPL, ITIL®

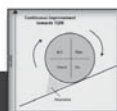


PRINCE2™
eTOM
MSP
PMBOK
IPMA

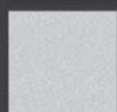


Frameworks for IT Management

The
Leading
22

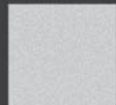


TQM
ISO 9000
TickIT
ISO 27001
ISO 20000



ITS-CMM
Six Sigma
eSCM
IT BSC
AS 8015

COBIT
M_o_R
PrimaVera
ASL, BiSL
ISPL, ITIL®



PRINCE2®
eTOM
MSP
PMBOK
IPMA



About the ITSM Library

The publications in the ITSM Library cover best practice in IT Management and are published on behalf of *itSMF* Netherlands (*itSMF-NL*).

The IT Service Management Forum (*itSMF*) is the association for IT service organizations, and for customers of IT services. *itSMF*'s goal is to promote innovation and support of IT management; suppliers and customers are equally represented within the *itSMF*. The Forum's main focus is exchange of peer knowledge and experience. Our authors are global experts.

The following publications are, or soon will be, available.

Introduction, Foundations and Practitioners books

- Foundations of IT Service Management based on ITIL® / IT Service Management – an introduction, based on ITIL® (Arabic, Danish, German, English, French, Italian, Japanese, Korean, Dutch, Brazilian Portuguese, Russian, and Spanish)
- IT Services Procurement – an introduction based on ISPL (Dutch)
- Project Management based on Prince2 (Dutch, English, German)
- Practitioner Release & Control for IT Service Management, based on ITIL (English)

IT Service Management – best practices

- IT Service Management – best practices, part 1 (Dutch)
- IT Service Management – best practices, part 2 (Dutch)
- IT Service Management – best practices, part 3 (Dutch)

Topics & Management instruments

- Metrics for IT Service Management (English)
- Six Sigma for IT Management (English)
- The RfP for IT Outsourcing (Dutch)
- Service Agreements – A Management Guide (English)
- Frameworks for IT Management (English)

Pocket guides

- ISO/IEC 20000 – a pocket guide (English, German, Italian, Spanish, formerly BS 15000 – a pocket guide)
- IT Services Procurement based on ISPL – a pocket guide (English)
- IT Governance – a pocket guide based on COBIT (English, German)
- IT Service CMM – a pocket guide (English)
- IT Service Management – a summary based on ITIL® (Dutch)
- IT Service Management from hell! (English)

For any further enquiries about ITSM Library, please visit www.itsmfbooks.com, <http://en.itsmportal.net/books.php?id=35> or www.vanharen.net.

Frameworks for IT Management

Colophon

| | |
|--------------------|--|
| Title: | Frameworks for IT Management |
| A publication of: | <i>it</i> SMF-NL |
| Editors: | Jan van Bon (chief editor) Tieneke Verheijen (editor) |
| Publisher: | Van Haren Publishing, Zaltbommel, www.vanharen.net |
| ISBN(10): | 90 77212 90 6 |
| ISBN(13): | 978 90 77212 90 5 |
| Edition: | First edition, first impression, September 2006 |
| Design and Layout: | CO2 Premedia, Amersfoort - NL |
| Printer: | Wilco, Amersfoort -NL |

For any further enquiries about Van Haren Publishing, please send an e-mail to:
info@vanharen.net

The International *it*SMF organization, through its International Publications Executive Subcommittee (IPESC), comprised of a council of members from global *it*SMF chapters has given its formal *it*SMF International endorsement to this book.

©*it*SMF-NL 2006

All rights reserved. No part of this publication may be reproduced in any form by print, photo print, microfilm or any other means without written permission by the publisher.

Although this publication has been composed with much care, neither author, nor editor, nor publisher can accept any liability for damage caused by possible errors and/or incompleteness in this publication.

TRADEMARK NOTICES

PRINCE2™, M_O_R® AND ITIL® ARE REGISTERED TRADE MARKS AND REGISTERED COMMUNITY TRADE MARKS OF THE OFFICE OF GOVERNMENT COMMERCE, AND ARE REGISTERED IN THE U.S. PATENT AND TRADEMARK OFFICE.

COBIT® is a registered trademark of the Information Systems Audit and Control Association (ISACA)/IT Governance Institute (ITGI).

The PMBoK® is a registered trademark of the Project Management Institute (PMI).

Foreword

Providing the best IT services at the lowest cost – this challenge is on most IT managers' agendas nowadays. The solution may be complex, but can't be achieved and sustained without the support of some kind of best-practice framework or quality management system. And, as most of you will have found out by now, in terms of frameworks there is not a single silver bullet for all situations.

However, as we've learned from discussions with our members, there is a huge number of management frameworks in the marketplace and this is confusing for most individual IT managers. Which framework could be – or should be – used in which situation? It's hard to make the right choice all the time. And it's quite impossible just to use all available frameworks, whether they are specially made for IT or IT Management or used as a general management framework, since many of them are overlapping or even conflicting.

So the big question is: how to select the right elements for your quality management system? I am pleased to say that we now have a book that makes it a lot easier for IT managers – who generally have little time to study – to find their way to the required information to make up their mind about the answer.

As for *itSMF* Netherlands, I am very proud to add this book to the ITSM Library. The book has been produced according to the high standards we apply for all ITSM Library books, written by well-known experts and severely reviewed by a number of enthusiastic and skilled *itSMF* members. On behalf of *itSMF* Netherlands, I wish to thank this review team for their efforts to support the quality of this book.

I know that you will find this guide informative and a valuable addition to your ITSM library in support of your journey toward service excellence.

Arjen Droog
CEO *itSMF* Netherlands

Endorsement Statement

For many reasons it has been very apparent that IT managers need frameworks to build their service management strategies. Seeing the vast number of management frameworks, it can be hard to choose the right one for IT Management in your own organization. Keeping up to the changes that occur to these frameworks is an added challenge.

I am pleased to say that this *itSMF* book makes it easy to get the necessary information to make the right decisions for your organization and serves our readers well. As the Chair for the *itSMF* International Publications Executive Sub Committee (IPESC), I am very proud to officially add our Committee's formal endorsement of this publication.

The IPESC, through its council of members, their efforts and dedication create added value to the community of ITSM professionals, by endorsing the development of a common global library which supports a uniform understanding of ITSM best practices and knowledge.

Our endorsement process is a rigorous one, with stringent criteria that any ITSM-related publication must meet before it can be endorsed by the IPESC.

On behalf of the *itSMF* global community, I wish to thank the IPESC for their efforts and endorsement of this book.

A handwritten signature in black ink, reading "S. Taylor". The signature is fluid and cursive, with the first letter "S" being large and stylized.

Sharon Taylor
Chair, International Publications Executive Sub Committee
itSMF International

Acknowledgements

itSMF Netherlands would like to thank the great number of experts who have been involved in the development of this *Frameworks for IT Management* publication. With the help of 27 authors and a number of additional reviewers, we compiled this book to help IT managers find their way through the ‘framework forest’. We owe all the team members our gratitude for supporting *itSMF*-NL in developing this management guide.

With the help of *itSMF*’s International Publications Executive Sub Committee (IPESC) we established a list of the frameworks that were considered to be most relevant for IT managers. A uniform structure for all frameworks was defined, to support the interpretation of each framework from the same perspective. For each framework an author was selected, from the *itSMF* community. Authors have been found from all over the world. All authors are experts in the field of the management framework they describe, and in some cases they were the original authors of the framework itself.

We wish to thank them all for contributing to this book and participating in the thorough peer review process *itSMF*-NL applies to all its ITSM Library publications. The authors and reviewers together raised around 500 issues on the initial drafts. All these issues were taken into account by the different authors, revising and improving their chapters. The final results were presented to the Review Team and the Authors Team for a formal final sign-off.

Authors

Samantha Alford (ISO 9000 chapter) is a senior manager with seventeen years’ experience in the logistics field. As an ISO 9001:2000 External Quality Auditor she has had responsibility for personnel operating under the ISO 9001:2000 Standard. She is a Director of Herne European Consultancy Ltd (a quality consultancy company) and a published author.

Rolf Akker (Generic Framework for Information Management chapter), a Master of Science in Business Management and certified ITIL Service Manager, participated in several ITIL examination committees for EXIN. Currently he is a consortium member of the Dutch IT Governance Association (ITGA) and one of the two lead authors for the IT Governance Framework developed by the ITGA. He works with Atos Origin Nederland as a Business Consultant

Raul Assaff (PMBok chapter) is a PMI certified Project Management Professional (PMP) who has managed many projects on the integration of solutions in major companies. As a Director of Programs of Education of Project Management in the Institute of Technology of Buenos Aires (ITBA) he has directed thirty five courses of project management.

Colin Bentley (PRINCE2 chapter) was one of the team that brought PROMPT II, the predecessor of PRINCE2, to the marketplace and wrote the major part of the PRINCE2 manual. He is currently the Chief Examiner in PRINCE2 for the Association for Project Management Group and the UK Office of Government Commerce (OGC), and is responsible for the assessment of new trainers in the method.

Jacqueline van der Bent (TQM chapter) has a PhD in Quality Management, Organizational Learning and Memory. Since 1979 she has been working in industry, sales and non-profit organizations as a management consultant. She assists organizations in adopting business excellence programs, such as EFQM and is a part-time teacher of TQM at an institute for MBA studies.

Paul Breslin (TickIT chapter) has been a practicing TickIT auditor since 1994. Currently he is the e-Business sector leader for DNV Certification, responsible for the commercial and technical development of IT related services including TickIT and BS 15000 certifications. He is also a member of UK IST/15 Software Engineering and the Joint TickIT Industry Steering Committees.

Marghanita da Cruz (AS 8015 chapter) has over twenty five years' experience in implementing IT in the public and private sectors, in large, small and community organizations. She is Principal Consultant of Ramin Communications and chairs the Australian Computer Society's ICT Governance Committee. Marghanita represents the ACS on the technical committee which prepared AS 8015 - 2005 Australian Standard for Corporate Governance of ICT. She would like to thank ACS members Tom Worthington and Tom Cleary for their comments on her chapter.

Ralph Donatz (BiSL chapter, together with Frank van Outvorst) as a management consultant at the business unit TS with Getronics PinkRocade focuses on how business organizations can improve their control over their information systems. He published many articles in this field and as one of the authors of the BiSL introduction book played a leading role in constructing and promoting the BiSL framework.

Rubina Faber (M_o_R chapter), Director of Regal Training, is involved in consultancy and training, including strategic thinking, implementing risk frameworks, design and presentation. She supports a number of private and public sector organizations raising awareness of risk management at all levels within the organization, delivering accredited courses and helping with the implementation of M_o_R.

Edgar Giesen (Six Sigma chapter, together with Patrick Teters), Business Process Measurement Systems expert within European retail and wholesale banking, makes results sustainable with measurement systems. He developed the Six Sigma Four Step Approach which gives a clear implementation framework for complex Six Sigma programs. Within Capgemini he is one of the trainers for the Six Sigma Green Belt course.

Wim van Grembergen (IT Balanced Scorecard chapter, together with Steven de Haes) is professor and chair of the Information Systems Management Department at the Economics and Management Faculty of the University of Antwerp (Belgium) and executive professor at the University of Antwerp Management School (UAMS). His research focuses primarily on IT governance, strategic alignment and IT performance management. He is also engaged in the continuous development of COBIT and is academic director of the Information Technology Alignment and Governance Research Institute.

Steven De Haes (IT Balanced Scorecard chapter, together with Wim van Grembergen) is responsible for the Information Systems Management executive programs and research at the University of Antwerp Management School (UAMS). He is engaged in research in the domains of IT governance, strategic alignment and IT performance management. He is involved in the continuous development of COBIT and is currently preparing a PhD in IT governance. He is director and senior researcher of the Information Technology Alignment and Governance Research Institute.

Jon G. Hall (ISO 27001 chapter) is a senior lecturer at the Open University, UK, where he lectures on Information Security Management using BS7799 and ISO 27001. He is Head of Product Research for Tarmin Solutions Ltd, works closely with other industry partners, and has written widely on many aspects of computing.

Bert Hedeman (MSP chapter) is a senior project and program manager and partner of Insights International BV. Bert is an accredited PRINCE2 and MSP trainer and co-author of the books *Project Management based on PRINCE2* and *Programme Management based on MSP*. Since 1995, Bert has also been an accredited assessor for IPMA.

We also wish to thank Bert Hedeman for extending the cross-references of the various project management frameworks in this book.

Jan Hendriks (eTOM chapter) is now working as a consultant for the software services organization of Atos Origin. He started his career in the research laboratories of the Dutch incumbent operator. After switching to internal IT support he became a consultant and worked with diverse areas of interest, such as network administration and management, customer administration and middleware infrastructures.

Peter Hill (COBIT chapter) is an IT governance consultant who started working with COBIT in 1994. He is currently a director of the IT Governance Network, a company specializing in IT governance consulting and training. Peter has extensive experience with COBIT, having used it as the umbrella model to implement IT governance, process improvement, compliance, and management of risk activities for a number of clients. Recently, Peter participated as a member of the COBIT 4.0 development team.

Majid Iqbal (eSCM chapter, together with Mark Paulk) works for Carnegie Mellon University. He is involved in research on best practices in service management and sourcing. He teaches graduate and executive courses on service management. Majid is a member of the ITIL Advisory Group (IAG) and an author of a new ITIL Version 3 volume on service strategies.

Gerrit Koch (IPMA representative for PMI-Netherlands, ICB chapter) was the first IPMA level A-certified Projects Director in the Netherlands. Since 2005, he has been responsible for the competence area of project management for the renowned Dutch management advice office Berenschot. His experience in directing and developing project managers proved to be very useful for his co-authorship of the IPMA Competence Baseline.

Ivor Macfarlane (ISO 20000 chapter) has worked with IT service management best practice for sixteen years and was one of the authors of the original BS15000 standard and the ISO/IEC 20000 assessment workbook. He is working with several major companies on their journey to achieve formal accreditation.

Dr Machteld Meijer (ASL chapter, together with Mark Smalley) is a senior consultant with Getronics PinkRocade, specializing in the fields of IT process improvement and quality management. She publishes, presents and trains on a regular basis. As an active member of the ASL Foundation, she has contributed considerably to the development of ASL.

Dr Frank Niessink (IT Service CMM chapter) is a principal consultant at CIBIT, a DNV Company. Frank was the primary author of the IT Service CMM, at the Vrije Universiteit of Amsterdam. In his role of consultant, Frank assists clients of CIBIT with assessing their IT service maturity and with improving their IT service processes.

Dr Mark Paulk (eSCM chapter, together with Majid Iqbal) is a Senior Systems Scientist at the IT Services Qualification Center at Carnegie Mellon University, where he works on best practices for sourcing of IT-enabled services. His research interests revolve around quality and process improvement frameworks, high maturity practices, measurement and statistical thinking, and agile methods.

Colin Rudd (ITIL chapter) has been working in the IT industry for over thirty years and is recognized as a leading exponent of service management principles and processes. He has been heavily involved in the development of *New ITIL*, writing or contributing to the production of many of the individual modules. He was also responsible for the design of the overall framework for the new library. Colin now runs his own company, IT Enterprise Management Services Ltd.

Mark Smalley (ASL chapter, together with Machteld Meijer) has twenty years of experience in the field of applications management and has trained hundreds of people in ASL. He works as manager and consultant for Getronics PinkRocade and is an active member of the ASL Foundation, frequently presenting and publishing on applications management.

Frank van Outvorst (BiSL chapter, together with Ralph Donatz) is as a management consultant with Getronics PinkRocade involved with professionalizing IT demand organizations by way of coaching, consultancy and training. Frank published many articles in the field of business information management and business information administration. As one of the authors of the BiSL introduction book he played a leading role in constructing and presenting the BiSL framework.

Patrick Teters (Six Sigma chapter, together with Edgar Giesen) is a senior process consultant at Capgemini with eight years of experience in process improvement projects in the telecom and financial markets. In the last two years he specifically focused on the alignment between the business and IT processes, using several methods including Six Sigma.

Dr T.F. (Denis) Verhoef (ISPL chapter) is chair of the ISPG (the Information Services Procurement Group) and partner of the Ordina Group. He is one of the two primary editors of

ISPL. He wrote Requests for Proposal for big and complex IT outsourcings in both the public and private sector and helped with vendor negotiations.

Additional reviewers

Besides the authors, who peer reviewed the chapters of their co-authors, the following people generously offered their time and knowledge to the reviewing process. We owe them our gratitude for giving us and the Authors Team the opportunity to improve the manuscript:

- **Signe-Marie Hernes Bjerke** - Det Norske Veritas, Norway
- **Sophia Klaassen** - Klaassen Interim Management, the Netherlands
- **Ricardo Mansur** - Empreendimentos Mansur, Brazil
- **Maxime Sottini** - Innovative Consulting Srl, Italy

Editorial support

Tieneke Verheijen, the responsible editor for *itSMF-NL*, has done a great job, managing all the authors, supporting them in the authoring process, continuously improving the structure of the book on, making sure that no review issue escaped their attention, and that all issues were carefully processed. Without her dedication to the process and to the quality of the work, this book would have been impossible.

Given the desire for a broad consensus in the IT service management field, new developments, additional material and other contributions from IT service management professionals are welcomed to extend and further improve this publication. Any forwarded material will be discussed by the editorial team and where appropriate incorporated into new editions. Comments can be sent to the chief editor, email: jan.van.bon@itsmf.nl.

Jan van Bon
Chief editor *itSMF* Netherlands

Contents

| | |
|--|------------|
| Colophon | IV |
| Foreword | V |
| Endorsement Statement | VI |
| Acknowledgements | VII |
| Authors | VII |
| Additional reviewers | XI |
| Editorial support | XI |
| Contents | XII |
| Introduction | 1 |
| 1 TQM - Total Quality Management | 9 |
| 1.1 Origin/history | 9 |
| 1.2 Where is TQM used? | 12 |
| 1.3 Description | 12 |
| 1.4 Approach/how to | 13 |
| 1.5 Relevance to IT management | 15 |
| 1.6 Strengths and weaknesses | 15 |
| 1.7 Cross-references/relationships | 16 |
| 1.8 Links and literature | 17 |
| 2 ISO 9000 - Quality Management Systems | 19 |
| 2.1 Origin/history | 19 |
| 2.2 Where is ISO 9000 used? | 20 |
| 2.3 Description and core graphics | 22 |
| 2.4 Approach/how to | 23 |
| 2.5 Relevance to IT management | 25 |
| 2.6 Strengths and weaknesses | 25 |
| 2.7 Cross-references/relationships | 26 |
| 2.8 Links and literature | 27 |
| 3 TickIT - Software Quality Management | 29 |
| 3.1 Origin/history | 29 |
| 3.2 Where is TickIT used? | 30 |
| 3.3 Description and core graphics | 30 |
| 3.4 Approach/how to | 31 |
| 3.5 Relevance to IT management | 31 |
| 3.6 Strengths and weaknesses | 32 |

| | | |
|----------|---|-----------|
| 3.7 | Cross-references/relationships..... | 33 |
| 3.8 | Links and literature..... | 33 |
| 4 | ISO 27001 - Information Security Management Systems..... | 35 |
| 4.1 | Origin/history..... | 35 |
| 4.2 | Where is ISO 27001 used?..... | 36 |
| 4.3 | Description and core graphics..... | 36 |
| 4.4 | Approach/how to..... | 36 |
| 4.5 | Relevance to IT management..... | 43 |
| 4.6 | Strengths and weaknesses..... | 43 |
| 4.7 | Cross-references/relationships..... | 44 |
| 4.8 | Links and literature..... | 44 |
| 5 | ISO/IEC 20000 - ITSM Standard..... | 45 |
| 5.1 | Origin/history..... | 45 |
| 5.2 | Where is ISO/IEC 20000 used?..... | 46 |
| 5.3 | Description and core graphics..... | 46 |
| 5.4 | Approach/how to..... | 50 |
| 5.5 | Relevance to IT management..... | 50 |
| 5.6 | Strengths and weaknesses..... | 50 |
| 5.7 | Cross-references/relationships..... | 51 |
| 5.8 | Links and literature..... | 51 |
| 6 | IT Service CMM - the IT Service Capability Maturity Model..... | 53 |
| 6.1 | Origin/history..... | 53 |
| 6.2 | Where is the IT Service CMM used?..... | 54 |
| 6.3 | Description and core graphics..... | 54 |
| 6.4 | Approach/how to..... | 58 |
| 6.5 | Relevance to IT management..... | 58 |
| 6.6 | Strengths and weaknesses..... | 58 |
| 6.7 | Cross-references/relationships..... | 58 |
| 6.8 | Links and literature..... | 59 |
| 7 | Six Sigma..... | 61 |
| 7.1 | Origin/history..... | 61 |
| 7.2 | Where is the Six Sigma methodology used?..... | 62 |
| 7.3 | Description and core graphics..... | 63 |
| 7.4 | Approach/how to..... | 65 |
| 7.5 | Relevance to IT management..... | 68 |
| 7.6 | Strengths and weaknesses..... | 69 |
| 7.7 | Cross-references/relationships..... | 69 |
| 7.8 | Links and literature..... | 71 |

| | | |
|-----------|--|------------|
| 8 | eSCM-SP v2: eSourcing Capability Model for Service Providers, Version 2 | 73 |
| 8.1 | Origin/history | 73 |
| 8.2 | Where is eSCM-SP v2 used? | 74 |
| 8.3 | Description and core graphics | 75 |
| 8.4 | Approach/how to | 78 |
| 8.5 | Relevance to IT management | 79 |
| 8.6 | Strengths and weaknesses | 80 |
| 8.7 | Cross-references/relationships | 80 |
| 8.8 | Links and literature | 81 |
| 9 | IT Balanced Scorecard | 83 |
| 9.1 | Origin/history | 83 |
| 9.2 | Where is the IT Balanced Scorecard used? | 83 |
| 9.3 | Description and core graphics | 84 |
| 9.4 | Approach/how to | 89 |
| 9.5 | Relevance to IT management | 90 |
| 9.6 | Strengths and weaknesses | 91 |
| 9.7 | Cross-references/relationships | 91 |
| 9.8 | Links and literature | 93 |
| 10 | AS 8015-2005 - Australian Standard for Corporate Governance of IT | 95 |
| 10.1 | Origin/history | 96 |
| 10.2 | Where is AS 8015 used? | 97 |
| 10.3 | Description and core graphics | 98 |
| 10.4 | Approach/how to | 99 |
| 10.5 | Relevance to IT management | 101 |
| 10.6 | Strengths and weaknesses | 101 |
| 10.7 | Cross-references/relationships | 101 |
| 10.8 | Links and literature | 102 |
| 11 | COBIT – Control Objectives for Information and related Technology | 103 |
| 11.1 | Origin/history | 103 |
| 11.2 | Where is COBIT used? | 104 |
| 11.3 | Description and core graphics | 105 |
| 11.4 | Approach/how to | 109 |
| 11.5 | Relevance to IT management | 110 |
| 11.6 | Strengths and weaknesses | 110 |
| 11.7 | Cross-reference/relationships | 111 |
| 11.8 | Links and literature | 112 |
| 12 | M_o_R – Management of Risk | 115 |
| 12.1 | Origin/history | 115 |
| 12.2 | Where is Management of Risk used? | 115 |
| 12.3 | Description and core graphics | 116 |
| 12.4 | Approach/how to | 117 |

| | | |
|-----------|---|------------|
| 12.5 | Relevance to IT management..... | 117 |
| 12.6 | Strengths and weaknesses..... | 118 |
| 12.7 | Cross-reference/relationships..... | 118 |
| 12.8 | Links and literature..... | 118 |
| 13 | Generic Framework for Information Management..... | 121 |
| 13.1 | Origin/history | 121 |
| 13.2 | Where is the Generic Framework for Information Management used? | 121 |
| 13.3 | Description and core graphics..... | 122 |
| 13.4 | Approach/how to..... | 124 |
| 13.5 | Relevance to IT management..... | 125 |
| 13.6 | Strengths and weaknesses..... | 127 |
| 13.7 | Cross-references/relationships..... | 127 |
| 13.8 | Links and literature..... | 130 |
| 14 | BiSL – Business Information Services Library..... | 133 |
| 14.1 | Origin/history | 134 |
| 14.2 | Where is BiSL used? | 134 |
| 14.3 | Description and core graphics..... | 135 |
| 14.4 | Approach/how to..... | 137 |
| 14.5 | Relevance to IT management..... | 138 |
| 14.6 | Strengths and weaknesses..... | 139 |
| 14.7 | Cross-references/relationships..... | 139 |
| 14.8 | Links and literature..... | 140 |
| 15 | ISPL - the Information Services Procurement Library..... | 141 |
| 15.1 | Origin/history | 141 |
| 15.2 | Where is ISPL used? | 142 |
| 15.3 | Description and core graphics..... | 142 |
| 15.4 | Approach/how to..... | 146 |
| 15.5 | Relevance to IT management..... | 146 |
| 15.6 | Strengths and weaknesses..... | 146 |
| 15.7 | Cross-references/relationships..... | 147 |
| 15.8 | Links and literature..... | 148 |
| 16 | ITIL - the IT Infrastructure Library..... | 149 |
| 16.1 | Origin/history | 149 |
| 16.2 | Where is ITIL used? | 149 |
| 16.3 | Description and core graphics..... | 150 |
| 16.4 | Approach/how to..... | 151 |
| 16.5 | Relevance to IT management..... | 158 |
| 16.6 | Strengths and weaknesses..... | 159 |
| 16.7 | Cross-references/relationships..... | 159 |
| 16.8 | Links and literature..... | 160 |

| | |
|--|------------|
| 17 eTOM – the Enhanced Telecom Operations Map | 161 |
| 17.1 Origin/history | 161 |
| 17.2 Where is eTOM used? | 162 |
| 17.3 Description and core graphics | 163 |
| 17.4 Approach/how to | 165 |
| 17.5 Relevance to IT management | 166 |
| 17.6 Strengths and weaknesses | 167 |
| 17.7 Cross-references/relationships | 167 |
| 17.8 Links and literature | 169 |
| 18 ASL – Application Services Library | 171 |
| 18.1 Origin/history | 171 |
| 18.2 Where is ASL used? | 172 |
| 18.3 Description and core graphics | 172 |
| 18.4 Approach/how to | 176 |
| 18.5 Relevance to IT management | 177 |
| 18.6 Strengths and weaknesses | 177 |
| 18.7 Cross-references/relationships | 177 |
| 18.8 Links and literature | 179 |
| 19 MSP – Managing Successful Programmes | 181 |
| 19.1 Origin/history | 181 |
| 19.2 Where is MSP used? | 182 |
| 19.3 Description and core graphics | 183 |
| 19.4 Approach/how to | 189 |
| 19.5 Relevance to IT management | 190 |
| 19.6 Strengths and weaknesses | 190 |
| 19.7 Cross-references/relationships | 191 |
| 19.8 Links and literature | 191 |
| 20 PRINCE2 - PRojects IN Controlled Environments | 193 |
| 20.1 Origin/history | 193 |
| 20.2 Where is PRINCE2 used? | 194 |
| 20.3 Description and core graphics | 194 |
| 20.4 Approach/how to | 201 |
| 20.5 Relevance to IT management | 201 |
| 20.6 Strengths and weaknesses | 202 |
| 20.7 Cross-references/relationships | 202 |
| 20.8 Links and literature | 204 |
| 21 PMBoK – the Project Management Body of Knowledge | 205 |
| 21.1 Origin/history | 206 |
| 21.2 Where is the PMBoK used? | 206 |
| 21.3 Description and core graphics | 208 |
| 21.4 Approach/how to | 212 |

| | | |
|-----------|---|------------|
| 21.5 | Relevance to IT management..... | 213 |
| 21.6 | Strengths and weaknesses..... | 215 |
| 21.7 | Cross-references/relationships..... | 215 |
| 21.8 | Links and literature..... | 216 |
| 21.9 | Acronyms..... | 217 |
| 22 | ICB – IPMA Competence Baseline..... | 219 |
| 22.1 | Origin/history | 219 |
| 22.2 | Where is the IPMA Competence Baseline used? | 220 |
| 22.3 | Description and core graphics..... | 220 |
| 22.4 | Approach/how to..... | 224 |
| 22.5 | Relevance to IT management..... | 224 |
| 22.6 | Strengths and weaknesses..... | 224 |
| 22.7 | Cross-references/relationships..... | 225 |
| 22.8 | Links and literature..... | 226 |

Introduction

IT management is one of the fastest growing fields of expertise in all management disciplines. High demands of customers, extremely short development cycles and huge costs have made this field one of the most important of all management domains. And in this field of IT management, awareness of the crucial role of IT services has been growing since the early 1990s.

This is the decade of IT service management, but the managers in this discipline have had little opportunity to obtain the training they need. Many managers in IT have learned on the job; some have been trained in one of the very few dedicated training programs available of which ITIL is at the top of the list. The lack of training, which puts a great deal of stress on managers in IT, and in IT related disciplines, needs to be addressed.

Learning on the job

The speed of development of the IT management domain has given public education programs little opportunity to cope with the demands of today's companies. They have not been able to develop curriculae that cover well embedded training in IT (service) management issues, let alone deliver students who have been trained properly as part of their regular educational program. Today higher education programs are starting to offer courses in IT service management. But it is still a long way from being a standard subject in higher education. This means that companies will continue to find a lack of knowledge in recent graduates: they too will have to learn on the job.

The 'framework forest'

This situation has stimulated the development, the import (from other disciplines) and the acceptance of managerial frameworks, methods and methodologies that support the modern IT manager. We have seen a large number of those frameworks in recent magazines and books, at conferences and seminars, and on the Web. No IT service provider can be taken seriously if they do not have a framework of their own. The problem is that there are now too many frameworks - the number has grown so fast that it has become hard to see the forest for the trees.

Gaps

ITSMF, the IT Service Management Forum, is putting a great deal of effort into the development and dissemination of knowledge in the field of IT service management. With over thirty national chapters, a huge organization is acting in most corners of the world. Many publications of ITSMF chapters are now finding their way to the practitioners in the field. ITSMF has been greatly influential in developing the globally accepted best practice documentation of ITIL, and continues to do so. Conferences are showcasing the best practices and the latest developments. And websites make the latest information available for all to see.

This information is not just in English: many publications are being translated into ten or more languages. In translating these publications it has become clear that several publications contain material that is new to IT managers, especially in countries that are relatively new to the field of ITIL and IT service management.

More gaps

This is not the only gap that confronts us. We encounter similar problems in small and medium sized enterprises (SMEs). Management in these organizations is often quite unfamiliar with some of the core frameworks and methods (instruments).

Furthermore, we encounter problems in explaining our IT management instruments to business managers: although they frequently encounter the title of an instrument, they often know very little of its content.

Initiative

This situation has led to an initiative to create a publication that covers the most important frameworks we use, in such a way that readers can better understand the potential value of each of these instruments. The instruments are all described by well-known experts in that specific field, in a structured way, to emphasize the specific characteristics of each instrument, and explain how they could be used together:

- **Origin/history.** Where did the instrument come from? Who invented it? When? First publications? Ownership and copyright? Any well-known champions? Current status of development, any important revisions going on or planned?
- **Where is the instrument used?** Target groups or stakeholders? Any specific market sections? Restricted to any layer of management? Quantity details: number of adopting companies, number of certificates, 'installed base'? Acceptance as a standard? Qualification of standard (legal standard, industry standard, *de facto* best practice).
- **Description and core graphics.** Summary of the core characteristics of the instrument, supported by the core graphics. Structure, facts and figures. Objectives? Benefits? Process model? Any certification programs attached (person or company focus)?
- **Approach/how to.** Management guidance: How to apply the instrument? How to implement it? How to position it? Expected outcome? Specific costs? Business case? Frequent pitfalls?
- **Relevance to IT management.** Why is this instrument *specifically* relevant to IT management? What are the main IT management problems that can be solved with it?
- **Strengths and weaknesses.** Where does the instrument prove most of its value? Most successful application? Why consider using it? Established flaws in the instruments. Any acknowledged gaps? Where should/will the instrument be improved?
- **Cross-references/relationships.** Relationships with other frameworks or management instruments.
- **Links and literature.** Where can we find the core information and the most practical information on this instrument? Any user organizations or communities of practice?

Not all of these questions could be answered for each of the selected frameworks. In some cases the information on the number of adopting companies was simply not available, or the framework did not have a certification structure. For others the cross-reference to some of the other frameworks was not available. Each framework was described by an author who was very familiar with the subject, using it in their daily practice. This enabled them to write the chapter from the position of the framework domain, emphasizing the core elements from that very same practice. However, since these domains can vary widely, the resulting chapters will vary as well. The fact that a standard structure was used for each of the chapters will make them comparable.

Scoping

We have created a shortlist of the instruments that are described in this publication, using a number of criteria:

- recognized to be best practice in IT management
- core instrument for many IT managers
- vendor-neutral
- copyright arrangements must be in place
- written in an accessible and plain way.

The shortlist of frameworks in this first edition of the ITSMF Management Frameworks guide contains (in alphabetical order):

- **AS 8015** – The Australian Standard for Governance of IT.
- **ASL** – the Application Services Library
- **BiSL** – the Business Information Services Library
- **COBIT** – Control Objectives in IT and related Technology
- **eSCM** - the eSourcing Capability Model of Carnegie Mellon University
- **eTOM** - the enhanced Telecom Operations Map; the most widely used and accepted standard for business process in the telecom industry
- **Generic Framework for Information Management** – the framework produced in PrimaVera: the Program for Research in Information Management at the University of Amsterdam
- **IPMA Competence Baseline** – a standard for managers of projects, programs and project portfolios
- **ISO/IEC 20000** (former BS15000) - Standard on IT service management
- **ISO 27001** (ISO 17799/BS7799) - Standard on Information Security
- **ISO 9000** (GB/T 19000) - Standard on Total Quality Management
- **ISPL** – the Information Services Procurement Library
- **IT Balanced Scorecard** – the management system for strategic performance and results
- **ITIL** – the IT Infrastructure Library
- **ITS-CMM** – the IT Service Capability Maturity Model
- **PMBok** – the Project Management Body of Knowledge
- **PRINCE2** – Projects in Changing Environments
- **M_o_R** – Management of Risk
- **MSP** – Managing Successful Programmes
- **Six Sigma** – the Six Sigma Model for Quality Management
- **TickIT** - Quality management for IT
- **TQM** – Total Quality Management: the Fourteen Points of Management of Dr. W. Edwards Deming

Some frameworks that were selected for this book could not be delivered within the development timeframe. These frameworks will be added in a second edition:

- **CMMI** – the Capability Maturity Model Integration (Staged and Continuous)
- **COPC2000** - Customer Operations Performance Center standard on call center operations
- **EFQM** – the European Foundation of Quality Management Model.

The editing team is open to suggestions to add any other core management frameworks that are relevant to the IT manager. Suggestions can be forwarded to the chief editor (jan.van.bon@itsmf.nl).

Procedure

All draft framework chapters have been peer-reviewed by the other co-authors, and by experts from ITSME. These reviews revealed further options for improvement of the various chapters, and assured that the chapters were well aligned. The content was managed by expert editors, making sure that the resulting text qualified as ‘easy reading’.

Presentation of the chapters

There are many ways to present twenty two management frameworks, but none would contain ‘the ultimate truth’. Therefore we do not present an umbrella structure where all presented frameworks fit together. If you are interested in an overall graphic that positions each of the frameworks, see Figure 13.5 in the chapter on the Generic Framework for Information Management.

There is, however, one way of bringing a kind of order to the list, and that is by means of a simple categorization, based on how and where the frameworks are used. This is illustrated in Table 0.1. Several frameworks contain material that could be allocated to more than one category; the frameworks are categorized according to their *main* characteristics.

| Category | Type | Frameworks |
|-------------------------------|---|---|
| Quality management | Frameworks that focus on quality standards, applied to specific IT domains (services, security, development, general) | TQM ISO 9000 TickIT ISO 27001/BS17799 ISO/IEC 20000 |
| Quality improvement | Frameworks that focus on improvement of processes, performance or other, not focusing on how-to aspects of operating the IT | ITS-CMM Six Sigma eSCM-SP IT Balanced Scorecard |
| IT governance | Frameworks that focus on how to organize the IT function in terms of responsibilities, controls, organization | AS 8015 COBIT M_o_R |
| Information management | Frameworks that focus on how to perform and organize certain aspects of IT management, such as procurement, service delivery, requirements. | Generic Framework for Information Management BiSL ISPL ITIL eTOM ASL |
| Project management | frameworks that focus on project, program and portfolio management, not specifically IT | MSP PRINCE2 PMBOK IPMA Competence Baseline |

Table 0.1 Categorization of management frameworks

This is the structure that we have applied for this book. It groups the various frameworks into a number of categories that have some coherence, but the reader will still be able to determine which chapters to read first.

Responsible bodies

The frameworks are managed by bodies of various types. The nature of these bodies may be relevant in the selection of frameworks by a specific organization. Table 0.2 provides an overview of the responsible bodies.

| Framework | Responsible body | Characterization of the responsible body |
|---|--|---|
| AS 8015 | Standards Australia | Non-government Australian standards management body standards.org.au |
| BiSL | ASL Foundation | Public foundation with participants and knowledge partners www.aslfoundation.org |
| COBIT | ISACA's IT Governance Institute (ITGI) | Research think tank on IT-enabled business systems governance for the global business community, affiliated to ISACA www.itgi.org |
| eSCM | Carnegie Mellon University, through its IT Services Qualification Center (ITSqc) | University research center www.itsqc.cmu.edu |
| eTOM | TeleManagement Forum (TM Forum) | Forum for information and communications services, with an open membership of more than 500 companies www.tmforum.org |
| Generic Framework for Information Management | University of Amsterdam | University |
| IPMA Competence Baseline | International Project Management Association (IPMA) | International network of national project management societies www.ipma.ch |
| ISO/IEC 20000 (formerly BS15000) | International Standards Organization (ISO) | ISO is a network of the national standards institutes of 157 countries, on the basis of one member per country, with a central secretariat in Geneva, Switzerland, that coordinates the system. It manages international standards. www.iso.org |
| ISO 27001 (ISO 17799/BS7799) | International Standards Organization (ISO) | See text on ISO above |
| ISO 9000 (GB/T 19000) | International Standards Organization (ISO) | See text on ISO above |
| ISPL | ISPL Consortium, presided by EXIN | The European Committee has created the ISPL Consortium to develop ISPL to be a <i>de facto</i> standard. |
| IT Balanced Scorecard | None | Copyrights of publications on IT Balanced Scorecard are with the authors of the publications. |

Table 0.2 Frameworks and the responsible bodies

| Framework | Responsible body | Characterization of the responsible body |
|------------------|---|--|
| ITIL | Office of Government Commerce (OGC), United Kingdom | OGC is an independent office of the UK's HM Treasury and works with public sector organizations to help them improve their efficiency and gain better value for money from their commercial activities. www.ogc.gov.uk |
| ITS-CMM | -Vrije Universiteit Amsterdam -CIBIT | IT Service CMM is downloadable for free; the Vrije Universiteit Amsterdam and CIBIT contributed to IT Service CMM. |
| PMBok | Project Management Institute (PMI®) | The PMI is one of the principal professional non-profit organizations in the project management field. www.pmi.org |
| PRINCE2 | Office of Government Commerce (OGC), United Kingdom | See text on OGC above. |
| M_o_R | Office of Government Commerce (OGC), United Kingdom | See text on OGC above. |
| MSP | Office of Government Commerce (OGC), United Kingdom | See text on OGC above. |
| Six Sigma | None | Six Sigma has an active user community; its most important online community is www.isixsigma.com . |
| TickIT | Joint TickIT Industry Steering Committee (JTISC) | The Joint TickIT Industry Steering Committee (JTISC) has overall responsibility for the scheme Rules and Procedures (see ecommittees.bsi-global.com/bsi/controller?linkDataID=985990 for terms of reference) and is accountable to BSI's Standards Policy and Strategy Committee and each of the three parent bodies: <ul style="list-style-type: none"> • British Computer Society (BCS) – with prime responsibility for professional, educational and technological requirements • BSI Standards Development (in their role as TickIT Scheme Manager) with prime responsibility for standardization, international harmonization, certification, accreditation and general public interest requirements • Intellect (a trade body for the IT industry) – with prime responsibility for the IT industry commercial requirements. |
| TQM | None | - |

Table o.2 Frameworks and the responsible bodies (continued)

Additional reading

This Frameworks Guide is intended to help you in finding your way to useful management frameworks that are not always easy to find. Each chapter contains references to additional information sources, to be used if you want to learn more about a specific framework. We hope that it will prove to be a valuable book in the unlocking and demystifying of a number of management frameworks that we consider to belong in our core management toolbox.

1 TQM - Total Quality Management

Total Quality Management (TQM) is a complete management vision in which everyone in the organization is continuously incentivized to fulfill the wishes of the internal and external customer, in order to reach a competitive advantage.

| | |
|--------------------------------|--|
| <i>Owner of the copyright:</i> | None |
| <i>Distribution:</i> | Worldwide |
| <i>Origin/history:</i> | Evolved from quality improvement philosophies from the early 20th century |
| <i>When:</i> | From the 1970s |
| <i>Founding fathers:</i> | A.V. Feigenbaum, W. Edwards Deming, Joseph M. Juran. |
| <i>Certification bodies?</i> | No certification possible - ISO 9000:2000 certification indicates that an organization is working according to TQM principles. EFQM, MBNQA and INK are evolved from TQM. |
| <i>Useful tools:</i> | Plan-Do-Check-Act, brainstorming, Pareto analysis, statistical process control, benchmarking, Just-in-time, among others. |

By Jacqueline van der Bent

1.1 Origin/history

1.1.1 A long history of quality management

Quality management has a long history. Evidence of the first sign of quality control dates as far back as the building of the pyramids. An example of quality control and inspection closer to home is the Dutch guilds. Rembrandt van Rijn's famous painting 'De Staalmeesters' (in English 'staalmeesters' means something like 'guild masters') is actually a portrait of quality inspectors, which takes its name from the steel pair of tongs used by the 'staalmeesters' to attach a piece of lead on the hallmarked textiles.

1.1.2 Inspection

Industrial development at the end of the 18th and at the beginning of the 19th centuries led to the demand for new methods and techniques to control the quality of the growing number of manufactured products. Tools, such as a rational jig, fixture and a gauging system ensured a certain amount of standardization. This standardization was mainly initiated by the US arms industry at the beginning of the 19th century. The function of quality inspector had begun. This specialist role strengthened the idea that the inspection of products could be done much more efficiently by one person; nowadays products are no longer assessed by the eye but by a more reliable gauging system.

1.1.3 Statistical quality control

When production processes grew more complex and mass production became of significance, the demand for uniformity and standardization grew as well. This gave the initial impetus to the development of statistical quality control.

In 1924 Bell Telephone Laboratories investigated how to manufacture products with a maximum of quality information against a minimum of inspection information.

This was the basis for today's knowledge about statistical quality control, especially on process control and sampling.

The techniques used to control the quality of products were fairly static and focused on tracking problems within the manufacturing process. At the end of the 1950s a new development was announced: quality assurance.

1.1.4 Quality assurance

Tracking problems and inspecting and controlling manufacturing processes is no longer sufficient to guarantee the quality of a product. Other disciplines and management have to play a role. Although quality assurance is mainly concerned with the quality standard ISO 9000, some other elements deserve attention.

- **Costs of quality** - The main exponent of costs of quality is Joseph M. Juran. In 1951 he wrote that one should make a distinction between quality costs that are avoidable and quality costs that are unavoidable. For the first time, managers realized that decisions taken at the beginning of the manufacturing process have far-reaching implications for the level of quality costs that may appear later in the manufacturing process and in the service process. These ideas resulted in the concept of Total Quality Control.
- **Total Quality Control** - A.V. Feigenbaum developed this concept and stated that these products that need to comply with high quality requirements should not be produced in an isolated manufacturing situation. Quality starts with design and ends with service to the customer. Strong co-operation is essential to prevent mistakes in the future. Feigenbaum as well as W. Edwards Deming¹ and Juran was convinced that management is responsible for the system functioning properly.
- **Reliability Engineering** - The arrival of aerospace technology and electronics led the US Department of Defense to draw up a reliability program, which focuses on a product's performance over time.

1.1.5 The introduction of quality awards

In 1945, at the end of World War Two, Japanese industry had been reduced to ashes. Products still being produced were cheap and of low quality. The Japanese therefore decided to take on as much as possible of the successful production techniques and management methods of the Allied

¹ Edwards Deming has been inspired by Walter Shewhart, one of his teachers already advocating a 'Learning and Improvement cycle'. The PDCA-cycle of Edwards Deming is also known as the PDSA-cycle, which stands for 'Plan-Do-Study-Act'. In this case, the results are studied instead of checked.

Powers. McArthur encouraged them in this effort and invited experts such as Deming to Japan. Deming visited Japan in 1947 and in 1950 as an advisor in sampling techniques. He trained Japanese managers in statistical quality control. While Deming's ideas on quality were accepted only to a limited extent in his home country, Japanese companies immediately accepted them and adapted them to their own way of working.

To encourage organizations to achieve excellent research in the theory or application of statistical quality control, the Union of Japanese Scientists and Engineers (JUSE) instituted the Deming Prize in 1951. It is named after Deming to honor him for his contribution to the introduction and development of statistical control in Japan. He introduced a new concept to an existing simple diagram of a cycle for quality improvement (see Figure 1.1).

Today the cycle is known as the Plan-Do-Check-Act cycle (in short, the P-D-C-A cycle), also known as the Deming cycle, Deming himself always referred to it as the Shewhart cycle after its originator Shewhart, Deming's former colleague at Bell Laboratories. The cycle proposes a thorough planning of the production of a product (Plan), the production itself (Do), checking whether the production of the product still matches the plan (Check) and taking action when there is a need to adapt the product if the check shows that production is not according to plan and to improve the product (Act). It is a continuous improvement process that is still used in manufacturing companies; it is also applicable to non-profit companies where it is used for the improvement of project outcomes.

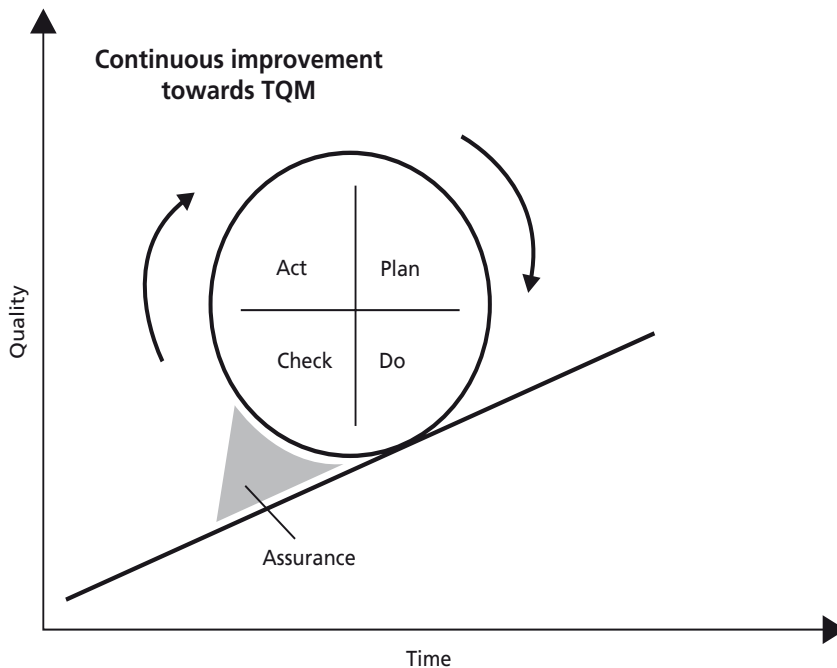


Figure 1.1 The P-D-C-A cycle

1.2 Where is TQM used?

Starting in the European and American industries in order to catch up with Japanese competition in the 1970s and 1980s, Total Quality Management (TQM) is now a world-wide recognized organizational change vision based on quality management. It is used in large and small profit and non-profit organizations.

TQM is not used as a single instrument. It is a collection of views and approaches on organizational change with related methodologies and techniques, all leading to a profound change in the way the organization is managed.

It is possible to use a selection of TQM methodologies and techniques as a company-wide approach or to apply a single technique in a department (e.g. statistical process control in manufacturing).

1.3 Description

Since Taylor², TQM is one of the business theories with the most impact on business management. Starting as a new view on product quality in the 1970s and 1980s, it soon became a management tool for gaining a strategic lead on competitors and organizational change. From that time on, many methodologies and techniques were developed to support management.

In general, management strives for a balance between high productivity, low cost and maximum profit. TQM is based upon this fundamental principle. To achieve this, TQM focuses on:

- statistical process control
- process management
- continuous improvement
- zero defects
- education and training
- the role of management
- teamwork.

To keep the improvement process alive, customer and employee satisfaction, communication, deployment and cultural change are essential to achieve business excellence.

Today, quality is no longer an issue for the central quality department manager alone, but for line management in particular. Quality can no longer be delegated. All aspects important to running a business from mission, vision and strategy involvement of employees, entrepreneurship, process management, customer focus, working together with suppliers, continuous learning and business results are part of TQM. These elements are the fundamentals of the management models of EFQM and MBNQA.³

² Frederick Winslow Taylor, *Scientific Management - Comprising Shop Management, The principles of Scientific Management and Testimony before the Special House Committee* (New York 1964). Taylor (1856-1917) was an American engineer who introduced scientific methods (time and motion studies) to optimize the way tasks were performed by craftsmen. The results of his studies positively influenced the efficiency of the production process.

³ The European Foundation for Quality Management (EFQM) Excellence Model and the Malcolm Baldrige National Quality Award (MBNQA, USA) and their links to TQM are explained in the cross-reference section 1.7.

At the same time TQM provides management with a set of tools and techniques to support the organization in the change process.

Top management is considered to be the driving force behind the change process, dealing with questions such as the following:

- is our management team ready for this new way of working/thinking?
- is the organization ready for this (cultural) change?
- is competition driving us for a change (survival scenario) or is it something that we, as the management team believe in?
- do we have a vision of the future and is there a clear strategy?
- how do we cope with resistance?
- how do we set up an implementation network?
- do we have funding for education and training?
- how do we reward our employees for their efforts?

When a clear business plan based on TQM is formulated and ready to implement in the organization, a range of methodologies and techniques are available to support the implementation process.

These techniques can be categorized as:

- leading change techniques, such as:
 - policy deployment
 - benchmarking
 - customer satisfaction surveys
 - employee motivation survey
 - managerial audits and self assessments (EFQM/MBNQA)
- process management techniques specifically for:
 - development, for example Taguchi, Shainin
 - manufacturing, e.g. SPC, process capability, Six Sigma
 - logistics and supply management, e.g. Just-in-time, Kan ban
- group dynamics, such as:
 - brainstorming
 - force field analysis
- problem solving:
 - Pareto diagram
 - cause and effect diagram.

1.4 Approach/how to

If the organization is not ready yet for the EFQM or MBNQA approach (see cross- reference section 1.7), it is possible to start on a smaller scale. Whatever improvement program an organization starts with it will always have to work on its mission, vision and strategy, its processes, its customer focus, internally as well as externally, and teamwork to create organizational change. The following five step approach can be applied. The approach is based on the actors gradually become involved in the change process.

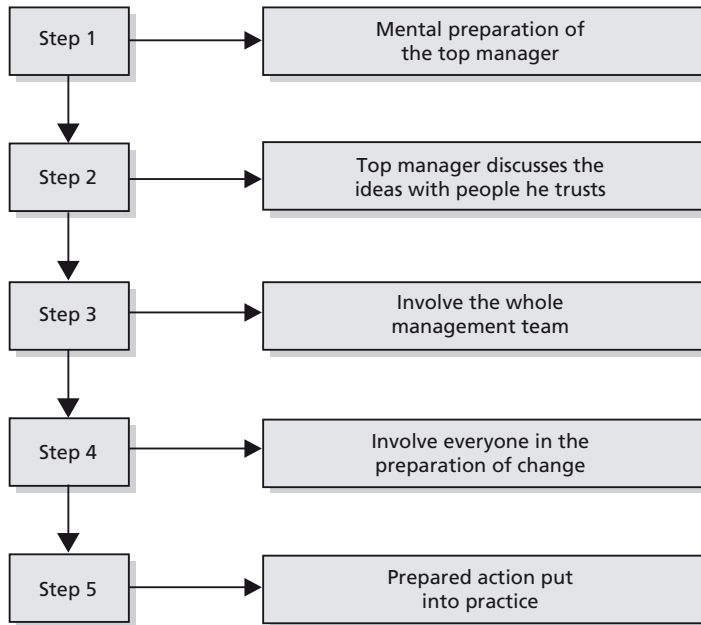


Figure 1.2 The five step approach for change

- **Step 1** - Not everything is clearly developed in the beginning. It is not only the question of whether the top manager has the right skills to act as the champion of change, but also whether his/her ideas will lead to the expected change. Using peers to try out the ideas is very useful. This step is all about mental preparation, knowing what has to be accomplished and how.
- **Step 2** - The still rough ideas are discussed with people who the top manager fully trusts. Feedback is received on how to communicate the new ideas and arguments for pros and cons are discussed. The vision and approach becomes clearer. The framework is ready to be presented to the management team.
- **Step 3** - To involve the management team in the desired changes, the top manager has to explain, argue, convince and motivate his/her colleagues. Honesty, openness and patience are essential values. Pushing to get the ideas across is useless and will lead to resistance. The aim of this step is to prepare a clear image of the changes and a first framework of the implementation plan together with the management team.
- **Step 4** - Once the management team owns the change it is now the task of every individual to act as a champion of change in his/her own department and translate the vision to elements important for this particular department. At the end of this step everyone should be involved in the change process.
- **Step 5** - The central aim of this step is to keep the change process going while stimulating the new initiatives of people who are really driving the change, keeping track of those staying behind and balancing the speed of change. Successes should be communicated and celebrated.

Note that the steps 1 to 5 are not a linear process; unexpected turns will happen.

1.5 Relevance to IT management

The specific TQM methods and techniques based on technical engineering principles were adopted by software engineers in the 1980s. The fast growing importance of software, software development and information technology in industry resulted in a need for software and IT dedicated models, methods and tools. In particular, the efficiency and effectiveness of the software development processes needed to be improved. This was because for an increasing number of products the product development lead-time was determined by the lead-time of the software development (e.g. product in the consumer electronics industry). The TQM principles of ‘step-by-step’ and continuous improvement were adopted by CMM, for example.

IT policy is never a stand-alone policy, but is part of the policy of the organization. This sets the context for the IT policy, but new developments in IT can lead to other directions in the policy of the organization. They influence each other. When getting the best out of both they add value to the organization by improving efficiency, effectiveness and quality of processes: basic TQM principles.

Improving processes in an organization is impossible when the information on which decisions and subsequent initiatives are based lack accuracy and completeness. The first product whose quality should be ensured is the management information: it serves all the other products and processes. This is why TQM is important for IT: it should ensure that information is reliable and safe.

1.6 Strengths and weaknesses

The management models of EFQM and MBNQA have provided management with a clear structure, supporting material and best practices, but TQM remains disputable. As long as TQM exists there will be supporters and non-believers.

1.6.1 Strengths

Whatever an individual's point of view, TQM has brought the discussion on quality to the agenda of the management board; it is sometimes even seen as a competitive edge. But there are more positive elements to observe:

- it is now widely understood that profound changes take time and that everyone in the organization plays an essential role
- thinking in terms of (business) processes and cross-functional teams is generally accepted
- focus on the customer and gaining business results are very much related,
- employees are a valuable asset with a lot of knowledge about all kinds of processes. They play a key role in improving these processes
- P-D-C-A is a widespread and easy-to-use model (see Figure 1.1)
- continuous learning is a means for survival.

1.6.2 Weaknesses

The abundance of methodologies and techniques makes it difficult to find the best way and it takes some experience to choose the right elements. Some pitfalls include:

- too much focus on internal processes and less on external results
- the idea that standards are not essential

- the development of its own bureaucracy: steering group, working groups, process teams, all with their meeting reports, action plans and lacking focus
- separate plans for business strategy and quality
- 'me too' syndrome starting just because the competition is doing so
- starting too quickly with insufficient thought spent on the implications, preparations and consequences
- once started the organization needs to have the discipline to continue and to put time and effort in the implementation process. If this cannot be managed, it should not start to implement TQM

1.7 Cross-references/relationships

Depending on how the scope of TQM is defined in a particular organization, a number of references can be identified for this subject.

When management is interested in a business-wide general improvement process, it is very likely that they will start with programs that have the basics in place such as ISO 9000:2000.

As well as ISO 9000, TQM strived for overall business improvement. ISO 9000 is seen as the fundamental cornerstone to assure that the organization has the capability to meet its customers' requirements.

Gaining experience on how to organize changes, define and measure process outputs and how to bring the requirements and satisfaction of customers to the fore in the organization will gradually migrate to the EFQM or Malcolm Baldrige models.

The European Foundation for Quality Management Excellence model (Europe) and the Malcolm Baldrige National Quality Award (US, MBNQA) support management teams with an approach that gives structure to the journey to business excellence. They are based upon the TQM concepts and principles.

The EFQM Excellence Model (also referred to as the Business Excellence Model) is the European Foundation for Quality Management's model for TQM. It was introduced as a framework for assessing and improving organizations.

With the importance of IT in modern businesses it is clear that an excellent organization needs robust IT (management) systems. Within the umbrella concept of TQM, IT models such as TickIT, ITS-CMM, CMMI, ITIL and ASL play a part in the ability of an organization to respond to change.

The objective of CMM is measuring and optimizing a software development organization. The methods and techniques used are based on the quality principles of TQM.

TQM, as well as ITIL, focused on the customer and the processes in an organization. The difference is that ITIL is mainly concerned with the IT processes of an organization.

Table 1.1 gives an overview of TQM related models.

| | Basics | Advanced |
|--------------------|--|---|
| General | ISO 9000:2000 | EFQM Malcolm Baldrige Award Six Sigma |
| IT specific | TickIT ISO 27001 ISO 20000 ISPL | ITS-CMM CMMI CoBIT ITIL ASL |

Table 1.1 TQM related models

1.8 Links and literature

1.8.1 Books on quality

- Bent, B.J. van der (Rotterdam 1999), “Organizatieleren: een zoektocht naar de geheugendragers en de rol van organisatiegeheugen in veranderingsprocessen”. Van der Bent.
- Conti, T. (1993), “Building Total Quality. A guide for management”. Chapman and Hall.
- Crosby, P.B., “Quality is Free”, McGraw-Hill, New York, 1979.
- Deming, W.E., “Out of the Crisis”, MIT Center for Advanced Engineering Study, Cambridge, MA, 1986.
- Deming, W.E., “The New Economics for Industry, Government, Education”, Second Edition, MIT Center for Advanced Educational Services, Cambridge, MA, 1994.
- Garvin, D. (1988), “Managing Quality. The Strategic and Competitive Edge”. The Free Press.
- Hardjono, T, S. ten Have en W. ten Have (1997), “The European Way to Excellence”. Directorate-Generale III Industry, European Commission.
- Imai, M. 1986, Kaizen. “The key to Japan’s competitive success”. Random House Business Division, New York.
- Juran, J. (1988), “Juran on Planning for Quality”. The Free Press.
- Van Nuland, Y., G. Broux, L. Crets, W. De Cleyn, J. Legrand, G. Majoor and G. Vleminckx (1999), “Excellent: A guide for the implementation of the EFQM-Excellence model”. Comatech.
- Wentink, T. (1999), “Kwaliteitsmanagement en organisatieontwikkeling”. Lemma.
- GOAL/QPC publisher of pocket guides:
 - Memory jogger (tools for continuous improvement)
 - The creative tools memory jogger (creative thinking)
 - Memory jogger 9000/2000 (implementing ISO 9001)
 - Project Management Memory jogger

1.8.2 Articles on quality

- MacLeod, A. and L. Baxter (2001), "The Contribution of Business Excellence Models in Restoring Failed Improvement Initiatives", *European Management Journal*, 4, p.392-403.
- Ross, B. (1986), "W. Edwards Deming: Shogun of Quality Control", *F.E.*, February, pp. 25-31.
- March, A., "A Note on Quality: The Views of Deming", Juran, and Crosby, *IEEE Engineering Management Review*, Vol. 24, No. 1, Spring 1996, pp. 6-14.

1.8.3 Website references

- **www.deming.org** - Deming Institute
- **www.efqm.com** - European Foundation for Quality Management
- **www.ink.nl** - Quality Institute for the Netherlands
- **www.iso.org** - International Organization for Standardization
- **www.juran.com** - Juran Institute
- **www.kaizen-institute.com** - Kaizen Institute
- **www.kdi.nl** - Dutch Foundation for Quality
- **www.olkk.nl** - On line kwaliteitskring, Dutch quality circle
- **www.vck.be** - Flemish Quality Management Centre