

Concept of Complex Quality Management in the HEI Strategy

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Abstract

The aim of this paper is to describe a possible approach to the institutional task of developing an internal quality assurance system.

Complex quality management can contribute to the development and maintenance of the organizational strategies at universities. Organizational strategies refer to the administrative systems, institutional policies and systems that make the integration of international, intercultural, and global dimensions of the primary functions of a university (teaching, research, and community services) possible.

The proposed solution is based on a set of innovation. The innovative technologies cover identity management and the related applications: e-learning, blended learning, mobile learning, adaptive testing, advanced learning environment. Furthermore innovation goes beyond the traditional learning/teaching relations: technological challenges of a less bureaucratic administration, closed information flow (workflow), management information systems, executive information systems, strategy monitoring are also addressed.

Questions for discussion

Are European universities prepared for complex quality management: what are the conditions of the introduction (IT, data collection, managerial and legal environment)?

One of the basic assumptions of the system is using learning outcomes (competence based curriculum development) and EQF levels. Do you see any obstacles at institutional or national level? Can the introduction of national qualification framework be a short term reality in your country?

Is it possible to connect institutional systems to provide data for national or international analysis?

Complex Quality Management

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Relevance

Quality assurance and internationalization are strongly interconnected. The second forum on quality assurance in Rome demonstrated a complex view on quality concepts, and one of the conclusions of the forum was to open the doors of the institutions to introduce a “quality culture”. As Lee Harvey stated in his concluding remarks: “Quality assurance processes have four broad purposes: accountability, compliance, control and improvement. The delegates discussed the main purposes in their settings and examined whether the ESG provide the basis for an approach that would improve the way quality assurance is carried out” (Harvey, 2008).

A World Bank report cites: “...by institutional policy, Knight refers to all statements, directives, or planning documents (Knight, 2005) that address the implications for, or of, internationalization. Internationalization of higher education is seen as a key strategy for enhancing the quality of teaching, learning, and research in order to meet the demands and challenges of the twenty-first century.”

The formation of the European Higher Education Area raises the need for creating modern, service-oriented universities on international scale. An efficient and useful way to achieve this goal – although this is not the only solution – is the application of organizational modernization, process optimization, and process management that ensure effective and high-quality services. At least equally important is the integrated use of advanced IT and communication technologies. The reasons for the changes are the growing expectations of the society for cost-effectiveness and quality, the challenges of the Bologna process, and last but not least the competitive pressure.

Another dimension of the same problem is usually addressed as quality management issue. Quality management – being part of quality assurance – is a key strategy for improving the quality of teaching and research. The fact that national quality assurance policies for institutional development and academic programs do not yet consider the international dimension as a relevant indicator of improvement gives a special focus of our approach.

Quality management is very successful in the competitive sector and several standardization organizations adopted quality standards. Perhaps the most well-known systems are the ISO 9000 series, the TQM, 6Sigma. The quality awards like Malcolm Baldrige, Deming, EFQM Award give also a strong impetus to strengthen the quality culture. The concepts of mainstream business quality management have not usually been implemented in the practice of the academic institutions in the past, because the high quality in academic sense was very far from the concept of standardization (e.g. ISO-like standardization contradicts to the academic freedom principle by definition). This could be the reason why a softer method, the TQM became more favourable for academic purposes. In Europe, the European Standards and Guidelines (ENQA, 2007) which is a de facto standard is very close to the TQM conceptually, containing self evaluation as crucial factor of the assessment.

Complex quality management can contribute to the development and maintenance of the organizational strategies at universities. Organizational strategies refer to the administrative systems, institutional policies and systems that make the integration of international, intercultural, and global dimensions of the primary functions of a university (teaching, research, and community services) possible.

Previous forums of QA (Munich, Rome) demonstrated, that all country studies report efforts toward establishing and implementing quality assurance systems aimed at evaluating the quality of academic programs, graduates, and institutions. One of the specific objectives of our project is to improve the quality assurance of the internationalization process and activities. A basic precondition of the regional and international cooperation is a kind of standardization, which means a meta-level definition of the programs in the academic environment, and needs strong and reliable justification methods to be operational. The cooperating partners should agree in the meta-level definitions (i.e. input - output knowledge, skill and attitude competencies). One of the main outcome of the Bologna process in Europe is the academic consensus in competence based program development (*Adam, 2006*). The European Qualification Framework – based on national qualification frameworks – gives the necessary background to connect the academic programs with the requirements of the job market (*Proposal, 2006*)

Taking into consideration the general and specific objectives, regional priorities and the priority sectors of a country the overall objective of our proposal is to work out a sustainable system and procedure for a given higher education institution. The system and the procedure are expected to harmonize the academic quality assurance with the demand of the world of labour – on job description level –, to check the academic requirement compliance with the implementation regularly, and to provide a feedback from the learners and graduates.

The proposed solution is based on a set of innovation. The *innovative technologies* cover identity management and the related applications: e-learning, blended learning, mobile learning, adaptive testing, and advanced learning environment. It is also worthwhile to mention, that innovation goes beyond the traditional learning/teaching relations: technological challenges of a less bureaucratic administration, closed information flow (workflow), management information systems, executive information systems, strategy monitoring, are also addressed. The *organisational innovation* aims to reform the traditional university structure and to coordinate the organisational structure with a process control. The vision is that the process “owner” (project leader/director) negotiate with the human resource “owner” (head/chair of department), and there is a well-regulated way how they can agree in costs/prices. The solution is based on performance management, controlling systems and procedures. Outsourcing, shared services will be taken into account, too. The *operational innovation* covers fund raising, co-funding opportunities, business-academia relations (especially from the view of innovation life cycle), R&D management, student relation management, performance evaluation and management, strategic human resource management, university marketing and PR.

Higher education institutions both in Europe and in the US traditionally concentrate on the academic quality in their own institutions. Modernisation of higher education in Europe affects not only the restructuring of vocational training and higher education, but goes with a governance reform, as well. One of the key elements of the governance reform is to increase the competitiveness of the institutions. This efficiency related dimension consists of several factors, but definitely the harmonisation of the academic output with the demand of the job market is a crucial part of it. A new development in higher education to introduce a measuring system in order to provide data on the performance of the higher education of a country similar to the well-known PISA (*Merle, 2004*).

The proposed system will deliver architecture and a solution where it will be monitored systematically whether

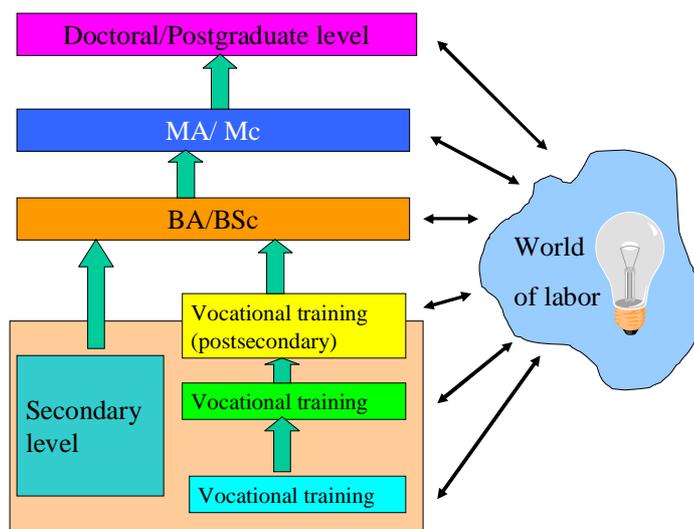
- the learning material comply with the learning outcome requirements,
- the learning method (credit allocation) comply with the actual learning practices,
- the job description requirements comply with the learning outcome,
- the career paths of the graduates comply with the forecasted demand.

The complex approach proposed in this paper (using the advantages of standardisation) can contribute to the efforts of the university management to realize “quality culture” at their institutions.

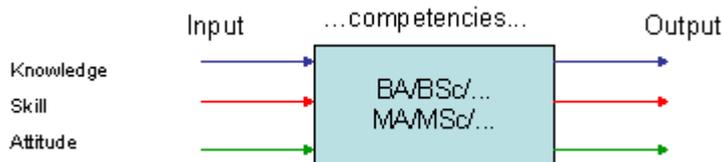
The proposed solution

Our interpretation of quality management will differ from the mainstream definition. The logic behind of our interpretation is the following:

1. Due to the lifelong learning paradigm the students are constantly moving between the academia and the world of labour progressing from one level to a higher level.

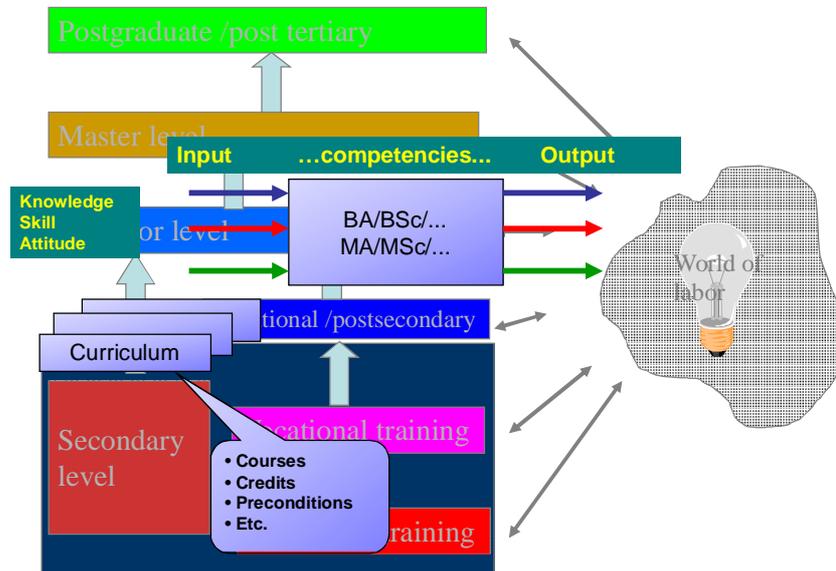


2. Programs differ from each other not only by content but according to the levels (EQF, ISCED).
3. Usually national quality assurance agencies (accreditation committees, etc.) accredit programs. Accreditation procedures generally have minimum standards, and their focuses are mainly on subject descriptions, and teachers’ CV and list of publications. Independent external reviews are rare. Our approach is a bit different, starting from the qualification framework. Every program can be characterized by input and output competencies, where competencies grouped in knowledge, skill and attitude subgroups.

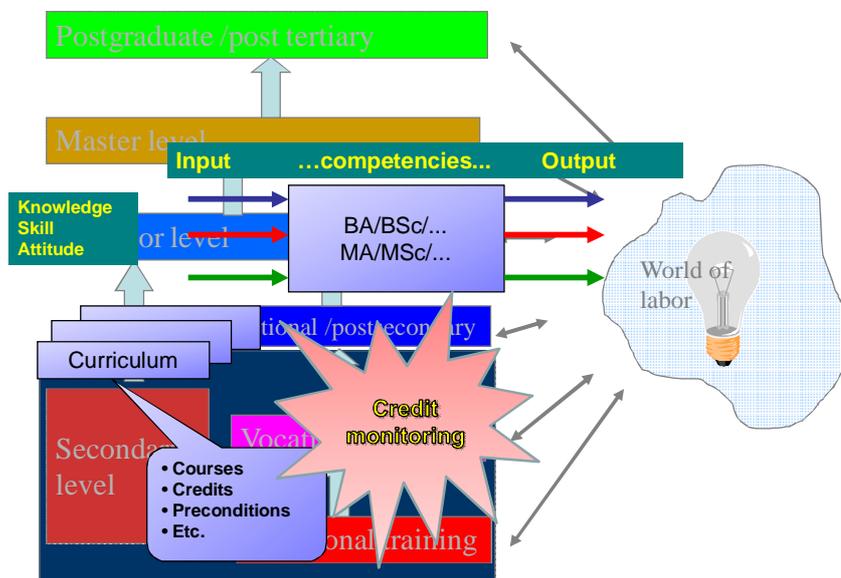


4. Program definition by the three sets of competencies is considered as meta-level definition. The realization of a program is done by curricula development, and each curriculum

consists of several courses. The course descriptions should reflect to the competencies as requirements. A correct analysis of the course description within the context of the curriculum can give an objective answer, whether the program implementation (courses) comply with the requirements of the program (competencies).

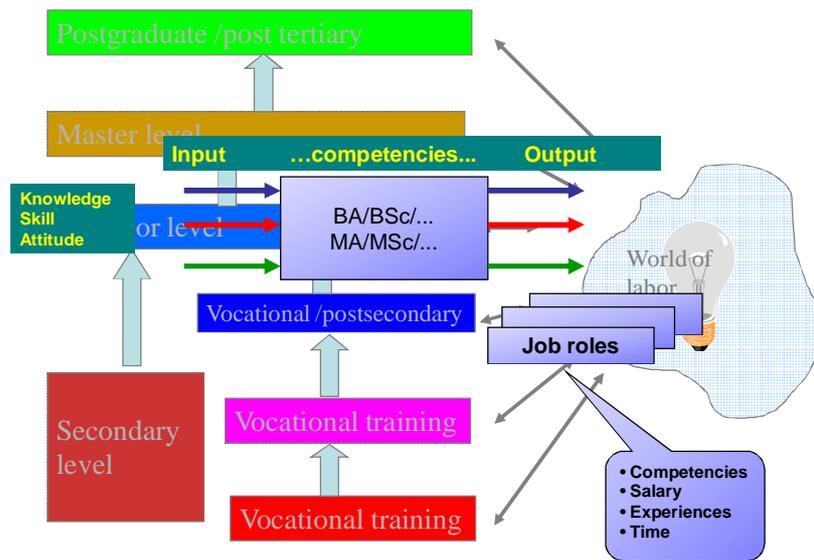


- There is a special methodology developed in a joint project under the European Union Framework 7 IST program, called SAKE (.....) which gives sound methodological background to implement the matching procedure. The result of the implementation will answer the following question: do the university teach what it ought to teach?

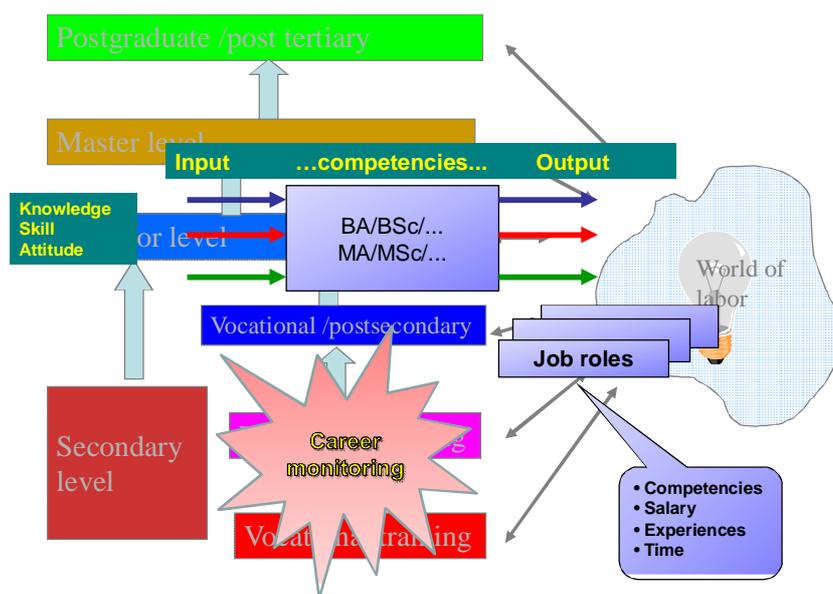


- The analysis of the compliance will not give an exhaustive evaluation. In order to make it complete it is necessary to check the credit allocation. The credit allocation is an obligatory part of the accreditation, but in many cases it is missing or replaced by irrelevant tables. The analysis of credit allocation is important in order to fine tune the learning technologies, improve the efficiency of learning and teaching. At the moment we do not know automated

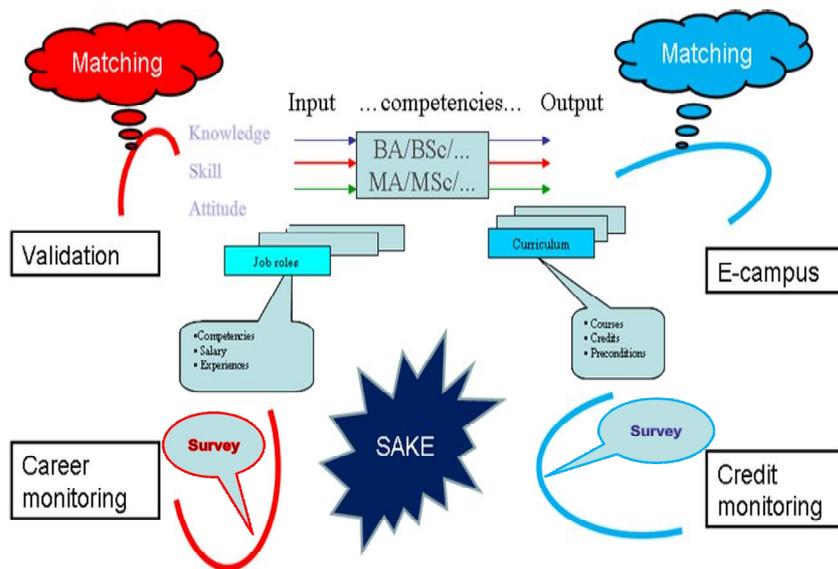
or semi-automated solutions for this purpose, use of traditional survey techniques is envisaged. The collected data converted into the data warehouse will be the basis of a high-level analysis and decision support.



- The mobility among different levels and institutions depends to a large extent on the evaluation and recognition of prior learning and work experiences. That validation process covers not only the formal learning areas (where credits, grades, and many other measures are available), but also informal and non-formal performance should be assessed. Not an easy, but still the easiest part is the credit transfer, because in the European Union most of the HEI has already adopted the ECTS. The real problem is the recognition of non-formal, informal learning. To solve this problem the same logic can be applied in a more dynamic context. Based on the competence based job design the job descriptions can be classified according to the ISCO system, the competencies assign to any job description can be matched against the program competencies.

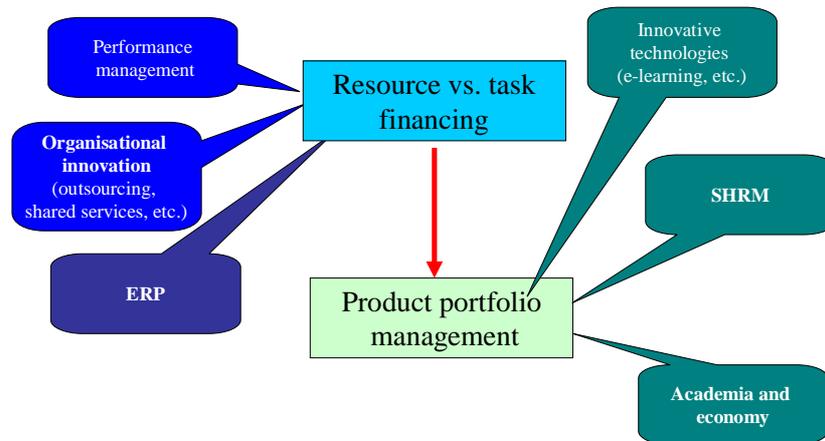


8. Career path monitoring of students will justify the academic efforts, structure, efficiency and efficacy by the job market. Because of the big variety of data security laws and practices in different countries, and because of the fact that career data are rather sensitive personal data, the automation of collecting this type of data is very difficult. In this case the “old, but still good” statistical sampling methods can be of our help. It is important to know that after six months, one, two, five years of graduation, how many of the graduates have a job, have a job for which they were entitled by qualification, what is the salary, what are their job perspectives. The collected data, as in the case of credit-monitoring, will be converted into the data warehouse and will be the basis of the analysis and the decision support.

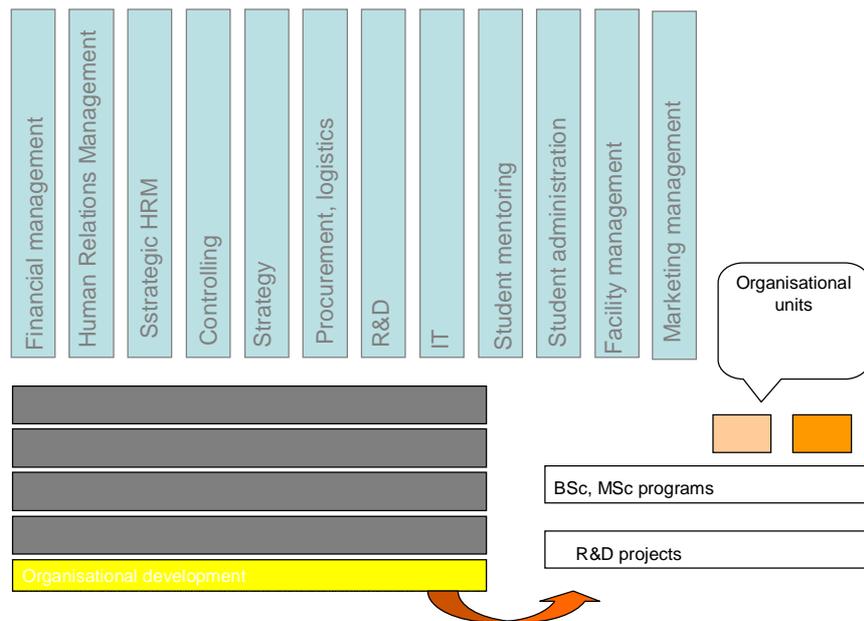


9. The overall structure is summarized on the figure above. The regular monitoring of learning materials compliance (what), the deep analysis of the learning process (how), the analysis of matching competencies of the curricula and the demand of the world of labour, and the analysis of the related career paths will give a very powerful tool for the university management. The strategic indicators of an executive information system
- will show the actual quality status of the organization putting together pieces of information using the strategic map,
 - can be used as a tool for university governance to indicate risks, including the changes in the actual risk levels,
 - will give very explicit explanation why the actual and the expected status are different, and can give suggestions where and how to intervene.

University governance



10. The decisions are going to be made will cover the basic problems of the university management. Up-to-date operational, organizational and technological solutions are provided. Substantial reorganization, rationalization and organizational development (in short: BPR) can be carried out not only in one institution, but in the higher education sector, as a whole, while IT modernization is also needed. The emphasis will be put on cost-efficiency, effectiveness and the creation of an active relationship with the job market. The key element of the institutional strategy implementation is the adequate process management. One of the key focus areas of process management is to ensure the functional, organizational and IT conditions to achieve and sustain the dynamic equilibrium between overall funding and resource use. Sustaining the dynamic equilibrium will ensure the high performance, and eventually the mobility, the lifelong learning give additional opportunity to manage the educational portfolio. Larger the HE area, better the portfolio management, therefore to choose European dimension, cross-border regional cooperation is not a slogan, but a must for the universities to improve their own competitiveness. With the same logic, integrating advanced vocational training to higher education can be justified. Portfolio management is based on alive and close relation to the world of labour in more than one dimension (training, research, innovation, alumni, labour demand), while effective international cooperation, mobility cannot be realized without a strong and advanced internal governance.



11. The innovative technologies cover identity management and the related applications: e-learning, blended learning, mobile learning, adaptive testing, advanced learning environment. It is also worthwhile to mention that innovation goes beyond the learning/teaching, technological challenges of a less bureaucratic administration, closed information flow (workflow), management information systems, executive information systems, strategy monitoring are also addressed.

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