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International models of professional competence certification: a characterization of eight models.

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CASE STUDY

"INTERNATIONAL MODELS OF PROFESSIONAL COMPETENCE CERTIFICATION: A CHARACTERIZATION OF EIGHT MODELS".

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ABSTRACT

In this communication eight models of competence certification (professional and labor) recognized at an international level are characterized. These models are carried out from organizations operating Certification Systems for Persons. These Certification Systems are currently active in Madrid region, as an innovative approach for employment policies.

Five of these models are certified by the National Organization of Accreditation (ENAC), according to the international norm (ISO 17024) which establishes requirements that ensure quality of organizations operating on certification systems for persons.

Thirteen indicators have been defined to characterize and compare their different aspects. Results evidenced conceptual differences and similarities within certification models. CERPER, IPMA, EOQ, PMI, People CMM, Coaching- are oriented to the certification of professional competences with a voluntary character for the workers, and on the other hand,-CERTIAEND, CESOL and SEDIGAS- are associated to a compulsory requirements to access a specific job.

Keywords (3-6): professional competence; management skill; certification systems for persons

RESUMEN

En la comunicación se caracterizan ocho modelos de certificación de competencias personales (profesionales y laborales) reconocidos a nivel internacional. Estos modelos se llevan a cabo desde Organismos de Certificación de Personas y se encuentran actualmente activos en la región de Madrid, como región innovadora en las políticas de empleo. De estos modelos cinco de ellos están acreditados por la Entidad Nacional de Acreditación (ENAC), según la norma de referencia internacional aplicable (ISO 17024) que define los requisitos exigibles a estos los organismos de certificación de personas. Trece indicadores se han utilizado para caracterizar y comparar sus diferentes aspectos. Los resultados de la caracterización han permito comprobar diferencias conceptuales y similitudes en los ocho modelos de certificación de personas que actúan en la Comunidad de Madrid. Algunos de estos modelos –CERPER, IPMA, EOQ, PMI, People CMM, Coaching- se orientan a la certificación de competencias profesionales con un carácter voluntario para los trabajadores. Por el contrario, otros modelos -CERTIAEND, CESOL y SEDIGAS- se encuentran asociados a una certificación con un carácter obligatorio para poder acceder a un determinado desempeño laboral.

Palabras clave (de 3 a 6): competencias profesionales; gestión de habilidades; sistemas de certificación de personas

INTRODUCTION

This work proposes and implements a methodology for characterizing eight models of certification schemes through thirteen indicators defined for this purpose: 1) scope of the model, 2) accreditation of the model, 3) guidance for employment: demand, 4) guidance for its use: business area, 5) certifying skills; 6) levels of certification; 7) requirements of the model: professional experience, 8) requirements of the model : training required for access; 9) Certification Process: training partner; 10) certification process: the evaluation system; 11) certification process: self evaluation ; 12) Changes in the number of certificates; 13) Main theoretical model.

The indicators allow us to differentiate two groups of models of certification for competences: those related to professional skills and job skills.

The models of certification analyzed show positioning, both in individual development as well as in human resource management in organizations as tools for the "competent" performance guarantee.

1. Concepts: Competences and Certification

The changes in the workplace and labor market are evident not only by the constant and strong technological innovation, but also by the identifiable effects on production systems and way of working. The traditional "jobs" have evolved to "multipurpose occupations (Schkolnik, Araos, & Machado, 2005, p. 16) and the concept of" worker" to " individual" with knowledge, skills and experiences (Green, 2003) which is part of a generating activities team (Rubery, Earnshaw, Marchington, Cooke, & Vincent, 2002) (Gardner, 2005).

Despite the popularity of the word competition, you cannot say it has the same meaning in all contexts. There are many and varied conceptual approaches, the concept can be viewed from different perspectives and each leads to different shades (Vargas Zúñiga, 2004), (Stoof, Martens, & Merriënboer, 2007). The number of definitions is probably uncountable. Based on a literature review, Van Del Klink, Boon, & Schlusmans (2007), it is noticed that the competition is a concept that falls under the category of "wicked words" (evil words) whose main characteristic is that they are difficult to define. It is almost impossible to reach agreement on the content of a concept like this.

However, we have selected some definitions given by international experts and institutions for training and certification.

Competence is the ability to apply knowledge and skills, and when appropriate, show personal attributes, as defined in the certification scheme. (ISO/EIC 17024, 2003, p. 9)

Finally, a definition for its simplicity, brevity and holistic vision, is recognized in the field of project management for more than 45 countries on all continents. "Competence is a compendium of knowledge, personal attitudes, skills and relevant experience necessary to succeed in a particular function" (IPMA, 2006).

An analysis of contemporary spoken language can identify six major meanings shown in Chart 1, and emphasizes that it is a fairly complex concept that lends itself to multiple interpretations, nuances and misunderstandings (Lévy-Leboyer, 2003).

Chart 1. Concept "competence" at work and organization

MEANING	EXAMPLES
Authority	• Be under the jurisdiction of someone.
Training	• The competence of the case falls within my jurisdiction. • Your computer skills training are hours before the PC.
Competition	• It is incompetent because he is not ready. • This person is being tested through competition.
Qualifications	• Thanks to competition prices decreased. • We hired for their expertise.
Matters	• Your effective competition tests its quality. • Such matters concern my own competence.
Sufficiency	• These tasks are your competence. • Have your professional competence certified for the job. • These skills make the minimum in this work.

Source: (Lévy-Leboyer, 2003, p. 9)

1.1. Professional Competence

The evolving concept of professional competence has been developed in various scenarios, taking into account the complementarities of various historical contributions from an interdisciplinary perspective, flexible and open. Sergio Tobón, raises seven scenarios as historical sources in constructing the concept of competences: the Greek philosophy, the modern philosophy and sociology, the scenario changes in the workplace, the education scenario for the job, cognitive psychology, and finally the psychology of work (Tobón, 2006). On the other hand, Andrew Gonczi and James Athanasou, indicate that the competences can be categorized into three groups: competition as a list of tasks as a set of attributes and, as a holistic or integrated relationship (Gonczi & Athenasou, 2004).

1.2. Competence models

According to the different approaches to the concept of professional competence, we can distinguish the following **models of competence**:
Competence models based on the **job**: in which previously defined the competences required to have an efficient performance. (Taylor, 1911 (1980)).
Competence models based on **behavioral theory**, based in skills such as personal items away from specific functions, but actually allowed (Weinert, 2004), (McClelland & Boyatzis, 1980).
Competence models based on **business strategy**: based on the principle that the competences are competing elements that are linked to corporate strategy. Therefore, the sum of individual skills can be transformed into the company's competitive advantage (Cameron & Neal, 2001), (Prahalad & Hamel, 1990).
Competence models based on **cognitive and motivational model**, supported in the process of learning and competence development. (Foss, 2003)
Competition models of **holistic** approach: expanding the concept of competences integrating all aspects of people that allow them to have a performance at work (i.e., behaviors, skills, knowledge, motivation, strategic and ethical issues) (IPMA, 2006)
Chart 2 shows the main features:

Chart 2 : Competence models: characteristics and elements considered.

	Based on the job	Behavioral theory	Business strategy	Cognitive and motivational model	Holistic approach
Competence concept	Expresses the skill to perform effectively the functions associated with a situation related to a particular job.	Connected to human motivation rather than the intellect as recurrent interest in an individual to achieve objectives.	Connected to the individual skills that are part of an organization, and constitute a competitive advantage.	Connected to the individual skills that are part of an organization, and constitute a competitive advantage.	Associated with proven ability to apply knowledge or skills and personal attributes.
Model	NVQ	SCANS	CORE COMPETENCE	EDUCATION	PROF. COMP.
Characteristic	Is based on defining a job properly, establishing the necessary competences to cover efficiently.	Is based on defining the underlying characteristics, including skills, knowledge and personality traits.	Is based on analysis of business strategy and approach to human resource management in the company.	Is based on linking cognitive processes (knowledge) with the processes of motivation (to learn).	Integrate all aspects of people that may affect job performance: knowledge, skills and experiences.
Types of competence	Considers 3 main types of competences: basic, general and specific of each profession or job.	Consider the following main competences: the ability to motivation, self esteem, knowledge and skills to perform a specific physical or mental task.	Consider generic and applicable competences to a wide range of circumstances and different jobs. Each person brings a number of competences to the organization.	Consider the competences from the taxonomy of thinking skills: • knowledge • understanding • application • analysis • synthesis • assessment	Consider the skills from three dimensions: technical, contextual and behavioral competences transferable and specific to the organization.
Main authors	(Taylor, 1911 (1980)), (Fayol, 1916 (1980)), (Frank, 1991), (QUALIFICATIONS AND CURRICULUM AUTHORITY) (Wilkins, 2002). (Shackleton & Walsh, 1995) (Thompson & Harrison, 2000) (Foss, 2003)	(Weinert, 2004), (McClelland & Boyatzis, 1980), (Boyatzis, 1982), (Spencer & Spencer, 1993), (Vossio, 2002), (Scans, 1992).	(Cameron & Neal, 2001), (Prahalad & Hamel, 1990). (Amabile, 1998), (Lawler, 1994), (Bergenhenegouwen, Horn, & Mooijman, 1996)	(Bloom, 1956) (Foss, 2003) (Amabile, 1998) (Duysters, 2000):	(Delemare & Winterton, 2001) (Cheetham & Chivers, 1998) (Bergenhenegouwen, Horn, & Mooijman, 1996) (Delemare & Winterton, 2001) (Schneckenberg & Wildt, 2006) (Schon, 1987) (Cheetham & Chivers, 1996) IPMA, (2006)

Source: From bibliography review

1.3. Certification

As defined by the UNE-EN 45020, certification is the process by which a third party gives written assurance that a product, process or service conforms to specified requirements. We note that the same involves three distinct parts: first, the body preparing the technical standards that determine the specific requirements of the certification basis, secondly, the entity issuing the document demonstrating compliance with these standards and thirdly, the certified entity.

1.4. Competence Certification

Schokolnik, Araos & Machado (2005, p. 17), define it as public recognition, documented, formal and updated work of the work ability shown by a worker based on the evaluation of their competences in relation to a standard and without necessarily being subject to the completion of an educational process.

At international level (Salganik, Rychen, Moser, & Konstant, 1999), this instrument has been positioned as a tool for social validation and credibility of the actual competences of professionals to respond to a job or a set of tasks (Schkolnik, Araos, & Machado, 2005, p. 64). It therefore represents a verification of the employability of a worker

1.5. Qualification and certification systems

In this approach, two different concepts are currently used interchangeably in discussions on employment and training, and it could lead to confusion at the time to evaluate it as a tool for employability. On one side is the **labor certification** through **qualification** and on the other hand, the **certification of professional competence** through **certification systems** (OCDE, 2007, pp. 25, 28, 237); the latter is the key issue of this communication. Both systems send a "certificate" but their processes, goals, structures, elements of competition and potential users are different.

Qualifications systems include all activities of a country that lead to the recognition of training or learning: design and operation of national-and regional policies related to qualifications, institutional arrangements, processes, quality assurance, assessment processes and accreditation, recognition of skills and any other mechanism to link the educational / training with the labor market and civil society. (OCDE, 2007, p. 208).

A certification system is a set of procedures and resources to carry out the process of certification under the certification scheme, resulting from the issue of a certificate of competence, including maintenance. The certification scheme is the specific certification requirements related to specified categories that apply the same rules and special rules and the same procedures. (ISO/EIC 17024, 2003, p. 9)

The main features of both systems are shown in chart 3. However, we note the **difference** between the systems: In the case of the qualification systems, training (i.e. formal, informal, work experience) is the path which leads to the certification being processes to be integrated and linked. In systems of certification, on the other hand, the training is completely separate from the certification process, and the training plus the professional experience are required for an independent third party to state that an individual possesses certain knowledge and skills evaluated under a standard or international standard.

Chart 3. Certification and Qualification. Main Features

Feature	Systems of qualification	System of certification
Relationship of the process of formation	Linked to a process of training or work experience. Training, recognition and accreditation of competences are the way to achieve the qualification	The formation is independent of the way to achieve certification, providing a background with work experience to start the certification.
Recognition	Knowledge and competences acquired through formal processes, non-formal and work experience.	Acquired Competences through process of formation and professional experience.
Accredited Certificate	The accreditation of qualifications is regulated by systems managed by the public sector through registered institutions.	The accreditation of certification is done by third independent and professional associations.
Accreditation of knowledge and skills	Through corresponding formation and validation.	By a third party.
Management of system	**Partner public Organizations linked to** Ministries of Labour and/or Education.	**Certification of people entities**, accredited by ISO/IEC 17024
Validity	Permanent.	Temporary (variable according to certificate).
Compulsory	Obligatory. Minimum requirement to get a post of work.	Voluntary and complementary to professional development.
Access	To all individuals, not taking into account background.	Professionals with specific formation according to each professional certification.

Source: From bibliography review

2. Methodology for characterizing professional certification

The methodological approach to research introduces the participation of the person interested and actors in the systems and certification processes for competences, so that the criteria and experiences of affected groups are part of the analysis performed (Cazorla & Friedmann, 1995).

It aims to ensure that all participants benefit with assessment efforts and improved links. The objectives of this process of participation are:

- Taking advantage of the contributions, being an important source of **information** which has as its primary aim to utilize the information contained in the knowledge and experience of those who participate or have participated in the certification systems and models of competence (De los Ríos, Alier, & Yagüe, 2003).

- Promoting **learning** among agents, that has to lead to more advanced practices of the results to identify best practices and lessons more interesting so as to have guidance for possible measures to improve employability in the region of Madrid (De los Ríos, 2002).

- Achieving greater **involvement** of people and improving the links between actors, with the participation an important source of dynamism (Cazorla, De los Ríos, & Salvo, 2004).

The process followed to go with from theoretical to measurable concepts rates (Harvey & Macdonald, 1993) were as follows:

1. Define theoretical concepts.

2. Develop dimensions that cover the meaning of the concept.

3. Identify a set of indicators for each dimension.

4. Select one or more indicators for each dimension.

5. Designing instruments to collect information on each indicator.

6. Decide whether to have a multidimensional set of indicators, a set of indices or a unique index and, where appropriate, combining indicators into an index.

2.1. Initial considerations

Chart 4 **shows the initial considerations of the investigation.**

Chart 4. Initial considerations of research

Factor	Initial Considerations
Study Scope	It focuses on the review and the analysis of associated professional certification of workers that seek **public recognition of their competences and job skills**, without being subject to the completion of additional educational process.
Scope	Only certification bodies that are currently active in the region of Madrid have been considered.
Reasons of scope	1. **Internationally recognized**. 2. Accredited by the Entidad Nacional de Acreditación (ENAC), according to the applicable ISO 17024 international reference norm.
Period of analysis	Between the years 2000 and 2008, being enough to validate the comparative evolution of the data and to establish an analysis about the scope of the results in the long term.
Information sources	Analysis of the international literature, defining a secondary **data base consisting of information already generated** other existing studies, official publications, statistical databases, scientific literature and international experiences in relation to professional skills and certification. Quantitative analysis from available statistics. Qualitative analysis that looks at subjective aspects of the participatory process through interviews and surveys that constitute the **primary basis**, consisting of information and **empirical knowledge based on experience and perception of the protagonists**.
Validation of the information	Contrasted and compared, relating the quantitative and qualitative information

Source: From bibliography review

2.2. Indicators

To characterize models thirteen indicators have been defined from the literature review and participatory process in order to compare and analyze, these are defined below

Chart 5. Indicator

Indicator	Initial considerations

1) Scope of model	Implementation level:
	    1: National
	    2: International

2) Certification of model	Allows to differentiate the models in accordance with the validation processes that has been overcome:
	    1: No certified by any norm
	    2: Certificate of the ISO 9001 norm
	    3: Accredited by ENAC in ISO 17024
	    4: Certified in ISO 9001 norm and in ISO 17024

3) Guidance for its use (restrictions)	Describe whether the model of certification is voluntary or related to perform a specific job:
	    1: Voluntary
	    2: Required for some profiles

Indicator	Initial considerations
4) Guidance for its use: areas of activity of the professionals	Characterize the areas of the activity of the professionals: 1: Specific professional for testing and welding. 2: Professionals related to specific quality systems, environment, risk prevention and food safety. 3: Executives who deal with human resources professionals in any organization 4: Project Managers and professionals in any organization
5) Competences certified	Differentiates the nature of the competence elements that are considered in each model: 1: Only certify technical - professional expertise 2: Only personal competences 3: personal and professional competences (technical and contextual
6) Levels of Certification	Differentiates the models according to levels of certification: 1: It does not establish levels of certification depending on the competences of candidates 2: It sets 2 levels of certification depending on the competence of candidates 3: It sets 3 or more levels of certification depending on the competence of candidates
7) Requirements of the model: professional training	It establishes the levels of experience requested to enter the certification process: 1: No professional experience required for any certification 2: A minimum of years of experience for some levels and lower levels is not mandatory 3: Experience is required for all certifications
8) Certification process: related training	Sets the initial training requirement: 1: No specific training is required 2: It requires training (technical training related to the area of performance or higher education)
9) Certification process: related training	Differentiates certification processes that involve a related training. 1: Includes a training program (associated with certification) 2: Does not include a training program. The formation is independent of the certification process
10) Certification process: System of evaluation	Differentiates assessment systems that are made: 1: Only in written test (knowledge test) 2: written and oral assessment (personal interview with the evaluators)
11) Certification process: self - assessment	Sets whether the tool is considered as self-assessment methodology one: 1: Does not include self-assessment of competences by the candidate 2: Includes a self assessment of competences by the candidate
12) Evolution of the number of certificates	Models characterized according to changes in the number of certified individuals: 1: Increasing 2: Decreasing
13) Main theoretical basis for model orientation	Define the theoretical basis that supports each model: 1: Based on the workplace 2: Based on theories of behavior 3: Based on company strategy 4: Based on theories of knowledge (cognitive) 5: Based on a holistic approach

Source: From bibliographical review

2.3. Characterization of the models

The eight models of professional competences certification seen in the Community of Madrid (Spain) are summarized according to their characteristics and technical details.

CERPER · European Organization for Quality (EOQ)

The European Organization for Quality was created in 1956 as an autonomous, non-profitable and interdisciplinary association ion that searches for effective improvements in the field of quality management, risk prevention, food security and innovation in management.

It currently has 32 national associations, manages 13 certifications and is represented by the Spanish Association for Quality and CERPER entity.

The statistics available through 2008 show that Europe has more 60,000 certifications and 4,302 in Spain.

Chart 6: CERPER Certification model (Spanish Association for Quality)

CERPER (AEC)	
Scope	National (Spain).
Accreditation	Accredited by **ENAC** No. 02/C-PE002.
Objectives	Certification in Spain under **EOQ** model.
	It is aimed at ensuring competence and expertise of professionals available to market professionals, backed by an accredited body.
Competences that Certifies	Technical competences in the areas of:
	Quality
	Environment
	Innovation
	Food Safety
Professionals Profile Requirements	The profiles vary according to the performance areas in which they can certify.
	TITLE: Copy of title, certificate of studies or certificate of curriculum.
	PROFESSIONAL EXPERIENCE: Certified or curriculum certified by the company or companies you have worked or collaborated with.
	SPECIFIC TRAINING: Diplomas or certificates showing attendance at courses accredited by the certifying body.
Process of Certification	Documentation, evaluation, written exam, interview and registration.

Source: From information available in web and interview.

CERTIAEND: Asociación Española de Ensayos no Destructivos

This association (AEND) created in 1988, is a private, non-profitable association that group persons related to non-destructive testing.

Its main objective is the promotion and implementation of management techniques and the improvement of non-destructive testing in the industries and services in the private and public sectors.

Chart 7. CERTIAEND Certification Model

CERTIAEND (AEND)	
Scope	National (Spain).
Accreditation	Accredited by **ENAC** No. 01/C-PE001.
Objectives	Some of its primary objectives:
	To promote professional development and continuing education of its members in the field of NDT.

CERTIAEND (AEND)

	To certify NDT staff through its **CERTIAEND** certification body.
Competences that Certifies	Technical and Behavioral Competences.
Professionals Profile	The own nature of the testing makes the operator be part of the same testing taking into account its expertise.
Types and levels of certification	Issues certificates according to the method, all accredited by **ENAC**: (UT) Ultrasound. (RT) Radiological (Industrial Radiology). MT) Magnetic Particle. (PT) Penetrating liquids. (ET) Induced Current. (LT) Leak Testing - hydraulic testing excluded. (VT) Visual Inspection. A certified person must be classified into one of three levels A, B and C.
Requirements	Documentation of compliance with training requirements, experience and vision (i.e. eye test) whose standards vary according to the method and level.
Process of Certification	Presentation of the Request for Certification and Level Method. Qualification Examination: general, specific and practical. Issuance of Certificate.

Source: From information available in web and interview

CESOL: Asociación Española de Soldaduras y Tecnologías de Unión.

Their certifications are part of the international and national standards governing in the processes of assessment and certification (UNE EN 287, BS EN ISO9606-2, UNE 14 618).

The mandatory nature of this certification applies not only to individuals, as a guarantee and requirement for its activity, but also at regional level and at the community level for companies that are required to hire a percentage of professionals who must demonstrate accreditation to approve the development of a project.

Chart 8: CESOL Certification Model

CESOL

Scope	International.
Accreditation	Accredited by **ENAC** No. 04/C-PE004.
Objectives	Certify the knowledge of experts in welding technology at the European and International level.
Competences that Certifies	Technical Competences for: Inspectors of welding work. Qualification of welders.
Professionals Profile	Persons responsible for the inspection of welded construction with a minimum certification of primary and secondary schools
Types and levels of certification	Inspectors of welded constructions. Qualification of Welders: Welders for Fusion Welding of steels and Welders for Fusion Welding of Aluminum and its alloys
Requirements	For Inspector of Welded Constructions: General Basic Education, or at least similar. Show proof of the minimum experience required, the time devoted to inspection of materials, parts or welding work. Original medical certificate. For qualification of welders: Experience in welding. Level of education according to the specialization required: Engineering

CESOL

	degree or Technical Degree in Physics or Chemistry, Technical Metal-Mechanical.
	Minimum ages according to required expertise.
Process of Certification	Certification request.
	Documents: Resumé, proof of work experience.
	Test.
	Certification.

Source: From information available in web and interview.

ASESCO: Asociación Española Coaching.

The Spanish Coaching Association - Asociación Española de Coaching (ASESCO)-appeared in 2000 with the objective of gathering the professional coaches and spread this technique. They currently have certification processes of Associate Coach. They are to evaluate if the professional meets the professional training requirements and competences to perform this activity.
In ASESCO there were 137 associates in 2008 of which 80% were certified.

Chart 9: ASESCO Model of Certification

Asociación Española de Coaching (ASESCO)

Scope	National (Spain).
Accreditation	Certified according to Norm **ISO** 9001.
Objectives	The main objectives of coaching are:
	Expand the use and promote this discipline that seeks to promote the development of people from their current situation and the desired situation.
Competences that Certifies	Personal and professional competences.
Professionals	Executives and professionals of any organization.
Profile	Students, managers, psychologists, therapists, coaches, people who engage in cooperation, NGO members, teachers, professors, political leaders, managers, etc.
Types and levels of certification	A certificate is issued by the associate coach.
Requirements	Program that combines classroom training, virtual classroom and campus support in work modules.
Process of Certification	Accomplish a training program accredited by ASESCO or make a request for the method of accreditation of curriculum for professionals who already play the role of coach.

Source: From information available in the web.

IPMA: International Project Management Association.

The International Project Management Institute, appeared in 1965 as a nonprofit organization whose role is to promote project management at international level through its network of members of national associations existing in 53 countries worldwide, it has more than 500,000 IPMA members and 110,081 are certified according to the Certification (2010).
In Spain, the National Association IPMA is AEIPRO MA, certified by an independent body, the ENAC OCDP which started operations in 1992.
The IPMA certification model is validated internally by the Management Board Certification Validation (CVMB) on the requirements of the certification scheme defined by the IPMA Certification Regulations and Guidelines (ICRG v3) which guarantees the rigor, independence, impartiality and equality of all levels certification in all countries with IPMA certification bodies.

Chart 10: International Project Management Association IPMA Certification Model.

	IPMA
Scope	**IPMA** at international level. **AEIPRO** institution that certifies in Spain.
Accreditation	Accredited by **ENAC** No 8/C-PE 11.
Objectives	To certify in Project Management.
Competences that Certifies	The process of certification validates the competence of individuals regarding knowledge, experience and attitude towards Project management. The Project Management Direction has three areas with 46 elements of competence that deal with: Technical Elements of Project Direction (20). Professional Behavior in the Direction of Projects (15). Elements related to the context of the project (11).
Professionals Profile	Directors of Projects in any area.
Types and levels of certification	The IPMA model establishes 4 levels of certification according to the function of the competence of each candidate. Level A: Director of Project Program **(DPP).** Level B: Director of Projects **(DP)**. Level C: Professional in the management of Projects **(PDP)**. Level D: Technician in the management of projects **(TDP)**.
Requirements	Requirements depend on the level to be certified: Level A: 5 years experience in portfolio management, program management or multi-project management, of which 3 years were in leadership roles with responsibility for portfolio management or the direction of important programs. Level B: Minimum 5 years experience in Project Management, of which 3 were in leadership roles in complex projects. Level C: Minimum 3 years experience in Project Management. Leadership projects limited complexity. Level D: You need to have conceptual knowledge of the elements of competition. No experience is required. Self-assessment.
Process of Certification	The certification process depends on the level to be certified: Levels A and B: Registration and Application, Self Assessment, Résumé, List of Projects, References, Interview. Level C: Registration and Application, Self Assessment, Curriculum Vitae, List of Projects, References. Report Workshop, Review, Interview. Level D: Entry and Application, Résumé, exam.

Source: From information available in the web.

PMI: Project Management Institute

The Project Management Institute (PMI) is based in the United States and appeared in 1969 and was founded by professional of the project management field. It currently has approximately 294,000 members and certified professionals in over 70 countries.

The issuing of certificates is done directly through PROMETRIC, a global provider of this evaluation, which manages the certification.

In Spain, PMI has local representatives called "chapters" in Madrid, Barcelona and Valencia currently have 432, 140 and 35 members (May 2009). According to estimates from secondary sources in 2008 it registered 294,413 members worldwide.

Chart 11: PMI Project Management Institute Certification Model

	PMI
Scope	**PMI** is an International model that is carried out at national level through local chapters.

PMI	
Accreditation	Only SQ Certification against **ISO9001**.
Objectives	To Promote Project management.
	To share international experience.
	To develop human resource quality for Project management.
	To share knowledge for recognition of profession and for consolidating international standards.
	International Certification of professionals in projects.
Competences that Certifies	Technical and organizational competences in Project management.
Professionals Profile	Professionals interested in Project Management as professional area.
Types and levels of certification	PMP (Project Management Professional).
	CAPM (Certified Associate in Project Management).
	PgMP (Program Management Professional).
Requirements	Educational background (certifications and diplomas).
	Professional Experience (Verified and references).
	Studies in Project Management (Certificate of attendance).
	Multiple choice test that considers the following fields: Home, Planning, Implementation, Monitoring, Control, Closure and Social and Professional Responsibility.
Process of Certification	Exam request
	Validation of data.
	Exam of knowledge.
	Certification when candidate passes the exam.

Source: From information available in the web.

PEOPLE CMM: People Capability Maturity Model

People Capability Maturity Model (People CMM) was developed in the Engineering Institute Software, Carnegie Mellon University (Pennsylvania, USA) in 1995. This research and development center is mainly engaged in software engineering for organizational and productive development. And it looks for the improvement in human resource management.

The model includes advanced practice to define sustainable practices that improve the ability of the team and increase the effectiveness of the company.

This model has been implemented in many companies in the world and in Spain. Testimonies are available from companies such as Diamond Tool, Hotel Hesperia, Viventi Business Group, among others, that demonstrate the high degree of satisfaction with the implementation of this tool.

Chart 12: PEOPLE Capability Maturity Model Certification Model

PEOPLE CMM	
Scope	International.
Accreditation	No certification and accreditation.
Objectives	To help organizations develop their workers, and address the issues critical to their staff.
	To improve their processes for managing and developing the skills of their employees.
Competences that Certifies	Competences of behavior and of context.
	Development of organizational competences.
Professionals Profile	Organizations interested in applying the model of the capacity evolution PEOPLE CMM to improve and enhance their organizational management.
Types and levels of certification	It has five maturity levels (initial, managed, defined, predictable and optimization) and 22 process areas.
Requirements	Make a SCAMPI assessment through a SCAMPI Certifier-leader ("SCAMPI Lead Appraiser").
Process of Certification	Quality assessments in relation to the phases of the model and the implementation of tools to evolve into more complex organizational stages.

Source: From information available in web.

SEDIGAS: Asociación Española del Gas.
SEDIGAS appeared in 1970 as an initiative of all gas distribution companies in Spain in response to the need for a safety seal of approval on the performance of those who develop this activity, as well as for users of gas installations.
Its certification is protected under a national standard.

Chart 13. SEDIGAS Certification Model.

	SEDIGAS
Scope	National (Spain).
Accreditation	Accredited by **ENAC** No. 05/C-PE006.
Objectives	To ensure and validate individual competences related to technical staff associated with the gas industry. It focuses on the development of learning processes associated with this activity.
Competences that Certifies	Technical competences associated with maintenance facilities and associated gas.
Professionals Profile	Professionals, technicians related to the gas and welding industry in polyethylene gas distribution networks or receiving facility.
Types and levels of certification	There are different certification profiles
Requirements	For the certification of welder of polyethylene:
	To possess Spanish nationality or any EU country.
	To have at least the title of first-degree vocation or intermediate vocational training, or the instrument authorized gas fitter or IG IG-II-B, or equivalent training in Spain or another European Union country, presenting justification recognition of equivalence.
	The applicant must provide proof of attendance at a training course polyethylene.
Process of Certification	To show certification request. Management and Analysis requests. Evaluation process: Theory and practical Exam. Certification.

Source: From information available in the web.

2.4. Implementation of the methodology

From the thirteen predefined indicators that were applied to the eight models of professional competences certification with a presence in the Community of Madrid (Spain).
Chart 14 shows the characterization of these eight models worked for this communication.

Chart 14: Characterization of the Certification of People Models.

	MODELS OF CERTIFICATION							
	Voluntary					Mandatory		
Indicators for the characterization of models	CERPER	IPMA	PMI	People CMM	ASESCO	CESOL	SEDIGAS	CERTIAEND
Model Range	2	2	2	2	2	1	1	1
Accreditation model	3	3	2	1	1	4	4	4
Vocational guidance: voluntary	1	1	1	1	1	2	2	2
Vocational guidance: areas of activity	2	4	4	3	3	1	1	1
Competences that certifies	1	3	1	3	2	1	1	1

Indicators for the characterization of models	MODELS OF CERTIFICATION							
	Voluntary					Mandatory		
	CERPER	IPMA	PMI	People CMM	ASESCO	CESOL	SEDIGAS	CERTIAEND
Certification level	3	3	3	3	2	2	2	2
Model requirements: professional experience	2	2	2	2	3	1	1	1
Model requirements: training required	2	2	2	2	2	1	1	2
Certification process: training partner	1	2	1	1	1	1	1	1
Certification process: Assessment system	1	2	1	2	2	1	1	1
Certification process: self-evaluation	1	2	1	1	1	1	1	1
Evolution of the number of certificates	1	1	1	1	1	1	1	1
Main theoretical model	4	5	3	3	2	1	1	1

Source: GESPLAN Teamwork, based on the review of each model.

CONCLUSIONS.

1. The experts of the business world see the certification of competences as a complement not mandatory that adds value to the professional who is working or looking for a job. However, they argue that if there is a diffusion of the benefits and usefulness of certification, this could be a tool that would improve the employability of people.

2. The results show that the lacks of experience and of competences training are the main cause of dissatisfaction for employees and potential employees. Professional groups with a higher level of education (managerial, technical and scientific professionals) are those that best meet the expectations of companies than those who by nature of its activities require less training. This idea reinforces the need for instruments such as certification of professional competences that ensure the levels of knowledge and skills of professionals and become a useful tool in the management of human resources of a company or organization.

3. As regards the advantages highlighted in the business world, the high average rating of the elements of competition shows that even when not aware of the assessment and certification processes, these elements are considered indirectly in the management. With this background and appropriate promotion of these systems they could lead to certification in this field will be consolidated as a tool for ensuring knowledge and skills of professionals in different areas of certification.

4. As regards the characterization, it also shows that the use of competences certification can be summarized in three areas: updating, quality assurance and human resource competences managements. The update relates to the existing need to keep up in terms of skills and knowledge allowing the employment profile of an individual to more flexible to changes in the employment context. This update occurs both when preparing and proceeding with a certificate and in the process of renewal of licenses.

5. As for the quality assurance certificates provide a seal that allows the employer to recognize the competence of a professional certified by an independent third party. The models analyzed in this work, have the additional value that the processes of assessment and certification systems are based on internationally recognition, so that those who opt for these certifications can increase their capacity to labor mobility and access to new job opportunities.

6. The human resource competence management, the most recent certification applications, adds

value to this instrument as the details of the competence assessment allows managers to meet fully its available resources and in this way allows mobilize effectively for the achievement of organizational goals.

7. The consolidation of these models in the long term is evident in the number of certifications and re-certifications of the models (both internationally and specifically in Spain), which added to the characterization demonstrates the importance that they have acquired "competence" as elements associated with the development of an activity in a "competent", in addition to the base of theoretical knowledge and professional experience as key elements for the professional development of individuals.

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