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Integrated Higher Education Management: Summary of Management Approaches

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1. Introduction

The great challenge of autonomous higher education institutions is to create and describe their quality assurance systems, which may be based on old traditions and various management approaches. The existing and emerging management approaches have different backgrounds. Therefore, they have to be integrated with each other so that they support each other and ensure that higher education institutions can attain their objectives. Strategic management and quality assurance are the main management theories, and they include many minor approaches and concepts. Each institution has a challenge to put these approaches together and integrate them as a management system of the institution (Kettunen & Kantola, 2007).

Strategic plans include strategic themes and objectives, which describe the route from the perceived present situation to the desired future (Kettunen, 2010b). Higher education institutions which are able to take personnel, students and other stakeholders into account in future planning are able to build understanding and commitment to the strategic plan. Strategic planning is no longer a compliance task of the top-management making sure that the regulatory and statutory requirements are met. The new information technology provides means to have dialogue and enables the most important stakeholders to engage in the strategy process. The higher education institution should be able to describe its strategic plan using a strategy map, which describes the strategic objectives in the perspectives of the customer, finance, internal processes and organisational learning (Kettunen, 2004).

Quality assurance has developed independently from strategic management and it emphasizes the different aspects of management. Even though these management approaches have different backgrounds, they can be integrated into the management system supported by the management information system (Kettunen & Kantola, 2005). The quality assurance system supplements strategic management, because the purpose of quality assurance is to ensure that the institution can achieve its strategic and other objectives. The success of the institution in reaching its strategic objectives can be measured using the indicators of the Balanced Scorecard. Autonomous higher education institutions plan and build their own quality assurance systems and each institution should be able to describe the main elements of the quality assurance system in an understandable way.

The purpose of this chapter is to summarise strategic management, quality assurance and other management approaches, and create the conceptual framework of integrated higher education management. The study explains the importance of dialogue in the strategy process to engage academic people in future planning and definition of the pedagogical profile of the institution, which can be defined in the strategy process. Then the study explains the internal and external evaluation of educational units, which are processes to enhance quality and pedagogical development. The study also explains the internal and external quality audits of processes.

This study is organised as follows. Section 2 explains the strategy and quality maps developed to describe the strategic plan and the quality assurance system of a higher education institution. Section 3 describes the strategy process which has turned to a new era, because Web-based dialogue enables the personnel, students and other stakeholders to engage in the strategy process. Section 4 presents the role of pedagogy in quality assurance and presents innovation pedagogy adopted for the profile at the Turku University of Applied Sciences. Thereafter, Section 5 presents the internal benchmarking of degree programmes as the procedure of quality assurance. Section 6 presents the external evaluation of the centres of excellence. Section 7 presents process management as a means to ensure the achievement of objectives and the continuous improvement of high quality processes. Process management also is an important approach for the information systems to ensure high quality. Section 8 presents the conceptual framework of integrated higher education management. Finally, the results of the study are discussed and summarised in the concluding section.

2. Strategy and quality maps create the framework

Higher education institutions are accountable for their performance not only for those bodies that finance education, but also students, employers and other stakeholders. These institutions are responsible to implement the education policy, their own strategic objectives and quality assurance, and they are obliged to participate in external evaluations and audit their quality assurance systems. Accountability means that the institutions have the responsibility to build their own quality assurance systems. They need a conceptual framework for the integration of a strategic plan and quality assurance, which can be tailored to meet the needs of the institution. The strategy and quality maps are means to describe the integration of strategic management and quality assurance in higher education (Kettunen, 2011c).

The purpose of the quality assurance system is to ensure that the strategic and other objectives can be achieved. Therefore, the management of higher education institutions should have a clear understanding how quality assurance is related to strategic management. The managers need concepts to describe quality assurance, strategic management and main processes. The managers also should have a precise understanding about how the institution can reach its goals with the processes. Strategy and quality maps, which are like road maps, are the needed concepts. They describe the main land marks on the route to the desired future situation illustrated by the vision, but omit all the minor details of specific considerations.

The internal processes can be described at the institutional level by the value chain, which is a broad description of the sequential processes. The main elements are research and development representing knowledge acquisition, support services representing knowledge management and education representing knowledge dissemination, as noted by Lee and Yang (2000). The quality cycle of continuous improvement (Deming, 1986; Tague, 2005) can be combined with the main processes of education. Support services represent the “plan” phase and education represents the “do” phase. Students, employers and other stakeholders give feedback in the “check” phase and finally the processes are improved by research and development in the “act” phase.

At the plan phase, the objectives of education are planned and defined in the curricula and other planning documents, and the processes are inspected if necessary. The plans then are implemented following the process descriptions. The third phase includes the evaluation of processes, objectives achieved and quality deviations based on feedback from students and other stakeholders. Corrective actions are taken if non-conformance is detected. In the final phase, the process descriptions and activities are improved. The procedure of the quality audit is essential to maintain and continuously improve the processes.

The strategy map introduced by Kaplan and Norton (1996, 2004) can be used to describe and communicate the strategic plan of the institution. The strategy map describes the strategic objectives and balances them into four perspectives, which typically are the customer, finance, internal processes and organisational learning. The strategy map also describes the linkages between the strategic objectives. The internal processes perspective describes the main processes of an institution, which are research and development, support services and education. Typically, the linkages between the perspectives are described in higher education so that the financing and organisational learning is required for the internal processes, which achieve customer satisfaction.

The quality map is the graphical representation of the quality assurance system. The quality map helps the management of the institution describe the main characteristics of quality assurance. The global environment, national education policy and regional aspects are taken into account in strategic planning, which defines the strategic objectives. The quality assurance system ensures that the strategic objectives can be achieved. The management of the higher education institution takes responsibility to develop internal processes based on the strategic plan and the feedback from students and customers. The support services of the faculty define the learning objectives and develop curricula. The faculty implements the plan in the education process and collects feedback from students and customers.

Strategic management and quality assurance are different approaches of management, because they have been developed independently of each other. They can, however, be integrated with each other. The strategy process has a forward-looking stance and it produces the strategic objectives, but the purpose of the quality assurance system is to ensure that strategic objectives can be reached. Strategy and quality maps describe the essential characteristics of the management approaches. The strategy process is partly in the quality assurance system, because it produces the important strategic objectives. On the other hand, continuous improvement is a common element in both the strategy and quality maps.

3. Strategy process as a dialogue to achieve commitment

Strategic management adapts to a rapidly changing environment and provides the strategic themes and objectives for the desired future. Autonomy of higher education means that academic people have the power to subvert, constrain or ignore changes they do not accept. Therefore, it is extremely important to engage them in the strategy process. This process has turned to a new phase which enables the personnel, students and other stakeholders to engage in it. The Web-based dialogue enables management to collect ideas, to conduct a content analysis and transform a large amount of data into strategic themes and objectives even in large organisations (Kettunen, 2010b).

The strategy process typically starts with environmental scanning. The environment of higher education institutions includes education policy, networked strategies and local demand for labour among the other things. The strengths and weaknesses of the institution are analysed taking into account the opportunities and threats of the environment. The new age of environmental scanning extends the traditional environmental analysis of strategic planning with the Web-based dialogue (Ilmola & Kotsalo-Mustonen, 2003; Kettunen, 2010b). The dialogue in the strategy process is more important than the written document, because participation in the process supports the commitment to the strategic plan. On the other hand, the environmental analysis is related to the fulfilment of customers' requirements, needs or desires following the fitness-for-purpose principle (Welch & Dey, 2002).

A Web-based dialogue can be designed to collect, evaluate and analyse signals from personnel, students and partners to pass the surveillance, mentality and power filters (Ansoff, 1984). The surveillance filter blocks the information out of the sight and scope of an individual. The mentality filter limits the information to seeing only the short-sighted changes in time. The power filter blocks information from other organisational levels and cultures. The Web-based survey is used to identify especially the opportunities and threats of the institution. The respondents of the survey are able to evaluate the ideas presented by other people and present new ones.

The Web-based survey provides background information for the face-to-face dialogue. The managers of each organisational unit should analyse and discuss the results of the Web-based dialogue. The results of the strategy processes are collected in the strategic plan, which describes the strategic themes and objectives. The strategic plan is implemented using the annual action plans, the human resources plans, the budgets and other plans. The Balanced Scorecard introduced by Kaplan and Norton (1996, 2004) is an approach which is used to measure the achievement of strategic objectives.

The environment is the common element for strategic planning and quality assurance. The fitness-for-purpose principle of quality assurance and environmental scanning of strategic planning are similar. Strategic planning describes the route to the desired better future, but quality assurance ensures that the desired outcome described by the vision can be reached. It can be concluded that quality assurance complements strategic management and provides tools for implementation of the strategic management. Even though the Balanced Scorecard approach has been developed in the context of strategic management, it also is suitable for quality assurance.

4. Innovation pedagogy as a profile of a higher education institution

Higher education institutions are not equal, because they have different profiles. That is especially true in countries which do not have common and strong education policies. Higher education institutions define their profiles to differentiate themselves, create competitive advantage and increase their external impact on their environment. If the education policy and the strategic plans differ among institutions, the quality assurance systems are hardly identical. The Finnish Ministry of Education and Culture asked the higher education institutions to define their profiles in 2009.

Many traditional research universities rely on individual-centred learning. Students listen to lectures, read literature and memorise material for examinations. Individual learning is relevant when the purpose is to disseminate facts, concepts and information. Although individual-centred learning has attracted attention previously, such systems often place an unusual cognitive burden on the learner in social situations and networks. Working life does not function so that people memorise things alone, but rather ask help from other people. Individual learning is necessary but not sufficient in situations in which the purpose is to create capabilities for students to have a positive impact in their working life.

The Finnish universities of applied sciences are part of a wider community and their regional development has a prominent role based on the legislation. Sociocultural theory and the constructivist view of learning developed by Vygotsky (1978) and Piaget (1999) are widely accepted pedagogical starting points at these institutions. Collaborative learning assumes that learning takes place as learners interact. Individual-centred learning found at traditional research universities is extended to group-based learning at the universities of applied sciences. It is relevant to the relatively complex and multidisciplinary problem-solving tasks of applied research and development, where students participate and create capabilities for working life. Collaborative learning takes place, for example, in reflection, negotiation, debating or multidisciplinary study groups.

Networked learning takes place when students are connected to their potential employers and the partners of the institution. This is relevant in professional higher education, where internships, applied research and development and theses are carried out with working life. Internships take at least half a year at the Finnish universities of applied sciences. Networked learning using information and communication technology supports learning with regard to the development of searching, evaluating and understanding information sources, which are necessary skills of scientific inquiry. High learning outcomes need metacognitive skills and abilities to regulate the learning.

The Turku University of Applied Sciences defined its profile as innovation pedagogy based on multi-field activities, where entrepreneurship, applied research and development, and internalisation combine with education to promote innovations in its region (Kettunen, 2011b). Innovation pedagogy provides a pedagogical framework to enhance the quality on the institutional level. The elements of innovation pedagogy can be found in the Act of the Universities of Applied Sciences and the learning practices. Therefore, innovation pedagogy is suitable for all the universities of applied sciences.

The concept of innovation pedagogy includes all the most important elements of the universities of applied sciences and is especially suitable for those institutions that want to

increase their external impact on the region and promote innovations. According to literature, innovations are incremental or radical (Tidd et al., 2001; Bessant et al., 2005). The incremental innovations are improvements of existing products, services and processes. Actually, the incremental innovation is a similar concept to the continuous improvement of quality assurance. The radical innovations correspond to the major strategic changes among the new products, services and processes. Radical innovations among the processes mean the reengineering of processes described by Hammer and Champy (1993).

The profile is specified by the focal areas of knowledge at the institution. The research and development programmes are based on the focal areas of faculties, including applied information and communication technology, biocompetence and business know-how, expertise in health care and medication, lifelong well-being services, marine environment and construction expertise and working life-based approaches to creative arts. The institution and faculties allocate financial resources to these focal areas. In addition, external funding is sought to supplement internal funding.

5. Internal benchmarking of degree programmes

The quality assurance system includes, among other things, the evaluation of degree programmes or subjects. In many countries, subject benchmarking is a systematic procedure to evaluate education and academic standards (Haargeaves & Christou, 2002; Yorke, 2002). The procedure of benchmarking for seeing and accepting improvement is a useful tool to avoid the prevailing opposition to change (Calabrese, 2003; Ford & Ford, 2002). Benchmarking is especially useful in enhancement-led evaluation, which aims to improve the activities for better quality.

Benchmarking also is a useful procedure for learning good practices and accepting the necessary changes to develop education and other activities, and it actually is the comparison of activities. At the same time, it is hoped that the comparison leads to enhancement-led evaluation, which aims to support the improvement of activities for better quality. Traditionally, the emphasis has been on the careful selection of benchmarks that represent the best practices. However, the selection of a benchmarking team often is a neglected feature of benchmarking.

Benchmarking includes the search for benchmarks and best, or at least good, practices. The search for benchmarks is close to quantitative research and typically the comparison of indicators, which measure the achievement of strategic objectives. The Balance Scorecard approach is a valuable framework, which can be used in the context of benchmarking taking into account that the profiles and strategic objectives of the institutions usually are different. The search for best or good practices is the other line of evaluation. Both of these lines aim for the continuous improvement of education. When two organisational units are compared, the underlying assumption of benchmarks and best practices is that these units have comparable learning objectives based on similar strategic objectives.

The process of benchmarking includes the formation of an evaluation team, the nomination of a chairman and the selection of the evaluated unit. The evaluated unit is informed to write the self-evaluation report, which the evaluation team analyses and prepares the evaluation visit. The evaluation team analyses the statistical data and self-evaluation report

and visits the evaluated unit. During the visit, the evaluation team analyses continuous improvement and how the unit has succeeded in its activities. The evaluation visit includes separate interviews of the management, teachers, students and the advisory board, including representatives from working life. The dissemination of evaluation results includes the seminar and the publication.

If the members of the evaluation team are selected from the same degree programme or subject, they are competent to evaluate the learning objectives, contents and methods. If they are selected from other domestic or foreign institutions, they are able to make sound comparisons about the networked collaboration and international exchange from a larger perspective. If the members of the evaluation team are selected from other degree programmes, subjects, units or institutions, the strength of that cross functional evaluation team is in the sound comparison of learning methods, the processes of education and innovative collaboration among the degree programmes, units or institutions. This kind of “cross-evaluation” favours the multidisciplinary activities and innovations and meets the needs of customers supporting the research and development (Kettunen, 2010a).

The weakness of the international evaluation is the lack of knowledge of the education system of the country where the evaluation is carried out. That may lead to misunderstanding and incorrect evaluation. Even though a member of the evaluation team is from the home country, the evaluation team’s knowledge is limited. If the evaluation team suggests good practices from other countries, they are not necessarily useful, because the education policy, educational systems and traditions of the different countries are not equal. Other problems are the culture and language, which do not help the evaluators to understand all the details of higher education.

The internal benchmarking of a degree programme is an important step in the long-lasting development of education. The benchmarking produces recommendations included in the evaluation report. The degree programme takes responsibility to plan these recommendations for development steps included in the annual action plan. Educational development usually takes many years until it is implemented in the classroom practices. The internal benchmarking can be followed in the external evaluation, which may take the form of centres of excellence.

6. External evaluation of the centres of excellence

The evaluation of the centres of excellence is the procedure of the quality assurance agency to enhance the quality of education at higher education institutions. The evaluation is targeted in teaching processes and outcomes that the institution has achieved. The evaluation encourages the institution and its organisational units to improve the quality and effectiveness of education. The evaluation encourages educational units to the long-term development of education, networking and collaboration. The evaluation provides information on pedagogical decisions, which is important in the evaluation of educational quality (Kettunen, 2011a).

The Finnish Higher Education Evaluation Council is a national quality assurance agency which has the responsibility of evaluating candidates for the centres of excellence in higher education. The evaluation of the centres of excellence is targeted to the evaluation of the

operation and outcomes of education. The evaluation supplements the quality audits, where the quality assurance system is the object of evaluation. The quality assurance agency also has other types of evaluations, which have been targeted for thematic purposes.

The evaluation target “operation” includes the description of the education unit and linkages with the strategic plan and pedagogical outlines of the institution containing the core competence, collaboration with working life, networking within and outside the institution, the integration of education with research and development and the planning, operation, evaluation and development of the education unit. In addition, the description of the operation includes forecasting and responding to the knowledge needs of the operating environment containing the control of resources, evaluation and development, the planning process of curriculum, the learning process and guidance, learning environments and the procedures of quality assurance. The evaluation target “outcomes” of the educational unit include the outcomes of the education unit in relation to the defined objectives containing outcomes related to students, working life, personnel, economic performance, international activities and regional development.

The evaluation of excellence starts with the participatory self-evaluation, which is supplemented by the external evaluation, in which the participants come from other higher education institutions. The participatory self-evaluation describes the history, presence and future of the units. It also describes the pedagogical approach used and compares the activities with national average figures in higher education. The evaluation is looking for good or best practices and national benchmarks to develop education. The evaluation panel should pay attention to the selection of indicators, which may measure the achievement of national or institutional objectives. The Balanced Scorecard indicators may be different among institutions; therefore, they cannot be fully compared with each other.

The cross functional evaluation panel is collected from other higher education institutions. It studies and scores the written self-evaluation reports. Based on the written reports the evaluation panel makes a decision about the evaluation visits. The aim of the visits is to ascertain that the operations and results are as described in the self-evaluation report and for the panel to arrive at its own view about the quality of education. After the visit, the evaluation panel makes its proposal about the centres of excellence. The results of the evaluation are published to disseminate the evaluation results and good practices of high quality education.

The evaluation of the centres of excellence is a powerful procedure to develop higher education. The evaluation acknowledges the development of education, brings out high quality learning practices and disseminates excellent outcomes. It also emphasises the importance of pedagogical development in quality assurance. The quality assurance of education is not only procedures and systems, but excellent educational units should have pedagogical views which guide them to reach the desired objectives following the outlines of the education policy.

7. Process management as an approach of quality assurance

The common European quality assurance of higher education institutions (ENQA, 2009) has a relatively short history, where the Berlin Communiqué (2003) was a prominent takeoff.

Autonomous European higher education institutions have an obligation to plan and implement their own quality assurance systems. When the quality assurance systems mature over time, they move away from the compliance auditing and focus more on process management and the achievement of objectives (Pollit et al., 2002). Business process management has taken hold in private companies, but recently process management has reached higher education institutions.

The strategy map describes the main processes at the overall level of an institution, including research and development, support services and education. Educational management requires a much more detailed level to guide personnel, students and stakeholders in the processes. It is important to engage personnel in the process description and maintenance. The planning and implementation of information systems require the most detailed descriptions of processes. They usually are too complicated for the ordinary users who are looking for help in performing their tasks. The majority of improvements can be achieved without information systems.

A process comprises the network or a series of value-added activities performed by the collaborator to accomplish the assignment. The lanes of the flow charts describe the responsibilities of those who are performing the processes. The lanes describe the collaborating partners and information systems, and the responsibilities include activities and decisions that have essential connections between each other. From the point of view of process maintenance and improvement, it is necessary to keep the process descriptions as simple as possible for the personnel and students to carry out the necessary tasks. The internal customers come from the institution but external customers and partners come from other organisations. Therefore it is important to extend the concept of quality assurance outside the institution.

Continuous improvement is the main element to learn from experience and to develop the processes (Mehra & Argawal, 2003; Escrig-Tena, 2004). The planning, implementation, evaluation and improvement of processes require active maintenance and audits of the processes. Business process reengineering defined by Hammer and Champy (1993) is the fundamental reconsideration and radical redesign to achieve drastic improvement of performances. Instead of incremental continuous improvement, the processes are redesigned or eliminated altogether.

The processes are audited in the external and internal audits. External auditing is carried out by the quality assurance agency, based on the self-evaluation report, auditing material and the site visit. The evaluation panel meets separately with the different groups and stakeholders of the institutions and publishes the audit results. The external audit is part of the auditing of the whole quality assurance system in Finland, described in the quality manual of the Finnish Higher Education Evaluation Council (Korkeakoulujen arviointineuvosto, 2010). The external quality audit group of the Turku University of Applied Sciences recommended the systematic auditing of internal processes (Hintsanen et al., 2009).

The other maintenance operation is the internal audit, whereby the institution collects the evaluation group that evaluates the need to improve or reengineer the processes and inspects the conformance of processes. It is necessary to focus first on the improvement of the processes and achievement of the objectives, and if no major amendments are found, to look for quality deviations. There is no use to search only for quality deviations if the

processes are inefficient and do not produce the desired outcomes when better processes are available. The improvement or reengineering of processes is a great challenge which needs clear understanding about the strategic objectives, competent and dedicated people and support of top-management.

The flow charts of processes describe the different organisational units and stakeholders that have the responsibilities of the actions and decisions. The higher education institutions have to identify not only the internal organisational units but also the customers and partners. The customers include potential, occasional and key customers. The partners include not only the ordinary partners, but also strategic partners who have an important collaborating role in achievement of the strategic objectives. Hence quality assurance should be extended to the external partner if the management and internal processes are connected with the external partners of the institution.

The integration of information systems to quality assurance is another main driver to describe processes in higher education. Most Finnish higher education institutions have the quality manuals and manual binders of evidence for the quality audits. These manuals are passive documents that do not include dialogue, feedback and adequate guidance for students and personnel. Intranet technology provides a solution to reduce or avoid paper-based systems and support process management. It is reasonable to plan the structure of the Intranet to follow the process map and include essential process information and guidance for ordinary users. It also is essential to include the detailed flow charts and process cards to the Intranet for those who need more information. A well-planned Intranet also should have a feedback system to evaluate and improve the processes. The Intranet is supported by the customer management system which collects customer and partner information to increase the quality of processes.

8. Integrated higher education management

Strategic management, quality assurance and many other management approaches have different kinds of backgrounds and they have been developed independently of each other, but they meet in practice in many organisations. It is a great challenge to conceptually integrate strategic management, quality assurance, the Balanced Scorecard, the promotion of innovations, process management, partners, investments and economic success, and customers in higher education institutions to the consistent system of integrated higher education management to ensure high quality outcomes. This challenge is solved in this section.

Table 1 describes the integration of strategic management with quality assurance to achieve the objectives in the perspectives of the Balanced Scorecard. A higher education institution must respond to the changes in its environment, including the international and national economic policy and the local demand for labour, research and development. Strategic management must adapt to the environment changes and therefore is a stronger management approach which overshadows quality assurance. The ideas presented in the table may take slightly different kinds of concepts in other organisations.

Successful strategic management produces radical or incremental innovations which are outcomes of organisational learning. The innovations invented in the internal processes and networks also may have strategic importance. In such a case, the innovations should be

taken into consideration in the strategy process. Quality assurance typically produces incremental innovations, even though quality assurance may help management analyse the internal strengths and weaknesses with respect to the opportunities and threats of the environment and consider the possibility for radical innovations.

The core of strategic management is in the internal processes, because the desired new outcomes cannot be reached without renewed actions. Internal processes may produce new or improved products or services with reengineered or improved processes. The reengineering of processes has much potential, but it sometimes is interpreted as disturbing in higher education. The internal processes and the knowledge do not change very quickly among autonomous faculties. Reengineering may cause changes among the strategic or other partners involved in the processes. Quality assurance typically produces continuous improvement in existing processes. The improvement also may cause changes among the partners and their operations.

Strategic management may cause large investment from the financial perspective. If radical innovations cause reengineering of processes and new partners, the changes are risky investments which do not happen rapidly in higher education, because the lengths of study typically take many years, and because students follow their curricula and personal study plans. Reengineering is a human investment which requires research and development and in-house training, but it also may require real investments for new premises and equipment. In a successful case, quality assurance produces increased economic success, which may lead to better learning outcomes and lower costs. Continuous improvement can be used to avoid large investments and organisational changes in the later stages.

Strategic management which produces radical or incremental innovations may increase customer satisfaction among potential, occasional and key customers. High customer satisfaction is the desired goal, which can be described by the success to achieve learning objectives, new knowledge and innovations among other objectives. The scope of quality assurance is limited, because continuous improvement mainly affects key and occasional customers. Continuous improvement may keep customers satisfied, avoid drop-outs and keep the processes sustainable. The concept of customers also can include stakeholders if one wants to study their role in management.

Integrated higher education management can be summarised so that the radical innovations are the reengineering of processes and respectively incremental innovations are continuous improvement seen from the internal processes perspective. This is a result which opens up opportunities to integrate innovations with strategic management, quality assurance and process management with strategic or ordinary partners. These management approaches can be integrated in practice in higher education institutions and also in other organisations. The implementation of the strategic plan means typically investments to achieve economic success, but quality assurance usually has smaller economic consequences.

Strategic management which aims to satisfy potential customers is the great challenge of change management, because it is based on innovative products or services, entails the reengineering or improvement of internal processes, calls for renewed collaboration with partners and involves investments. Quality assurance that aims to increase economic success and customer satisfaction usually is based on incremental innovations and continuous improvement with ordinary partners.

	<i>Strategic management</i>	<i>Quality assurance</i>
<i>Organisational learning: innovative management</i>	<ul style="list-style-type: none">• Radical or incremental innovations	<ul style="list-style-type: none">• Incremental innovations
<i>Internal processes: products, services and renewed processes</i>	<ul style="list-style-type: none">• Reengineering or continuous improvement with partners	<ul style="list-style-type: none">• Continuous improvement with partners
<i>Finance: sustainable economic success</i>	<ul style="list-style-type: none">• Investments and increased economic success	<ul style="list-style-type: none">• Increased economic success
<i>Customers: satisfied students and employers</i>	<ul style="list-style-type: none">• Potential, occasional and key customers	<ul style="list-style-type: none">• Occasional and key customers

Table 1. Integrated higher education management drives innovations, renewed processes, economic success and satisfied customers.

The concept of integrated higher education management can be extended with respect to the competitive strategies in higher education. Higher education institutions can be focused on specific customers and thereafter, the focus strategy can be divided into differentiation and cost effectiveness (Kettunen, 2002). Integrated higher education management also can be studied in different autonomous higher education institutions which have created their own quality assurance systems. The integration of various management approaches represents consistent and efficient management, which can be evaluated in the auditing.

Another possibility to extend the concept of integrated higher education management is to explore its meaning in the different subjects or fields of education. For example, the subject of design has a wide and narrow meaning. The wide meaning of the design of the product embraces, among other things, the planning of the structure and shape, the usage in the cultural context, and the relationship with the strategy and quality assurance. The wide meaning of the design is multidisciplinary, which is common in real life. The narrow meaning in industrial design means the art to provide the outside shape of a product. In the Swedish language, the word for design is *formgivning*, which means ‘to give a form’. That interpretation represents the narrow connotation of design, which is more common in education than in industry.

9. Conclusion

Autonomous higher education institutions have the responsibility to build their own quality assurance systems. The purpose of a quality assurance system is to ensure that the strategic and operative objects of the institution can be achieved. Quality assurance is not the only management approach in higher education institutions, which typically have adopted many pedagogical approaches and management theories developed in private and public organisations. The results of this study show that the conceptual framework of integrated higher education management encompasses the necessary management approaches of higher education institutions.

The strategy and quality maps provide a conceptual framework and practical tools for higher education institutions to describe their strategic plan and quality assurance system in a graphical form. They help management communicate the future plans and ways to implement them to achieve the desired objectives. They make the management documents understandable, which increases the commitment of personnel, students and stakeholders to these plans. The conceptual tools also can be used in the external evaluations of the institution.

The weakness of a written and detailed strategy document is the weak commitment at the lower levels of an organisation. Therefore, it is important to engage personnel, students and other stakeholders in the strategy process. The Web-based strategy dialogue can be used to collect, evaluate and analyse the ideas of the stakeholders for a better future and increase the commitment to the strategic plan. It is important that the managers of organisational units analyse and discuss the results of the Web-based dialogue and implement the good ideas not only in the strategic plans but also in the annual action plans, curricula and other necessary documents. Even in a large higher education institution every individual can be involved in the strategy process.

Each higher education institution has its own profile and customers. The profile differentiates the institution, creates competitive advantage and increases the external impact. The profile of the Turku University of Applied Sciences was defined as innovation pedagogy in the strategy process. The breadth of expertise of the institution in applied research and development and education encompasses several focal areas which are planned based on the established knowledge of the faculties. The multidisciplinary faculties of the institution are able to support the creation of innovations and respond to the customer needs of the region with the networked applied research and development and the integrated education.

The internal benchmarking of degree programmes is the enhancement-led evaluation carried by the cross functional evaluation groups. The advantage of the cross evaluation is its comparison of learning methods and processes to promote innovative collaboration among the degree programmes and to support the profile of the institution to lead to the creation of innovations. The external evaluation of the centres of excellence is the procedure of the quality assurance agency to support the long-lasting educational development of the institution. In Finland, the external evaluation encompasses the evaluation of operations and outcomes of the organisational unit. The internal and external evaluations are important elements of the quality culture, which are connected to the profile and other pedagogical development of the institution.

Process management is an emerging management approach in higher education which attains more importance when the quality assurance systems mature over time. The processes and other elements of the quality assurance system must be maintained and improved in a systematic manner. The quality audits and the implementation of information systems are the main drivers to implement process management. The maintenance and internal audits of processes should be designed at the moment of accepting the process descriptions, but not later than after the external audit. Reconsideration and radical redesign of processes is the primary task of the process audit if the strategic objectives are not achieved. If no major improvements are found, the quality deviations must be reported.

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Quality Assurance and Management

Edited by Prof. Mehmet Savsar

ISBN 978-953-51-0378-3

Hard cover, 424 pages

Publisher InTech

Published online 23, March, 2012

Published in print edition March, 2012

The purpose of this book is to present new concepts, state-of-the-art techniques and advances in quality related research. Novel ideas and current developments in the field of quality assurance and related topics are presented in different chapters, which are organized according to application areas. Initial chapters present basic ideas and historical perspectives on quality, while subsequent chapters present quality assurance applications in education, healthcare, medicine, software development, service industry, and other technical areas. This book is a valuable contribution to the literature in the field of quality assurance and quality management. The primary target audience for the book includes students, researchers, quality engineers, production and process managers, and professionals who are interested in quality assurance and related areas.

How to reference

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Juha Kettunen (2012). Integrated Higher Education Management: Summary of Management Approaches, Quality Assurance and Management, Prof. Mehmet Savsar (Ed.), ISBN: 978-953-51-0378-3, InTech, Available from: <http://www.intechopen.com/books/quality-assurance-and-management/integrated-higher-education-management-summary-of-management-approaches>

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