

THE R2E2-MODEL © for Total Quality Management

HealthCare Version

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Introduction

Dear friend,

The R2E2-model © has been developed using the Method for Improving the Quality of Higher Education based on the EFQM Model (Kemenade, editor, 2006). Further insights regarding paradigms in quality management are added (Kemenade, 2014). The paradigms have been defined, described and have their own color. *R2E2* stands for the names of the Reflective, the Reference, the Empirical and the Emergence paradigm.

This version of the model is focused on healthcare institutions. The aim of the model is to give organizations the opportunity to improve their quality. It can be used for self-assessment as well as for auditing by an external team of surveyors. However, the two should not be confused. It delivers a 'quick and dirty' scan. Still, we expect organizations to benefit largely using *The R2E2-Model* ©. We can provide support by auditing, consultancy and coaching or training.

I hereby like to thank those who cooperated in the theories used, especially prof. T.W. Hardjono and Martijn van Schaik †.

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1. Rationale

This R2E2-model © is meant for organizations to get a grip on their adaptability towards emergent change. It is focused on health care. The model is unique in its combination of the criteria of the EFQM-model and four paradigms linked to total quality management in an organization. Actually the *R2E2-model* © consists of five concepts: the PDCA-cycle, the EFQM Excellence Model, the Caribbean ©-model, the input/impact model and the four paradigms for Total Quality Management.

Leadership and quality management representatives can use it, but in principle it is fit for use for any employee. This model has been adapted for use in the Caribbean.

The instrument is a matrix model that can be scored by individuals and thereafter discussed by groups of people or teams. The scoring might cost half an hour of your time; reaching consensus with a group takes half a day, depending on the ability of the group to dialogue.

2. The R2E2-Model ©: The EFQM Model

Introduction

The choice for [the Excellence model](#)¹ developed by the European Foundation for Quality Management (EFQM) was made not only because the model is very easy to understand and easy to use, but also because it is more complete than other models.

The PDCA-cycle developed by Shewhart and Deming is the core of the Quality Management profession.

In times of emergent change other models like the Caribbean ©- Model are needed. It is also an attempt to adapt the model to the specific context.

The results need to be divided into output, outcome and impact.

These four concepts are applied in the vertical axes of the R2E2 – Model ©. The axes are described below. Four paradigms are added to show where an organization stands and what is needed in this particular context to grow and improve. They form the horizontal axes of the R2E2 – Model © and are described in chapter 3.

2.1. Fundamental concepts of the EFQM model

Because this instrument is an aid to people and people work on a basis of concepts, images and values, we shall briefly discuss the underlying concepts of the EFQM model. The Emergence Model borrows a great deal of its merit from its conceptual model² that is applicable to all organizations regardless of their size, structure or the sector in which they operate. The EFQM model, like any other model, is not value-free. For this reason the underlying concepts and dimensions are explained

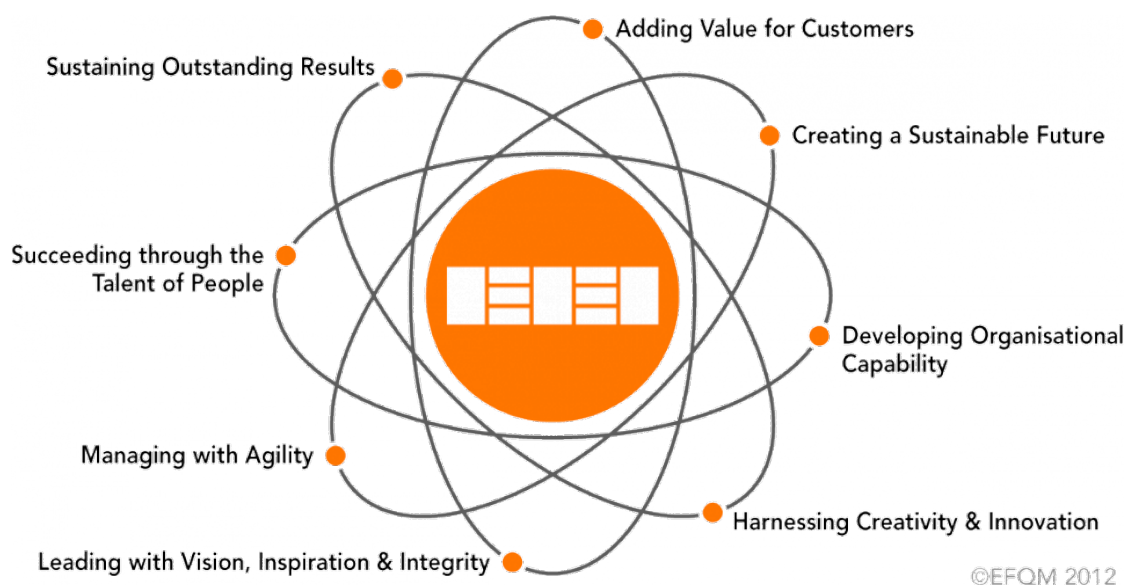
Eight fundamental concepts lie at the foundation of this model.³

1. Adding value for customers
2. Creating a sustainable future
3. Developing organizational capability
4. Harnessing creativity and innovation
5. Leading with vision, inspiration and integrity
6. Managing with agility
7. Succeeding through the talent of people
8. Sustaining outstanding results

¹ <http://www.efqm.org/the-efqm-excellence-model>

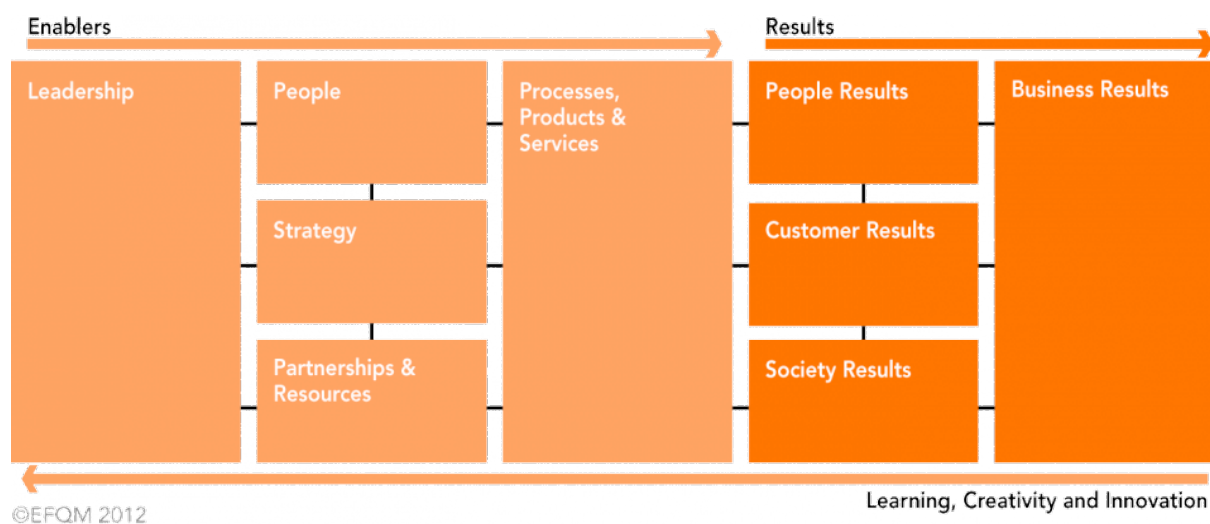
² See Schaik †, Kemenade, Hengeveld and Inklaar (1998), and Schaik † (1998).

³ See: 'Eight Essentials of Excellence' (EFQM, 1999) and its revision at <http://www.efqm.org/efqm-model/fundamental-concepts>



2.2. PDCA

In the EFQM model,⁴ the organization is divided in nine criteria (see the figure below) that are subdivided in two sections: the Organizational section (1-5) and the Business Results section (6-9). Each of the nine criteria is divided into a number of aspects. The organizational criteria form the preconditions for effective, efficient and inspired work and good results. The position of a healthcare institution can be determined for each of these criteria.



A characteristic feature of the model is the strong connection of the enabler criteria to the results. The aims and effectiveness of plans and actions must be demonstrated by the results achieved. The 'Learning, Creativity and Innovation' arrow articulates an essential element of the model: the total model is actually a learning cycle for organizations. As a consequence, it can be regarded as a dynamic model. The heart of the basic model is therefore: learning. In quality assurance, one often refers to the PDCA cycle (Plan-Do-Check-Act) to which the names of Shewhart (1939) and especially Deming (1986) are linked. This learning cycle forms the core of the model and shapes the eight underlying concepts.

⁴ See also *The EFQM Excellence Model* (EFQM, 1999) and its revision <http://www.efqm.org/efqm-model/criteria>

Plan: determine the approach: determine the direction, choose the strategy of approach, specify the goals into SMART goals and plan the implementation. Question: are the various activities based on well-underpinned, adequate and well-communicated plans?

Do: elaborate the approach, distribute and implement it. This stage includes the allocation of people, resources, and the implementation of the work. Question: are these plans being carried out properly?

Check (or Study): assess your approach: measure whether or not the specified SMART goals have been realized (results and processes). Question: are measurements being taken to check if the plans have been well implemented? Is this being done in a valid and reliable manner?

Act: analyze the measurements, review new external (social) developments/trends, and make lasting improvements. Question: if the evaluation indicates that the plans are not being properly implemented, are there improvement plans and can they be implemented?

In real-life practice, staff members, teams and departments regularly apply this cycle but probably they are not always applied equally consciously, systematically, and with regard to other members of staff and departments. By applying the cycle consistently and at all levels and by writing down the procedures developed for this purpose, the organization gradually develops a quality assurance system in conjunction with its colleagues. Every few years you re-determine your position to examine whether or not your system of working has improved. In turbulent situations the PDCA-cycle does not provide the desired effects. Then an organization needs to apply other tools, like Caribbean ©, based on ACCRA ©⁵ (see: Kemenade, 2013 and Kemenade, 2014a).

2.3. Caribbean

The Caribbean © has been developed by Everard van Kemenade⁶ to cope with emergent change, where the PDCA might be better equipped for planned change. Caribbean is an acronym that shows 9 aspects that are crucial in times of emergent change:

1. Context
In times of emergent change the context needs to be taken into account. It defines to a large extent what the criteria for quality of the organization are.
2. Attention
Emergent change requires attention to the core business, team and individual
3. Reflection
Emergent change requires continuous reflection
4. Inspiration
In times of change it is crucial that first leadership and in fact as many staff as possible, are committed to the change. Leadership needs to inspire the staff for the change.
5. Breakthrough
Incremental change is not enough; we are looking for breakthrough change.
6. Benchmarking
In situation like this we need to cooperate, network, benchmark with organizations that can support the change.
7. Experience
Finally we are not satisfied with customer satisfaction. We strive for customer delight, providing the customer with an experience never to forget.
8. Action
That requires continuous action.
9. No negativity
In an atmosphere where mistakes to some extent may be made, where positivity is the attitude, where gossip is not accepted.

⁵ACCRA © is designed by Van Kemenade (2013) and stands for Attention, Context, Commitment, Reflection and Action as key strategic focus.

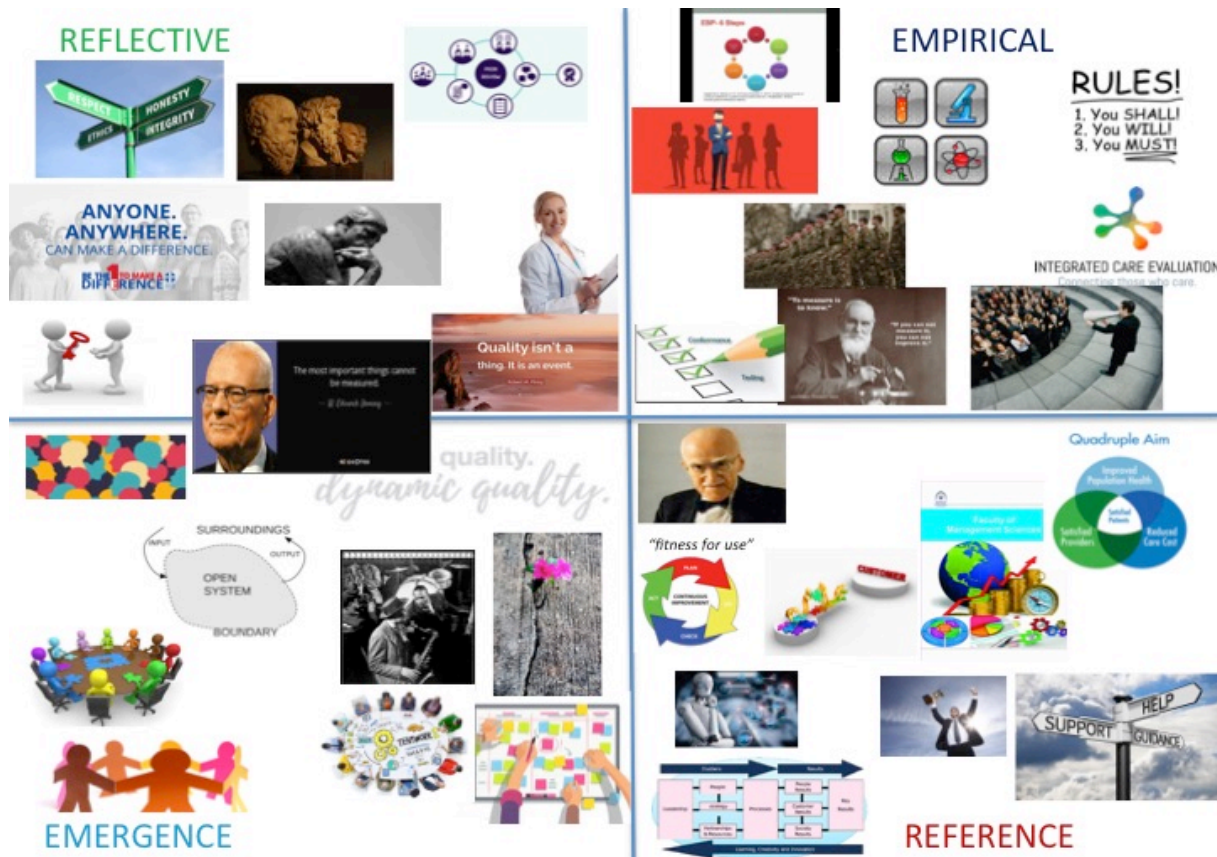
⁶ Under the original title of ACCRA ©

3. The R2E2-Model ©: Four paradigms

The R2E2-Model © works with the above presented models and four paradigms or value systems through which the quality can be measured. The four value systems are described in several articles (Kemenade 2010; Kemenade 2014; Kemenade and Hardjono, 2018, under review).

Example: Four situations in which a healthcare institute may find itself.

This section shows the characteristics of each value system and the theories behind. It gives an example of how a healthcare institute in a certain value system may act. It is important to realize that the organization itself establishes the value system or combination of value systems that fit best.



Four paradigms: R2E2-Model ©

1: Control (Empirical paradigm)

During the 20's of the last century the systematic approach of quality management starts to surface. In the beginning the main characteristic of this quality paradigm is the focus on the end product. When mass production became common, it became too costly to inspect every single product. With the help of Statistical Process Control, sampling became available as a way of quality inspection. The American Society for Quality (ASQ) and the European Organisation for Quality (EOQ) originated in that period and are dominated by what we call the Empirical Paradigm. The Empirical Paradigm derives its name from its methodology. Knowledge about the reality is gained by experiencing here and now, by sensory perception. It is *evidence based*. The quality knowledge concerns observable characteristics (aspects) of entities (objects), like products, services and processes. The Empirical Paradigm works on actual and specific problems. These are technical and can be solved by science. It is about objective knowledge. Knowledge is gathered (inductive) by *measurements* and its objective results are expressed in quantities like sizes and numbers. The Empirical Paradigm focuses on *rules*. Quality is conformance to requirements (Crosby, 1979).

The Empirical Paradigm registers and controls. Its motto is: "to measure is to know". Joint Commission International Accreditation fits in this paradigm as well as *protocolization* and Evidence Based Medicine. In Hardjono's Four Phase Model © (1995) the whole complex of absorbing, digesting and exuding energy in organizations is expressed through four competencies: material, commercial, socialization and intellectual. Competencies which organizations need to survive, competencies they draw on from their environment and which they exude towards their direct stakeholders (owners, financiers, members, personnel, business partners such as customers and suppliers and the various treasuries). Accumulation of these competencies means growth which is experienced as being successful and which contributes to the survival chance in the long run; competencies which each of these stakeholders, as their own entities, need for survival and growth. The Empirical Paradigm is mainly interested in the *material competence*. The ability to increase, maintain and optimally utilize the resources (*financial means, technology and material means*).

Leadership is *directive and technical*. A metaphor for this way of thinking is the army. Friedson (2001) discussed three ways of organizing: in his terminology this paradigm fits with the "*manager in control*". We recognize the Empirical Paradigm in *Quality Control Systems*. The risk of the empirical paradigm is bureaucracy. We gave this paradigm the color blue.

2: Continuous improvement (Referential paradigm)

Not everything that is important can be easily measured in temperature, kilograms, seconds or amperes. Or, if you do, you do not catch the essence of what the entity is. Beauty, love, wisdom, empathy, trust are examples of this; and that goes for an organization as well. To solve this dilemma quality models were designed, frameworks of reference in which criteria or areas to address are mentioned. We call it the Reference Paradigm. This paradigm does not take the reality (this is how it is) as starting-point but convictions about how the reality should or needs to be (this is how it should). This paradigm prescribes what *norms* need to be met to get recognition, or even an award. Instead of rules, it provides *guidelines and models*. The Reference Paradigm values, certifies and accredits using models like the ISO9000-series, the Balanced Score Card, the EFQM Excellence model or the National Malcolm Baldrige Quality Award. National Awards were installed all over the world to motivate companies to keep improving, since *improvement* is its aim.

The quality knowledge is gathered (deductive) searching for observable, real cases that prove that the organization meets the norms. Theoretically quality can be defined as fitness for purpose or fitness for use (Juran, 1951).

Vinkenburg (2006) states that what we call the Reference Paradigm sees suboptimization as problem (diagnosis) and seeks the solution (therapy) in a total approach of all processes, all stakeholders in a cyclic way of working (PDCA). Management sciences are in favor. Famous gurus of that movement were Deming, who developed in the fifties the PDCA-cycle, based on the ideas of Shewhart. Another representative of this movement was Imai (1986) and his Kaizen-approach. In Hardjono's Four Phase Model © the Reference Paradigm is mainly interested in *the commercial competence*, that is the ability to have access to markets and the ability to act on them. In terms of Friedson (2001) the "*customer is in control*". A metaphor for this way of thinking is a robot. Leadership in the Reference Paradigm is *supportive, coaching* leadership. The risk of this paradigm is 'pampering'. We gave this paradigm the color orange.

3: The professional (Reflective paradigm)

Vinkenburg (2006) introduced what we call the Reflective Paradigm. The Reflective Paradigm starts from the existence of different realities, like perceptions (this is what I see and that is what you see) and interpretations (this is what you think and that is what I think). Everyone has his own reality that can be different tomorrow from today. This paradigm looks for the difference, makes it explicit and reflects on it. Knowledge is gathered (inductive) by telling and listening to *stories, by conversations, group meetings, and inner conversations*. This paradigm reflects and philosophizes: What did I do well and what did I do wrong and why? The Reflective Paradigm considers people, their interactions and conceptions as its entity and more specific their worldview and their capability to reflect on that. It is mainly about non-observable aspects, subjective. Based on Zen and the Art of Motor Maintenance Pirsig (1972) is often quoted as proof that quality cannot be defined, but just discussed. The adage is, that “*Quality is not a thing, it is an event*”. The science in favor is philosophy. A metaphor for this paradigm is the statue of Rodin called ‘Le penseur’. Vinkenburg (2006) states that what we call the Reflective Paradigm sees ‘wrong attitudes’ (psychical aspect) and ‘unfruitful interactions’ (the social aspect) as symptoms, ‘insufficient self-criticism’ as problem (diagnosis) and seeks the solution in ‘detaching mechanisms’ (therapy). This is done (treatment) by shadowing, modeling, second opinion, intervision, time out, stories (tell and listen), and discussion (Vinkenburg, 2006). We recognize the Reference Paradigm in an instrument like *peer review* as it is used in Healthcare using visitations. Friedson (2001) talks about the third logic: “*the professional in control*.” In terms of Hardjono’s Four Phase Model© the Reflective Paradigm is interested in *the socialization competence*. Leadership is *delegating*, since the professional knows best what to do. The risk of this paradigm is arrogance. We gave this paradigm the color green.

4: Context (Emergence paradigm)

The *Emergence Paradigm* fits in the current era of continuous change (as Miller and Cangemi, 1993 request). Emergence is a concept from systems theory. It relates to the development of complex organized systems that have characteristics that are not visible by reduction of the composing parts. “While some experts are familiar with developments in one field, such as artificial intelligence, nanotechnology, big data or genetics, no one is an expert on everything. No one is therefor capable of connecting all the dots and seeing the full picture” (Harari, 2015). Emergence is the process where new characteristics come to existence through interaction between simple, small entities that do not have these characteristics like the self organization of ants. Many ants together show a collective intelligence that individual ants do not posses. It provides greater buy-in by employees and it continuously relates to the context, so it will offer context specific designs (as Asif et al, 2009 request). Systems theory is focused on the interaction between the system and its environment (as Mosaghrad, 2014 requests).

In the Emergence Paradigm systems thinking is integrated in quality management theory and practices (Conti, 2010; Chen et al, 2014). Barouch and Ponsignon (2016) give an overview of quality management concepts from a systemic perspective. Also in terms of Whittington’s strategic perspectives, we are talking about the systemic perspective (Whittington, 2000). The Emergence Paradigm is based on John Dewey (1859-1952) and his pragmatism. The Emergence Paradigm relates to Wilber’s quadrant of the exterior collective. This is rather about chaos, of which we continuously have to make sense intersubjectively. The Emergency Paradigm defines quality in a *dialogue of all stakeholders*, not just manager, customer or professional, knowing quality can be different tomorrow. It is about making decisions based on the best knowledge of today, having investigated everything, to the best of our knowledge. Quality does not exist, but arises. In that investigation, in that study we rely on virtues, on morals, on *shared values*. Pirsig (1991) in his second book *Lila* knew quite well what quality is. Quality is a dynamic concept. It is value, he says, giving his book the undertitle an inquiry into morals. The Emergence Paradigm sees crises, like bankruptcies and ethical misconduct as symptoms. To be able to understand these problems and solve

them we need to study the context. The inability to cope with changes in the context is the problem (diagnosis); the Emergent Paradigm seeks the solution in fixes in the processes, adjusting to the context, sometimes breakthrough (Shiba and Walden, 2006) or total reorganization (therapy). This is done (treatment) by changes in the way we work, by networking and creating a quality culture. "The truth is, what works", says Dewey. There is not one right way to organize a business (see also Burnes, 1996), no single right way to manage people or to manage quality. And what works today, might not work tomorrow anymore. What works in the Netherlands, might not work on Sint Maarten in the Caribbean. Rather than a symphony with an orchestra conductor (Crosby, 1992: 14,15), we talk about a jazz combo that continuously improvises within the context. Tools can be quality circles, appreciative inquiry, Socratic Cafe, while new tools like ACCRA © (Kemenade, 2013 and 2014b) are being developed. Lean fits here (but Six Sigma fits in the Empirical Paradigm). Leadership is participative or shared (Pearce and Conger, 2002). In the Hardjono Four Phase Model © this paradigm belongs to the quadrant exterior change. Hardjono mentions this *creativity*, with a relation to disruptive innovation, lateral thinking and investing intellectual capacity. We give this stage the color teal.

The four paradigms are compared on the next page in the Paradigms of the R2E2-model ©. Together they form *Total Quality Management*.

	Empirical Paradigm	Reference Paradigm	Reflective Paradigm	Emergence Paradigm
<i>Quality is</i>	Conformance to requirements	Quality is fitness for use	Quality is subjective	Quality is not static, but dynamic.
<i>Adage</i>	"To measure is to know"	"We need to improve continuously"	"Quality is not a thing, it is an event"	"The truth is what works"
<i>Focus</i>	Rules, standards	Models, guidelines	Principles	Shared values, virtues
Aim	Control	Continuous improvement	Professionalism	Context flexibility
<i>Problem</i>	Unpredictability of product and uncontrollability of processes	Suboptimalization	Insufficient self criticism	Inability to cope with changes
<i>Solution</i>	Take causes of variation away	PDCA	Detaching mechanisms	Adjusting to the context, breakthrough
Tools	SPC Seven tools Six Sigma Joint Commission International Accreditation Evidence Based Medicine, Protocols	ISO9000-series EFQM-model Malcolm Baldrige Award Quality circles	Second opinion, Intervision, Time out, Discussion Stories Inner conversations, Shadowing, Modeling, Peer review	Context analysis, Quality circles ACCRA © Lean Appreciative Inquiry Socratic Cafe
Gurus	Shewhart	Deming, Juran, Imai	Pirsig (1976), Vinkenburg (2006)	Pirsig (1991) Deming Conti
<i>Competence</i>	Material	Commercial	Socialization	Intellectual
<i>Sciences</i>	Statistics, 'Hard' sciences	Management sciences	Philosophy	Systems theory
<i>Whittington (2000)</i>	Classic strategic perspective	Processual strategic perspective	Evolutionary strategic perspective	Systemic strategic perspective.
<i>Leadership</i>	Directive, technical	Supportive, coaching	Delegating	Participative, Shared leadership
<i>Metaphor</i>	Army	Robot	Le Penseur (Rodin)	Improvising jazz combo
<i>Friedson (2001)</i>	Manager in control	Customer in control	Professional in control	All stakeholders
<i>Risk</i>	Bureaucracy	Pampering	Arrogance	Chaos

Paradigms of the R2E2-model ©.

4. Working with the method: step-by-step plan and scoring

4.1. Self-assessment

The R2E2-Model © offers a tried and trusted structure for determining the position of an institute– which is also referred to as ‘internal audit’ or ‘self-assessment’. In this determination of position, the management, doctors, nurses, supporting staff and maybe even patients examine the quality management within the institute. The outcome indicates the value system in which the organization currently finds itself in terms of total quality, and forms the impulse for the generation of improvement plans. What one should always keep in mind is, that this concerns a *self*-evaluation, a *self*-assessment aimed at a process of continuous improvement and not an external check or a justification of one’s activities to the Ministry of Health or a visitation committee. The essential nature of a ‘self-assessment’ should remain intact (see Kemenade, 2010).

The determination of position is carried out by a group of staff members and maybe some patients like in a patient interest group, who are well acquainted with the procedures within the institute. As a consequence, the results of the investigation give a true picture of the state of things within the department or organization. This is a positive element in creating a broad support base.

In principle, all layers of the staff are involved in the scoring: the management and a sample of the medical and nursing staff and the auxiliary staff. If a relatively small number of staff does the scoring, the work can be done quickly and – provided it is a good sample – a good determination of position can be realized.

However, in that case, more attention will have to be devoted to explaining and discussing the scores and trying to reach consensus (the consensus meeting).

The advantage of using a (large) sample from all layers is that mutual exchanges and adjustment of ideas take place. In this way, communication, participation and involvement are favorably influenced. This also produces future benefit. It is important that, whatever else happens, each part is filled in by people who have experience or knowledge of the relevant criterion within the organization.

In the abbreviated version, only the management does the scoring and that is the basis for the strategy to be developed. Working properly with the method might require expert supervision and some support in the application of the model. This should be particularly applicable on the very first occasion.

We shall now briefly explain the five steps of the method.

Step 1 Preparation

- Define as precisely as possible a number of key concepts, such as ‘management’, ‘organization’ to make clear what you are talking about.
- Determine what will happen with the results.
- Plan the communication around the result (who, when, what, how).
- Train the person who co-ordinates the process.
- Prepare the staff members participating in the determination of position (explanation, meeting for instruction).

Step 2 Filling in the method

The individual members of staff (or a representative sample) read the entire method thoroughly and assess all criteria and constituent aspects to determine the situation in which the organization currently finds itself. Each participant fills in the score on their own; there are no mutual consultations.

Step 3 The consensus meeting: determining the position

The members of staff inventory and discuss the differences in the individual scores at a consensus meeting.

The aim is to seek consensus on the strength of argument, not to reach an average or to accept the value system that was most scored.

Step 4 Improvement

As soon as there is a view of the total score, the organization can orient itself to possible measures for improvement.

- The formulation and prioritization of a limited number of attainable improvement measures.
- The regular policy cycle. Include the priorities in the (short, medium and long-term) policy of the organizational unit and in the planning and control cycle.

Optional: Step 5 The (external) audit team (every year)

- Analysis of documents

The institute sends material, such as policy documents, to an audit team consisting of external experts. The outcomes of the consensus meeting need not be sent. The audit team studies the written documentation and information and assesses the stage in which the organizational unit is currently situated.

- Visit of the audit team to the institute.

The audit team visits the institute and holds discussions with individual members of staff, patients and representatives of the family. The discussions are held in line with an agenda.

A feedback report containing the final results is then formulated. This report contains very concise recommendations. The organization can use this report for the formulation and prioritization of the improvement measures. If necessary, external experts are involved in that process in the form of a workshop.

4.2. Scoring the organizational criteria

Determining the value system of the institute should be done in the same manner for all organizational aspects. The value systems are listed from left to right on the horizontal axis. The constituent aspects of the criterion under investigation are given on the vertical axis. For 'Leadership', an example of an aspect is 'Style of leadership'. Each cell of the matrix (i.e. the intersection of a value system and a constituent aspect) contains a short description of the particular aspect that is characteristic for an organization in that value system. These descriptions are given by way of example and do not cover all dimensions that should be considered when scoring.

How to score

The scoring should be done for each constituent aspect of each criterion, in the following manner:

1. Read the descriptions in the cells of the matrix for the criterion you are dealing with (from left to right)
2. Tick the box(es) that apply to your organization (more than one score is possible, there is no hierarchy in the scores).
3. Individual scores may be transferred to the report instruments described in the appendix.

1. LEADERSHIP	<i>Control</i>	<i>Continuous improvement</i>	<i>The professional</i>	<i>Context</i>
1. Values, mission, vision	Values, mission and vision are explicit in one or more documents. Rules are leading.	Values, mission and vision are communicated inside and outside the organization. Norms are leading.	Values, mission and vision are shared by staff.	Values, mission and vision are shared by staff and the outside network. Positivity is a core value.
2. Leadership Style	Directive (telling)	Coaching (selling)	Delegated leadership	Participative including external stakeholders
4. Attention	Management attention is given to (it) the primary process (evidence based medicine).	Management attention is given to (we) the patient and family.	Management attention is given to (I) the professional.	Management attention is given to all stakeholders and the context (its).

