Distinguished Keynote Paper:
e-Learning and e-Assessment for EFQM

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ABSTRACT

The concept of e-Learning is not new, but gained increased relevance in the last decade and a half, as a response to the need to enhance professional competencies to face the challenges posed by an increasing globalized world and VUCA environment, supported by huge technology development and change in habits of work and life. In respond to this globalized and VUCA playground, integrative, holistic, and at the same time flexible, management models are required to establish a solid management framework, within which the knowledge and wisdom of managers could be canalised to design and implement effective strategies, and achieve in a sustainable way the set objectives. Beyond the fads of models, methodologies and management tools, internationally recognized business excellence models such as the EFQM Excellence Model bring out numerous benefits to organizations for sustainable development. This conceptual paper tries to provide insights to the research question: What role can play e-Learning and e-Assessment for the implementation of the EFQM Excellence Model. E-Learning provides an opportunity for several academic and non-academic institutions over the world to engage in e-Training/e-Learning to promote and expand the application of the EFQM Excellence Model, incorporating the specifics of the local culture while also considering cultural global awareness.

Keywords: Complexity, E-Assessment, EFQM, E-Learning, Excellence, TQM, VUCA.

1.   Introduction

The world is changing ever more rapidly. The interdependencies between organisations, communities, stakeholders, countries and economies are strengthening, in an environment of increasing volatility, uncertainty, complexity and ambiguity (VUCA). In order to be competitive in this context, organisations and professionals need to be highly competitive.

At the organisational level, organisations need to have a wise strategy, be able to implement it in a highly effective way and to continually innovate and improve. Regardless of sector, size, structure or maturity, organisations need to use an appropriate management framework to achieve competitiveness. They need to understand, balance and effectively manage the environment, the needs and expectations of their stakeholders, and the interrelations among all factors and actors. That is what a management model does, as a framework that describes the "rationale" of how an organisation creates, delivers and captures value for all its stakeholders, used to understand and manage an organisation (López-Fresno and Fernández-González, 2017). Total Quality Management (TQM) and Business Excellence (BE) Models have been the most popular approaches in the past two decades. TQM is an approach to management, embracing both social and technical dimensions, aimed at achieving excellent results; it needs to be put into practice through specific frameworks. A BE Model is a model that strives for excellence in all processes and systems, considering that excellent organisations achieve and sustain outstanding levels of performance that meet or exceed the expectations of all their stakeholders. BE models, such as the Malcolm Baldrige National Quality Award (MBNQA), the Deming Prize and the European Foundation for Quality Management (EFQM) Excellence Model, are used as a guide to TQM implementation by a large number of organizations. More than 80 national and state/regional awards base their frameworks upon the EFQM or the MBNQA criteria (Mann, 2011).

The advantages of using internationally recognised management models to guide the organisation towards BE are out of doubt. In a highly competitive environment, managers need proven valid, integrative and holistic management models. They need robust and, at the same, time flexible models, as frameworks that provide a common language for the people within and out the organisations, to set direction and effectively share and canalise their knowledge and experience to achieve the set objectives, and do it in a sustainable way.

At the professional level, the globalized and VUCA environment demands for highly qualified professionals, who have the required knowledge and skills. Thus, continuous learning and skills development are real needs in the XXI century to be competitive. But time constraints and change in habits and paradigms of life demand for more flexible, diverse, global and cost-effective ways of learning. E-Learning plays a critical role to face these demands, facilitated for the huge development in technology that happened in the last few decades.

2.   The EFQM Excellence Model and its implementation process

2.1   The EFQM Excellence Model

The European Foundation for Quality Management (EFQM) was founded in Europe in 1989, aimed to inspire and help organisations to achieve sustainable excellence by engaging leaders to learn, share and innovate using the EFQM Excellence Model (EFQM, 2017). The EFQM recognises and promote sustainable success and provides guidance to those seeking to achieve it.

The EFQM Excellence Model is the most extensively used BE model in Europe, applied by more than 30.000 organisations in Europe (EFQM, 2017) and many more all over the world. It was launched in 1991, and first used to support the assessment of organisations for the European Quality Award in 1992. Since then, the EFQM Excellence Model is not only the basis for applying for the European Quality Award or any EFQM scheme of recognition, but a robust BE model that can be used as a practical management framework by any organisation, regardless of size, sector or maturity, to help them to be competitive and increasingly gaining in competitiveness. The Model reflects the premises and the set of QM constructs most frequently used in the literature (Bou-Llusar et al., 2009; Corredor and Goñi, 2011). Consequently, it can be analysed from the perspective of the broader TQM literature, as an operational framework for TQM (López-Fresno & Fernández-González, 2017).

As a model, the EFQM Excellence Model allows to understand the cause and effect relationships between what an organisation does, named the "Enablers", and the "Results" it achieves, in line with its strategic goals. So, the model assumes a causal relationship between Enablers and Results, since it is based on the premise that excellent Results for key stakeholders are achieved through excellence in Enablers. Based on the understanding that for achieving sustained success, organisations need strong leadership and clear strategic direction, and they need to develop and improve in people, partnerships and processes to deliver value-adding products and services to their customers and other stakeholders. If the right approaches are effectively implemented, they will achieve the results they, and their stakeholders, expect, and will do it in a sustainable way.

The EFQM Model comprises a set of three integrated components:
- *The Fundamental Concepts of Excellence:* they are the underlying principles, the essential foundation for achieving sustainable excellence in any organisation. They can be used as the basis to describe the attributes of an excellent organisational culture. They also serve as a common language for top management. There are 8 fundamental concepts, represented in Figure 1.
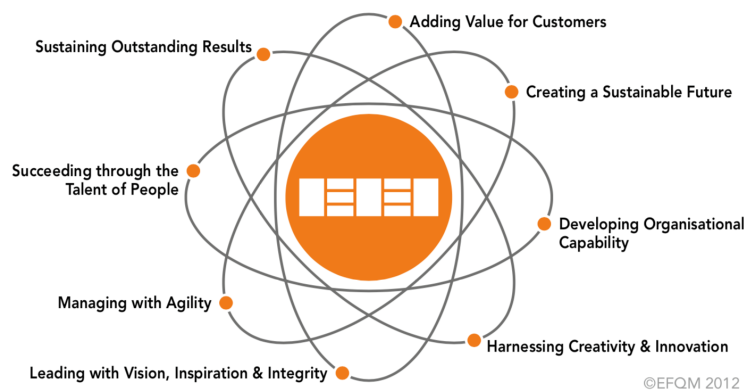

Figure 1. The Fundamental Concepts of Excellence. Source: EFQM.

▪ *The Criteria*: it is the framework to help organisations to convert the Fundamental Concepts and RADAR thinking into practice, represented in Figure 2.
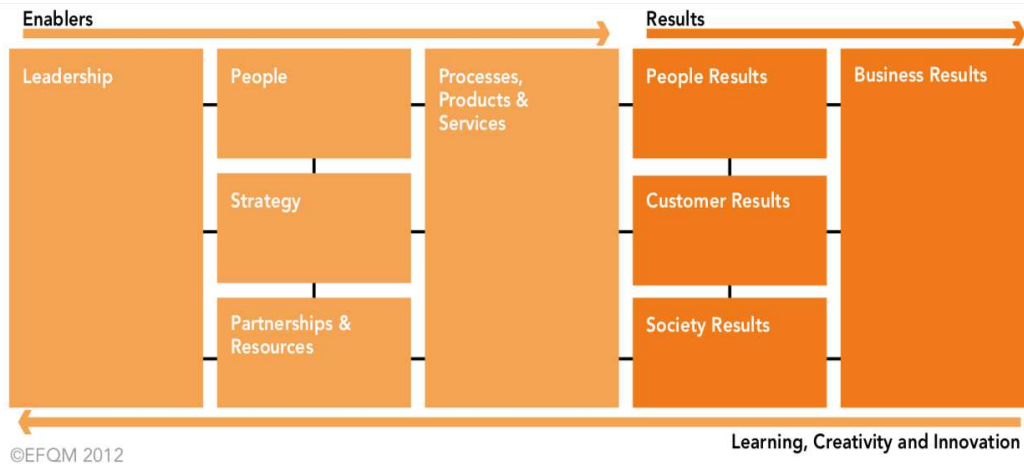

Figure 2. The Criteria (usually known as the "EFQM Model"). Source: EFQM.

▪ *The RADAR (Results – Approaches – Deploy – Assess & Refine)*: it is a dynamic assessment framework and a management tool, that supports the scoring mechanism behind the EFQM Excellence Model (see Figure 3) and provides a structured approach to assess the performance of an organisation.
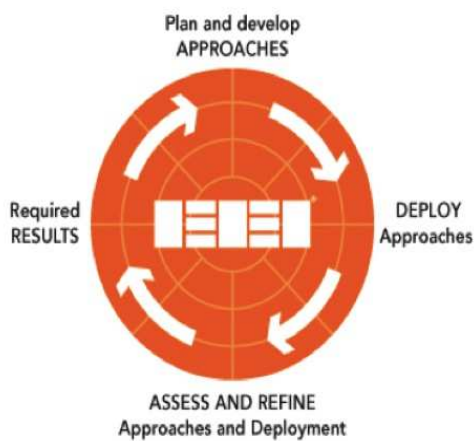

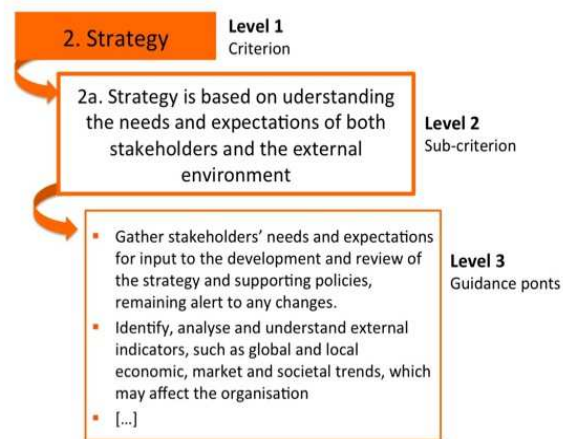Figure 3. The RADAR. Source: EFQM.

Figure 4. Hierarchical structure of the EFQM Excellence Model for the Criteria. Source: own elaboration

Using these three integrated components, organisations can develop a culture of excellence; bring consistency to their management style; compare themselves with the attributes, qualities and achievements of sustainable organisations and with best-in-class; identify and implement best practices; drive innovation; and improve their results. Used appropriately, the EFQM Excellence Model, with the associated RADAR logic and Fundamental Concepts, ensures that all management practices used by an organisation form a coherent system that is continually improved and delivers the intended strategy for the organisation (López-Fresno and Fernández-González, 2017).

The commonly named as "the EFQM Model" (the Criteria) is one component of the three integrated components above explained. It is a non-prescriptive framework based on nine criteria (Figure 2). Five of these are named as Enablers - Leadership; People; Strategy; Partnership & Resources; Processes, products & Services - and four are named as Results - People results; Customer results; Society results; Business results -. The Enabler criteria cover what an organisation does and how it does it. The Results criteria cover what an organisation achieves (EFQM, 2013). Each criterion encompasses several sub-criteria, thus leading to a total of 32 sub-criteria. Criteria weighs the total of 1000 points, 500 for the Enablers, 500 for the Results (100 points each criterion, except for Customer Results and Business Results, that account for 150 points each). In Figure 2, the arrows emphasise the dynamic nature of the Model, showing learning, creativity and innovation, helping to improve the Enablers that in turn lead to improved Results. Enablers excellence can be interpreted as the overall approach that organizations adopt when they implement best practices within the EFQM Excellence Model, which should be reflected in the score achieved in each of the Enablers criterion. In turn, Results excellence encompasses the satisfaction of stakeholders' needs and expectations, and should be reflected in the scores achieved in each Results criterion. Different levels of excellence can be established depending on how organizations score in the Enablers and the Results criteria.

The EFQM Excellence Model is reviewed and updated periodically, based on the learning, experience and insight of leading organisations, with the aim to align the framework with current business needs and trends. The current version is from 2013.

2.2   Benefits and practicalities in using the EFQM Excellence Model

To date, thousands of European and non-European organisations use the EFQM Excellence Model as a framework for their organisational development, and much academic research have been done in the area of the implementation of the Model. Also, many articles and books have been published as trade literature, based on practitioners' experience.

Some scholars (e.g. Bou-Llusar et al., 2009, Calvo et al., 2014; Eskildsen, Kristensen and Juhl, 2001) highlighted the complex structure in the EFQM criteria, where changes in one element can be related to changes in other elements, thus implying interdependence between components. But interdependence is one of the main strengths of the EFQM Excellence Model, as a robust framework to manage organisations in the highly competitive and complex environment, where the interdependencies between organisations, communities, stakeholders, countries and economies are strengthening and increasing in complexity. However, to be familiar with the structure of a BE Model, and knowledgeable enough to contribute to its implementation, there is a need to receive specific training, no doubt, and the organisation should have a certain level of maturity regarding its management system and management practices. Other researchers have focused on the benefits, and indicated that organisations implementing TQM/BE models will obtain significant benefits, both increased financial profit (see for e.g. Boulter, Bendell and Dahlgaard, 2013; Hansson & Eriksson, 2002; Hausner, 1999; Hendricks and Singhal, 1996, 2000; Jacob, Madu and Tang, 2004) and non-financial outcomes (Curkovic et al., 2000; Douglas and Judge, 2001; GAO, 1991; Heras, Arana and Casadesús, 2006; Hoisington and Huang, 2000; Powell, 1995).

In the research conducted by Boulter, Bendell and Dahlgaard (2013) on the financial impacts of implementing TQM and BE models, they found that award-winning companies experienced a further 8% mean increase in sales revenues one year after the award, which raised to 17% 3 years after the award, and 77% 5 years after the award. The award-winning companies showed further a higher mean increase of 18% in operating income, 40% in total assets and a 4.4% further reduction in cost over sales, 5 years after the award (Boulter, Bendell and Dahlgaard, 2013, cited by Doeleman, Have and Ahaus, 2014). Thus, research shows that BE models and strategies contribute to business performance through increased sales, and also through reduced cost and process efficiency, leading to higher productivity.

However, not all findings in the academic literature are positive. Some research results indicate that the use of BE model does not guarantee success (Fisher, Dauterive and Barfield, 2001; Jennings and Beaver, 1997; Powell, 1995; Stephens, Evans and Matthews, 2005). Of course not. There is not any "magic" recipe to be successful in business. But a wide range of models, methodologies, techniques and tools, which appropriateness should be identified *ad-hoc* for each organisation, considering that its needs vary over time, and implemented also *ad-hoc* for that specific organisation. Global models, such as the EFQM

Excellence Model, provide an integrative and holistic framework to manage an organisation towards excellence, to help it be competitive in a sustainable way. Many factors contribute to failing in TQM or BE Models implementation. The academic literature has identified a wide range of barriers, which also may explain the variation/inconsistencies in results obtained from research. These barriers are, among others: lack of top management commitment, limited resources, fear of change, work overload, lack of comprehensive training, lack of staff involvement, organisational culture, and companies' degree of quality maturity (Corbett and Angell, 2011; Dahlgaard-Park, 2008; Doeleman, Have and Ahaus, 2014, Sternad, Krenn and Schmid, 2017). Based on the experience of the author as Director in several organisations, and as trainer and assessor ("examiner") of more than 40 organisations using the EFQM Excellence Model, the critical success factors (CSF) that should be considered could be summarised in main three: i) Commitment; ii) Resources; iii) Culture. These three factors were identified by Laszlo (1999) for Quality Management programs, and they become even more important when referred to the implementation of a BE Model.

It is important to understand that the EFQM Excellence Model is a flexible model for adaptation, and all the criteria and their interrelationships should be fully understood and applied in daily basis. That leads again to the need of proper training to fully understand the Model and to have the appropriate knowledge and skills to implement it. Docherty, Forslin and Shani (2002) pointed out that sustainability encompasses three levels: the individual, the organisational and the societal. Sustainability on one level cannot be built on the exploitation of the others. An organisation cannot be sustainable by prioritising the goals and needs of some stakeholders at the expense of others. The EFQM Excellence Model helps organisations to manage in a balanced and integrated way.

2.3   The implementation process of the EFQM Excellence Model

The EFQM Excellence Model has two interwoven main purposes: i) guiding the organisation towards BE, as the primary purpose, and ii) be a reference to conducting performance assessments. Assessments can be conducted internally (self-assessment) or externally (external assessment). Considering these two purposes, the Model helps organisations through:
- Providing a basic structure for the organisation's management system.
- Integrating existing and planned initiatives, avoiding duplication and gaps.
- Providing a common vocabulary and way of thinking about the organisation, that facilitate the effective communication of ideas and plans, both within and outside the organisation, and create a culture of excellence.
- Assessing where they are on the path to excellence, helping them to understand their key strengths and potential gaps in relation to their stated vision and mission.

The first three points refer, in essence, to the implementation of the Model, and the fourth one does it to the assessment, that in turn is necessary and contributes to proper implementation.

2.3.1   Implementation process
The implementation of the EFQM Excellence Model by an organisation should consider the critical success factors analysed in point 2.2 and it should start with awareness and specialized training. Training is aimed at providing a comprehensive and detailed view of the Model, and at developing the knowledge and skills necessary to implement it. No matter if implementation is supported by external experts or is fully conducted internally, training plays a critical role to ensure high effectiveness in the Model implementation. It should include:
- Awareness program, addressed to all employees.
- Specialized training in the Model and in each of its components/criteria, addressed to all directors. Training should include knowledge and skills development.
- Specialized training in the most relevant enablers and results, addressed to the directors and/or managers. As in the previous point, training should include knowledge and skills development.

E-learning can play an important role for EFQM Excellence Model implementation, as it will be analysed in section 3.

2.3.2   Assessment process
Assessment, in the context of EFQM, is a comprehensive, systematic and regular view of an organisation's activities and results referenced against the EFQM Excellence Model (EFQM, 2019a). The

assessment process allows the organisation to discern clearly its strengths and areas in which improvements can be made, and culminates in planned improvement actions that are then monitored for progress. As the definition above makes clear, the primary purpose of undertaking assessment should be to drive improvement (EFQM, 2019a). Furthermore, to be successful, assessment must be linked to other management processes within the organisation, primarily the strategy development and business planning processes.

Assessment can be conducted internally (self-assessment) or externally (external assessment), and it helps the organisation to (EFQM, 2019a):
- Understand how effectively it is deploying its strategy.
- Identify the cause and effect relationships between what the organisation does and the results it achieves.
- Identify its current strengths and prioritise opportunities for improvement against its strategic goals.
- Identify opportunities for benchmarking. Both in terms of practices the organisation can share and practices it wants to learn.
- Establish a baseline position, so it can measure its progress over time.

In the case of external assessment for the EFQM award, or for an EFQM scheme of recognition (EFQM, 2019a; López-Fresno and Fernández-González, 2017), assessment (both internal and external) is a required step. To conduct an assessment, it is required that the assessors have deep specialized knowledge and skills. Leadership of the assessment team is also determinant to conduct a highly effective assessment.

(a)   Self-assessment
Self-assessment is the assessment conducted within an organisation by internal assessors, with the primary objective to identify the organisation's strengths and areas for improvement and create or enhance the energy to improve the organisation's performance. Through self-assessment the organisation is encouraged to take an in depth look at its entire operations, processes and stakeholders, and to compare them to an excellence model, such as the EFQM Excellence Model (Van der Wiele, Dale and Williams, 2000). Independently the self-assessment can be guided by an external assessor, the major role is assumed by the internal team.

As an holistic, integrative and flexible model, of application to any kind of organisation, there is not a fix method or way of carrying out self-assessment against the EFQM Excellence Model (MacKerron and McGlynn, 2000). Methods range from discussions or focus groups to simulation of full award submission documents, and basically differentiate in the data collection techniques used to identify the current state of the organisation. Porter and Oakland (1998) suggested there is 'no best approach' to self-assessment, as there are advantages and disadvantages to each method, and proposed that organisations should choose the one(s) most suited to them and their circumstances. Thus, the method should be designed ad-hoc for each organisation, based on its own characteristics and specific context. Several points should be considered when designing it:
- There is a greater chance of success if the senior management team has an active involvement in the process (Commitment as one of the CSF, analysed in point 2.2).
- Self-assessment can be carried out at any and all levels, but experience shows that many organisations first undertake one or more pilots and learn more about the process.
- When considering which specific self-assessment method to adopt, two factors are most critical: i) the current culture and leadership of the organisation; ii) to have clarity on the outcomes the organisation is looking to achieve, and then choosing the specific technique that is the most appropriate for delivering those desired outcomes (you also can run two different techniques at the same time).
- Selection of self-assessment team is of utmost importance, to ensure a proper objective assessment, avoiding bias and internal conflict.
- There are a number of different roles that can come into play (sponsor, project manager, assessors, facilitator, data gatherer, report writer, etc.), dependent upon the specific method employed. Some roles, are very much dependent on the technique and process chosen.

Self-assessment can be conducted virtually (e-self assessment), based on documentation analysis and videoconferences with the team members and other participants, especially in the case of multi-site organisations.

(b)   External assessment

External assessment against the EFQM Excellence Model is an independent and objective assessment conducted by external assessors. The process is conducted by experienced business professionals, with deep training on EFQM Excellence Model, based on a peer-to-peer method, that serves as an outstanding learning process inspiring the organisation to continuously reach better performance (EFQM, 2019a).

External assessment is carried out when an organisation applies for an EFQM scheme of recognition, but it can also be conducted on voluntary basis as a substitute of self-assessment. It usually includes two stages: i) desk review of documentation submitted by the organisation, and ii) site visit. As the assessors constituting the assessment team usually are dispersed in different geographical locations, part of the work is conducted virtually (e-assessment), based on documentation analysis and videoconferences with the team members and other participants. A site visit is conducted as part of the assessment.

3.   E-Learning

E-Learning is teaching and learning conducted via electronic media and information and communication technologies (ICT). It uses various forms of educational technology to create a virtual learning environment (Railean, Elçi and Çelic, 2015). The concept of e-Learning is not new, but gained increased relevance in the last decade and a half, as a response to the need to enhance professional competencies to face the challenges posed by an increasing globalized world and VUCA environment, supported by huge technology development and change in habits of life.

Many are the advantages and disadvantages of e-Learning, of which an overview is provided in the following table.

Author(s)	Advantages	Disadvantages
Posinasetti (2014)	Flexibility in scheduling and self-paced/self-direction learning	Learners with low motivation or bad study habits may fall behind
	Flexibility to study anywhere if access to technology	Without the routine structures, students may get lost or confused about course activities and deadlines
	Reduction of travel time and costs	Students may feel isolated from the instructor and classmates
	Flexibility to join discussions or contact classmates and instructors remotely in chat rooms	Instructor may not always be available when students are studying or need help
	Option to select learning materials that meets students' level of knowledge and interest	Slow Internet connections or older computers may make accessing course materials frustrating
	Fosters more interaction among students and instructors than in large lecture courses	Managing computer files and online learning software can sometimes seem complex for students with beginner-level computer skills
	Can accommodate different learning styles and facilitate learning through a variety of activities	Hands-on or lab work is difficult to simulate in a virtual classroom
	Develops knowledge of the Internet and computers skills	
	Builds self-knowledge and self-confidence and encourages students to take responsibility for their learning	
Ahmadi-Nedushan (2014)	Flexibility	Lack of or reduced social interaction and face-to-face interaction (deprive students of opportunities for better communication and deeper understanding)
	Lower costs	Format does not fit for all learners
	Increases choices for schools	Some employers do not accept online degrees/certificates
		Requires adaptability to new technologies

Moreover, e-learning contribute to develop cultural and global awareness for diversity, as students have access to a wide network of people and information. It also contributes to develop/enhance problem solving skills (students are required to often participate in group thinking and discussion). Both supporters and critics of virtual learning environments recognize the importance of the development of

such skills, including creativity, communication and knowledge application (Reese, 2015). Skills that are of special importance in the context of e-Learning on EFQM Excellence Model.

Three main components should be considered when designing e-learning framework and courses: people, technology and services (Aparicio, Bacao and Oliveira, 2016). People interact with e-learning systems; technology enables the direct or indirect interaction of the different groups of users and provides support to integrate content, enable communication and provide collaboration tools; e-Learning services integrate all the activities corresponding to pedagogical models and to instructional strategies. Service specifications should be aligned with the e-learning pedagogical models and the instructional strategies.

The ISO/IEC 40180, "Information technology - Quality for learning, education and training. Fundamentals and reference framework", provides the fundamentals and the reference framework for quality assurance, quality management and quality improvement in IT-enhanced learning, education and training (e-Learning). The Quality Reference Framework (QRF) helps to describe, compare and analyse approaches to quality management and quality assurance, serving to compare different existing standards and to harmonize them towards a common quality model. Through the application of the standard, organisations may continue to improve the quality of their processes, products, services and solutions within the fields of learning, education and training (ISO/IEC 40180, p. v).

Not all courses are appropriate to be offered online. E-Learning courses should be designed to ensure knowledge transfer, sharing and creation, and the development and enhancement of skills, as appropriate. E-Learning provides an opportunity for several institutions over the world to engage in e-training to promote and expand the application of the EFQM Excellence Model, so that they incorporate the specifics of the local culture while also considering cultural global awareness. Through e-Learning, pulls/networks of EFQM experts and assessors can be set up all over the world, thus spreading the use of EFQM Excellence for enhancing competitiveness. These networks will be constituted by professionals with the knowledge and skills necessary for EFQM implementation and assessment, and a comprehensive view of both the global and the local environment. The EFQM offers the modality of etraining (e-learning) for several training courses (EFQM, 2019b).

4.   E-Assessment

Electronic assessment, also known as e-assessment, online assessment, computer assisted/mediated assessment and computer-based assessment, is the use of information technology in various forms of assessment (IGI Global, 2019). Despite the concept usually refer to e-Learning, to evaluate and/or gather data about the academic performance of an individual or a team, it is also applicable to other forms of assessment, including EFQM assessment. In this case, it refers to the use of ICT in the assessment activity.

As commented above (point b), both self-assessment and external assessment can be conducted virtually, based on documentation analysis and videoconferences with the team members and other participants, except the site visit in the case of external assessment, that should be done in presence. E-leadership is critical in virtual environments (Savolainen, 2014), so that it is in the context of e-Assessment. During the visit, interviews are conducted to confirm strengths, areas for improvement and search for good practices. Interviews in essence could be conducted through video conferences, but it's necessary to also assess the environment of the organisation. For that reason, site visit cannot be carried out virtually.

5.   Conclusions

The interdependencies between organisations, communities, stakeholders, countries and economies are strengthening, and the environment is turning increasingly VUCA. In order to be competitive in this context, organisations and professionals need to be highly competitive. Integrative, holistic, and at the same time flexible, management models are required to establish a solid management framework, that will guide and facilitate the design and implementation of effective strategies to achieve the set objectives, in a sustainable way. Beyond the fads of models, methodologies and management tools, the knowledge derived from the experience of managers and assessors ("examiners") using the EFQM Excellence Model, supported by research, indicate that it brings out numerous benefits to organizations

for sustainable development. As a flexible and "exportable" model to any culture, the model can be a reference for enhancing competitiveness in the OBOR countries. E-Learning provides an opportunity for several institutions over the world to engage in e-training to promote and expand the application of the EFQM Excellence Model, incorporating the specifics of the local culture while also considering cultural global awareness. Through e-Learning pulls/networks of EFQM experts and assessors can be set up all over the world, thus spreading the use of EFQM Excellence for enhancing competitiveness, where e-Assessment plays a relevant role.

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