

Human Resource Development with special
consideration of Learning, Education and
Training – Competence Modelling in
Human Resource Development



1093

Personalentwicklung unter besonderer
Berücksichtigung von Aus- und Weiterbildung —
Kompetenzmodellierung in der Personalentwicklung

Développement des Ressources Humaines prenant spécialement
en considération l'éducation, la formation et formation
permanente –
Compétence Modélisation dans le Développement des
Ressources Humaines

Foreword

This Publicly Available Specification (PAS) is a Reference Framework for the development as well as for the structural comparison and evaluation of competence Modeling in Human Resource Development.

This specification refers to all processes in Human Resource Development and addresses in particular the processes of vocational learning, education, and training.

The PAS 1093 is published in two documents: the main document (referred to as "PAS 1093" in brief) and the application examples for PAS 1093. The document in hand contains the main document PAS 1093 that is approved and fixed (in contrary to the application examples that are published separately to enable and facilitate the continuous update and amend of the PAS 1093 by new practice examples). The way to obtain the annexes (the application examples) is described within the main document.

The content of this PAS was developed in the Working Group "Competence for the Human Resource Development" established in the project of the same name within the framework of the programme "Innovation by Norms and Standards" (INS), funded by the Federal Ministry of Economics and Technology (BMWi), Germany.

Representatives of the following enterprises / institutions have joined and participated in the meetings of the DIN Working Group "Competence for Human Resource Development":

- Ärztekammer Nordrhein, Düsseldorf
- Airbus Deutschland GmbH
- Brandenburgisches Institut für Existenzgründung und Mittelstandsförderung (BIEM) e. V./
Universität Potsdam
- Dachverband der Weiterbildungsorganisationen e. V. (DVWO)
- D-ELAN – Deutsches Netzwerk der E-Learning Akteure e. V.
- Deutsche Telekom Kundenservice GmbH
- Educational Design – Bildung & Technologie GmbH
- eLC European Institute for Learning, Innovation, and Co-operation
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Relevant standards at national, European, or international level exist: ISO/IEC 19796-1. The international standard ISO/IEC 19796-1 contains the reference process model RFDQ („Reference Framework for the Description of Quality Approaches") that can serve as a basis for the competence development whereas the PAS 1093 can be a specification to be implemented and referenced by the application of the reference process model RFDQ.

The topic is not addressed by a national or European standardization project.

The topic is addressed by an international standardization project in the standardization committee ISO/IEC JTC1 SC36 that currently has been started.

Note: This is the English translation of the original German PAS 1093 as announced in it.

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Introduction

The Working Group "Competence for the Human Resource Development" provides a Reference Framework with this specification PAS 1093 to facilitate the planning, development, realisation, and evaluation of competence modelling in human resource development.

The Reference Framework for Competence Modelling (RFCM) at hand comprises all existing competence models, constitutes an abstract standardized description format for future competence models and the comparison of existing competence models. It was developed, refined and approved in a consensual process within the Working Group by experts from business and research.

The analysis, the inclusion, and the integration of numerous competence models from theory and practice ensure that all existing competence models can be mapped and described by the Reference Framework for Competence Modelling.

The Reference Framework for Competence Modelling enables and requires the adaptation of competence models on the specific organization and situation during their development and comparison.

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1 Scope

This specification (PAS 1093) supports the introduction and improvement of competence modelling in human resource development (Scope).

It provides a generic Reference Framework for Competence Modelling (RFCM), i.e. a general framework that can and has to be adapted to the specific enterprises and situations.

This specification for competence modelling constitutes a Reference Framework for the development as well as for the structural comparison and evaluation of competence models in Human Resource Development.

For this objective a guideline is included for the standardized and structured competence description by means of a competence catalogue including the processes for implementation as well as for observation and measurement of competence development and the development of competence profiles and competence balance sheets.

This specification refers to all processes in human resource development including the processes of the vocational learning, education, and training. It is explicitly not a definition competing against job descriptions.

It takes into account different sizes of enterprises, in particular Small and Medium sized Enterprises (SME), and allows as well as requires individual shape and adaptations for a specific enterprise.

2 Normative references

This PAS 1093 contains definitions from other publication by dated or undated references. These normative references are cited at the passages in the text and the publications are listed in the following. In dated references later changes or revisions of these publications belong to this PAS only if they are incorporated by change or revision. In dated references the last issue of the referenced publication (including changes) applies.

ISO 9000:2005-12, *Quality management systems — Fundamentals and Vocabulary*

ISO/IEC 19796-1:2005, *Information technology — Quality management, assurance, and metrics — Part 1: General approach. 2005.*

3 Terms and definitions

The terms of ISO 9000:2005 and the following terms apply:

3.1.

Activity

Activity (in German called "Handlung") is a behaviour that serves to achieve a conscious objective.

3.2.

Behaviour

Behaviour is the observable and measurable activity of a single person, a group or an organization that is either realised without conscious orientation towards an objective (intention) or serves to achieve a conscious objective (and is also called activity then).

3.3.

Competence

Competences are constructs that are not directly observable and that can be described by the three dimensions Structure, Level, and Recording and are constituted by defined activities.

3.4.

Competence Balance Sheet

A competence balance sheet documents the results of the analysis and evaluation of competence development and its measurement is based on target-performance comparison as well as on activities for competence building (opportunities for human resource development and learning, education, and training) derived from it.

3.5.

Competence Catalogue

The competence catalogue contains competences that are relevant and observed within the specific enterprise context and is the basis for different competence profiles.

3.6.

Competence Management

Competence management means to relate competences to activities in certain tasks and situations and to differentiate by competence levels as well as to enable measurements on target and actual performance and according means for development whereas the organization context has to be reflected.

3.7.**Competence Modelling**

Process for the planning, development, realisation, and evaluation of methods and guidelines for the observation, measurement and evaluation of competences (that are not observable and not measurable) with help of activities (that are observable and measurable) in human resource development.

3.8.**Competence Level**

A competence level is a defined shape of competence, see the term level below.

3.9.**Competence Profile**

A competence profile constitutes either for a work place or an entire organization all competences (including the necessary shapes) that are needed for the fulfillment of the respective tasks or for a single person all competences (including all necessary shapes) that were measured and attributed by methods of competence modelling.

3.10.**Competence Type**

A competence type is the classification of several competences.

3.11.**E-Learning**

Generic term for all learning opportunities including an electronic support for the learning activities. That includes all learning opportunities that are offering only partially an electronic support ("Blended Learning").

3.12.**Learning, education, and training**

All kinds of usage of learning opportunities by learners to enhance and to improve own abilities, skills, and competences.

3.13.**Learning Opportunity**

Provision of learning scenarios and learning objects that were developed in correlation and for the objective of learning activities.

3.14.**Level**

"Level" defines the different possible shapes of competence and is the second dimension of the Reference Framework for Competence Modelling in Human Resource Development.

3.15.**(Measurement) Criterion**

Characteristic that is based on a measurement schema.

3.16.**Recording**

Recording defines the instruments for the investigation and measurement of activities concerning tasks and situations and is the third dimension of the Reference Framework for Competence Modelling in Human Resource Development.

3.17.**Performance**

Performance is the realisation of competence and includes behaviour and thus also activities.

3.18.**Qualification**

In separation from the term competence (see above) the term qualification means here (as well as colloquially) the formal approval of learning results.

3.19.

Reference Framework

A reference model is a generally accepted generic model for the development, implementation, adaptation, and comparison of an individual model as profile of the reference model (according to DIN 1998).

3.20.

Structure

Structure defines the relationship between competences and activities and is the first dimension of the Reference Framework for Competence Modelling in Human Resource Development.

4 Symbols and abbreviations

There is no usage of specific symbols and abbreviation, all used abbreviation are explained at the first time within the text.

5 Conformance

This specification describes the Reference Framework for Competence Modelling (RFCM).

A competence model is conformant with this specification and the Reference Framework for Competence Modelling if it completely fulfils the requirements of the clauses 8 and 9, i.e. a competence model has to be developed completely, be applied, and optimized. That includes the establishment of an individual **Competence strategy, of an individual **Competence catalogue** as well as the description of the **three dimensions** that have to defined, described, documented, applied and continuously evaluated according to the requirements.**

6 Basics and principles of competences and competence modelling

Great efforts are being made in Human Resource Development (in part initiated by discussion concerning e-Learning) to harmonize the entire topic of competence, due to the needs and demands of the economy, as well as to unify and standardize the process for the **design, modelling and measurement** of competences. These requests and approaches were fastened together in a consensual process and a uniform, cross-industry solution was developed for standardization, namely the generic Reference Framework for Competence Modelling.

No proposal for such a generic framework for competence modelling has been undertaken before, but this void shall be filled with the specifications under consideration for two reasons:

First, a large demand exists on the part of the economy that considers the field of competence modelling as one of the most important challenges in the future of human resource development. Innovative companies can attain a clear competitive advantage through the co-development and the in-depth knowledge of the future basis for international standards.

Second, an urgent need to standardize competence modelling exists since no activities have been undertaken for a generic competence model and the existing specifications and outlines thereof have only been approached in a technical manner.

The term "Competence" is a principal concept and is here defined as follows:

Competences are constructs that are not directly observable and that can be described by the three dimensions Structure, Level, and Recording and are constituted by defined activities.

In order to facilitate an understanding of the generic Reference Framework of Competence Modelling (RFCM) in Human Resource Development, which is presented and explained in clause 8, the principles of competence modelling are here described:

Principle 1: Competences are always a construct.

Competences cannot be absolutely and objectively defined and thus will always be a construct. For this reason competences will always be comprised of a normative definition that is undertaken individually by individuals or organizations but should not be arbitrarily established.

Principle 2: Competences cannot be equated with qualification, activities, or performance.

Competences as a construct show themselves in the activities or performance of a person, group, or organization, but may not be equated with said actions or performance. Competences are a term of qualification that refers to a formal recognition of learning outcomes and are to be distinguished from business management or colloquial competence terms that equate competence with activities.

Principle 3: Competences cannot be observed directly but can only be inferred indirectly by the observation of activities in a defined situation.

Competences are only indirectly ascertainable through the situational activities that constitute competences.

Principle 4: Competences also cannot be measured directly but only indirectly by the measurement of activities in a defined situation.

Competences are only indirectly measurable through the situational activities that constitute competences.

Principle 5: Competences can be constructed independently from a situation but always appear dependent on the situation.

Competences cannot be defined without a reference to a situation. A description and definition of competences must then always be carried out in the context of defined situations, tasks and goals.

Principle 6: Competences can be built and improved individually, in groups and in the whole organisation through development activities by the human resource development.

Competences can be defined, built and developed for three organisational levels (organization, group, and individual) or according to a completely different organizational structure as well as for completely different objectives.

Principle 7: Competence Modelling in human resource development has to support the individual as well as the whole organisation.

Only through the support of the individual can the organization in its entirety be supported in the long term and vice versa.

These seven principals are fundamental to the definition of "competences" in general as well as in particular to the Reference Framework for Competence Modelling under consideration.

Competences are thus complex constructions. At the same time, competences are for both companies and individual employees crucial to the achievement of their desired goals. In theory many varying levels and dimensions of competences can be discerned which cannot be properly distinguished from one another and overlap; thus commonly a discretionary combination of number of any of the following competences are distinguished: cultural and sociopolitical competences (e.g. intercultural communication), social competences (e.g. consensus building in a group), general competences (e.g. methods and processes), area specific competences (e.g. specialist knowledge in a certain domain) and personnel competences (e.g. the capacity for teamwork).

Competences constitute the cognitive, motivational, social and will-governed ability to act adequately, flexibly and successfully in defined situations, on given problems and within certain requirements (cf. Weinert 2001). It is increasingly recognized that competences represent a decisive factor during times of transition, growth of speed, and globalization within the economy and are more essential to business success than knowledge banks and qualifications, which are learned only once and quickly become outdated due to ever increasing innovations stimuli. Admittedly, the term of "competence" is defined at the moment in the corporate practice of human resource development quite differently and its complexity and multidimensionality are in general not considered and differentiated and are only inadequately placed in relationship to clearly defined tasks, situations and goals. Such simplifications lead to incompatibilities as well as difficulties in the discussion, designation and comparison of competences.

Competence Modelling places individuals, a group or an organisation (in whole or in part) in a relationship to situational requirements in vocational areas of activity: Competence Modelling diagnostically places present or desired competences in comparison with operative situations, requirements and the multifarious dimensions therein and in doing so strives for a synthesis. Competence Modelling as a descriptive format for target-performance states in human resources development within organizations and the workplace is therefore always concrete for a position, a place of employment or an organization.

It is also important to note for the specification of a Competence Model that the existing competence terminology within companies and organizations (and their definitions) can remain consistent but must be documented through the utilization of the Reference Framework (in order to make commonalities and differences visible).

An integrated and multidimensional Reference Framework for Competence Modelling, including a generic descriptive format for the gathering, measurement and comparability of competences in human resource development within organizations and at the workplace, could be devised with the specifications under consideration. Thereby supervisors as well as employees can themselves determine the necessary competences for job positions, specific projects, and individual development appropriately, sophisticatedly and above all uniformly in a standardized fashion.

7 Design, benefits, and application of the Reference Framework for Competence Modelling in Human Resource Development

This clause presents an introduction to the Reference Framework for Competence Modelling in Human Resource Development, which is described in the following clause 8.

In this clause an overview of the Reference Framework for Competence Modelling in Human Resource Development is presented and its structure and three dimensions are described (clause 7.2).

To this end the benefits of its use are briefly outlined and its implementation and application possibilities presented (clause 7.1).

The implementation of a Reference Framework for Competence Modelling and its phases and results are explicated in an attachment in a separate clause (clause 10).

By the term "competences" the following definition is meant:

Competences are constructs that cannot be observed directly and that can be described by the three dimensions Structure, Level, and Recording and are constituted by defined activities.

Competence Management means, in light of this definition, to place activities in relationship to tasks and situations, through competence levels differentiate them and measure them according to target performance and to facilitate applicable development measures. In this matter the organizational context and its strategic goals and standards should be taken into account, out of which the Competence Strategy can be derived.

7.1 Benefits of the Reference Framework and of Competence Models in general

The Reference Framework for Competence Modelling at hand conducts the implementation, optimization and comparability of individual (organization and situation specific) Competence Models. All existing Competence Models can be uniformly described and compared in a standardized fashion through the use of the Reference Framework for Competence Modelling; furthermore, additional Competence Models are thus easier to develop and render compatible with existing Competence Models.

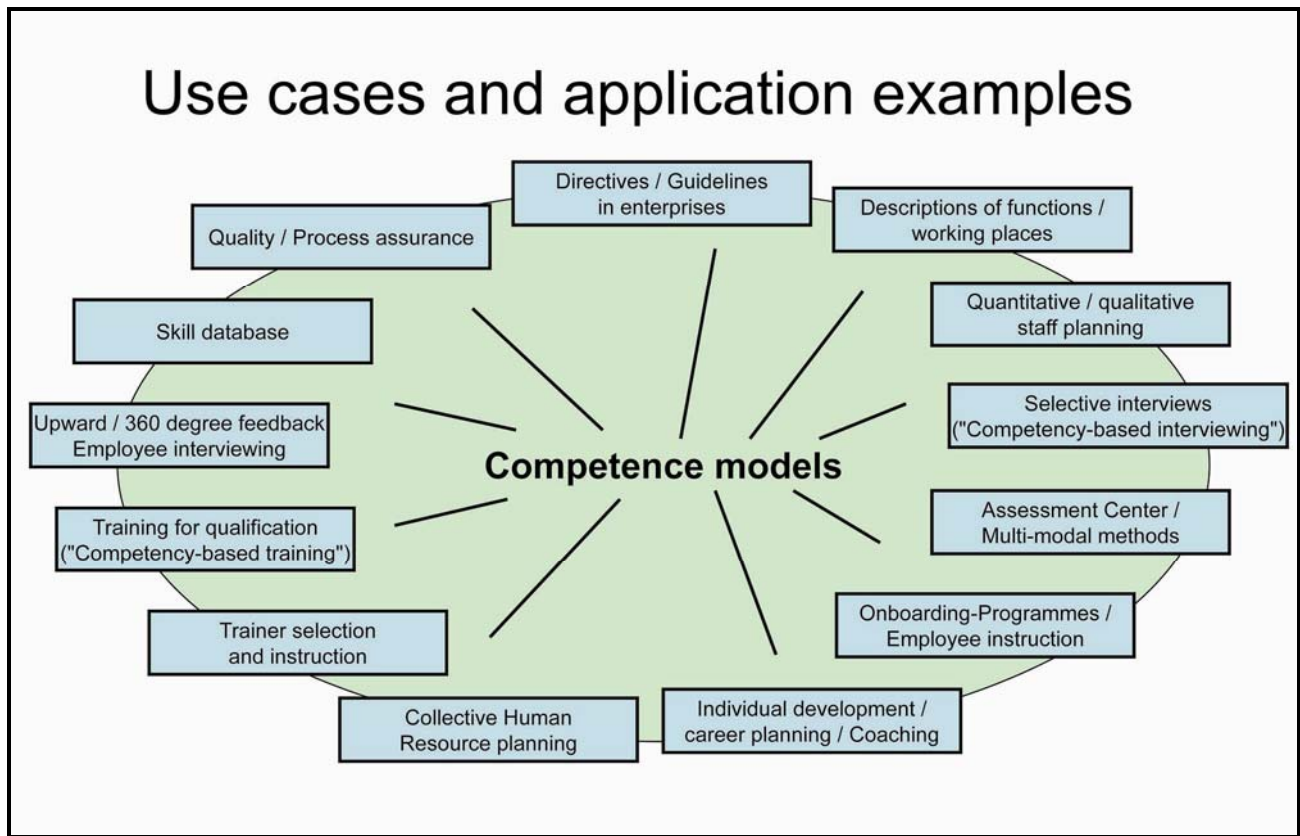
The key advantages of the Reference Framework for Competence Modelling under consideration are perfectly obvious: But why should organizations concern themselves with Competence Models and particularly with the Reference Framework itself?

The following points are the most important arguments for the utilization of a Reference Framework for Competence Modelling and are also applicable to the internal discussion deciding over its implementation:

The most important benefit arguments for the Reference Framework for Competence Modelling:

- Structures the initial implementation of Competence Modelling
- Comparison with Competence Modelling activities already present
- Standardizes Competence Modelling
- Links Human Resource Development with the goals of the organisation
- Provides a basis for measurement of human capital
- Strategically anchors Competence Modelling
- Optimizes personnel development planning and recruiting
- Incentivizes self-assessment
- Provides a basis for curricula und the planning of further training
- Provides basis for educational direction of activities aimed at increasing competence
- Allows for a rating of informal qualifications
- Increases the obviousness of life-long learning and chances for vocational advancement
- Provides orientation for self-regulated learning
- Provides basis for transitional management
- Supports Quality Management

The following graphic shows the important use cases and application examples for Competence Models in general that can be realized with the Reference Framework for Competence Modelling under consideration:



7.2 Concept and design of the Reference Framework for Competence Modelling

The Reference Framework for Competence Modelling in Human Resource Development provides the possibility to relate all present Competence Models with one another and describe them within the Reference Framework clearly and in a standardized fashion. The Reference Framework consists of three dimensions:

1. **Structure:** Definition of the relationship of competences and activities
2. **Level:** Definition of the various shapes of competence
3. **Recording:** Definition of the instruments for the measurement of activities in reference to tasks/situations

These three dimensions are explained subsequently in detail in clause 8.

This Reference Framework for Competence Modelling serves to build and develop a company-specific Competence Model. Thereby are situational-specific adaptations not only possible, but also necessary: a Competence Catalogue, Competence Profile and Competence Model within a company can only emerge from the definition of dimensions in Human Resource Development when it is placed in reference to the company and the specific situation itself.

Further modifications can be enacted upon Competence Modelling:

1. Additional dimensions or components can be added to the three dimensions here.
2. Moreover, adaptations and specifications can be carried out within the three dimensions here, e.g. the division of different types of competences within the dimension of "Structure" (technical competences, personal competences, method competences, social competences etc.) including a definition of core competences (or key competences) or any such definition.

It is possible with these modifications to model and describe existing Competence Models through the Reference Framework in question, thus allowing for translation and comparison with other Competence Models. This along with standardization is a key advantage of this Reference Framework for Competence Modelling.

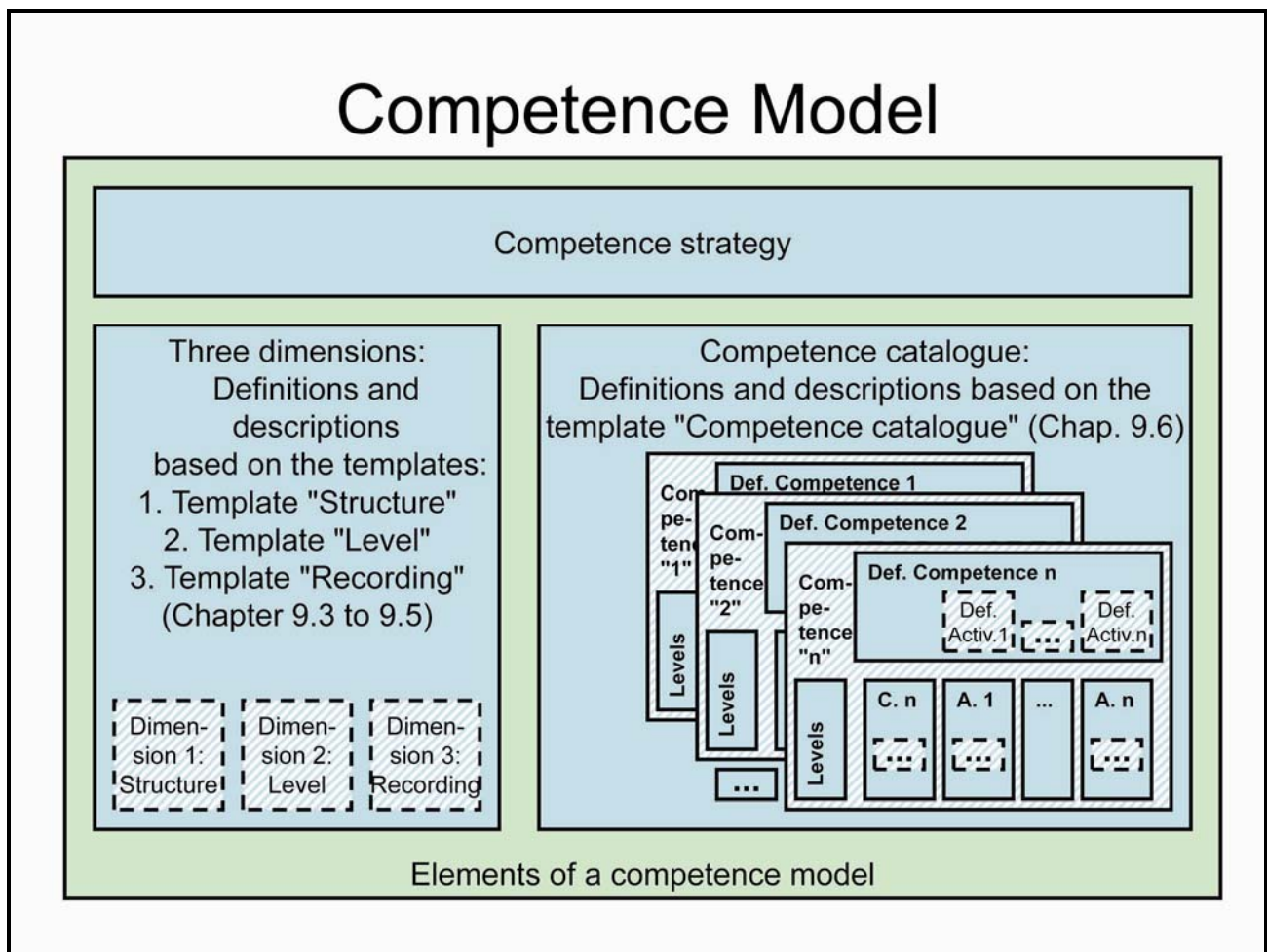
8 The Reference Framework for Competence Modelling in Human Resource Development

The Reference Framework for Competence Modelling (RFCM) in Human Resource Development provides the possibility to relate all present Competence Models with one another and describe them within the Reference Framework clearly and in a standardized fashion. The Reference Framework consists of three dimensions:

1. **Structure:** Definition of the relationship of competences and activities
2. **Level:** Definition of the various shapes of competence
3. **Recording:** Definition of the instruments for the measurement of activities in reference to tasks/situations

These three dimensions are subsequently explained in detail.

The following elements form a competence model that conforms to the Reference Framework for Competence Modelling:



Templates for competence models can be found in clause 9.

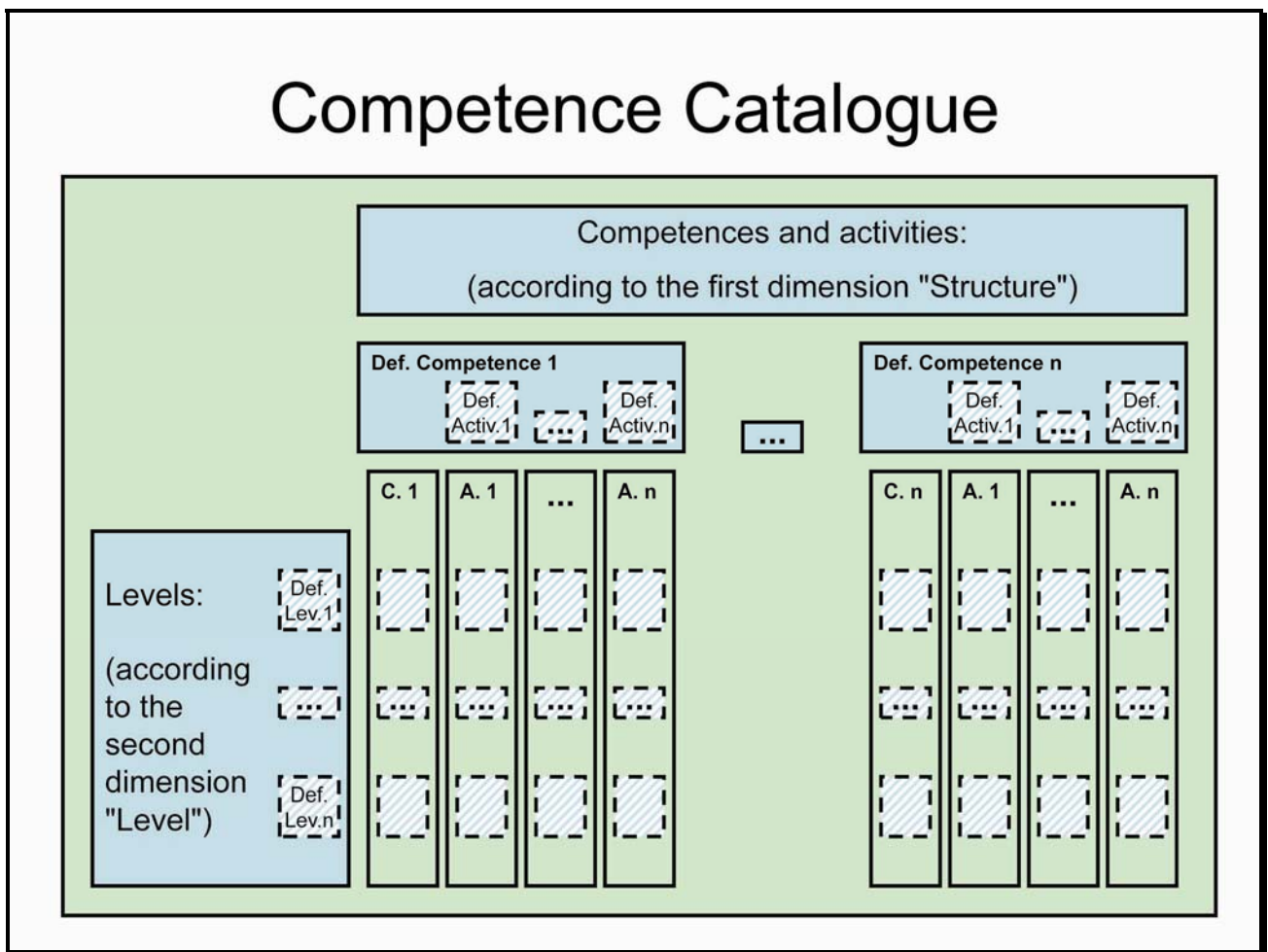
A competence model that conforms to this specification must consequently consist of the following three elements:

1. The Competence Strategy,
2. The definition and description of the three dimensions, and
3. The Competence Catalogue.

The Competence Strategy is composed in writing and complies with the proper business or clause administration.

The necessary definitions and descriptions of the three dimensions are explained in more detail in the following subclauses 8.1, 8.2, and 8.3.

The Competence Catalogue on the other hand is based on the definitions and descriptions of the two dimensions "Structure" and "Level" and hence has the following composition:



Each competence and the activities that constitute it are defined within the Competence Catalogue.

The third dimension "Recording" is only relevant for the specific observation and assessment and will be applied to the definitions of activities (H.1 through H.n) contained within the Competence Catalogue.

A template for the Competence Catalogue can be found in clause 9.6.

8.1 First Dimension of the Reference Framework for Competence Modelling: Structure

The term "activities" designates all observable and measurable activities of individuals, groups or entire organizations that are associated with deliberate goals (intentions) in defined situations. Multiple activities can be consolidated together and in so doing constitute a construct of competence that is not observable, immeasurable, and unascertainable. Conversely, competences can be defined in such a way that multiple activities can be ascribed to them for purposes of measurement. In other words, a relationship exists between competence and activity that must be exactly described and defined. This is the crucial foundation for the first dimension "Structure" of the Reference Framework for Competence Modelling in hand.

A competence model can exhibit a discretionary Structure, i.e. a discretionary relationship between competences and activities. The precise description and application of the chosen, applied Structure, i.e. the relationship between competence and activity as per the development of an organization- or situation-specific Competence Model, is needed to fulfill the requirements the Reference Framework for Competence Modelling and in a compatible and conforming fashion.

The relationship between competences and activities can turn out very differently, but the most common two structures are:

1. **Relational Structure:** all activities that constitute a competence are referred directly (i.e. without references or relationships to each other or other hierarchical levels) to the defined competences, whereby an activity can be assigned to multiple competences. Thus a hierarchical structure can be eschewed and the definitions of competences can exist independent of the definitions of activities. If needed, the defined competences can be combined into groups or types. The competences as a whole form the complete Competence Catalogue.
2. **Hierarchical Structure:** The Hierarchical Structure is an exception to the Relational Structure and is here presented on the account of its prevalence and popularity. As with the Relational Structure arbitrarily numerous activities can be related to competences and vice versa; the difference is the strict layout of a tree hierarchy structure: all activities are attributed to competences, whereby a single activity can also be attributed to multiple competences. Or, considered the other way around, competences are constituted by activities, whereby a competence is generally constituted by multiple defined activities (a defined activity can constitute multiple competences). Furthermore, as many intermediate levels as needed can be defined as hierarchical levels between activity and competence so that a hierarchical tree emerges. Similarly, the defined competences can be combined as needed into arbitrary groups, or so-called competence types. All competences together provide the entirety of the Competence Catalogue.

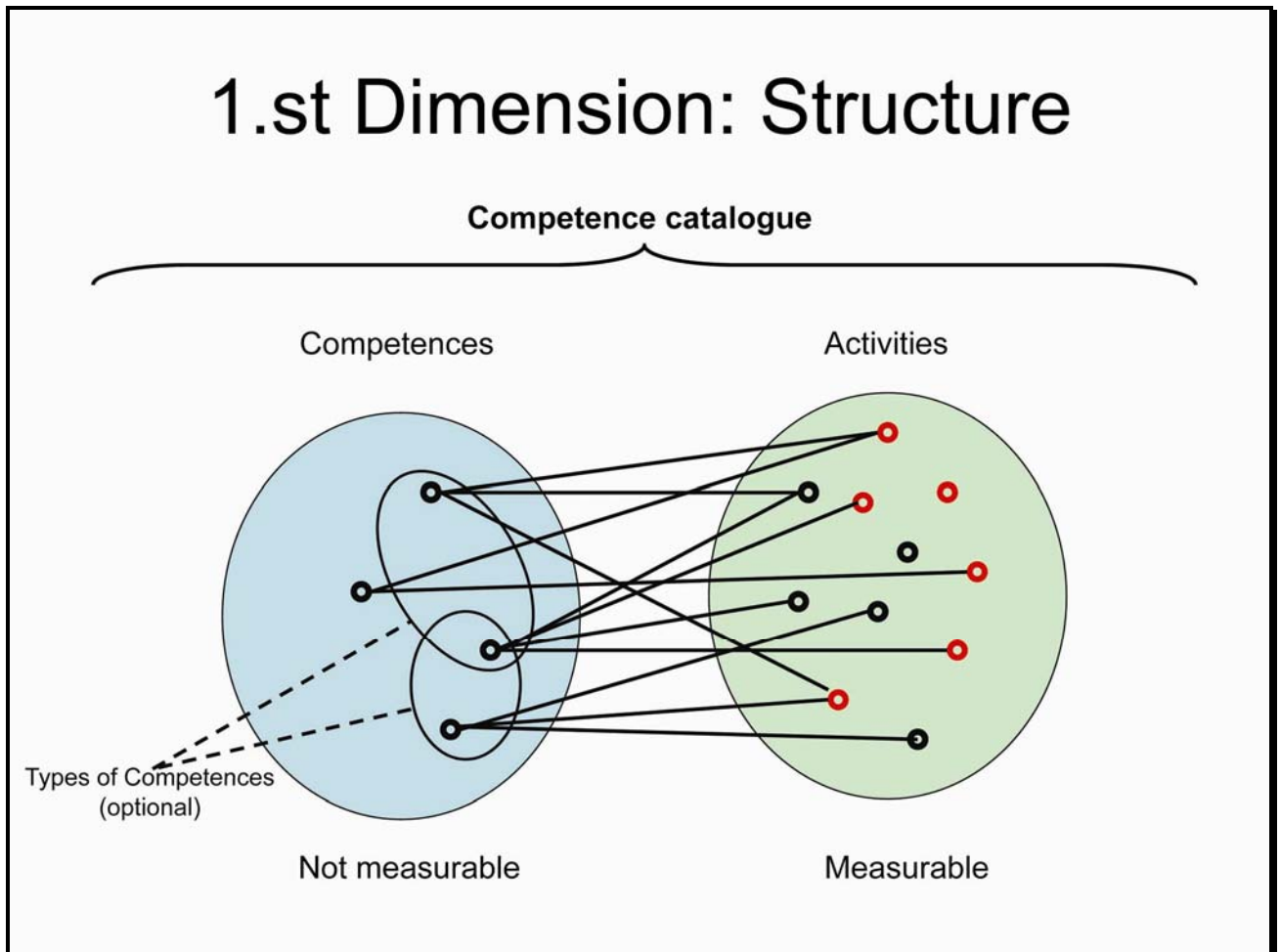
This means that fundamentally all structures and relationships between competences and activities, as long as they are clearly defined and explicitly described, conform to the Reference Framework under consideration and are thus allowed.

Furthermore, the utilized terms of existing competence models must be defined and explained in a given glossary (see further on in this clause). In particular the various understandings and, if necessary, the differing emphases of competences must be observed: the emphases can be depicted in the dimensions of "Level" and "Recording" (cf. 8.2 and 8.3 as well as the appropriate templates in 9.4 and 9.5).

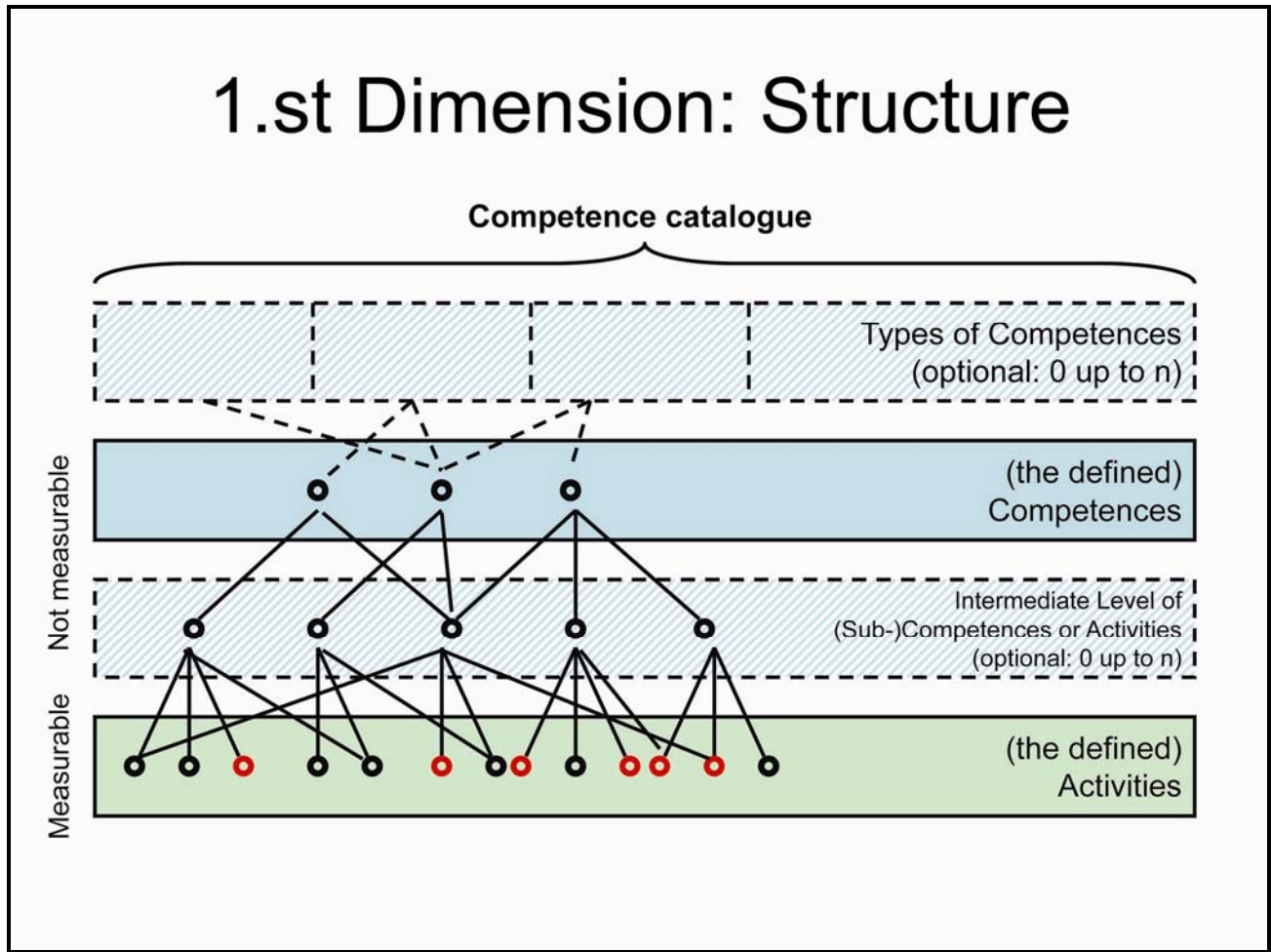
When developing a new competence model it is highly recommended to assume and utilize the terms of the Reference Framework under consideration.

The following are two visualizations of possible structures of competences and their synthesis in a Competence Catalogue (for specific examples in theory and practice see the attachment):

1. Alternative for possible structures of competences (Relational Structure):



2. Alternative for possible structures of competences (special case Hierarchical Structure)



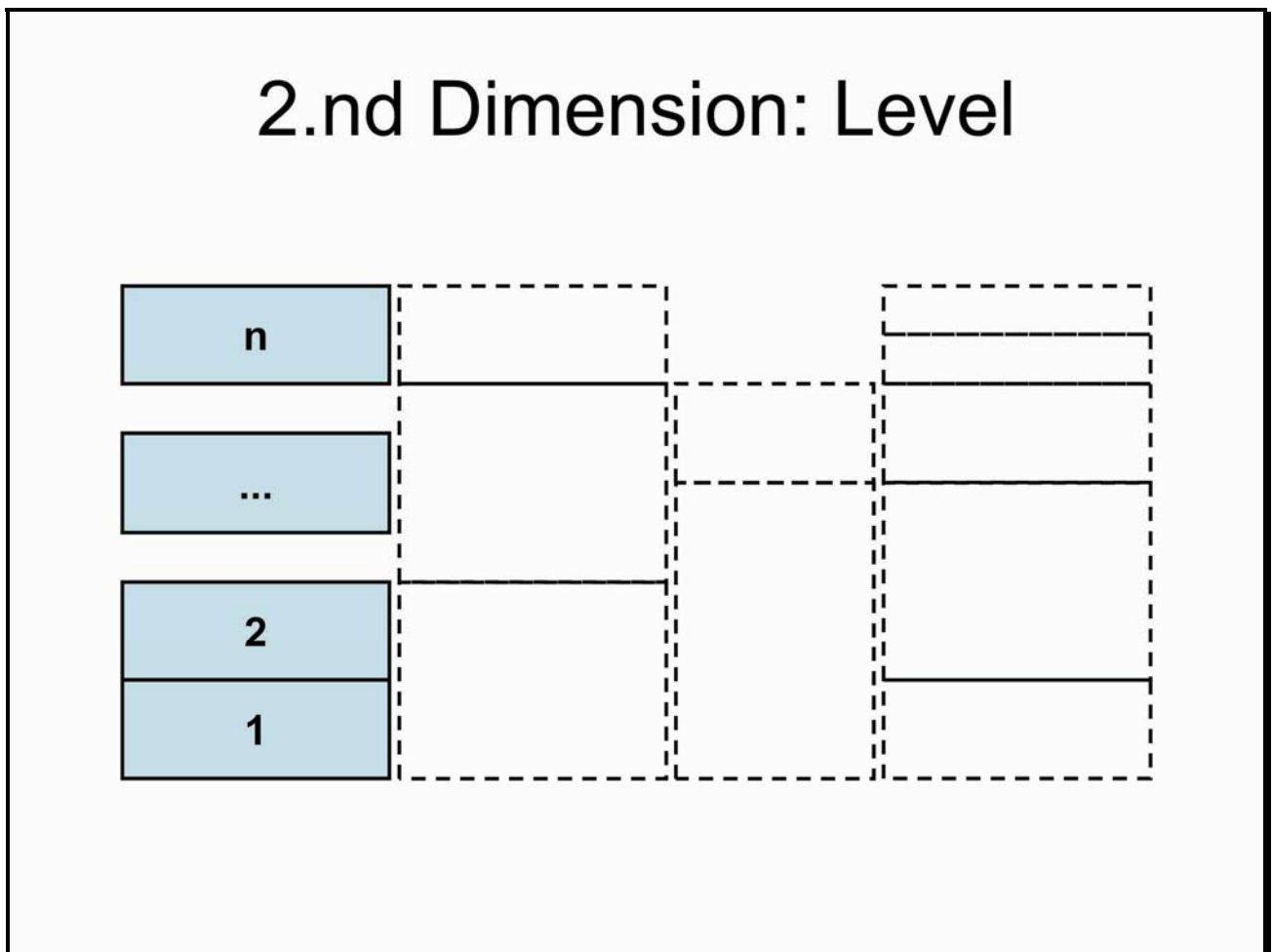
The following requirements are set for Competence Models regarding the dimension of "Structure" and must be fulfilled in order to attain conformity:

Requirement	Explanation	Minimum Quantity	Recommended Quantity
Definition and description of the Structure	<p>The Structure (i.e. the relationship) between competence and activity must be clearly described and defined. Said description must be supplemented with its corresponding terms in the required glossary:</p> <p>The terms serve as a key for the "translation" for the usage of varying Competence Models; to this end a sample can be found in clause 9.3 of this PAS. The unification of terms is only required for already existing Competence Models. For newly developed Competence Models it is highly recommended that the terms of the Reference Framework for Competence Modeling under consideration are used, as otherwise a standardized glossary must also be created.</p>	One Structure	<p>One Structure</p> <p>(and only exactly one Structure is permissible in order to ensure precision)</p>

Templates for the dimension "Structure" can be found in 9.3.

8.2 Second Dimension of the Reference Framework for Competence Modelling: Level

Competences are scalable to levels. They must however be grounded and clearly described in their scale. The criteria for this description are the complexity and variability of situations and tasks which form the basis of the defined activities. Competence levels can furthermore define a minimum standard as well as a maximum standard for activities. There should be at least three levels defined (for the initial implementation two levels are also possible) that can be differentiated from one another, as a maximum quantity of eight competence levels is recommended. The individual levels are to be so denoted so that they can overlap and thus must not be formulated as to be absolutely separate. This avoids the term "stage" that would require such an exact separation to keep the concept of the stages and the transition between the stages apart.



Competences of an individual, group or organization can developed through activities that are observed and measured in a certain situation.

The acting individual, group or organization learns, gains experience and develops competences through the completion of (work-related) tasks in shifting situations and contexts (i.e. in varying fields of application and function).

The high degree of complexity within competences in combination in combination with the extended course of competence development, which can often last years, makes it necessary to break the process as a whole into component (sub-) processes of competence development in order to determine and define the parts and to classify them meaningfully into levels according to their options for differentiation in regards to content.

These levels must reflect the change process of the competences and in doing so their realization and transfer into variable function and application fields.

The determined levels thereby compose a basis for the planning of the competence development, enable their context-dependent comparability and are in this respect necessary qualification for the measurement of competences.

When levels are differentiated and described, their internal cohesion and their consistent composition must be considered in relation to each another. This is to ensure that every higher level includes the same contents of all lower levels contained within it.

If level $1 < 2 < 3 < 4 < 5$, then level 2 is also $2 < 4$ or vice versa: level $4 > 2$.

A clear use-relation between the context and the quantity of levels should be given, so that the levels enable an economically reasonable measurement.

It is important to remember that, in relation to the definitions of these levels, they can comprise the competences of an individual, group or organization: thus they should be formulated so that they can be applied to all three organisational levels (individual, group, organization).

The levels that are defined and described to this extent thereby provide both a basis for the classification of competences and the activities that constitute them in the Competence Catalogue as well as criteria for the third dimension "Recording" which will be expounded upon in the following subclause.

The following requirements are set for Competence Models regarding the dimension of "Level" and must be fulfilled in order to attain conformity:

Requirement	Explanation	Minimum Quantity	Recommended Quantity
Definition and description of the level	The quantity of levels must be defined, described in detail and differentiated from one another. In doing so it is necessary to note: an uneven quantity is conducive to quality assurance ("tendency to the middle"), an even quantity emphasizes the development of extreme values ("peak performance").	Two levels (to begin)	Three to Eight levels

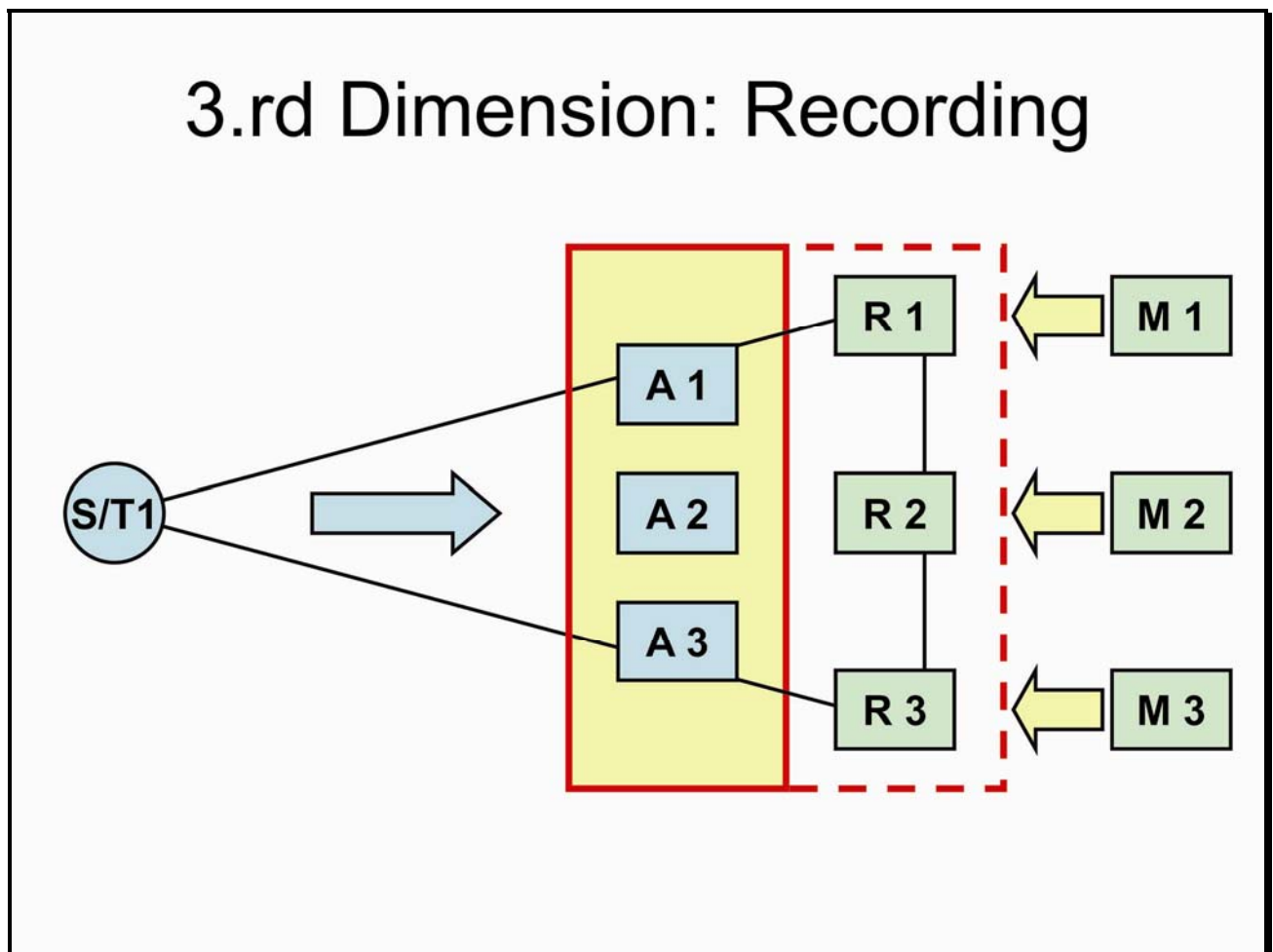
A template for the dimension "Level" can be found in 9.4.

8.3 Third Dimension of the Reference Framework for Competence Modelling: Recording

Competences are constituted of activities and cannot be observed and measured themselves.

Tasks and situations are dependent on one another and form the interface for the processes and the organisational structures of the company.

The observed activities can be the activities of an organization (as a whole or a part), group or an individual.



In a given situation with specific tasks (S/T1) different activities (A1 through A3) can be observed. The results (R1 through R3) can be dependent on many factors. Entirely different measurement methods (M1 through M3) can ascertain either only the activities themselves or the activities together with the results.

The following requirements are set for Competence Models regarding the dimension of "Recording" and must be fulfilled in order to attain conformity:

Requirement	Explanation	Minimum Quantity	Recommended Quantity
Definition and description of methods for observation and measurement	<p>Observation = non-judgmental perception</p> <p>Measurement = the appraisal of an observation with the purpose of analysis and evaluation</p> <p>Methods must be described according to the Reference Framework for a Standardized Method Description (in 9.5 of this PAS) as a key for the "translation" and use the defined levels.</p> <p>The description of the situation (and context) is necessary.</p> <p>Ideally a backup of the observed activities resp. the competences derived there from shall take place through the application of more than one method.</p>	One method for observation and measurement	Two to <u>however many</u> methods for observation and measurement

A template for the dimension "Recording" can be found in 9.5.

The levels that are defined and described by the second dimension "Level" supply criteria that should be considered during the recording. The observed activities are placed in comparison with these criteria. It is important to note during the formulation of these levels that they can observe the activities of individuals, groups or organizations.

Recording of individuals (or places of employment):

Upon use of competence levels for the observation of the activities of the *individual* the learner is measured on the development of his or her own competences. This occurs with the intention to aid the learner individually in his or her own learning process. The level evaluation provides information for the individual as to his or her location in a learning process as well as to which possibilities of further development are open to him or her.

Recording of groups (or small organizational units):

When a *group* is observed the formulated levels must allow for a comparative function; they must be able to observe the comparison of an individual to the performance of his or her fellow group members or the comparison of a group with an external group.

Recording of organizations (or very large organizational units):

When an observation is related to an *organization* the criteria are oriented on the stated performance-standards. The activities of the whole organization or large, defined units of an organization (e.g. Department) are thereby observed and measured. The recording is undertaken with the goal to allow for an organization-wide recording and consideration of the strategies and goals of the organization as a whole.

Tips for the Application of the Template "Recording" (9.5)

The following points, which are also components of the template "Recording" (9.5), should be taken into account and defined prior to an observation, to which end the template "Recording" (9.5) should be used.

Goal of the Recording

The following particular goals of the recording can be distinguished:

- Recruiting: quick, certain and efficient choice of qualified applicants
- Career and skills management: discover, support and advancement of top-performers
- Human resource development and training advancement: discover and close competence gaps, ensure the success of activities for competence building and quality assurance for processes within human resource development and vocational education and training
- Verification and quality assurance of the competence model and the procedure itself

Organisational Level of the Recording

The goal of the recording must be at first distinguished between the three organizational levels:

- Individual
- Group and
- Organization (partially or as a whole e.g. associations or departments).

The precise aims of the recording should be determined dependent on the target scope: All following points should be adjusted and appropriately specified to the chosen target scope and the determined goals

Target Group of Recording

The connection between target groups and competence shapes must be kept in mind during the recording: competences are typically distributed in a sufficiently large population of employees. The upper quartile (potentials), the middle ("controllable average") and the lower quartile (deficit/needs analyses) of the normal curve are specified depending on the target group.

Two target groups are typically selected:

- Selected and small target groups for the recording of top-performance and special competences (e.g. specialists/experts or executive personnel). Processes for these target groups are typically denoted as "potential analysis".
- An aggregate of employees responsible for a certain scope of duties for overarching recording of Competence Deficits and furtherance of the entirety of employees for a unified and controllable overall-performance (e.g. call-center agents, assembly men) in reference to the tasks that are affected. Processes for these target groups are denoted typically as "performance analysis" or "qualification needs analysis".

Type of Measurement

The following types of observation and measurement can be distinguished:

- Results assurance with structured surveys of knowledge (multiple choice tests, simulations) for the recording of the knowledge and skills necessary for the competence and activities therein.
- Ratio analysis for the verification of the attained performance and results and their connection with competences and activities for competence building
- Recording of activities and performance measurement
- Self and external assessment and analysis of activities, achieved performance and results
- Testing theory-based verification of the tools of measurement and competence profile
- Interviews, employee meetings, development meetings, group discussions

Position being Observed

The applicable observation and measurement methods are also different according the position being observed, under which individuals as well as personnel groups are to be understood:

- Self-assessment/testing
- External assessment
 - Trainers or Coaches
 - Superiors
 - Colleagues
 - Clients
 - External Contractors
- Quality and Control Departments concerning general and key operating figures and business ratios

As can be seen positions can be observed by internal personnel groups and external circles that have been charged with the observation in addition to an individual (through self-assessment).

Connection of the Measurement Items with the Defined Activities of a Competence

The measurement items of an observation must concur with the corresponding, defined activities of the particular Competence Profile. A correlation must be demonstrable. For this purpose testing mechanisms that clearly portray the connection must function parallel to the observation of the competence through its activities.

The results of the measurement methods as well as the structure of the measurement item must align with the structure and levels of the Competence Profile.

A consistent, standardized glossary for the "translation" of competences and activities is absolutely essential for comparability and must use the Reference Description Format of a standardized glossary from 9.1 of this specification.

Quality Criteria

The quality and the process of the measurement methods must be continuously documented. Testing procedures must sufficient, valid, reliable and objective as well as economically efficient.

Quality Criterion 1: Validity

Validity describes whether or not the test successfully measures what was specified.

To this end the following questions must be answered:

1. Is the competence, which shall be measured through its constituent activities, described with sufficient anchoring activities and are these activities sufficiently covered by the test?
2. Does the test provide knowledge that pertains to statements of competence?
3. Does the result of the test align with the previous assessment (hypothesis?)
4. (If more tests are utilized:)
Do all tests concur regarding the competence being verified?

Quality Criterion 2: Reliability

Reliability describes the dependableness of an instrument, thus providing the degree to which a measurement is precise.

To this end the following questions must be answered:

1. How consistent are the results of the same tests of the same individuals/teams/organizations over the course of time?
2. To what extent is the test more or less reliable than other tests for the same competence?
3. (If the observation occurs with the help of several observers:)
How similar or different are the results of different observers regarding the same individuals/groups/organizations?

Quality Criterion 3: Objectivity

Objectivity provides information as to how independent the results of the test are from the tester. Ideally different testers should come to the exact results every time for the same individual.

To this end the following questions must be answered:

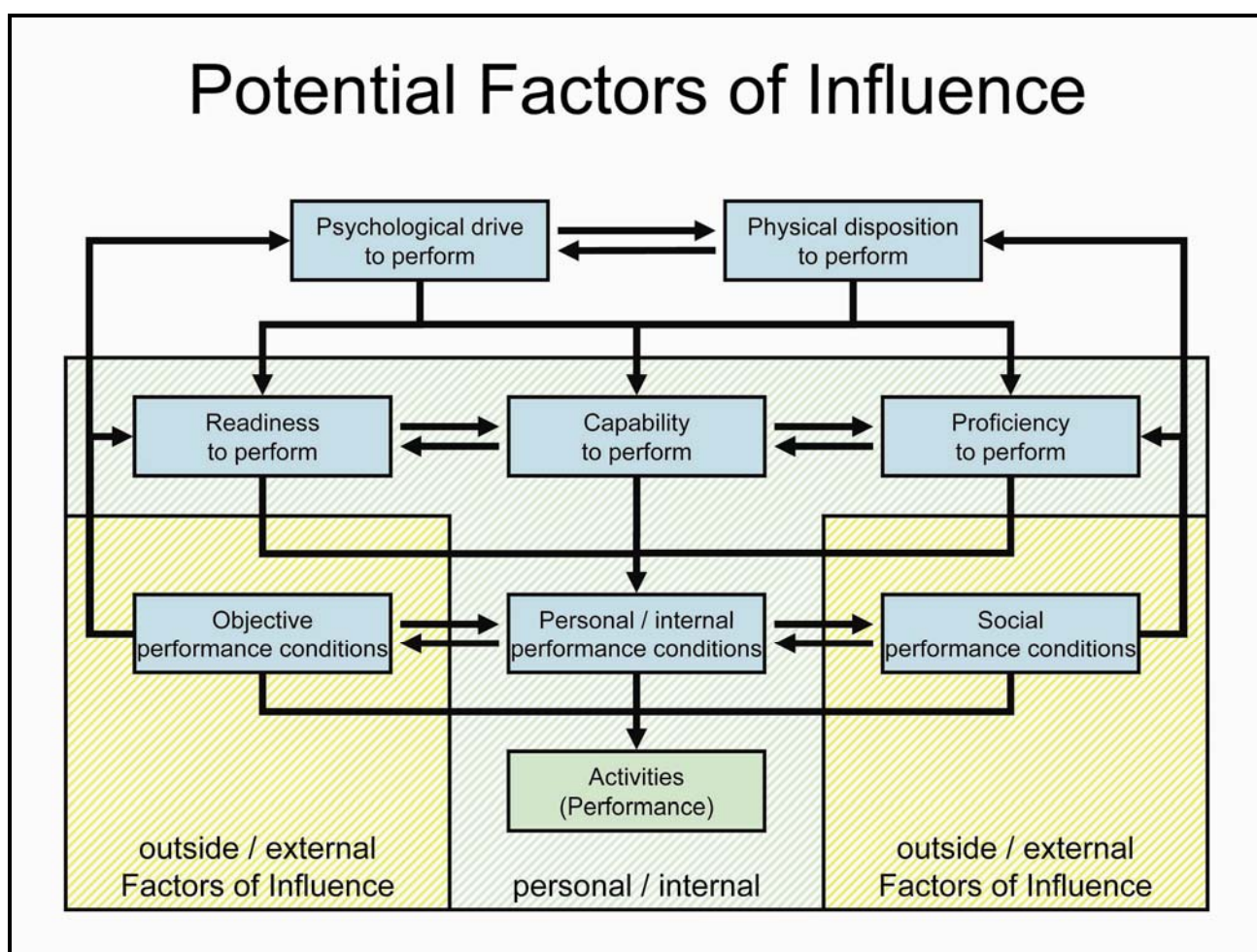
1. Implementation Objectivity:
 - How is it verified that the test procedure takes place in a uniform and consistent setting?
 - Are there clear criteria and rules for the observation?
2. Evaluation Objectivity:
 - How is it verified that the observation and the analysis are separated?
 - Are there clear criteria and rules for the evaluation?
3. Interpretation Objectivity:
 - Which quantitative data, comparative values or norms have been additionally consulted?
4. Comparative Objectivity:
 - Do others share the evaluations resp. the results based on the test?

8.4 Hints for the application of the Reference Framework for Competence Modelling

The following points, which are not a part of the templates in clause 9, should be noted for the application of the Reference Framework of Competence Modelling and are especially relevant during the observation phase. They are not incorporated in the mandatory templates in clause 9 because they represent general framework conditions and not mandatory stipulations.

Factors of Influence for Activities and their Observation

The following overview works as a model for the observation and interpretation of activities and competence shapes in order to name and identify (further) possible factors of influence.



Individual/internal factors of influence can be appropriately and simply articulated as:

- Commitment and proficiency of performance (prerequisite intrinsic to an individual or organisation)
- Performance skills (prerequisite intrinsic to an individual or organisation)
- Individual/internal performance conditions
- Performance realization: first observable and measurable appearance of evidence for performance skills (activities)

In addition there are many external factors of influence that are summarized here in a simple manner as technical and social performance conditions: these external factors of influence should not be neglected or underestimated in their effect, however they are for the respective individual/group/organization only rarely, if at all, influenceable.

The performance result (activity) is hence the result of realized accomplishments under the influence from multitudinous factors that range from the observable activities of individuals to a host of operational figures which can be individual/internal as well as external.

This is worth noting and considering in order to avoid hasty and inadequate conclusions and reasoning drawn from the observation, measurement, evaluation and interpretation of activities.

Use Scenarios

The following use scenarios for observation can be distinguished:

- Before and after human resources development and learning opportunities
- Employee surveys
- Special events
- Ongoing business operations

Operational Figures as Framework for the Observation

Companies gather a multitude of data above all in customer services and production. This data can provide the human resource development the first hints concerning the existence of competence gaps and general development needs (e.g. through critical incident methods) as well as the effect of carried out activities.

Thus the connection between operational figures and respective competence shapes must be appropriately represented.

Balance Sheets as a Comprehensive Profile of Activities

If a personal profile arises with the help of relevant measurement instruments on the basis of individual competence profiles, which refers to activities for competence building (opportunities for human resource development and learning, education, and training) and to functions resp. work places, then it can be recorded across all activities. This offers at least three advantages:

- The employees receive a detailed strength/weakness and development profile, a "competence pass" for individual, group, and organization-wide levels.
- The effect of activities resp. the course of competence profiles in the organization can be represented as independent from the activities themselves. The effect of activities on competences can thus be better measured and is not set from the beginning on (training can also have no or negative effects on the competence shape).
- The organisation can evaluate and assess the "human capital" and its development. Competence deficits as related to company goals can be recognized and reduced early. The organization as a whole can create an optimal organization competence profile for the core competencies of the respective company through a targeted mix of human resource development, talent management and recruiting.

Additional Criteria from Practical Experience

A test that shall be regularly utilized must be target-aimed, objective and worthwhile, but also economic.

Furthermore, the test should above all be able to be accepted by all users.

To this end the following questions must be answered.

1. What recognisable additional value does the test provide?
2. To what extent is the observation method accepted by all parties involved?
3. How is the equal opportunity of all tested individuals verified?
4. How is transparency as well as the acknowledgment of end results of the test assured?
5. Does the cost of test implementation stand in a reasonable ratio its benefit (positive costs-benefits relation)?
6. Were additional and unintentional effects identified in the tests (e.g. in a qualitative inquiry)?

9 Normative Templates for Competence Models

In this clause all templates (here named "Reference Description Formats") for the Competence Model (9.1 and 9.2), for the Competence Catalogue (9.6) and for all three dimensions of the Reference Framework for Competence Modelling (RFCM) in Human Resource Development (9.3, 9.4 and 9.5) can be found. Each must be appropriately adapted to the respective organization and completely filled out.

9.1 Mandatory Template "Competence Model"

The following template "Competence Model" must be filled out during every application of the Reference Framework for Competence Modelling as well as individually adapted to your organization and situation with your definition of the structure between competence and activity.

If you have already implemented and use a Competence Model or Models or plan to use this in the future, you must additionally fill out the mandatory template "Mapping of an Existing Competence Model" from clause 9.2 for each Competence Model individually and in doing so describe and define the relationship between them. Thereby the connectivity and comparability between the various Competence Models can be assured.

If you have not implemented and thus do not use a Competence Model and instead would like to establish one, it is strongly recommended that the terms of the standardized Reference Framework for Competence Modeling are used (instead of defining a new Competence Model).

Table: Template "Competence Model"

Please note: Only **the red fields** are mandatory and have to be filled in; **the yellow fields** are optional according to given requirements and **the white fields** cannot be filled in but have to be carried over.

Competence Model according to the Reference Framework for Competence Modelling (RFCM)		
ID	Designation	Name of the competence model
01	Name	Reference Framework for Competence Modelling (RFCM)
ID	Strategy	Your definition and determination of your competence strategy
02	Competence Strategy	[Please enter the detailed definition and description of your competence strategy here. The development of a competence strategy is not trivial and should result from the discussion and agreement of all participants (stakeholders). The Competence Strategy should be focused on the long-run as much as possible and be effective for the largest possible scope within the organization (ideally for the entire organization), cf. clauses 8 and 10.]
ID	Definitions of Terms	Mandatory definitions of the terms of the Reference Framework for Competence Modelling (standardized glossary)
03	Competence	Competences are constructs that are not directly observable and that can be described by the three dimensions structure, levels and recording and can be constituted by defined activities.
04	Behaviour	Behaviour is the observable and measurable activity of a single person, a group or an organization that is either realised without conscious orientation towards an objective (intention) or serves to achieve a conscious objective (and is also called activity then).
05	Activity	Activity is a behaviour that serves to achieve a conscious objective.
06	Competence Level	A competence level is a defined shape of competence, see the term "Level" in clause 3.
07	Competence Catalogue	The competence catalogue contains competences that are relevant and observed within the specific enterprise context and is the basis for different competence profiles.
08	Competence Profile	A competence profile constitutes either for a work place or an entire organization all competences (including the necessary shapes) that are needed for the fulfillment of the respective tasks or for a single person all competences (including all necessary shapes) that were measured and attributed by methods of competence modelling.
09	Competence Balance Sheet	A competence balance sheet documents the results of the analysis and evaluation of competence development and its measurement is based on target-performance comparison as well as on activities for competence building (opportunities for human resource development and learning, education, and training) derived from it.
ID	Determination of Structure (Dimension 1)	The definition of your structure and relationships between competence and activity.
10	Definition and description of the relationship between competence and activities	[Please enter the document names here: for the generation of said documents please fill out the template "Structure" in 9.3.]

ID	Determination of Levels (Dimension 2)	The definition of your competence level
13	Level	[Please enter the document names here: for the generation of said documents please fill out the template "Level" in 9.4 for the existing Competence Model.]
ID	Determination of observation and measurement methods (Dimension 3)	The definition of your observation and measurement methods
15	Recording	[Please enter the document names here: for the generation of said documents please fill out the template "Recording" in 9.5 for the existing Competence Model.]
ID	Determination of the competences in the Catalogue	Name of the competence catalogue
16	Competence Catalogue	[Please enter the document names here: for the generation of said documents please fill out the template "Competence Catalogue" in 9.6 for the existing Competence Model.]
ID	Existing Competence Model	Name of your existing competence model (if applicable)
17	If applicable: Competence Models under consideration (list)	[Please enter all of your competence models under consideration in a list here: for each of the competence models under consideration the following template "Mapping of an existing Competence Model" must be filled out.]

The template "Competence Model" (Reference description format) is always mandatory.

[Please note: Only **the red fields** are mandatory and have to be filled in; **the yellow fields** are optional according to given requirements and **the white fields** cannot be filled in but have to be carried over.]

9.2 Mandatory Template "Mapping of an Existing Competence Model"

It is mandatory to fill out the template "Mapping of an Existing Competence Model" (Reference Description Format) completely given the presence of an existing and currently applied competence model.

Table: Template "Mapping of an Existing Competence Model"

Please note: Only **the red fields** are mandatory and have to be filled in; **the yellow fields** are optional according to given requirements and **the white fields** cannot be filled in but have to be carried over.

ID	Designation	Name of the existing competence model	Reference Framework RFCM
01	Name	[Please enter the names of the existing competence models here]	RFCM
ID	Strategy	The definition of the competence strategy in the existing competence model	
02	Competence Strategy	[Please enter the detailed definition and description of your competence strategy here. The development of a competence strategy is not trivial and should result from the discussion and agreement of all participants (stakeholders). The Competence Strategy should be focused on the long-run as much as possible and be effective for the largest possible scope within the organization (ideally for the entire organization), cf. clauses 8 and 10.]	cf. the definitions and determinations within your competence model
ID	Terms of the existing competence model	Your definitions from the existing competence model	Equivalent terms of the RFCM
03	[Please enter the name of the term here]	[Please enter the definition of the term here]	Competence
04	[Please enter the name of the term here]	[Please enter the definition of the term here]	Behaviour
05	[Please enter the name of the term here]	[Please enter the definition of the term here]	Activity
06	[Please enter the name of the term here]	[Please enter the definition of the term here]	Competence Level
07	[Please enter the name of the term here]	[Please enter the definition of the term here]	Competence Catalogue
08	[Please enter the name of the term here]	[Please enter the definition of the term here]	Competence Profile
09	[Please enter the name of the term here]	[Please enter the definition of the term here]	Competence Balance Sheet

	[Please enter the name of an additional term here]	[Please enter the definition of the term here]	[Please enter the equivalent term of the RFCM here: a term of the RFCM can also be used multiple times in this column]
	[Please enter the name of an additional term here]	[Please enter the definition of the term here]	[Please enter the equivalent term of the RFCM here: a term of the RFCM can also be used multiple times in this column]
	[Please enter the name of an additional term here]	[Please enter the definition of the term here]	[Please enter the equivalent term of the RFCM here: a term of the RFCM can also be used multiple times in this column]
	Etc.		
ID	Determination of Structure (Dimension 1)	The definition of your structure and relationships between competence and activity.	Equivalent Terms of the RFCM
	[Please enter the name of the term here]	[Please enter the document names here: for the generation of said documents please fill out the template "Structure" in 9.3.]	Structure (Dimension 1)
ID	Determination of Level (Dimension 2)	The definition of your competence level	Equivalent Terms of the RFCM
	[Please enter the name of the term here]	[Please enter the document names here: for the generation of said documents please fill out the template "Level" in 9.4 for the existing Competence Model.]	Level (Dimension 2)
ID	Determination of observation and measurement methods (Dimension 3)	The definition of your observation and measurement methods	Equivalent Terms of the RFCM
	[Please enter the name of the term here]	[Please enter the document names here: for the generation of said documents please fill out the template "Recording" in 9.5 for the existing Competence Model.]	Recording (Dimension 3)
ID	Determination of the competences in the Catalogue	Name of the Catalogue of Competences	Equivalent Terms of the RFCM
	[Please enter the name of the term here]	[Please enter the document names here: for the generation of said documents please fill out the template "Competence Catalogue" in 9.6 for the existing Competence Model.]	Competence Catalogue

It is mandatory to fill out the template "Mapping of an Existing Competence Model" (Reference Description Format) completely given the presence of an existing and currently applied competence model.

Please note: Only **the red fields** are mandatory and have to be filled in; **the yellow fields** are optional according to given requirements and **the white fields** cannot be filled in but have to be carried over.

9.3 Mandatory Template for the Dimension 1 "Structure"

It is mandatory to fill out the template for dimension 1 "Structure" (Reference Description Format) completely for the Reference Framework as well as for each and every existing competence model.

Table: Template "Structure"

Please note: Only **the red fields** are mandatory and have to be filled in; **the yellow fields** are optional according to given requirements and **the white fields** cannot be filled in but have to be carried over.

Dimension 1 "Structure" of the Reference Framework for Competence Modelling		
ID	Determination of Structure (Dimension 1)	The definition of your structure and relationships between competence and activity.
01	Definition and description of the relationship between competence and activity	[Mandatory field: please enter your detailed definition of the structure between competence and activity here (as free text), cf. 8.1]
02	Optional: Competence Type (if existent or desired)	[Would you like to combine multiple competences in competence types or in another manner (e.g. as groups/sorts etc.)? If yes: such combinations are named here "competence types": please enter all of your desired competence types in a list here. You can also define multiple tiers of competence types as a (hierarchical) structure (e.g. an upper tier for general classes of competence types, which can be divided into a second tier of the individual competence types): in this case this structure must be precisely described, cf. 8.1 or use the following template "Competence Types"]
03	Optional: Intermediate Level (if existent or desired)	[Would you like to define an intermediate level between competences and activities in order to be able to either divide competences (e.g. as sub-competences) or combine activities (e.g. as types/groups/sets of activities)? If yes: such divisions (of competences) and such combinations (of activities) are named here "intermediate levels": please enter all of your desired intermediate levels in a list here. You can also define multiple tiers of intermediate levels as a (hierarchical) structure (e.g. an upper tier for a general class of intermediate, which can be divided into a second tier of individual intermediate levels): in this case you must describe this structure precisely, cf. 8.1 or use the following template "Intermediate Levels"]

The template "Structure" (Reference Description Format) is always mandatory.

Both of the following templates "Competence Types" and "Intermediate Levels" are optional as reference description formats.

Both of these following reference description formats "Competence Types" and "Intermediate Levels" should then only be defined and applied if you have decided during the definition of the structure to determine and define additional competence types and/or intermediate levels.

Optional Template "Competence Types":

You must only fill out the following reference description format "Competence Types" if you have decided to combine competences into competence types. Competence types are optional and not compulsory. However, if you would like to employ and utilize competence types, the use of this reference description format for purposes of translation is recommended.

Table: Template "Competence Types" (optional)

ID	Competence Types for Dimension 1 "Structure" (optional)	Name of the Competence Type	Your definition
01	Competence Type 1		[Please enter your detailed definition here; you can also define multiple tiers of competence types as a (hierarchical) structure (e.g. an upper tier for general classes of competence types, which can be divided into a second tier of the individual competence types): cf. section above or 8.1.]
02	Competence Type 2		
	Etc.		
n	Competence Type n		

Optional Template "Intermediate Levels":

You must fill out the following reference description format "Intermediate Levels" if you have decided to define intermediate levels between competences and activities during the description of their structure and connection. Intermediate levels are thus optional and not compulsory. However, if you employ and utilizes intermediate levels, the use of this reference description format for purposes of translation is recommended.

Table: Template "Intermediate Levels" (optional)

ID	Intermediate Levels for Dimension 1 "Structure" (optional)	Name of the Intermediate Level	Your definition
01	Intermediate Level 1		[Please enter your detailed definition here; you can also define multiple tiers of intermediate levels as a (hierarchical) structure (e.g. an upper tier for general classes of intermediate levels, which can be divided into a second tier of the individual intermediate levels): cf. section above or 8.1.]
02	Intermediate Level 2		
	Etc.		
n	Intermediate Level n		

9.4 Mandatory Template for the Dimension 2 "Level"

The following template "Level" must be as a reference description format always filled out with each application of the Reference Framework for Competence Modelling as well as for each existing competence model: to this end the amount of lines must be initially adapted in order to match the chosen quantity of competence levels and then the name and definition must be recorded for each competence level. In this manner the competence levels are individually adapted to your organization and situation.

Table: Template "Level"

Please note: Only **the red fields** are mandatory and have to be filled in; **the yellow fields** are optional according to given requirements and **the white fields** cannot be filled in but have to be carried over.

Dimension 2 "Level" of the Competence Framework for Competence Modeling			
ID	Determination of the Level (Dimension 2)	Name of the Competence Level	Your definition of the Competence Level
01	Competence Level 1		[Please enter your detailed definition here, cf. 8.2]
02	Competence Level 2		[Please enter your detailed definition here, cf. 8.2]
	Etc.		
n	Competence Level n		

The template "Level" (Reference description format) is always mandatory.

The minimum amount of competence levels is two, recommended however are three up to eight competence levels (see clause 8.2).

9.5 Mandatory Template for Dimension 3 "Recording"

The following template "Recording" should be as a reference description format always filled out for each application of the Reference Framework for Competence Modelling as well as for each existing competence model: to this end the name each observation and measurement method (the first line) and additionally the description criteria (the following lines) must be recorded. In this manner the measurement methods are individually adapted to your organization and situation.

The individual descriptive criteria of this template are explained in 8.3 (see above).

Table: Template "Recording"

Please note: Only **the red fields** are mandatory and have to be filled in; **the yellow fields** are optional according to given requirements and **the white fields** cannot be filled in but have to be carried over.

Dimension 3 "Recording" of the Reference Framework for Competence Modeling		
ID	Dimension 3 "Recording" of the Reference Framework for Competence Modeling: The Descriptive Criteria	Your determination and definition
01	Name of the Measurement Method	
02	Situation/Context	
03	Aim of the Recording	
04	Organisational Level of the Recording	
05	Target Group of the Recording	
06	Type of the Recording	
07	Observed Position	
08	Names of the Competence and Activities to be Observed	
09	Description of the Measurement Items	
10	Correlation of the Measurement Items with the Defined Activities (see above)	
11	Description of the Measurement Methods	
12	Description of the Evaluation Procedure	
13	Duration	
14	Quality Criteria	
15	Previous Experience with the Measurement Methods	

The template "Recording" (Reference description format) is always mandatory.

The minimum amount of methods for the observation and measurement is one, recommended however are two up to however many methods (see clause 8.3).

9.6 Mandatory Template "Competence Catalogue"

The following template "Competence Catalogue" should be as a reference description format always filled out for each application of the Reference Framework for Competence Modelling as well as for each existing competence model: to this end the amount of lines must be initially adapted in order to match the quantity of competences and then the names and definitions of each competence and the activities that constitute said competences must be recorded. In this manner the competence catalogue is adapted to your organization and situation.

Table: Template "Competence Catalogue"

Please note: Only **the red fields** are mandatory and have to be filled in; **the yellow fields** are optional according to given requirements and **the white fields** cannot be filled in but have to be carried over.

Template "Competence Catalogue of the Reference Framework for Competence Modeling"				
ID	Name of the Competence	Your Definition of the Competence	Names of the Corresponding Activities	Your Definition of the Activities
01	[Please enter the name of competence 1 here]	[Please enter your detailed description here, cf. clause 8]	[Please enter the name of the corresponding activity 1 here]	[Please enter your detailed definition here, cf. clause 8]
			[Please enter the name of the corresponding activity 2 here]	[Please enter your detailed definition here, cf. clause 8]
			Etc.	Etc.
02	[Please enter the name of competence 2 here]	[Please enter your detailed description here, cf. clause 8]	[Please enter the name of the corresponding activity 1 here]	[Please enter your detailed definition here, cf. clause 8]
			[Please enter the name of the corresponding activity 2 here]	[Please enter your detailed definition here, cf. clause 8]
			Etc.	Etc.
	Etc.			
n	[Please enter the name of the competence here]	[Please enter your detailed description here, cf. clause 8]	[Please enter the name of the corresponding activity 1 here]	[Please enter your detailed definition here, cf. clause 8]
			[Please enter the name of the corresponding activity 2 here]	[Please enter your detailed definition here, cf. clause 8]
			Etc.	Etc.

The template "Competence Catalogue" (Reference description format) is always mandatory.

The minimum amount of competences within a competence catalogue has to reflect the size of the organisation and to provide a reasonable differentiation of competences: The competences have to be complete in relation to their differentiation as well as to be manageable in their amount (see clause 8).

Annex and examples for the application

The annex of this PAS consists of several parts that are all informative.

Annex A (informative): About the introduction of the Reference Framework for Competence Modelling

Examples for the application of PAS 1093

The following annexes of this PAS have been published in the separate document "Examples of Usage for PAS 1093," in order to allow for and facilitate the continuous revision and amendment of new practical examples.

Annex B (informative): Examples of Complete Competence Models

Annex C (informative): Examples of Individual Dimensions

Annex D (informative): Examples of Components of Competence Models

References (informative)

The separate document "Examples for the application of PAS 1093" with the current versions of the annexes listed above can be viewed and downloaded for free online at the following web addresses (URLs):

<http://www.qed-info.de/pas>

<http://www.ins.din.de>

See: „Beendete Projekte“ > „Dienstleistungen“ > „Kompetenz für die Personalentwicklung“, direct link:

<http://www.ins.din.de/cmd?level=tpl-artikel&menuid=52988&cmsareaid=52988&cmsrubid=57908&menurubricid=57908&cmstextid=53288&3&languageid=de> (one raw!)

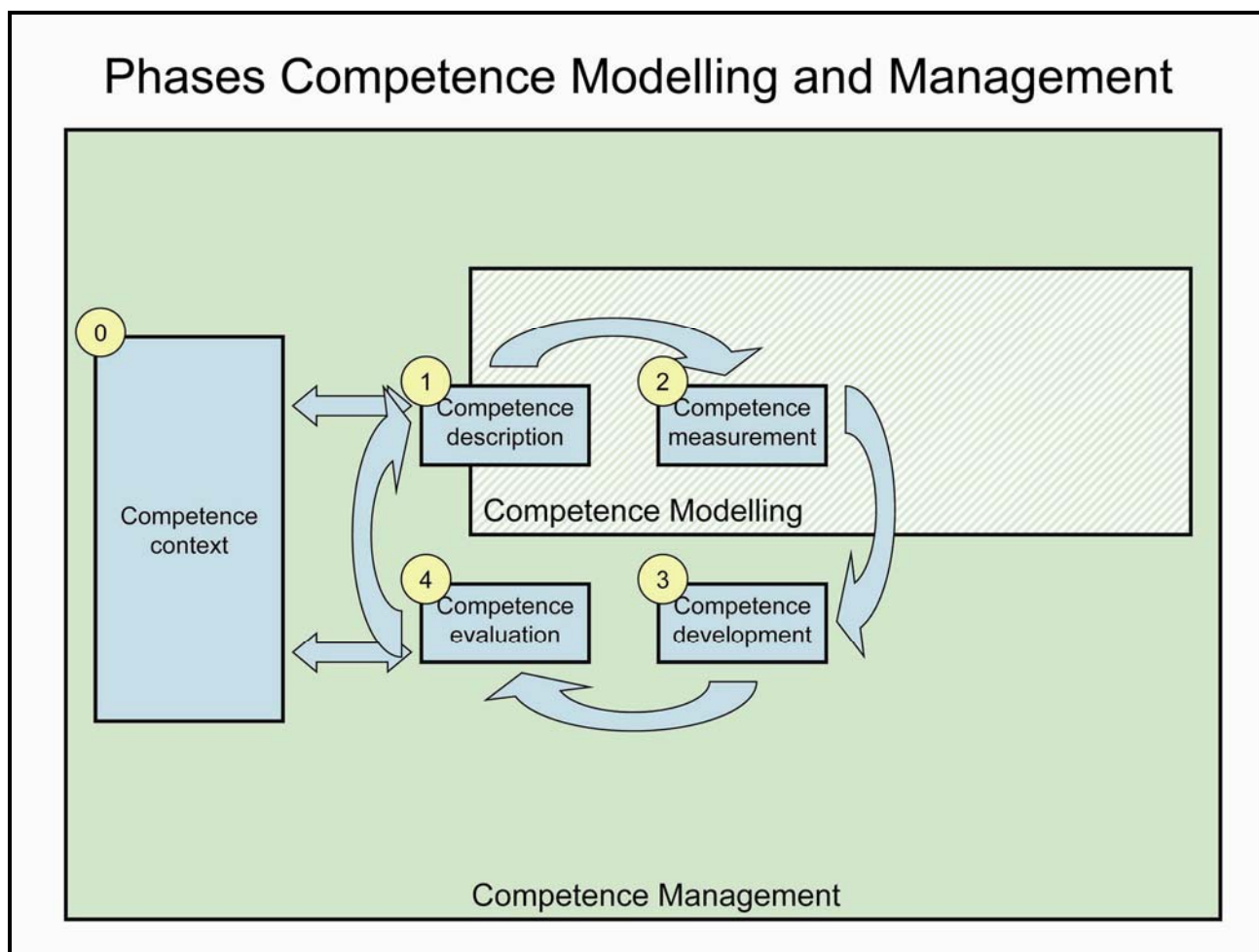
Annex A (informative):

About the introduction of the Reference Framework for Competence Modelling

The following phases, which intertwine and must constantly be revised in the sense of a continuing improvement process, are necessary for the implementation of the Reference Framework for Competence Modelling.

0. Competence Context
1. Competence Description
2. Competence Observation
3. Competence Development
4. Competence Evaluation

The correlation between these phases can be simplified by the following graphic:



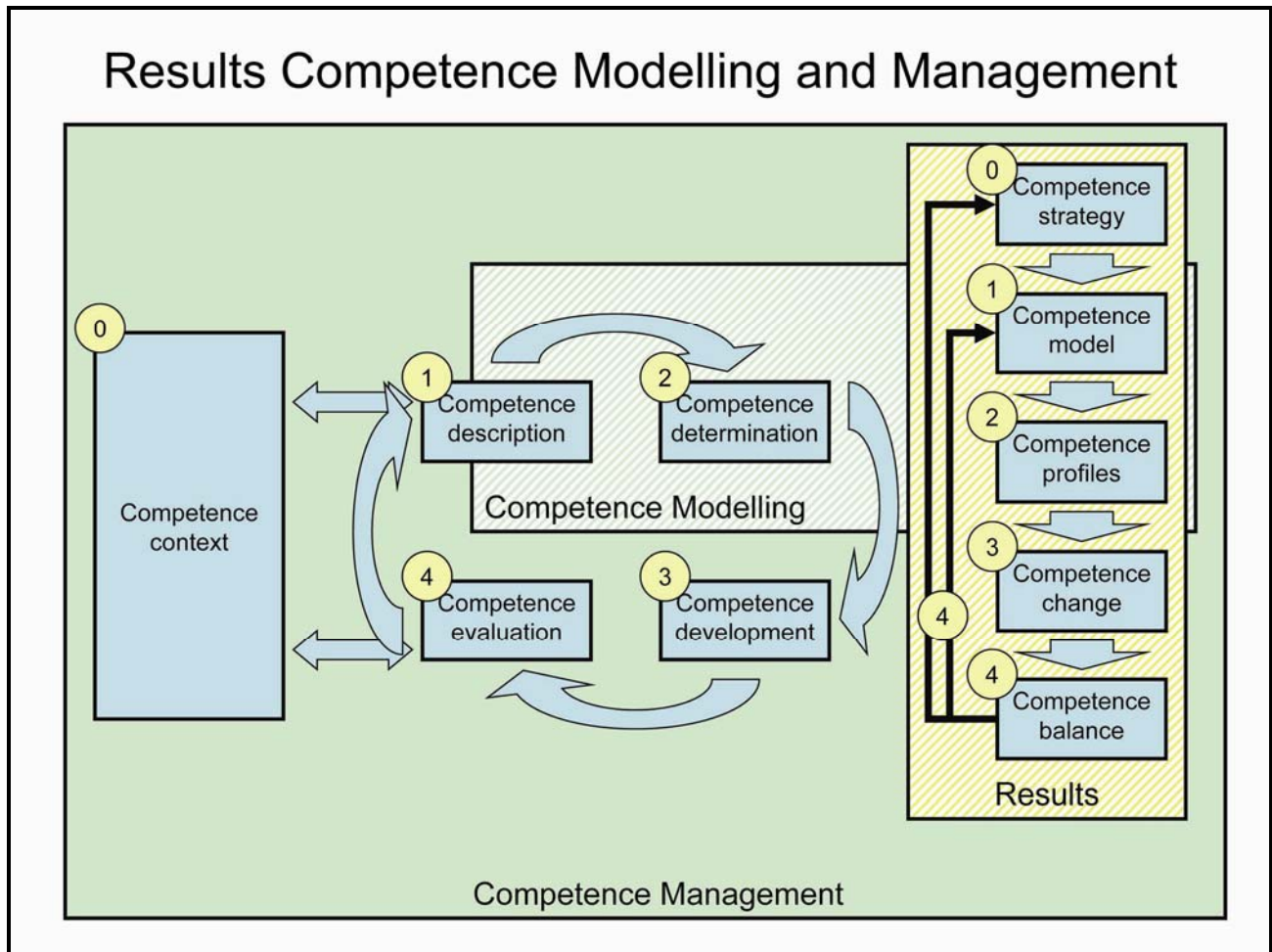
The Competence Context always influences the phases of Competence Description and Competence Evaluation and vice versa, thus influencing the Competence Strategy, which is the central result of the Competence Context phase.

Various tasks dependent on the requirements present must be fulfilled in these phases in order to attain respective results; the following table offers an overview of the correlations between tasks and their results within the phases:

Phase	Tasks	Result
Competence Context	0. Analysis of Competence Contexts in the organisation with the definition of: <ul style="list-style-type: none"> • Strategic Goals • Needs Analysis • Requirements Analysis 	Competence Strategy
Competence Description	1. Observation of the organisational context by the application of the Competence Strategy	Competence Model comprising Competence Catalogue
	2. Definition of the three dimensions in the Reference Framework (Structure of competence and activities, Competence Levels and methods for observation and measurement)	
	3. Deployment of a Competence Catalogue with definitions of competences and activities	
Competence Observation	4. Selection and description of relevant goals, tasks and situations as well as of procedures and instruments for Competence Measurement (on the basis of ascertainable and measurable activities)	Competence Profile (target and actual states) of the chosen organisational level
	5. Deployment and evaluation of the Competence Profile (target state) through the determination of the relevant competences and the needed Competence Levels for the chosen goals, tasks and situations	
	6. Deployment and evaluation of the Competence Profile (actual state) after carrying out and evaluating the Competence Measurement	
Competence Development	7. Definition of goals for Competence Building and of requirements for opportunities for human resource development and learning, education, and training	Competence Modification inside of the chosen organisational level
	8. Selection and development of activities for Competence Building (opportunities for human resource development and learning, education, and training)	
	9. Implementation of activities for Competence Building (opportunities for human resource development and learning, education, and training)	
Competence Evaluation	10. Evaluation of activities for Competence Building (opportunities for human resource development and learning, education, and training) with a second competence measurement	Competence Balance Sheet and optimised Competence Model overall
	11. Analysis and evaluation of the entire Competence Development with creation of a Competence Balance Sheet (target-actual comparison with assessment of the development)	
	12. Evaluation and optimization of the entire Competence Management and the entire Competence Model	

Please note: Competence Catalogues and Competence Profiles must use identical structures as well as identical levels.

The following graphic shows the relationships and interactions between the phases and the individual results as well as the establishment of a continuous improvement cycle upon the use of the results from the Competence Evaluation to improve and optimise the Competence Strategy and Competence Model, including the Competence Catalogue.



In the **Competence Context Phase** the general conditions are determined and a needs analysis with all responsible persons including the decision makers (the top management, the department leaders, etc.) is conducted. Thereby the strategic goal determined and the (organisation specific) requirements for the Competence Modeling are investigated. The result is documented in the **Competence Strategy** and recorded in writing.

In the **Competence Description Phase** the (organisation specific) **Competence Model** is developed that, along with the Competence Strategy (from the Competence Context phases before), contains the definition of the three dimensions of the Reference Framework and well as the **Competence Catalogue**. The Competence Catalogue consists of the (organization specific) definition of competences and activities that can be developed through top-down processes (e.g. strategy workshops with management, rating by experts, core competence investigation, prospective orientation, or a combination thereof, etc.) as well as bottom-up processes (e.g. Critical-Incident Technique, rating by experts, structure work-analysis consultation [objective or subjective], employee suggestion scheme or a combination thereof, etc.).

In the **Competence Observation Phase** the Competence Profile (target and actual states) is created. To this end an organisational level (individual, group or organisation) is chosen and for it the relevant goals, tasks and situations are determined and described. Thereafter the methods for the observation and measurement of activities are chosen and described. Subsequently, the relevant competences and the activities that

constitute them as well as the necessary Competence Levels from the Competence Catalogue are determined for the chosen organisational level. These selections and determinations are documented in the so-called **Competence Profile (target state)** for the selected organisational level. Afterwards Competence Measurement (indirectly achieved through the observation and measurement of activities) is carried out, with which the actual states are investigated. The analysis of the Competence Measurement is then documented in the so-called **Competence Profile (actual state)** for the chosen organisational level.

In the **Competence Development Phase** activities for Competence Building are created for the chosen organisational level from the basis of the Competence Profile. For this purpose the Competence Development goals are at first determined and prioritised on the basis of a target-performance comparison. Finally appropriate activities for Competence Building in the form of opportunities for human resource development and learning, education, and training are developed and carried out. The desired result is a **Competence Modification** in the chosen organisational level.

In the **Competence Evaluation Phase** the activities for Competence Building for the chosen organisational level established during the Competence Development Phase as well as the Competence Model and Competence Management as a whole are evaluated. The evaluation of activities for Competence Building is based on a second Competence Measurement (indirectly achieved through the observation and measurement of activities). This is particularly aimed at the analysis, assessment and optimisation of the opportunities for human resource development and learning, education, and training for the chosen organisational level. The analysis and evaluation of the Competence Development and measurements in total, along with the continuous improvement of activities for Competence Building, particularly serves to create a **Competence Balance Sheet** on the basis of a target-performance comparison along with the assessment of the development itself out of which specific measures can be deduced. Furthermore, the organisation-wide Competence Management is evaluated on this basis of these results; this serves particularly to analyse, assess and optimise the organisation-wide Competence Model (including the organisation-wide Competence Strategy). The central goal of the Competence Evaluation Phase is therefore the **optimisation of the entire Competence Management and entire Competence Model**.

On the basis of the subsequent decision diagram the necessary steps and tasks can be easily determined for the individual organisation, target group and situation. As follows the description of the steps for the subsequent decision diagram first:

First Question: Have you already implemented a Competence Model?

When yes: First complete tasks 0 and 1, then on tasks 2 and 3 verify that only the appropriate requirements are completed.

When no: complete tasks 0 through 3

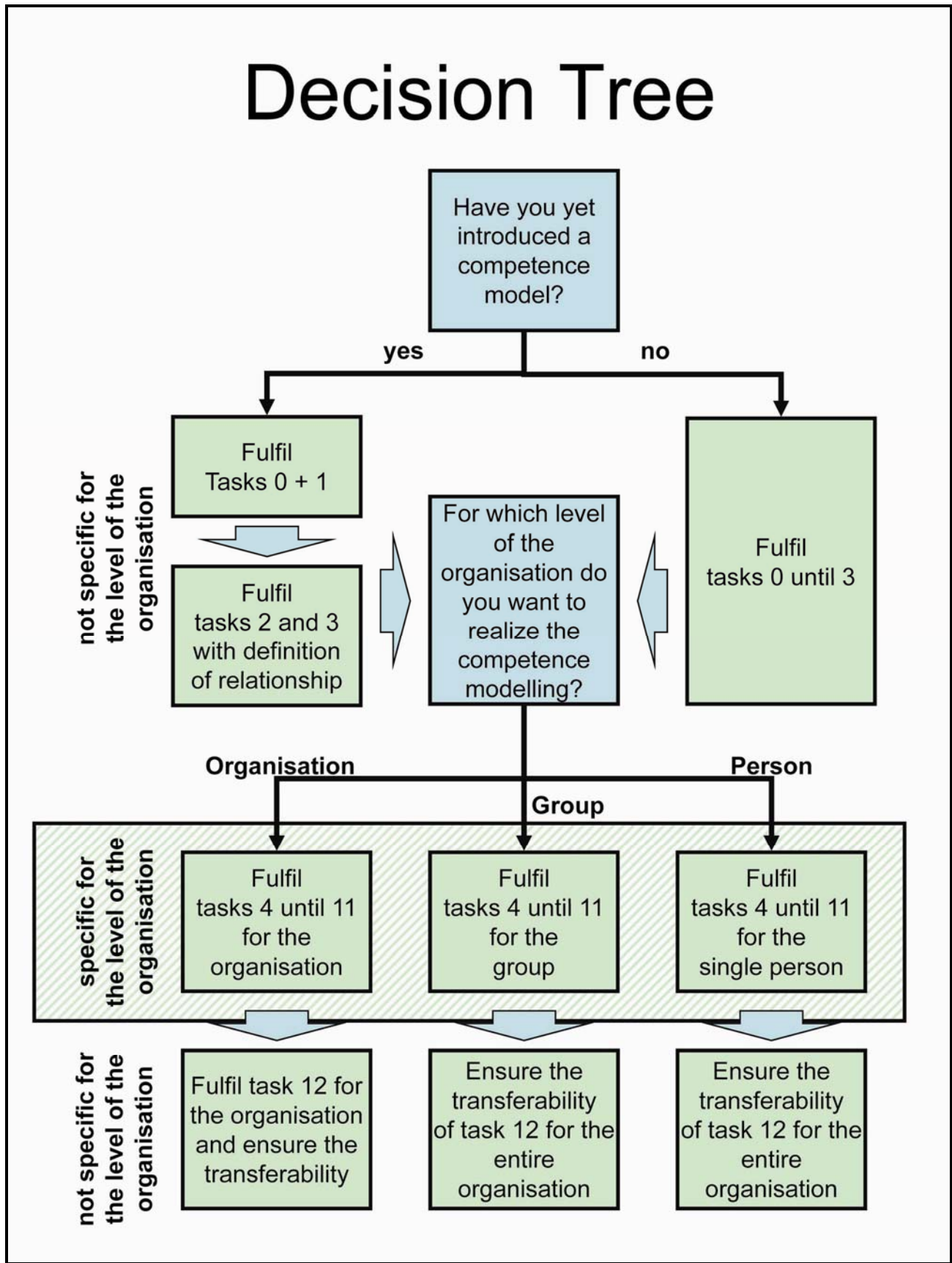
Second Question: For which organisational level do you want to implement the Competence Modelling?

When for an "organisation": first complete tasks 4 through 11 for the chosen organisation (in whole or only a clause thereof), then verify the transferability of task 12 for the organisation as a whole.

When for a "group": first complete tasks 4 through 11 for the chosen group(s), then verify the transferability of task 12 for the entire organisation.

When for an "individual": first complete tasks 4 through for 11 for the chosen individual(s), then verify the transferability of task 12 for the entire organisation.

Decision Tree



The numbering of the tasks in the graphic is related to the "Tasks" column in the table that can be found earlier in this clause.

Examples of Application of the PAS 1093

Annex B (informative): Examples of Complete Competence Models

Annex B of this PAS has been published in the separate document "Examples of Usage for PAS 1093," in order to allow for and facilitate the continuous revision and amendment of new practical examples.

Annex C (informative): Examples of Individual Dimensions

Annex C of this PAS has been published in the separate document "Examples of Usage for PAS 1093," in order to allow for and facilitate the continuous update and extension of new practical examples.

Annex D (informative): Examples of Components of Competence Models

Annex D of this PAS has been published in the separate document "Examples of Usage for PAS 1093," in order to allow for and facilitate the continuous update and extension of new practical examples.

Literature References (informative)

The references of this PAS have been published in the separate document "Examples of Usage for PAS 1093" in order to allow for and facilitate the continuous updating and extension.

How can I access the document "Examples of Usage for PAS 1093"?

The separate document "Examples of Usage for PAS 1093" with the current versions of the above annexes can be found and downloaded for free online through the following internet addresses (URLs):

<http://www.qed-info.de/pas>

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See: „Beendete Projekte" > „Dienstleistungen" > „Kompetenz für die Personalentwicklung", direkter Link:

<http://www.ins.din.de/cmd?level=tpl-artikel&menuid=52988&cmsareaid=52988&cmsrubid=57908&menurubricid=57908&cmstextid=53288&3&languageid=de> (eine Zeile!)

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