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Process' Standardization and Change Management in Higher Education. The case of TEI of Athens

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Abstract. The establishment of mature operational procedures and the effort of standardizing and certifying these procedures is a particularly arduous and demanding task which requires strong commitment from management to the existing objectives, administrative stability and continuity, availability of resources, an adequate implementation team with support from all stakeholders and of course great tolerance until tangible results of the investment are shown. Ensuring these conditions, particularly in times of economic crisis, is an extremely difficult task for large organizations such as TEI of Athens where there is heterogeneity in personnel and changes in the administrative hierarchy arise plethora of additional difficulties and require an effective change management. In this work we depict the path of standardization and certification of administrative functions of TEI of Athens, with emphasis on difficulties encountered and how to address them and in particular issues of change management and the culture related to this effort. The requirement for infrastructure needed to be maintained in processes and tools process & strategic management is embodied, in order to evolve mechanisms for continuous improvement processes and storage / recovery of the resulting knowledge. The work concludes with a general design of a road map of internal audit and continuous improvement processes for a large institution of higher education.

INTRODUCTION

Quality in providing education at the universities and the means of ensuring it are the core requirements of ENQA [1]. The corresponding Greek authority, Quality Assurance Unit (QAU), implemented these requirements in its own policy and expects their application in Greek universities [10]. Standardizing and certifying procedures based on the existing standards, as well as the use of IT technologies are necessary prerequisites to achieve the goal of quality, while addressing the aspects of change management may be the key to success.

In education, standards relate to three areas of activity: a) academic standards that measure the ability to reach a defined level of academic achievement, b) service standards that evaluate the services and c) quality standards that can be described as rules or expectations expressed in a standardized way of a desirable practice. In this paper we deal with standardizing and improving services that support the educational process, that serve as a basis to design a quality assurance system and is the way for its application, while giving emphasis on tackling the aspects of change management and the existence of appropriate IT technologies.

Harvey & Green [3],[4] laid the foundations for a realistic approach to define of quality. Quality can be regarded as a standard reference point (benchmark), as an absolute truth that doesn't allow any compromise. Alternatively it can be discussed in terms of minimum levels of performance that a 'quality' education should exceed. Finally it can be dealt with relativity, in relation to the extent that the process is producing the desired results. Quality cannot be defined in a uniform and absolute way, but is related to the views of different groups of interest that operate in higher education. The various groups of interest have different priorities.

Each quality assurance mechanism includes external and internal objectives. The external objectives relate to accountability whereas internal objectives aim to improve the quality of the educational processes and services. Accountability requires external audit and published results (outcomes), while the enhancement of the quality processes demand continuous quality improvement in institutional level, as well as in the level of academic subject. The balance between external and internal objectives defines the 'rules' for establishing quality assurance mechanisms. According to these 'rules' universities are responsible for the quality and the standards. Systems of management and quality improvement need to be institutionalized, that will be complied with the requirements of accountability. These systems must be integrated, transparent and based on self-assessment.

According to Newton [7],[8] an effective quality assurance system should:

- Have clearly defined roles and procedures
- Provide the ability to achieve the goals and objectives of the institution
- Provide information for decision making
- Be independent of individual biases
- Be repeated over time intervals
- Engage all personnel
- Include defined standards and acceptable documentation
- Encourage continuous improvement

Similarly, the development of a 'quality culture' that supports a successful quality assurance system requires:

- An open and active commitment for quality at all levels
- Willingness for continuous self-assessment exercise
- A stable regulatory framework as well as clarification and consistency in procedures
- Explicit responsibilities for quality control and quality assurance
- Emphasis on receiving feedback from a number of factors components
- Clear commitment to identify and disseminate best practices
- Direct, sensitive and appropriate administrative action to restore problems

The integration of all components of an effective quality system and the development of a culture that supports quality, provide the basis on which an institution may, firstly, face the challenges of external audit, evaluation or certification and, secondly, develop an aptitude for taking wide responsibility for self-assessment.

On the basis of the above considerations and findings of the experts let us see how we approached the issue of standardization and certification of procedures in the field of TEI, as well as in the corresponding TEI of Ionian Islands field as an infrastructure for the establishment of a QAS, what difficulties we faced and what we accomplished.

In the following section we present the standardization and certification of procedures of TEI of Athens according to ISO9011:2008. First we described the background and target of the application of a quality system in the Institute, then we summarized the benefits and challenges we faced and in the end of this section we gave the aspects of change management. In the next section we described the contribution of a business modeling tool in management, establishment and continuous improvement of the processes of the QAS. In the end of this paper we present our conclusion.

STANDARDIZATION AND CERTIFICATION OF PROCEDURES ACCORDING TO ISO9001:2008 IN TEI_ATHENS

Background and target

The model ISO9001: 2008 is an international standard, which is applicable to all organizations, regardless of their public or private character and the type of products or services. The model approximates the operation of an organization and sets out rules for the effective and efficient management for both the necessary inputs for the implementation of processes and their results; with aim to maximum satisfy the recipients of products / services, as well as all the stakeholders (eg government, society, supervising bodies, etc.) [5].

In addition the model calls for a systematic annual review of the implementation of the quality system defined processes, as well as the documented, based on the results of inspections and obtained values in quality indicators in

relation to the objectives, decision making on a set of parameters that provide educational work such as: Procedures / Processes, Equipment, Personnel, External Partners, Information Systems, Supplies [6].

In the beginning of the academic year 2008 - 2009 the previous Administration of TEI of Athens decided to develop a quality system in accordance to the international standard ISO9001: 2008 and its main objective was the organization of work and the standardization of the basic documents of the Foundation. With the beginning of the project it became clear to those involved that such a venture was far more difficult and much more time consuming than it seemed at first. The range of activities of the Institute, the complexity of the legal framework governing the operation, the absence of recorded procedures in an understandable way, the working diversification between sections, even for the same procedures, were only few of the factors that led to the decision to limit the scope of the system "academic education at the undergraduate level " and in pilot implementation in only five Departments of different faculties.

The certification of the first five departments took place in July 2010. Although the participatory process that was followed in the development of the documentation of system had considerable profits in the acceptance and commitment of the implementation, at the same time it led to inevitable delays until, each time, an essential agreement towards a homogeneous operating mode was reached. In 2012 fifteen more Departments were certified and added in the system and the Administration took in 2014 the decision for a universal application in all departments of the institution.

Currently, shortly before the start of the academic year 2014-2015, six years since the beginning of the quality improvement journey and four years after the initial certification, the following have been certified:

- All 27 departments of the Institution and their directions for the provision of academic education at the undergraduate level
- The Coordination Directorate of Studies and Student Welfare for all its services to students
- The Directorate of Financial services for procurement processes, and
- The Directorate of Management on procedures for personnel training

Moreover, it is planned to extend the scope of the quality system as to include the provision of education to graduate level, while the implementation of the European model of excellence EFQM is currently in progress, with first milestone the certification for the first level of excellence Committed to Excellence in Europe.

Our achievements, the benefits for the educational process

Four years following the initial certification of the quality system, the benefits are now visible and can be summarized as follows:

- The top leadership of the Institution and the management of each department and service department have been identified as catalysts in the qualitative implementation of the scope
- Procedures are standardized and a uniform and integrated way of organizing work within the existing institutional framework is established, allowing differentiation only in those parts that are actually essential
- Forms and files are standardized, allowing the standard and uniform collection of information and the diffusion of the identity of the organization to third parties
- Procedures that investigate the training needs of the personnel involved in the operation are systematized, in order to prevent errors and delays
- The adequacy (qualitative and numerical) of resources (manpower, equipment, finance, freelancers, etc.) is regarded as a prerequisite for the qualitative execution of processes
- Roles and responsibilities, not only in the process but also at the step of process, are clear so that both the improvement and accountability are explicit and objective
- Two basic procedures are established, a) the evaluation of the satisfaction of students from a variety of processes and b) the recording of complaints and failures in general, to ensure effective management, timely corrective measures and the prevention of similar failures in the future are identified as key processes
- Indicators of achievement for processes and the overall operation are established so that any decisions (allocation of resources, improvement measures, etc.) are based on measurable data and information
- The annual review of the results of each department and the documented planning of improvements, in both the educational and support work, is established as a key action in the closing of each academic year and the start of the next

Therefore, four years following the initial certification, the organization of the operation and management of the Institution is such that it allows not only to monitor the quality of educational work [6] (the scope of the system) but

also its continuous improvement, through mechanisms that record, evaluate and improve, strictly in alignment with the specific nature of the academic education and the institutional framework regarding its quality [10].

Challenges we faced

The path to achieve the above results was long and difficult; a numbers of problems arose and had to be dealt directly, decisively and effectively. The major problems / difficulties worth mentioning are the following:

- Frequent change of the legal framework governing the operation of the Institution and the provision of educational work resulting in frequent changing of procedures and retraining of the staff
- Difficulty or even denial of the staff involved to record failures and malfunctions fearing that they will be used for accountability and not for highlighting areas in need for improvement
- Difficulty or failure to reach agreement on a common mode of operation, without a valid reason, but rather for maintenance of the known and familiar mode
- Absence of diffusion mechanisms for best practices between similar departments, so that best practices are not property of the Institution, through its incorporation into the quality system, but stay in the narrow limits of the Departments that implement them
- The institutional framework is outdated in many cases and prevents the implementation of improvements and best practices
- Insufficient involvement of the teaching staff in the management and improvement of the quality system, making it a bureaucratic administrative tool and not an essential mechanism to improve services
- Lack of permanent and properly staffed Quality Assurance unit responsible for the ISO, which leads to patchy monitoring of the system and in delays in the integration of changes and improvements
- The change in the culture of the participants.

The aspects of change management

Despite the above difficulties, it is a fact that the effective implementation of the quality system and the utilization of its added value are not being made as fast as expected, but it led to a change in the culture of those involved in it, a culture which is gradually directed to the following:

- A systematic review of operating results in measurable terms that quantify various parameters and aspects
- An effective and realistic management of resources (human, financial, technological) aiming at the effective implementation of procedures
- Decision-making and prioritization of improvements on the basis of identified and documented failures and deviations from targets
- An essential and in-depth analysis of the causes of failures, deviations and evaluation of the effectiveness of their management actions
- Addressing the external evaluation as a mechanism to promotion areas for improvement and initiate these improvements
- Communication, coordination and cooperation of personnel of all categories and hierarchical levels and for the production, evaluation and utilization of data quality
- Implementation of improvements based on meaningful dialogue and measurable data based on students awareness concerning quality

Based on our experience we have concluded that a quality assurance system which is based on the approach of the EUA [2] for developing quality culture should do the following in order to be effective:

- The administration should assign authorities to all active participants in the teaching and learning processes, giving them the right to develop their own quality targets, initiatives and measures, by making productive use of their self-organizational abilities.
- Promote an atmosphere that is utilizing the available modern technological means in the design and implementation of educational work.
- Build a climate of mutual trust so that all groups have the will and capability to take their responsibilities for the organizational transformation of the institution.
- Establish a satisfactory flow of information system flow to ensure adequate communication with the aim to reach mutual compromise.

- Identify and take into account the historical, political and social aspects of the culture that has been developed in the Institution and develop strategies suitable for the circumstances.
The above are in full agreement with Vettori et al. [9] and papers of other authors.

THE CONTRIBUTION OF THE BUSINESS MODELING TOOL ADONIS IN MANAGEMENT, ESTABLISHMENT AND CONTINUOUS IMPROVEMENT OF PROCESSES

ADONIS is a Business Process Analysis (BPA) tool supporting business process management. Simultaneously it provides powerful interfaces for the implementation of IT applications. Products or Services Operational Procedures, Organizational Units, Resources / IT are integrated in a common are of process with capabilities to make data analysis, simulation of procedures, costing services and automatic production of documentation for different types of users. The tool ADONIS therefore gives us the opportunity to describe the key elements of an organization and shows us how the organization of processes, organizational structures, products, product versions and supported resources / information technology (IT) affect each other. The features are shown in the following figure [11].

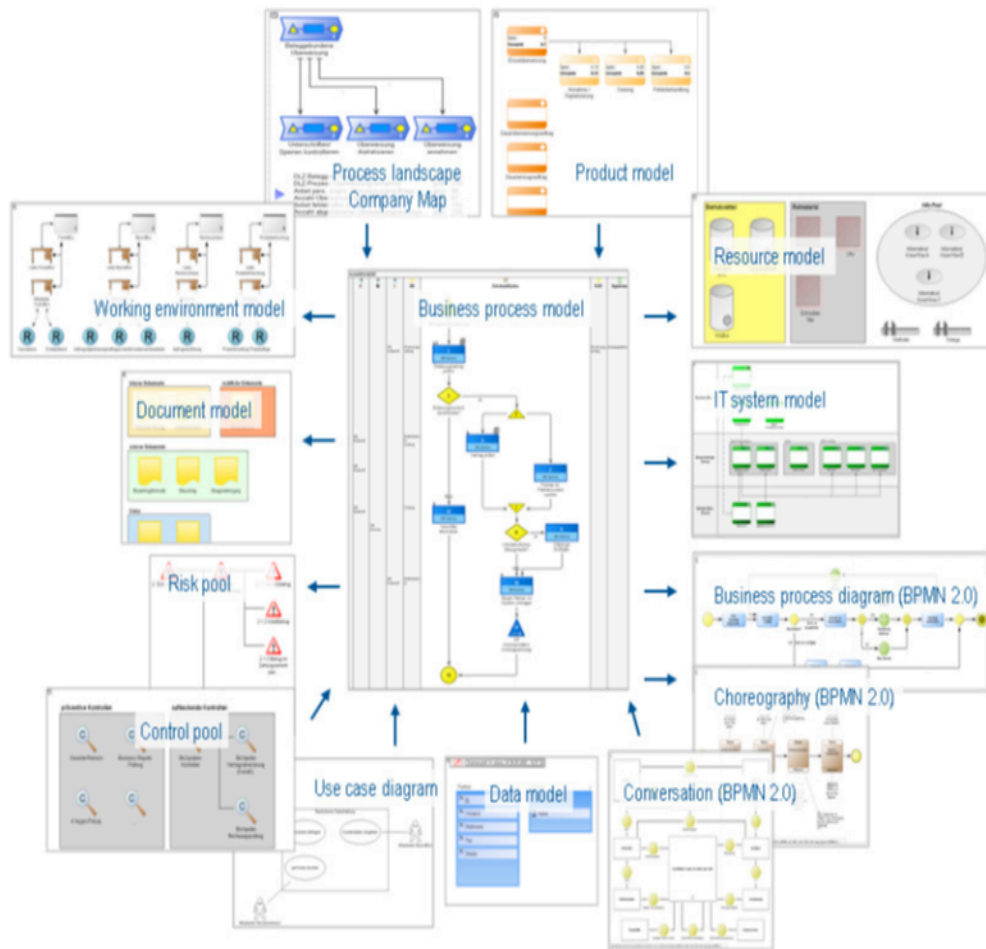


FIGURE 1. Model types of tool adonis – community edition 3.0 (source: boc s.a white paper adonis)

Thus, ADONIS tool can be used as a basis for a certified quality management system and as a mean of announcing the quality policy objectives and responsibilities. The advantages of using the ADONIS are the following:

- Transparency and improvement of the flow of information to motivate the personnel of the Institution.
- Automatic creation of a complete manual of management.
- Provide information for the personnel on current procedures to support the educational work and ultimately result in a reduction of bureaucracy.

All of the above have been exploited by QAU of TEI of Athens, which acquired following a competition the ADONIS tool accompanied by additional libraries for managing technology infrastructure and application techniques of strategic management (balance scorecard). Part of the documentation of the procedures produced by this tool is posted on the website of QAU (www.teiath.gr and selection QAU).

CONCLUSION - BUREAUCRACY AND SUBORDINATION OR CREATIVE INVOLVEMENT AND NOVELTY?

Anglo-Saxon universities already have an experience of 20 years in the implementation of quality assurance systems. On the basis of this experience the bibliography [8],[9] has series of questions:

- An effective quality management system can be viable?
- Can accountability provide the basis for quality improvement?
- Accountability and quality improvement are compatible?
- The external and internal requirements can be balanced?
- How in practice do the involved the parties (students, faculty, and staff) perceive and deal with 'quality' and quality systems?
- Is quality (as experienced by the involved parties) actually improving or is it just the same quality assurance system that simply improves as an increasingly complex bureaucratic mechanism?

The infrastructure we developed and the experience we gained enables us to answer affirmatively to the above four first questions and to have convincing positions on the remaining. As has already been stated since the late 90s, "Every model, method, or quality assurance system will always be influenced by factors related to the particular circumstances of each academic institution and the current context operation. This leads to the conclusion that the success of a system depends less on the rigor of implementation and more on the potential use of the participants and how they consider and interpret the system» [7]. This is our position today.

The management of changes should be oriented in the Project Plan and its implementation. It can be supported effectively if there is a plan for the distribution of information, a mechanism of communication and clarity in the roles of participants. The following subtopics are considered by us as particularly important:

- Regular and targeted information
- Continuous flow of information to events among participants
- Regular querying in participants regarding future measures need to be taken for all groups of users
- Development and implementation of suitable forms of participation
- Processing of proposals for implementing the strategy we developed
- Processing scenarios for the allocation of work

Finally, in the below diagram we illustrate a conception our own roadmap for the continuation of our efforts to enhance the quality assurance mechanism in TEI of Athens, a roadmap that can be used by other universities.

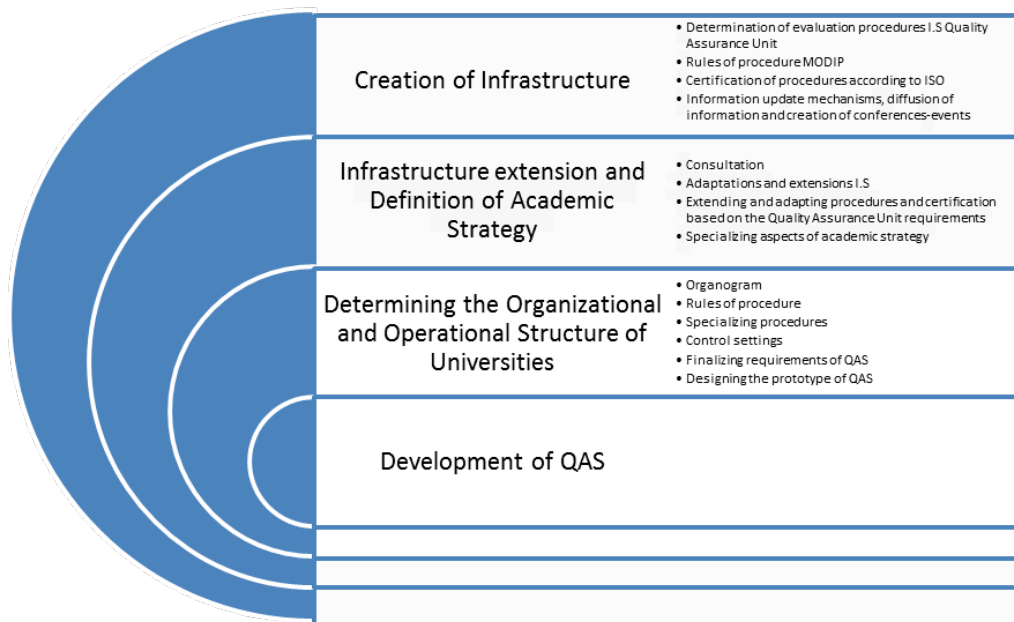


FIGURE 2 Roadmap for quality assurance mechanism in TEI

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