

Integrated Management Approaches in Higher Education

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This study analyses how various management approaches can be integrated in higher education institutions to improve institutional performance. Strategic management is the basis on which quality assurance is built. The purpose of the quality assurance system is to ensure that the strategic and other objectives of the institution can be achieved. Quality management refers to the processes that the institution uses to maintain and develop the quality of its activities. Higher education institutions need integrated management which includes strategic management, quality assurance, pedagogical management, and process management at the core of management approaches. The internal validity presumes that one of these management approaches leads to another approach that forms a consistent management system. The study argues that structural changes are not sufficient to improve institutional performance, because they are independent of processes. Process management with other management approaches is essential to improve the institutional performance.

Keywords: strategic management, Balanced Scorecard, quality assurance, pedagogy, process management, higher education

Introduction

This study represents institutional management, which aims to inform planning, implementation, and evaluation and improve the main activities including research and development, support services, and education in higher education institutions. Higher education institutions must plan their future activities and make sure that their activities meet the quality standards of stakeholders. The institutions must also carefully plan the processes based on the pedagogical regulations and standards. Several management approaches have to be taken into account and integrated into a coherent whole when higher education institutions aim for high-quality management.

Education policy with other environmental factors is a premise and content in the strategic planning of higher education institutions. A higher education institution is obliged to obey economic policy and many other policies of the central and regional governments. Higher education institutions will not be successful if they do not follow the outlines of education policy and tie the national and regional policies with the strategic plan of the institution. The policies are supported by the legislation, funding system, and regional strategies and decisions. Structural development and process management are essential elements to improve the institutional performance.

The purpose of this study is to present a general framework for the integrated higher education management. This study combines strategic management with quality assurance, pedagogical management, and process management. The study shows that higher education institutions cannot be managed effectively only

with structural changes, but also with process management, which needs pedagogical guidelines. The empirical evidence is presented from the Turku University of Applied Sciences (TUAS) and Finnish education policy. There are clearly possibilities for improvement in process management in Finnish higher education institutions.

The internal benchmarking, also known as cross-evaluation or subject evaluation, aims for continuous improvement of activities in higher education (Kettunen, 2010a). The enhancement-led benchmarking includes self-evaluation, evaluation visits, and analyses. The benchmarking produces useful information and recommendations for the development of degree programmes, other activities, and the evaluation process. The internal cross-evaluation strengthens the quality culture of the institution and is able to compare learning methods and educational processes and promote the innovative and interdisciplinary collaboration among the degree programmes.

The external evaluation is conducted by the Finnish Education Evaluation Centre in the form of quality audits. This quality assurance agency is also responsible for the evaluation of the centres of excellence. The pedagogical development of the degree programmes is essential to select the best applications for the centres of excellence. Process management is an essential management approach to describe, maintain, and improve the quality assurance system. The previous study about quality audits indicates that the process management has not attained a notable position in most of the Finnish higher education institutions (Kettunen, 2012).

The innovation pedagogy for the profile of TUAS was an important pedagogical outline obtained from the strategy process (Kettunen, 2010b). Innovation pedagogy means that the higher education institution responds to the development needs of the region typically with the interdisciplinary projects of applied research and development which are integrated with education. It also encourages internationalisation and entrepreneurship to promote innovations. Individual learning is extended to collaborative and networked learning in these activities to achieve the desired learning objectives (Kettunen, Kairisto-Mertanen, & Penttilä, 2013).

Process management produces detailed process descriptions including process flows, process cards, and other textual information (Jeston & Nelis, 2006; 2008). The process descriptions are available for management, personnel, and students and they can be placed in the intranet as the quality manual (Kettunen, 2011c). The process descriptions help internal audit groups evaluate the appropriateness of processes. The audit groups must first evaluate the necessary improvements in the processes to achieve strategic and other objectives. If they cannot find any improvements, their task is to report on the quality deviations.

This study is organised as follows. First, it describes the concept of integrated higher education management and the causal relationship of management approaches. Second, it presents how strategic management and quality assurance can be analysed by the perspectives of the Balanced Scorecard. Third, it provides empirical evidence about the education policy and how higher education institutions have responded to it. Finally, the results of the study are summarized in the concluding section.

The Causal Relationships of Management Approaches

Higher education institutions have many management approaches, which have different backgrounds. A great challenge for higher education management is to use these management approaches simultaneously and integrate them into a coherent whole to improve the institutional performance. The success of Finnish higher education institutions considerably depends on the effectiveness, because the funding from central government is based on the output. Therefore, management of these institutions should be efficient and ensure the achievement of desired outcomes.

Figure 1 presents the causal relationships of the most important management approaches in higher education. Strategic management is the starting point. It is based on the environmental analysis and the sufficient dialogue to create commitment to the strategic plan. Even though there are many environmental factors to be taken into account, the personnel of the knowledge-intensive organisations must plan their own work to carry it out efficiently and effectively. The strategy process produces the strategic plan implemented by the Balanced Scorecard approach (Kaplan & Norton, 2001; 2004), budgeting, action plans, and human resources plans. It is useful also that the strategy process produces the profile with educational guidelines for the processes of the institution.

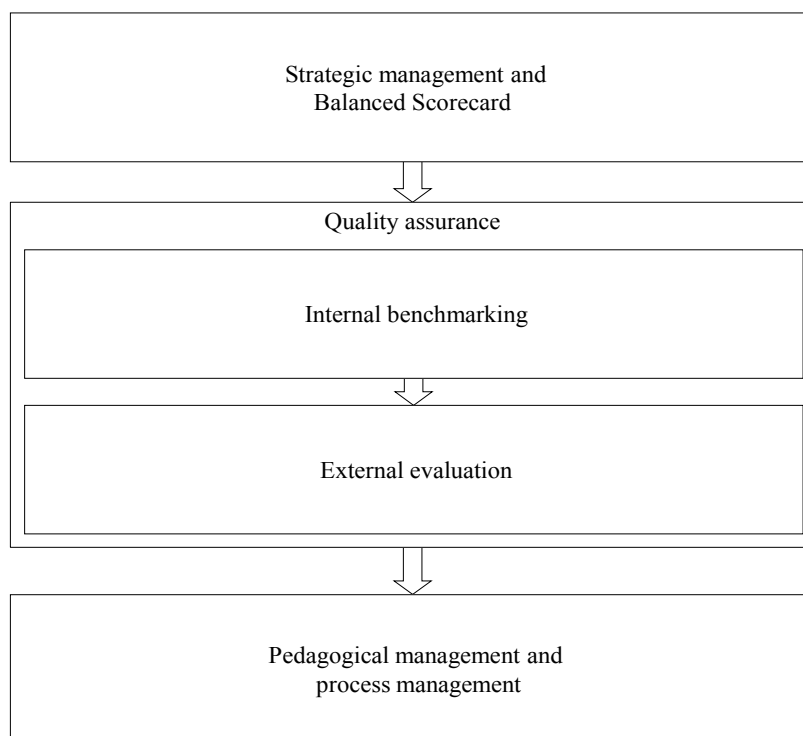


Figure 1. The causal relationships of management approaches.

The next phase of management approaches is the quality assurance consisting of internal benchmarking and external evaluation. Amaratunga and Baldry (2000) confirmed a relation between performance measurement and quality based on the Balanced Scorecard framework. The purpose of the quality assurance system is to ensure that strategic and other objectives can be achieved. The benchmarking approach is an enhancement-led evaluation that aims to improve the main activities of the institution including education, support services, and research and development (Hargreaves & Christou, 2002; Yorke, 2002; Kettunen, 2010a). The internal benchmarking produces information on learning methods, educational processes, and other activities to promote improvement and collaboration among the degree programmes. Collaboration is important when interdisciplinary research and development is integrated with education.

The external evaluation in higher education complements internal benchmarking and consists quality audit and the evaluation of the centres of excellence. The external evaluation produces results of the procedures and pedagogical development of educational units (Kettunen, 2011a). According to this evaluation, the long-term educational development is important to achieve high quality. The results of the external development in the

Finnish higher education institutions show that process management is an important approach to conduct the principle of continuous improvement. The analysis of the external evaluation indicates that there is still room for improvement in the process management of Finnish higher education institutions (Kettunen, 2012).

Pedagogical management is integrated with process descriptions to give guidelines for processes. An interesting result is that pedagogical process descriptions are independent of the organisational structure. Many processes, such as the process of planning a course, arranging practical training, and writing a thesis can be similar in different faculties. In this way, the academic activities are in many respects autonomous of the organisational structure consisting of degree programmes and other units. If the organisational structure is changed, the processes remain unchanged. This emphasises the role of process management. If processes have not been described, they cannot be evaluated and developed to achieve the strategic objectives.

The last phase of the management approaches includes process management. The core processes of a higher education institution are research and development representing knowledge acquisition, support services representing knowledge management, and education representing knowledge dissemination (Lee & Yang, 2000). The processes include internal stakeholders and partners as actors and customers as the recipients of the services. Process management with process descriptions are important elements for maintaining and improving the stakeholder relationships. The detailed process descriptions include process flows and cards which are described and maintained by the experts and approved by the management of the institution.

Figure 2 depicts an example about the process flows, which have been developed by the expert group of continuing education. The responsible person at TUAS is the manager of continuing education. The education planner and teachers plan the education program with the manager. The secretary as a team member takes care of the practical arrangements. Education is followed by the evaluation of learning. Feedback is collected from the teachers and participants and presented for the paying customer. The graphical process flow is also described in the written process card, which includes the process owner, purpose, quality criteria, and responsible bodies of the process. The process flow and card and the short textual information are published on the intranet of the institution. The intranet includes about 150 detailed process descriptions which are regularly audited and improved if deemed necessary.

Higher education institutions have typically printed quality manuals. People dread making revisions to the processes, because someone has to type and distribute them and make sure that everybody reads and implements the revisions. The institutions also collect a large amount of other printed material for the management and quality audits. Information and communications technology provides solutions to avoid these troublesome tasks of paper-based systems. Strategic management, quality assurance, pedagogical management, and process management may not necessarily receive the attention they deserve unless they are integrated into the intranet and management information system.

The Balanced Scorecard approach can be used to build the management information system, where the activities are evaluated and action plans for the next year are planned (Kettunen & Kantola, 2005). The management information system also serves the continuous improvement of quality assurance, budgeting, and human resources management. Curricula and the workload plans of teachers can be handled with SoleOPS software (Vanhanen, 2009). The processes of education and other activities can be described by the QPR Process Guide software (Solme Engineering AB, 2006). The process descriptions can be used to plan the intranet of the institution as a quality manual to serve management, personnel, and students in their daily activities (Kettunen, 2011c).

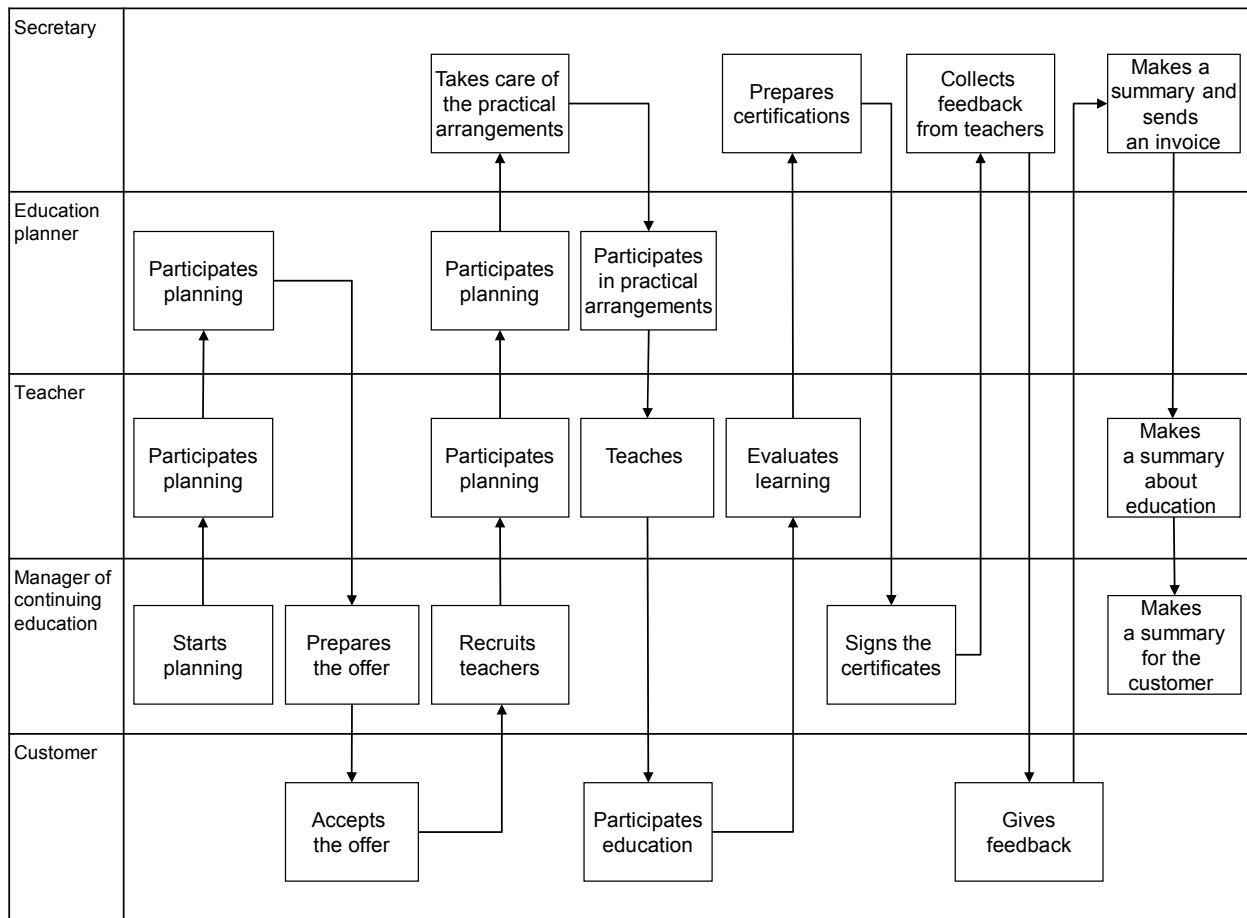


Figure 2. The process flow of continuing education.

The management information system is used in the performance negotiations between the Rector’s top management group and the management groups of the various organizational units. The performance negotiations are used to evaluate how the institution and its organizational units have achieved the strategic objectives. The negotiations are checks to see whether the institution and its processes are adequately structured to achieve the strategic objectives. All the organizational units prepare their annual action plans, budgets, and curricula integrating various management approaches. A proper management information system can be a valuable tool in the integrated higher education management.

Integrated Higher Education Management

A great challenge of higher education institutions is to integrate different management approaches. Strategic management and quality assurance are the most evident management approaches, which are necessary in higher education institutions. The roots of these management approaches are different and they have developed independently from each other. The Balanced Scorecard approach is a relatively new approach, which extends the budgeting and process management to knowledge management and customers. The processes expressed in the strategy maps of the Balanced Scorecard can be extended to the lower level process descriptions. All these management approaches should be integrated into a coherent whole to form an efficient management system.

Table 1 describes integrated higher education management where strategic management and quality assurance are presented by the perspectives of the Balanced Scorecard. Strategic management typically overshadows quality assurance, because the purpose of the quality assurance system is to ensure the achievement of strategic and other objectives. The customer perspective of the Balanced Scorecard approach includes the customer relationships management. The financial perspective includes budgeting aiming to sustainable economic success. The processes and structures perspective includes process management and structural changes. The organisational learning perspective includes knowledge management, which produces innovations.

Table 1

Integrated Higher Education Management

	Strategic management	Quality assurance
Customers: Customer relationships management	Key, occasional, and potential customers	Key and occasional customers
Finance: Budgeting	Investments and improved economic success	Improved economic success
Processes and structures: Process management and structural changes	Reengineering or continuous improvement of processes; Organisational changes	Continuous improvement of processes
Organisational learning: Knowledge management	Radical or incremental innovations	Incremental innovations

Customer satisfaction is the ultimate goal of the customer relationships management. Customer satisfaction among students and employers and other positive external impacts are the desired objectives in the public sector unlike in the business sector, where the economic result is the eventual objective. Strategic management may produce radical or incremental innovations and increase satisfaction among key, occasional, and potential customers. The scope of quality assurance is typically limited, because continuous improvement mainly affects key and occasional customers. In a successful case, continuous improvement keeps processes fluent, avoids drop outs, and keeps customers satisfied.

Customer satisfaction can be described in higher education by the success to achieve learning objectives producing new knowledge, skills, and innovations. Strategic management aims to create a better future and may lead to new degree programmes, continuing education, and the export of education, which attract key, occasional, and potential customers in higher education. In addition, the funding from the European Union has expanded the research and development projects to new customers from domestic and foreign countries.

Budgeting has the challenge of sustainable economic success not only from the accounting point of view but it also from the viewpoint of the external impact (Godemann, Bebbington, Herzig, & Moon, 2014; Thomson, 2007). Strategic management may lead to remarkable investments or changes which have long-lasting economic effects. They may also be connected with the reengineering of processes, which can be based on radical innovations and require investments in human capital in the form of research and development and in-house training. Quality assurance typically leads to small changes which in a successful case lead to better cost efficiency and increased income. To some extent, large economic risks and radical changes can be avoided by the continuous improvement of processes and organisational learning.

Even radical investments do not rapidly produce output in higher education, because students follow their predetermined curricula and personal study plans for many years to graduate. Higher education institutions have responsibility to provide education so that all the students can graduate. In many European countries, there

are budget cuts, and higher education institutions are trying to find more external sources of income. Another solution to the budget cuts is to improve the cost efficiency by primarily cutting expenditure from the secondary activities which are not necessary to achieve the objectives.

Process management produces products and services by reengineering or gradually improving processes. The core of strategic management is in the processes, which can be based on radical innovations, require financial investments, and attract new customers. Business process reengineering is the radical redesign or elimination of processes to achieve drastic changes or performances to produce new products and services (Hammer & Champy, 1993). Continuous improvement is an essential element in quality assurance to learn from experience and develop the processes (Mehra & Argawal, 2003; Escrig-Tena, 2004). The process auditing is an excellent way to maintain and develop processes and make sure that processes are planned, implemented, evaluated, and improved in a systematic way following the principle of continuous improvement (Kettunen, 2012). Process management with other management approaches helped TUAS pass the quality audit by the Finnish Higher Education Evaluation Council in 2010 (Hintsanen et al., 2010).

Continuous improvement of processes is important in higher education. Typically processes are planned and implemented carefully. Internal audits and external quality assurance agencies take responsibility of evaluation. Based on the evaluation, education and other activities are improved. Typical weakness is the evidence-based improvement. The insufficient documentation of evaluation is a challenge. The development tasks are not always based on evaluation and evaluation does not lead to development. Structural changes in higher education are typically based on education policy or by the initiatives of the institutions. These changes include in Finland, for example, the establishment of the universities of applied sciences at the beginning of the 1990s and mergers of higher education institutions two decades later. Many universities of applied sciences have made organisational changes based on the budget cuts.

Processes can be internal covering the internal stakeholders, but some of the processes stretch to external stakeholders (Amaral & Magalhaes, 2002; Musial, 2010). Internal stakeholders include students and staff in higher education and external stakeholders include partners and customers. Student exchange and other locations open up opportunities for distance and blended learning, which is the combination of traditional face-to-face and technology-mediated instruction (Moskal, Dziuban, & Hartman, 2013; Norberg, Dziuban, & Moskal, 2011). Stakeholder theory has its origins in the management literature (McDaniel & Miskel, 2002). It is also widely acknowledged that the views of stakeholders must be taken into account in the quality management (Lagrosen, Seyyed-Hashemi, & Leitner, 2004; Srikanthan & Dalrymple, 2003). It can be seen that all the main management approaches are intertwined with the stakeholders.

Organisational learning is an outcome of knowledge management, which produces radical or incremental innovations (Nonaka & Takeuchi, 1995; Tidd, Bessant, & Pavitt, 2001; Bessant, Lamming, Noke, & Phillips, 2005). Radical innovations typically have strategic importance, which are related to the reengineering of processes. They require investments in the new production lines and may attain potential customers and change the customer relationships with occasional or existing key customers. Incremental innovations are related to the continuous improvement of processes and aim to better economic success. Incremental innovations are minor improvements to the services and products of occasional and key customers. Innovativeness is supported by the personnel of human resources management of higher education institutions.

Knowledge and skills in higher education institutions are relatively rigid, because education to demanding positions is long. That does not support very radical strategic changes in the structure of personnel if the

personnel cannot be laid off. The knowledge and skills of the teachers and other personnel take incremental steps according to the principle of continuous improvement. Adult education can be flexible and better respond to the demand for new knowledge and skills in the labour force, because continuing education centres hire suitable teachers whenever they need them.

Education Policy and Higher Education Management in Finland

The main outlines of the education policy have been written in the government programme (Prime Minister's Office, 2011), the Development Plan for Education and Research (Ministry of Education and Culture, 2011), and the guidelines of the Ministry of Education and Culture. Education policy renewed remarkably the Finnish universities of applied sciences during 2011-2015. This section of the study analyses the education policy and the management requirements that higher education institutions meet to implement the national policy.

The structure of customers changed in the higher education institutions based on the education policy and budget cuts. The profile has been understood in Finland typically, so that higher education institutions should focus their activities on a specific field of education. An opposite argument is that customer needs do not comply with the degree programmes or subjects of the institutions. The profile of high-quality research universities is typically narrow allocating sufficient amount of human and financial resources to a specific field of study. On the other hand, the large universities of applied sciences typically are interdisciplinary supporting innovations to meet the customer needs. The Finnish education policy has supported the approach of more narrow focus even for the universities of applied sciences, based on the budget cuts by the central government.

TUAS had to close down the degree programmes in Hospitality Management, Fisheries, and Environmental Care and Sustainable Development and study places in many other degree programmes. The degree programme in Hospitality Management was concentrated at the Satakunta University of Applied Sciences, which is 141 kilometres from Turku. This policy-based decision means that TUAS loses one of its key customers. The degree programme includes tourism education which is important for the Southwest Finland where TUAS is located.

The funding of the universities of applied sciences changed to an output-based system at the beginning of 2014, one year later than the corresponding change of the research universities. The aim was to develop funding so that it creates incentives for the collaboration and distribution of work. The budget cuts of the universities of applied sciences were nearly 20% during 2013-2015. The budget cuts have created incentives to increase external funding especially to research and development where collaboration is necessary to successfully apply funding from the European Union and many other funding sources. The funding system is based on the number of degrees, European Credit Transfer System (ECTS) credits, publications, and many other factors, but not on the number of students, which is the core of the input-based system.

The financial management emphasises more external finding and cost efficiency, but on the other hand investments in new campus premises. The budget cuts have created incentives to apply more external funding and cutting secondary costs about those activities which are not necessary to reach the strategic objectives. This is based on lean management which means creating more value for customers with fewer resources (Dragomir & Surugiu, 2013). The Development Plan for Education and Research (Ministry of Education and Culture, 2011) has outlined that universities of applied sciences have to close down their branches, which are typically located in small towns. The activities of tens of branches have been collected into the campuses in the central towns of regions. Investments in campus premises have been planned and done around the whole country.

The number of degree programmes was decreased and education was collected into bigger organisational units, which can strengthen the strengths of institutions in the long run. The number of the Finnish universities of applied sciences and their branches was decreased and administration was renewed and stipulated, so that all the institutions are owned by the limited liability companies from the beginning of 2015. The regulations of the educational processes have been unchanged. The indicators of the ministry follow the efficiency of education and graduation rates to increase the supply of skilled labour, but higher educational institutions have not been able to remarkably shorten the lengths of study, because economic policy did not provide any pedagogical outlines or change the educational processes.

TUAS has described its processes in detail using about 150 process flows and cards. The advantage of this is that the best experts of the institution have described in their processes in teams to guide the activities in a uniform manner. The process descriptions can be used in management, internal communication, and the orientation of new personnel. After the first enthusiasm of process management and budget cuts, reengineering has been made to connect various processes and give up some unnecessary processes. Processes have been improved by combining project studies, practical training, theses, and research and development projects together to decrease drop out figures and improve graduation rates.

Organisational learning and knowledge management have changed the requirements of the skills and knowledge for a large amount of personnel in higher education. The purpose of the central government is to raise Finns to the most skilful nation in the world by 2020. The government programme and the Development Plan for Education and Research do not mention anything about the effects of budget cuts on the personnel of higher education institutions. The Ministry of Education and Culture has emphasised the good personnel policy, but, in practice, the responsibility has been left to the institutions, which have found innovative solutions and new jobs for thousands of people.

Many traditional lecturers have found places in research groups, which apply external funding for research and development. Higher education institutions have arranged internal training for the personnel to compensate the effects of budget cuts with external funding. A large number of personnel have learnt innovative solutions for the budget cuts. Teachers have integrated education with research and development, so that students can earn credits in projects. Students may have their practical training and write their thesis in the projects. These solutions have not been enough for all the teachers. Therefore, quite many members of the personnel have been laid off.

Conclusion

This study developed the concept of integrated higher education management which utilises several management approaches and combines them into a coherent whole. Strategic management based on education policy is the strongest management approach. Quality assurance is clearly a subordinate approach, because the purpose of the quality assurance system is to ensure that strategic and other objectives can be achieved. Both of these management approaches have effects on customers, financing, processes and structures, and organisational learning.

Education policy and strategic management have focused on the customer structure of higher education institutions by cutting degree programmes. These radical changes may also entail radical changes to the financial management of higher education in the form of budget cuts and new investments in campuses to collect the branch activities. Structural changes, such as organisational changes, are necessary to improve cost

efficiency to respond to the budget cuts. New personnel have to be hired and some other personnel must be laid off. Structural changes are indeed necessary, but they are not always sufficient to improve the cost efficiency, because the structural changes are independent of processes.

TUAS developed innovation pedagogy for its profile to create efficiency and improve external impact on the region. According to the innovation pedagogy, the institution responds to the development needs of the region with research and development projects, which typically are interdisciplinary. The projects are integrated into education, so that they provide opportunities for students to create needed capabilities for development work. TUAS also promotes entrepreneurship and internationalisation to promote innovations. Innovation pedagogy means in process management that the project studies, practical training, theses, research and development projects, international exchange, and entrepreneurship can be combined to large entities to promote efficiency and the professional growth of students.

Process management includes radical reengineering and continuous improvement of activities. An important result is that the process descriptions of courses, practical training, theses, and many other educational elements are autonomous and independent of the organisational structure consisting of faculties, degree programmes, and other organisational units. This result emphasises the importance of process management. The processes cannot be effectively planned, implemented, evaluated, and improved if they have not been described. Higher education institutions need the educational profile and pedagogical management to guide the process management to create efficiency and effectiveness.

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