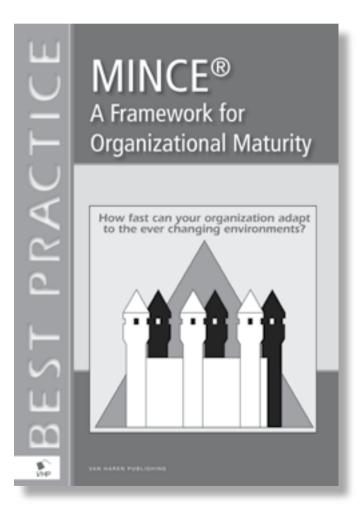
MINCE® A Framework for Organizational Maturity





Other publications by Van Haren Publishing

Van Haren Publishing (VHP) specializes in titles on Best Practices, methods and standards within IT and business management. These publications are grouped in the following series: *ITSM Library* (on behalf of ITSMF International), *Best Practice* and *IT Management Topics*. VHP is also publisher on behalf of leading companies and institutions, eg The Open Group, IPMA-NL, CA, Getronics, Pink Elephant). At the time of going to press the following books are available:

IT (Service) Management / IT Governance

ITSM, ITIL® V3 and ITIL® V2

- Foundations of IT Service Management based on ITIL V3 (English and Dutch versions Autumn 2007, French, German, Japanese and Spanish editions: Winter 2007)
- IT Service Management An Introduction (English and Dutch versions Autumn 2007, French, German, Japanese and Spanish editions: Winter 2007)
- IT Service Management based on ITIL V3 A Pocket Guide (English and Dutch versions Autumn 2007, French, German, Japanese and Spanish editions: Winter 2007)
- *IT Service Management based on ITIL V3 A Pocket Guide* (English and Dutch versions Autumn 2007, French, German, Japanese and Spanish editions: Winter 2007)
- Foundations of IT Service Management based on ITIL® (ITIL V2), (English, Dutch, French, German, Spanish, Japanese, Chinese, Danish, Italian, Korean, Russian, Arabic; also available as a CD-ROM)

Implementing Service and Support Management Processes (English)

IT Service Management - een samenvatting, 2de druk (Dutch)

Release and Control for IT Service Management, based on ITIL® -A Practitioner Guide (English)

ISO/IEC 20000

ISO/IEC 20000 - A Pocket Guide (English, Italian, German, Spanish, Portuguese)

ISO/IEC 20000 – An Introduction (English: Autumn 2007) Implementing ISO/IEC 20000 (English: Autumn 2007)

ISO 27001 and ISO 17799

Information Security based on ISO 27001 and ISO 17799 -A Management Guide (English)

Implementing Information Security based on ISO 27001 and ISO 17799 - A Management Guide (English)

СовіТ

IT Governance based on CobiT4[®] - A Management Guide (English, German)

IT Service CMM

IT Service CMM - A Pocket Guide (English)

ASL and BiSL

ASL - A Framework for Application Management (English, German)

- ASL Application Services Library A Management Guide (English, Dutch)
- *BiSL A Framework for Business Information Management* (Dutch, English)
- BiSL Business information Services Library A Management Guide (Dutch; English edition due Autumn 2007)

ISPL

IT Services Procurement op basis van ISPL (Dutch) IT Services Procurement based on ISPL – A Pocket Guide (English)

IT Topics & Management instruments

De RfP voor IT-outsourcing (Dutch; English version due autumn 2007)

Decision- en Controlfactoren voor IT-Sourcing (Dutch) Defining IT Success through the Service Catalog (English)

Frameworks for IT Management - An introduction

(English, Japanese; German edition Autumn 2007)

Frameworks for IT Management – A Pocket Guide (Winter 2007)

- Implementing leading standards for IT management (English, Dutch)
- IT Service Management Best Practices, volumes 1, 2, 3 and 4 (Dutch)

ITSM from hell! | ITSM from hell based on Not ITIL (English)

ITSMP - The IT Strategy Management Process (English)

Metrics for IT Service Management (English)

Service Management Process Maps (English)

Six Sigma for IT Management (English)

Six Sigma for IT Management – A Pocket Guide (English)

MOF/MSF

MOF - Microsoft Operations Framework, A Pocket Guide

(Dutch, English, French, German, Japanese) MSF - Microsoft Solutions Framework, A Pocket Guide (English, German)

IT Architecture

TOGAF, The Open Group Architecture Framework – A Management Guide (English)

The Open Group Architecture Framework – 2007 Edition (English, official publication of TOG)

TOGAFTM Version 8 Enterprise Edition – Study Guide (English, official publication of TOG)

TOGAFTM Version 8 Enterprise Edition – Pocket Guide (English, official publication of TOG)

Quality Management

ISO 9000

ISO 9001:2000 - The Quality Management Process (English)

EFQM

The EFQM excellence model for Assessing Organizational Performance – A Management Guide (English)

Project/Programme/Risk Management

ICB

NCB - Nederlandse Competence Baseline (Dutch on behalf of IPMA-NL)

Handboek Projectmanagement voor IPMA-C en IPMA-D (Dutch, early 2008)

PRINCE2TM

Project Management based on PRINCE2™- Edition 2005 (English, Dutch, German) PRINCE2™ - A No Nonsense Management Guide (English) PRINCE2™ voor opdrachtgevers – Management Guide (Dutch)

MINCE[®]

MINCE® - A Framework for Organizational Maturity (English)

MSP

Programme Management based on MSP (English, Dutch) Programme Management based on MSP - A Management Guide (English)

M_o_R

Risk Management based on M_o_R - A Management Guide (English)

For the latest information on VHP publications, visit our website: www.vanharen.net



Remco Meisner

How fast can your organization adapt to the ever changing environments?



Colofon

Title:	MINCE – A Framework for Organizational Maturity	
Author:	Remco Meisner	
Editors:	Ruth Maurer Steve Newton	
Publisher:	Van Haren Publishing, Zaltbommel, www.vanharen.net	
ISBN	978 90 8753 047 1	
Edition:	First edition, first impression, October 2007	
Design and layout:	CO2 Premedia, Amersfoort - NL	
Cover design:	CO2 Premedia, Amersfoort - NL	
Copyright:	© 2007, MINCE2 Foundation / Van Haren Publishing	

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

Although this publication has been composed with most care, author nor editor can accept any liability for damage caused by possible errors and/or incompleteness in this publication.

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.

Foreword

As Peter Drucker says the first duty and the continuing responsibility of the manager is "to strive for the best possible economic results from the resources currently employed or available". An implication of this duty is that the manager has to work in a purposeful and systematic way. In doing this the use of validated methods and proven concepts has to be preferred. Experience and intuition are of great value in the world of management and organization but have to be reserved for cases and questions which can not be tackled by using knowledge and grounded models. MINCE, the central concept in this book, is intended to the repertoire of the managers who choose to work to contribute in a systematic way when delivering their responsibilities. MINCE focuses on the ability of organizations to adapt to environmental changes. The focus of this method is on organizations with a project orientation. With its contribution to the systematic development of an effective interaction between the internal organizations and the external environment, MINCE builds on a strong tradition which is based on both organizational theory and pragmatic models like the EFQM-model. MINCE combines the attention for crucial organizational aspects with the notion of maturity levels. In doing this it provides practitioners with an alternative model with which to deal with organizational development and market changes in a systematic and structured way, especially in project environments.

Steven ten Have

Professor of Strategy and Change Vrije Universiteit Amsterdam

¹ Drucker, P.F. (1998), On the Profession of Management, Harvard Business Review Books, Boston, Massachusetts (p. 65)

Management Summary

This book describes version 1.0 *MINCE*[®], a *method* with which an organization can determine and improve its maturity.

Depending on your personal interests, the reader may want to read all or just a part of this book. A reader's guide is provided below to help decide which part(s) to read.

MINCE is put into perspective by briefly comparing it with four other *models*: *CMM*, *EFQM*, *PMMM* and *OPM3*.

Using the questionnaires and interview toolset provided in this book, the reader should be able to immediately start using the model and determine the state of the organization today.

Appropriate actions (Action Flavors), based on the outcomes of a quick MINCE analysis, can lead to a swift increase in the organization's *maturity level*. These actions are described extensively in this book.

This increase in maturity level can be measured using the questionnaires and/or interview toolsets that are provided in this book. The requirements for the researchers using these questionnaires and/or interview toolsets are also specified.

The key is to keep on implementing the described improvements, while repeatedly measuring the effects. This iterative process should enable the organisation to move forward with the *maturity* (or *flexibility*) needed to exploit *market trends*, perhaps keeping slightly ahead of them.

Last, but not least, the reader is invited to join the MINCE community and contribute to the development of the model and its interpretation (email us at *praeses@MINCE2.org*).

Readers Guide

Depending on your particular interests, you may want to read this book in total or partially. Below, Table 1 and Table 2 provide maps to a number of defined requirements of the reader whilst also providing a simple list of the contents of this book.

if your aim is to:	you should read chapters:
understand the fundamentals of MINCE and its position in relation to <i>CMM</i> , <i>EFQM</i> , <i>OPM</i> ₃ and <i>PMMM</i>	1 (p1), 2 (p7), 3 (p13), 4 (p17), 5 (p21), 6 (p23)
have thorough knowledge about MINCE and the way to make it work for you in practice	the whole book
just roughly know what MINCE is about	1 (p1), 6.1 (p23), 6.2 (p25)
just roughly know what CMM is about	2 (p7)
just roughly know what EFQM is about	3 (p13)
just roughly know what PMMM is about	4 (p17)
just roughly know what OPM3 is about	5 (p21)
understand the way MINCE is constructed	6 (p23)
understand how MINCE turns facts into figures	7 (p43)
understand how MINCE figures are put into reports	8 (p61)
understand how MINCE reports trigger overall changes and how results are interpreted	9 (p73)
understand the examples that show how MINCE reports trigger detailed changes	9 (p73)
study example approaches to improve your staff	10 (p83)
study example approaches to improve your methods & techniques	11 (p101)
study example approaches to improve your customer follow-up	12 (p111)
study example approaches to improve your Realization	13 (p125)
study example approaches to improve your knowledge	14 (p139)
study example approaches to improve the supporting services	15 (p153)
find out how to join the MINCE community, contribute to its development and/or use it more effectively	16 (p165)

Table 1: Readers Guide

chapter	deals with	
1 (p1)	<i>models</i> in general, organization, project oriented organizations, <i>maturity</i> , maturity increments, MINCE benefits, background, targets and sources	
2 (p7)	CMM quick tour; the comparison of CMM and MINCE	
3 (p13)	EFQM quick tour; comparison of EFQM and MINCE	
4 (p17)	PMMM quick tour; comparison of PMMM and MINCE	
5 (p21)	OPM3 quick tour, comparison of OPM3 and MINCE	
6 (p23)	MINCE introduction; Towers, Levels, Criteria explained	
7 (p43)	MINCE measuring explained	
8 (p61)	MINCE reporting explained	
9 (p73)	How to use MINCE to improve organizational maturity	
10 (p83)	How to use MINCE to improve staff	

Table 2: Content mapping of this book

11 (p101)	How to use MINCE to improve methods & techniques	
12 (p111)	How to use MINCE to improve customer follow-up	
13 (p125)	How to use MINCE to improve Realization	
14 (p139)	How to use MINCE to improve knowledge	
15 (p153)	How to use MINCE to improve the supporting services	
16 (p165)	Exchanging experiences, learning and contributing in the MINCE community	

Table 2: Content mapping of this book

Notes

All words particularly associated with MINCE are in italic when first introduced and they all start with a capital character.

Many of the words in this document with a specific meaning in relation to MINCE, organizations, management or related areas are listed in the Glossary (Appendix A) providing certain in-depth explanation.

If the word 'he' is used in this book, please note it is meant to refer to females equally well.

The source of certain information is indicated using a code between square brackets (e.g.: [L-1]) with each of which details are provided in Appendix H.

Thanks to

This book would not exist without the valued assistance of certain people and organizations. I would like to express my gratitude to the following people (in alphabetical order): Joep van den Berg; Alfonso Bucero; Olga Dingelhoff; Erik Hamburger; Rix Hof; Abdel Imazouine; Gerrit Koch; Prof. Dr. Ruth Maurer; Hermine Minkjan; Rinus Minkjan; Bauke Muntz; Arie den Ouden; Erik Scholten; Bart Verbrugge.

Also, I am greatly in debt to the following organizations for their support during the development of MINCE and this book in particular: Andarr, Nuon, Ambidexter; Bostec; Van Haren Publishing.

Table of Contents

Fo	Foreword		
Ma			
Re	aders (Guide	
1	Introd	luction1	
	1.1	Models	
	1.2	Organization1	
	1.3	Project oriented organization1	
	1.4	Maturity1	
	1.5	Maturity Increments in Organizations	
	1.6	Controlled Environments	
	1.7	MINCE Benefits	
	1.8	MINCE Background	
	1.9	MINCE Targets	
	1.10	MINCE Sources	
	1.11	Summary	
2	СММ	and CMMI7	
	2.1	Introduction	
	2.2	History	
	2.3	Facets	
	2.4	Levels	
	2.5	Applicability	
3	EFQM	1	
	3.1	Introduction	
	3.2	Facets	
	3.3	Levels	
	3.4	Applicability	
4	PMM	M17	
	4.1	Introduction	
	4.2	Facets	
	4.3	Levels	
	4.4	Applicability	
5	OPM	3	
	5.1	Introduction	
	5.2	Facets	

	5.3	Levels
	5.4	Applicability
6	MINO	CE
	6.1	Introduction
	6.2	Towers
	6.3	Criteria
	6.4	Levels
7	MINI	CE Metrics
7		Le Metrics
	7.1 7.2	
	7.2 7.3	Common steps in measuring
	7.3 7.4	Bronze
	7.5	Gold
8	MINO	CE Reporting
	8.1	Reporting basics
	8.2	Target Group
	8.3	Peer Group
	8.4	Employee Group
	8.5	Reporting Requirements
	8.6	Bronze Reporting
	8.7	Silver Reporting
	8.8	Gold Reporting
•		
9		CE Follow-up
	9.1	Introduction
	9.2	Ambition Level
	9.3	Trends
	9.4	Timing
	9.5	Action Flavors
	9.6	Actions to undertake
10	Peopl	e (I) Follow-up
	-	Introduction
11		ods & Techniques (II) Follow-up101
	11.1	Introduction
12	Cueto	omer (III) Follow-up
14	12.1	Introduction
	12.1	Introduction
13	Realiz	zation (IV) Follow-up
	13.1	Introduction

14		edge (V) Follow-up 139 Introduction 139
	14.1.	
15	Suppo	rting Services (VI) Follow–up153
		Introduction
16	The M	INCE Community
	16.1	Management summary
	16.2	Background
	16.3	MINCE2 Foundation
	16.4	Get in touch
Ap	pendix	A: Glossary
Ap	pendix	B: MINCE Maps
Apj	pendix	C: slim Questionnaire
Ap	pendix	D: full Questionnaire
Ap	pendix	E: Project Management Interview Guide
Ap	pendix	F: HRM Interview Guide
Ap	pendix	G: Names and Addresses
Ap	pendix	H: Sources
Ap	pendix	I: Qualifications233
Ap	pendix	J: People Demands & Requirements
Ap	pendix	K: Advisory Report
Apj	pendix	L: Report
Ind	lex	

1 Introduction

This chapter explains the main considerations for developing and utilizing *maturity models* in organizations, project teams or business units. Depending on the size and the complexity of the environment, version 1.0 of MINCE allows utilization of the MINCE model in part or in full. The responsibility for the maturity development and the selection of the maturity model in the organization lies with the management.

The benefits gained using *MINCE*, the genesis of this *method* and the goals to be set before commencing are also briefly described in the chapter. Finally, there are a few words with regard to the sources used during this creative process.

1.1 Models

Models provide a simplified representation of reality. As such, models are by definition as imperfect (they are a simplification) as they can be useful. They provide the means to investigate *what if* scenarios. What would happen with the world population should an ice age occur? What if we mix two chemical substances? What if my *organization* continues to be unable to respond to innovative new products that our competitor increasingly brings to the market?

1.2 Organization

An organization is (Strikwerda, [L-22.]) 'the combination of people or companies, knowledge and funds, which is identified in society with the products and/or services that it produces and the routines and competences required in its context. Its function is: production of products and services required by society and provision of an income for its participants.' This book focuses on project oriented organizations.

1.3 Project oriented organization

A *project oriented organization* will develop (mature) according to a sequence of steps that has been prepared in advance. Each of these steps is planned and each will require means specifically made available for the purpose. Each step will bring predetermined results.

1.4 Maturity

The MINCE concept of Maturity focuses on the ability of organizations to follow *market changes* and *environmental changes*. With age comes wisdom, some say. The same applies to organizations. They will learn from their mistakes and successes. Some will be able to learn, to mature rapidly, others require more time and effort.

If careful planning is undertaken, organizations will be able to learn by following a controlled path. Management will be educated and quickly increase the organization's maturity – through their participation in a system that will assist them in traveling along that path.

1.5 Maturity Increments in Organizations

Project oriented organizations are accustomed to achieving results according to predefined plans. They will typically realize their internal changes in a controlled manner, determining in advance the time planning, budgetary constraints, quality requirements and scope.

Organic organizations are not accustomed to achieving results according to plans. Internal changes will not be triggered as a result of anticipating future requirements. Internal changes will *overcome* these types of organizations.

Project oriented organizations will be able to learn faster than organic organizations, since the former have the intrinsic ability to develop their competences via a path set out to address the purpose.

1.6 Controlled Environments

An organization will only be able to properly develop if it allows for changes in its structure, processes, employees and knowledge base.

A project oriented organization will allow for such internal changes in a more effective and efficient manner than an organic organization. A project oriented organization will realize its internal changes in the same methodical manner it uses for projects – by containing the changes in a *controlled environment* in order to be able to properly manage and accomplish them in this way a project oriented organization will be able to keep such internal changes under control. Note that the organization and the projects realized by the organization can be (extremely) dynamic and demanding – and these are managed effectively by the project oriented approach.

Project oriented organizations are well able to realize their own development effectively and efficiently because of the project oriented approach. In particular, project oriented organizations are able to maintain their internal environment with a clear vision and mission and with a predetermined set of budget, time planning, quality and scope.

Organic oriented organizations will not be able to keep the dynamics of changing environments as effectively under control, due to the fact that they will typically be unprepared and will be facing difficulties that they have little or no defense against.

Note that the *controlled environment* in MINCE addresses the whole organization, inclusive of all units and departments, one of which is the project management department. MINCE aims for the whole organization to operate in a project oriented manner by facilitating individual and group transformation.

This is different from other *controlled environments*, such as for example used by PRINCE2. The PRINCE2 controlled environment is specifically addressing the project management department and the way projects are being undertaken.

A controlled environment is required in order to be able to make optimum use of the MINCE model: MINCE = Maturity INcrements IN Controlled Environments.

Although there are several ways in which organizational changes in practice can be implemented,

MINCE recommends the implementation of organizational changes in a controlled environment by using one or multiple programmes. These programmes each have control over one or multiple projects in combination with one or multiple sets of activities, this is illustrated in Figure 1.

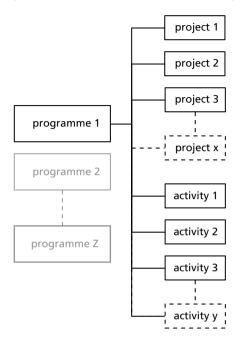


Figure 1: Advised MINCE controlled environment

1.7 MINCE Benefits

As soon as the organization starts using the MINCE measurement toolset, management will gain in an insight into:

- *maturity* of the organization;
- skills of the staff;
- abilities of the organization's customers *chain*;
- effectiveness of the organization's projects;
- ways is which the organization benefits from past lessons learned; and
- ability to adapt to change.

On the basis of these insights, the organization will have the ability to improve as required and will be able to:

- rapidly adapt to environment (market) developments;
- provide people with the training required to sharpen their skills and enthusiasm;
- identity customer-related difficulties and perhaps do something about them;
- improve the way changes are implemented, so that such changes will be more effective;
- ensure that mistakes are only made once and learn lessons from these; and
- develop a more flexible organization, ready to deal with changes that occur.

3

And at the same time:

- the investment can be as high or as little as you are willing to accept;
- outcomes can be rapidly available;
- findings can be identified over a period of time indicating the *trend*;
- measurement is made extremely easy;
- if preferred, measurement can be subcontracted to external specialists;
- if preferred, measurement can be repeated as often and as thorough us as the organization chooses; and
- respondents need not be in a particular function anyone may provide the required input.

1.8 MINCE Background

MINCE is the result of several years research. This started in order to determine a common way for the measurement of *organizational* maturity.

Input came from several project, *programme* and interim managers, each using their extensive experience to identify the essential elements.

The goal was to find the means to be able to measure the organizational maturity level as a basis of comparison of companies. Certain fundamental characteristics were agreed upon.

Maturity level determines the flexibility with which the organization investigated is able to adapt to the changing environment. The MINCE developers agreed that the most attractive way to realize adaptations would be by means of projects or *programmes* to be undertaken:

- in a predefined time frame;
- with preset goals;
- with preset quality requirements;
- using a budget made available for the purpose; and
- using a temporary organization, that exists for the duration of the adaptation tasks.

Firstly, the seemingly most suitable existing models were studied: *CMM*, *EFQM* and *PMMM* were considered in order to determine whether these are acceptable models for identifying organizational maturity. At a later stage, *OPM3*[®] also came into perspective, and has been added to this book.

The findings (summarized in this book) led to the conclusion that whilst these models are preferable in comparison to doing nothing, they are insufficiently suited for the goals set.

Secondly, it took much time and seemingly endless discussions before deciding on a set of six *Towers* to be the base of the MINCE model. This discussion continues today and the author does not expect it will ever finally die out. In fact, the discussion deepens the quality of the MINCE model and contributes to getting its foundations as solid as possible - so it ought not to stop.

1.9 MINCE Targets

In summary, the primary target is to support organizations into getting swift and accurate insights into the speed with which their organization is able to deal with changing environments.

The second target of MINCE is to enable organizations to improve the way they handle such changes.

To complicate matters further, it also is necessary to be able to measure in a way that allows for repetition - so that trends are revealed and policy can be adjusted appropriately.

Finally, MINCE allows for three maturity audit report variants:

- The *Bronze* variant reveals the actual situation to a certain degree, rapidly and at extremely low costs.
- The *Silver* and *Gold* variants describe the actual situation through the eyes of specialist investigators and allow for immediate improvements and quick wins.

1.10 MINCE Sources

The MINCE model presented in this book is version 1.0, which is the property of the MINCE2 Foundation (see §16.3), and it is the result of several years of discussion and restructuring of what immediately proved to be an effective and efficient approach for measuring organizational development.

MINCE is also the result of several years of sorting topics, criteria, perspectives, and challenges, reshuffling them, discussions with fellow project and programme managers and debating about them all over again - in the process having replaced some parts. For a period of several years, these people all worked together and at about that time the development started.

The sharpening of MINCE will obviously not stop today. Improvements are expected and welcomed. A model intended to guide organizations towards improved flexibility ought to be able to deal with its own change equally well.

1.11 Summary

MINCE will investigate, determine and improve organizational maturity according to the summary of regular proceedings flow shown in Figure 2. Typically, MINCE improvements aimed at bringing the organization closer to the ambition level will be implemented in a project oriented manner.

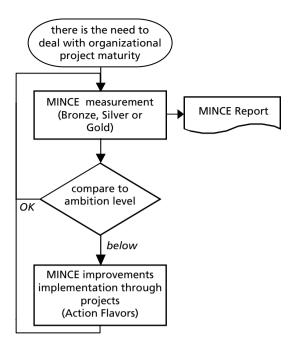


Figure 2: Regular MINCE proceedings

2 CMM and CMMI

This chapter, based on the v1.1 CMM version (2002) and the v1.2 CMMI version (2006), will briefly describe the history, the highlights of CMM and CMMI, the ideas behind the Capability Maturity Model (CMM), the *facets* that this model defines, the levels of these facets that are recognized and to the degree which CMM and CMMI are feasible models for measuring and improving organizational maturity.

2.1 Introduction

Both the *Capability Maturity Model* and the *Capability Maturity Model Integration* were originally developed by the Software Engineering Institute (SEI) at Carnegie Mellon University.

CMM, according to Bert Boesjes [L-8., 2004], is typically applied to software developed in organizations to support their daily work. CMM provides into means to deal with the type of maturity topics that such environments will typically encounter.

CMMI, according the the SEI (SEI, [L-27.], 2007), focuses on process implementation in conjunction with the development of the organization's maturity.

2.2 History

Since its conception in 1991, there have been many variants of the CMM model. In ([L-28.], 2007) 1997 the software draft was released (*SW-CMM*, v2.0 draft C) together with the Integrated Product Development Capability Maturity Model (*IPD-CMM*, v0.98). In 1998 the systems engineering CMM (SECM) followed.

These three were combined in August 2006 to form the CMMI model (the *Capability Maturity Model Integration*) version 1.2. The CMMI model describes the characteristics of effective processes (SEI, [L-27.], 2007) according to the combination of these three earlier models.

For this chapter the CMM description by Pankaj Jalote in his book *CMM in Practice* (Pankaj Jalote, L-9., 2000) and the CMMI description provided by the Software Engineering Institute (SEI, [L-29.], 2007) have been used.

Both the CMM and CMMI models are about the implementation of processes. The CMMI model, in comparison to the CMM model, is (SEI, [L-27.], 2007) focusing on processes implementation regarding services delivery (*CMMI-SVC*), acquisition leadership (*CMMI-ACQ*) and managing development processes (*CMMI-DEV*). The goal of the CMMI model is aimed at enterprise-wide process improvement.

2.3 Facets

CMM is a *goal driven methodology*: It sets defined goals that an organization is to pursue and, while this is occurring, it compares realized Key Process Areas (KPAs) to targeted KPAs in conformity with what a.o. Pankaj Jalote advises in his introduction (Pankaj Jalote, [L-9.], 2000²).

CMMI is a methodology based on *capabilities* (at the lower process areas) and *maturity levels* (at the top level process areas). With CMMI the capabilities are continuously represented at a certain level and the maturity is represented at six stages.

2.4 Levels

In the next two paragraphs, the levels with in the CMM and the CMMI model are described.

2.4.1 CMM

The brief CMM level description is shown in Table 3.

level	name	Description	
1	Initial	Total absence of processes, or processes are in place and haven't been formally assessed yet. During a crisis, teams will abandon planned procedures and revert to on-the-fly, ad hoc coding and testing. The risk level is at maximum for organizations at this level	
2	Repeatable	mplementation and study of processes, repeat what works and discard what loes not. This level is found at a 'conscious' organization, able to learn and mprove. This level is a project-focused tier.	
3	Defined	The processes for planning, developing and maintaining software across the organization are documented. Here two new groups appear in the organization. One is the training group. The other group is responsible for the organization's software process activities.	
4	Managed	Process definition: Gauging the effectiveness of the defined processes with an eye toward continuous process improvement. The organization sets quantitative (i.e. measurable) goals both for software products and processes.	
5	Optimizing	At level 5 the organization is in a state of continuous improvement because its members are consistently striving to improve the range of their process ability.	

Table 3: CMM Levels and Processes

2.4.2 CMMI

The brief CMMI level description is shown in Table 4 (Capability levels) and Table 5 (Maturity levels). The comparison between the Capability and Maturity levels is provided in §2.4.3

2.4.3 CMMI levels compared

The CMMI levels, which are differently defined for capability and maturity, are compared in Table 6. Some levels use the same name and other levels differ in naming. The lowest of the Capability levels (level 0) does not have a Maturity level equivalent.

² Table 1.1, page 10

level	name	description	
0	Incomplete	The process is not, or partially, performed. One or more of the specific goals of the process area are not satisfied.	
1	Performed	The process satisfies the specific goals of the process area. It supports and enables the work needed to produce work products.	
2	Managed	The process has the basic infrastructure in place to support the process. The discipline helps to ensure that existing practices are retained during times of stress.	
3	Defined	The process is tailored from the organization's set of standard processes according to the organization's tailoring guidelines. From this level up the processes suit a particular project or organizational unit.	
4	Quantitatively Managed	The process is defined (CMMI level 3) and controlled using statistical and other quantitative techniques.	
5	Optimizing	The process is quantitatively managed (CMMI level 4) and improved based on an understanding of the common causes of variation inherent in the process.	

Table 4: CMMI Capability Levels and Processes

Table 5: CMMI Maturity Levels and Processes

level	name	description	
1	Initial	Processes are usually ad hoc and chaotic.	
2	Managed	The projects of the organization have ensured that processes are planned and executed in accordance with policy; the projects employ skilled people with adequate resources.	
3	Defined	Processes are well characterized and understood, and they are described in standards, procedures, tools and methods.	
4	Quantitatively Managed	The organization and projects establish quantitative objectives for quality and process performance and use them as criteria in managing processes.	
5	Optimizing	The organization continually improves the processes based on a quantitative understanding of the common causes of variation inherent in processes.	

Table 6: CMMI Capability and Maturity Levels compared	Table 6:	CMMI Capability and Maturity Levels compared
---	----------	--

level	continuous Capability Levels	staged Maturity Levels
0	Incomplete	N/A
1	Performed	Initial
2	Managed	Managed
3	Defined	Defined
4	Quantitatively Managed	Quantitatively Managed
5	Optimizing	Optimizing

2.5 Applicability

In the next two paragraphs, the applicability of CMM and CMMI in relation to maturity development is described.

2.5.1 CMM

There is typically a link between CMM and software development-targeted organizations. The project focus at CMM level 2 (Repeatable), which emphasizes CMM, is targeted towards the organizational *aspects* of a software development environment, rather than, as with MINCE, the organizational maturity aspects. Many of the relations between levels and the ways these can be observed in organizations using (Pankaj Jalote, [L-9.], 2000) *Key Process Areas* (KPAs) are at a technical (i.e. software development) level, as can be seen from the overview in Figure 3, which includes statements by James R. Persse [L-11].

In conclussion, CMM can be useful for software organizations. However, CMM is less practical in relation to measuring and improving the maturity of project oriented organizations as a whole.

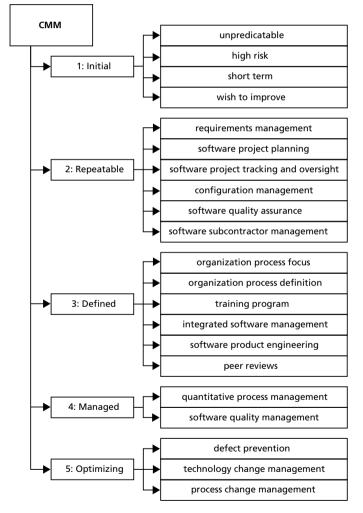


Figure 3: CMM Levels and Processes

2.5.2 CMMI

Employees can, by adding to their skills, competencies and experience, build up their knowledge. If this development of knowledge takes place in the most effective way, it will result in the employee being aware of the relationship between his personal performance and the performance of the organization. The employee will become acquainted with and learn to appreciate the distribution of knowledge across the organization (Mathieu Weggeman, [L-30.], 2002). As a result of this awareness, ideally the employee will independently and continuously remain on the look-out for optimization of this balance between knowledge and the contribution it provides to the organization as a whole. As soon as this stage is established with individual employees, we call this the *transformation* of the employee.

The *self learning organization* benefits greatly from transforming employees, since such employees will operate at high productivity and quality levels and will autonomously undertake actions in order to keep it that way. As such, the transformation of employees should be considered of great importance to organizational maturity.

An organization in which there is a large number of transformed employees, will remain functionally and stable even at times when there are unexpected events, discontinuities or when complex projects are undertaken. Its strength lies in the fact that the transformed employees are able to deal with the unexpected better in comparison with organizations that have few (or none) transformed employees.

An organization in which there is a large number of transformed employees benefits from the fact that these self-reflecting employees allow the organization to be extremely flexible (Boonstra, [L-31.], 2000). This is due to the fact that knowledge is created, shared and used in the operation of the organizations activities. Such an organization only describes and maintains the most crucial processes. The knowledge of the employees in this case requires only a small amount of process descriptions. In a way detailed and extensive process descriptions will be of limited value to transformed employees.

CMMI strongly focuses on process development as the key to maturity development. CMMI, on the other hand, via the target profiles that guide organizations towards their targeted level, also describes ways in which knowledge is to be gathered by the organization. This is done through its employees and it is leading to more refined processes and procedures. As explained above, transformation of employees (and as a result transformation of organizations) is not trought about by the introduction of more procedures.

In conclusion CMMI is focused upon improving processes in the organization rather than its transformation. In fact by introducing more process oriented steering mechanisms CMMI is *limiting* the transformation process that is essential to organizational maturity development.

3 EFQM

This chapter will briefly describe the ideas behind the EFQM Excellence model, which is a model for Assessing Operational Performance, the facets that this model incorporates, the levels of these facets that are identified and the degree to which EFQM is a feasible model for measuring and improving organizational maturity.

Note that other versions of the EFQM model exist. For the purposes of this chapter information regarding the 2004 state [L-13.] and the 2007 state (Hakes, 2007, [L-32.]) of this model are used.

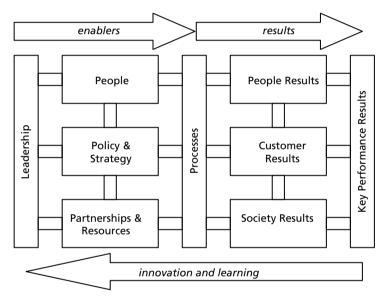


Figure 4: EFQM Model

3.1 Introduction

'The EFQM Excellence Model is a generic model for quality management, which is used in all types of organizations, regardless of sector, size, structure or maturity' [L-13.]. This model, maintained by the EFQM Organization [L-14.] is shown in Figure 4.

Over the years a global group of non-profit organizations has been established, with members in many European countries and Australia (Hakes, 2007, [L-32.]).

3.2 Facets

The EFQM model is dedicated to the quality of organizations in relation to their environment and its aim is to provide the means by which companies can be compared in terms of their ability to adopt improvements and changes using learning and training. The facets that the EFQM model recognizes (Hakes, 2007, [L-32.]) are:

- 1. Leadership
- 2. Policy and Strategy
- 3. People
- 4. Partnership and Resources
- 5. Processes
- 6. Customer Results
- 7. Society Results
- 8. Key Performance Results

3.3 Levels

The EFQM model does not define Levels of Excellence that allow for direct comparison to the five levels within MINCE, CMM or CMMI. This model describes levels of maturity with each of the boxes in Figure 4 independently. On top of that, there are different levels (and sometimes even a different number of levels) defined for the boxes. The general idea with each level is summarized in Table 7. The five levels of maturity that CMM, PMMM and MINCE recognize are used in Table 7 as a basis of comparison for EFQM. EFQM recognizes five levels, except for the Result boxes that each deal with only two different levels, and Policy and Strategy (tht have four levels).

Level	Name	Description (EFQM Organization, [L-14.], 2004)
1	Committed	The organization, or organizational unit, is at the beginning of the development. The emphasis will be on helping the organization understand their current level of performance and to establish improvement priorities.
2	Involvement	There is a structural approach to identify organizational strengths and areas for improvement.
3	Interaction	Interaction with customers, partners and representatives of society.
4	Culture	Embedding of the culture of excellence with the organization's people.
5	Challenge	Identification and championing of organizational changes.

Table 7: EFQM Levels and Descriptions

3.4 Applicability

Since the EFQM model has been changed quite a bit from the 2004 state to the 2007 state, there are two paragraphs below describing the applicability in relation to organizational maturity.

3.4.1 The 2004 EFQM model

The 2004 state of the EFQM model is dedicated to the internal quality of the organization and to the environment of the organization. The EFQM model correlates processes in organizations to quality aspects as well as to environmental aspects.

EFQM incorporates certain aspects that are very interesting from the MINCE point of view - with its project maturity focus - though (2004) EFQM has a quality focus. The aim is identify the strengths and weaknesses of the organization and determise ways to develop it. The illustration

in Figure 4 in combination with what is known on the topic of strength/weakness analysis shows the classic SWOT investigation:

- 'How well is the present strategy working?' (Thompson, Strickland, [L-15.], 2003⁴).
- 'What are the company's resource strengths and weaknesses and its external opportunities and threats?' (Thompson, Strickland, [L-15.], 2003⁵):
 - skill: People in combination with Processes;
 - physical assets: Partnerships & Resources;
 - human assets: People;
 - organizational assets: Processes;
 - intangible assets: Society Results and Customer Results;
 - competitive capabilities: Key Performance Results; and
 - alliances/corporate ventures: Partnerships & Resources.

This 2004 state of the EFQM model is not particularly focused on the capacity of organizations in terms of absorbing environment changes (*adaptability*) or on organizations with a project orientation.

3.4.2 The 2007 EFQM model

In comparison to the 2004 state, the 2007 state of the EFQM model pays (Hakes, 2007, [L-32.]) greater consideration to the organization in relation to the environment. It has become much less internally focused and has shifted from a quality focus to an excellence focus.

As a result the latest revision of the EFQM model allows for a much better comparison to the CMM, CMMI, OPM3, and MINCE models. The focus has shifted to the full coverage of the Thompson & Strickland SWOT criteria overview presented in the preceding paragraph.

⁴ page 116

⁵ page 117 and 119