

## Standardized quality in MOOC based learning

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**Abstract:** *Quality in the field of e-learning and, particularly, in the field of MOOC( Massive Open Online Courses), is a topic of growing importance in both academic institutions and in the private sector as it has generally been proved that quality management can contribute to improving the performance of organizations, regardless of their object of activity. Despite the fact that there are standards relating to quality management in a general manner, professionals, academic staff, specialists and bodies felt the need for having a standardized approach of the quality in the sector of e-learning. Therefore, in the last years, in different countries quality guidelines have been developed and used for e-Learning or distance education (for example the ASTD criteria for e- Learning, the BLA Quality Mark, Quality Platform Learning by D-ELAN etc.). The current paper aims to give insights to this new form of online education provided by MOOC platforms using the specific quality standard approach.*

**Keywords:** MOOC, e-learning, quality, standard, ISO 19796, ISO 9001.

**JEL:** —.

## Introduction

Quality is an abstract concept, subjectively perceived by individuals, therefore a concept that is understood in various ways and evaluated in different manners. If, when talking about the quality of a tangible product, one can relate to the objective measurable characteristics such as: ingredients, size, weight, colors etc., when assessing a virtual delivered service such as e-learning, the evaluation of quality becomes more difficult. In ISO 9000:2005 – the international standard defining the special terms used in ISO 9001 standard for implementing quality management systems, quality is defined as the “ability of a set of inherent characteristics of a product, system, or process to fulfill requirements of customers and other interested parties.” (ISO 9000:2005). In the Japanese quality oriented culture, quality can be expressed in different manners: *Atarimae Hinshitsu* – meaning that quality is when a product/service delivers the results it is designed for and *Miryokuteki Hinshitsu* – describing the quality that fascinates, that overpasses users’ expectations when using the product or the service (De Mente, 2009).

The perception of MOOC quality by the market is directly linked with the quality of the related teaching processes, learning tools and platforms used. However, without a harmonized conception of e-learning quality, it is very difficult to compare the various MOOC platforms for their overall quality, to measure it objectively and to continuously try to improve it within market dynamics.

Quality of MOOC may be associated with the best learning achievements, meaning that one may expect not just average performance, but the best performance imaginable. A study shows that this dimension of quality is perceived as very important among e-learning providers, medium-sized institutions, academic environment and universities. In a certain manner these results are expected, as these organizations place a particular value on the pedagogical process,

while other training providing companies from private-sector, very small institutions and learners pay more attention, to the ratio added value received/cost of the training or to meeting the minimum standards. The same study shows that in over half of the organizations analyzed, quality measures are perceived at a very abstract level or as an implicit requirement, while less than 15% claim to use methods and instruments especially designed for ensuring quality in e-learning products and processes. (Ehlers et al. 2005)

Developing a new quality system in an organization means that quality objectives and instruments are implemented for the core processes (analyzing learner needs, design of learning systems, providing tutor support, performing assessments). .

### **Quality standards in e-learning**

The great success of MOOC platforms may be explained through the prestige the universities, personalities and institutions presenting the courses have. However, despite the fact that a great number of enthusiastic learners register the courses, our experience shows that only a quite small percentage of them actually go all the way until the end and finish it. The question rising here is whether the MOOC platforms offer the quality of learning users need. For this purpose, we will use the International Standard ISO/IEC19796-1 – Quality Standard for Learning, Education and Training to check its guiding lines against MOOC characteristics.

Following the pathways of the ISO 9000 quality management standards series, as a response to the great number of the learning systems available globally and to the many quality standards developed at the international and national level, the International Standards Organization (ISO) has created the quality framework ISO/IEC 19796 dedicated to learning, education and training. The series comprises the

following parts of the standard:

- ISO/IEC 19796-1: 2005. It serves as a reference to describe, compare, and analyze quality management approaches. It provides a general process model that describes quality management approaches specific to learning, helping to compare and analyze quality approaches.( ISO/IEC 19796-1, 2005.)
- ISO/IEC 19796-2. This part of the standard, not issued yet, is designed to offer a harmonized quality model that identifies the aspects of quality systems and the relationships with already established ISO quality standards. (www.iso.org n.d.)
- ISO/IEC 19796-3: 2009, "Reference Methods and Metrics". It provides methods, metrics and indicators that can be used to measure and manage the quality of e-learning, education and training processes. (ISO 19796-3, 2009)
- ISO/IEC 19796-4, "Best Practice and Implementation Guide". Not issued yet, but designed to be an implementation guide. It gives criteria for identifying the best practices in the field and guidelines when aiming to adapt, implement, and use the ISO/IEC 19796 series. (www.iso.org n.d.)
- ISO/IEC 19796-5, "How to use ISO/IEC 19796-1". Under development, designed to be a guide on how to use ISO/IEC 19796-1 standard (www.iso.org n.d.)

Issued in 2005, the first part of the ISO/IEC 19796 series focuses on the following three issues: a description scheme for quality approaches, a process model as a reference classification and reference criteria for evaluation. The purpose of the created model is to support users and organizations in their learning, education and training processes, with

emphasis on e-learning

This is not a standard with clear, mandatory guidelines for businesses and public institutions looking for a certification of their learning and training activities, but it is rather a document for guiding these organizations towards optimized, quality learning processes for users. As the model provided here is general, it is the responsibility of each learning and training organization – be it public, or business, to adapt the recommendations to the very specific of their own internal environment. Also, the scheme provided here needs to take into account the particularities of the national or international specific educational context the company is dealing with (ISO/IEC 19796-1, 2005). Therefore, just like in the case of implementing ISO 9001:2008 – the general quality management system standard, the standard for quality of learning, education and training - ISO/IEC 19796-1 cannot be put into practice and used as it is, as it needs careful analysis and implementation according to the processes taking place inside, the market requirements and the specific legislative context. The standard supports the development of quality processes for institutions and companies offering e-learning services by directing them to setting clear objectives, appropriate methodology, technology and human resources and a systemic approach. The description model within the standard provides processes to develop e-learning modules by taking into account the quality objectives, methods to ensure the quality, actors involved in this process, relations to other processes, evaluation methods to assess the success of a process, standards and references.

Using the quality adaptation model presented in ISO/IEC 19796-1 standard, specific quality approaches can be developed for a variety of objectives and purposes. Developing a quality e-learning system according to the standard means that quality objectives and instruments are set for the main processes (for example: analyzing the needs of the learner – both specified and those not mentioned in what regards the

teaching methodology, the learning platform, trainer's schedule and activity etc.). It is essential when designing quality learning processes to know what are the main quality objectives for each of them, how can these objectives be measured and through which methods, instruments and indicators. (Pamfilie et al, 2008). And because all processes involve in a certain manner the human resource involvement, it is mandatory to set clear responsibilities and tasks.

Thus, the quality improvement according to the standard should focus on (Pawlowsky, 2005):

- The context of the planned learning, as MOOC education and the corresponding processes should be tailored differently, for schools, for higher education, for companies, vocational training etc.
- The scope of implementing the quality model, as it is mandatory that the companies know exactly what processes need to be reviewed, re-designed, improved.
- Objectives related to quality needed to be achieved. It is important that the organizations set clear, measurable objectives referring to costs, processes capability, users' satisfaction, continuous improvement etc.
- Perspective of quality beneficiaries. The processes need to be designed taking into account the perspectives of all stakeholders: developers, administrators, learners, business environment etc.
- Methodology for measuring and incorporating the quality in the processes. From the vast number of quality instruments and techniques it is important that the companies choose the most appropriate for their continuous improvement.
- Measurement of the quality. The efforts of an organization for

integrating quality in its processes should focus also on calculating indicators and defining criteria to measure the success. Indicators such as the percentage of "A" grade finishers, drop-out rate, learner satisfaction etc. are such examples.

Organizations and institutions offering e-learning services that relate to the model described in ISO/IEC 19796-1 standard should, therefore, have documented processes, context shaped, measured, appropriate methodologies and clear objective. Also the standard provides the basis for analyzing the created quality management system specific to e-learning and training suppliers, as well as the premises for re-designing the processes for continuous improvement (Stracke, 2007).

### **Quality through Plan – Do- Check –Act Cycle**

The whole implementation process of ISO 19796-1 reference model follows the sequence of PDCA (Plan – Do – Check – Act). This cycle is specific to most of the management system standards such as ISO 9001, ISO 14001, and ISO 27001 etc.

In the implementation of ISO/IEC 19796-1: 2005 reference process model, the first step consists of selecting the key processes for the quality of learning, in identifying and describing the requirements, demands, and constraints of an educational project, according to the current situation. Specific requirements and objectives of the unimproved processes are considered as inputs in the developing model. (Parodi & Maillet, 2011) Due to the fact that the mentioned processes are general ones, fit for any learning provider organization, a special focus should concern also the particular processes taking place in the organization. These processes are unique, due to the fact that each company is unique,

and they create differences among institutions.

## **Planning phase**

When planning the training with the help of this supporting model, the analysis of the needs and the requirements of the specific context the company addresses to should be performed.

Initiation of the project is the first sub-process mentioned in the model, followed up by stakeholder identification in order to better understand their demands, the impact these demands should have on the organizational processes (are there enough processes developed to support all stakeholders perspectives of quality?). As a result of this analysis demand, the actual processes and new ones may be planned to produce quality in the way stakeholders' desire, therefore clear goals and objectives should be set in the planning phase( Onete et al, 2011).

The planning of the core producing quality processes should rely on the specifics of the identified framework and context of the educational process. At this stage, the external context – applicable legislation in the area, market demand, target groups, competition, social, economic and cultural characteristics of the external environment the company is in should be carefully analyzed. The internal environment with its restrictions, minuses and pluses, the quality and number of the human resources available, the organizational quality culture are just a few of the issues needed to be taken into account for this particular step of planning. Having in mind that all organizations try to be competitive from the point of view of costs involved and the amount of resources (time, human resources, financial-material resources) the processes should have a clear planned budget.

The planning phase should further go on with designing the most important process from users' point of view – the process that offers the

quality to the very service of learning: the educational process. If this process is not planned in the most appropriate manner, it will not provide quality, as we have already pointed out before, quality is what the customer wants. And in the field of MOOC, the users want free effective and useful education, so that they may exploit it with maximum of benefits (tangible – such as higher salaries for better jobs involving the qualifications acquired and intangible – such as inner satisfaction, pride of improvement in a certain area). Hence, the learning objectives should be set, as well as the appropriate content of the teaching materials, the didactical methodology, according to learners target groups. Also, at this point it is important to define and plan the technical issues and the media for delivering the information and the know-how to the learners, the way communication and interaction platform should be designed, taking into account that different cultures and different profiles of users need different structures of design for a better learning. (Mairescu, 2011) Clear tasks and roles should be assigned and specific procedures for testing, evaluating and improving the system should be created.

### **Do phase (Realization)**

Involves putting into the practice of the planned concepts. Here, the technical staff is supposed to deliver the course content, to provide the appropriate design of the learning platform or learning modules and the appropriate media for teaching, learning materials, along with the continuous process of supervision and maintenance of the technical aspects.

### **Check phase (Analysis)**

Implies testing of learning resources, the technical infrastructure and the effectiveness of the system planned and delivered to users. At this

phase the administration, the activities deployed in the previous phase, competency levels of the involved personnel should be reviewed.

### **Act phase (Optimization/ Improvement)**

Based on the previous phases of analyzing the results, the feedback from the stakeholders, the planning process, companies should act accordingly, by improving where necessary.

The habit of addressing all issues in Plan – Do – Check – Act manner, along with the use of the appropriate methods and instruments of quality management will lead to continuous improvement and quality development of MOOC based learning.

### **Acknowledgement**

This paper was co-financed from the European Social Fund, through the Sectorial Operational Programme Human Resources Development 2007-2013, project number POSDRU/159/1.5/S/138907 "Excellence in scientific interdisciplinary research, doctoral and postdoctoral, in the economic, social and medical fields -EXCELIS", coordinator The Bucharest University of Economic Studies

### **Conclusions**

The current paper presents the various approaches of quality in e-learning with specific focus on MOOC. At present, there are issued only general quality e-learning standards, with no particular concern about MOOC particularities. MOOC phenomenon appeared since recently, therefore a dedicated quality standard was not an issue of interest for the market and for the academic environment. However, as these courses

grow in popularity there is a need to officially measure their quality. MOOC platforms, gathering thousands of registered participants per course, are a very reliable source of information about the expected quality – expressed in terms of users needs and requirements, and about the way the designed learning processes should work. This information could contribute to international quality standards in e-learning improvement and to developing a dedicated standard, so a research for this purpose should be set. As such, the MOOC platforms should gather continuously feedback from users and identify the key areas of knowledge required by the market, the most appropriate methods of transferring know-how through e-learning, the design of communication and evaluation processes. As more and more of e-learning activity deployed by users is taking place with the help of mobile devices, it would be important to see if the MOOC platforms are adequate for mobile learning and to which extend the learning process is affected by the use of mobile technologies. Also it is important that future research collect and analyze data from the market and measure the real utility of MOOC on long term, as only in this way the quality of the learning provided can be checked.

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