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ESSAYS ON STRATEGIC
MANAGEMENT AND
QUALITY ASSURANCE

FACULTY OF TECHNOLOGY,
DEPARTMENT OF INDUSTRIAL ENGINEERING AND MANAGEMENT,
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JUHA KETTUNEN

**ESSAYS ON STRATEGIC
MANAGEMENT AND QUALITY
ASSURANCE**

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Abstract

The thesis consists of the summary and eight refereed articles presenting the national, regional and institutional levels of strategic planning and quality assurance. National or regional networks may have either general or functional strategies. An organisation may have an overall strategy and its support services may have functional strategies. Quality assurance typically takes constantly smaller steps to develop processes. Strategic planning produces strategic objectives for a better future, while the purpose of a quality assurance system is to safeguard that these objectives can be achieved. This interpretation thus integrates strategic planning into quality assurance in internal processes and information systems.

The higher education institutions can and should be managed to attain a better future and ensure high quality, but the management of higher education institutions need a framework. The objective of this study is to provide a common framework of strategic planning and quality assurance for higher education institutions.

The framework does not only help management communicate and implement the strategies, but also to plan strategies in the strategy process, evaluate the performance and achievement of desired objectives and provide a structure for quality assurance and management information system. The framework is also rigorously tested in practice.

At the national level, the study presents a network strategy of the universities of applied sciences (formerly polytechnics) and the functional strategic plans of their libraries. At the regional level, the study presents a network strategy of higher education institutions and the strategy of the Turku University of Applied Sciences as part of the strategy of the City of Turku. At the institutional level, the study presents competitive strategies, which are applied in continuing education. Finally, the study analysed the importance of various measures in process control to improve the quality of education.

Keywords: evaluation, higher education, network, quality assurance, strategic management

Preface

This doctoral thesis is presented for the degree of Doctor of Science (Technology) at the University of Oulu. The thesis consists of eight refereed articles presenting the different levels of strategic planning at Finnish higher education institutions. During my career in educational management, since 1995, I have written nearly 50 refereed international articles about strategic management and quality assurance. I am fully aware that the selected articles in this thesis describe only a narrow view of institutional management.

Institutional management plays a crucial role in leading autonomous higher education institutions. The institutions can be managed and should be managed to attain a better future and assure the quality of education the level of research and support services. The selected articles describe the national, regional and institutional levels of strategic planning and quality assurance.

This thesis presents documentation of life-long learning. It has not been written in the ivory tower of a higher education institution. Rather it offers an analysis of the development of institutional management in actual practice. One advantage of such participatory research is that it supports the practical work of institutional management. On the other hand, the practical work provides possibilities to test and apply to develop new theoretical frameworks and concepts in the management literature.

I am very grateful to Professor Pekka Kess from the University of Oulu. Without his support and encouragement, this thesis would have been delayed substantially. I also wish to acknowledge the constructive comments from Professor Tauno Kekäle from the University of Vaasa, Dr Margit Närvä from Seinäjoki University of Applied Sciences and many anonymous reviewers of international journals and books during my research. I have also gained considerably from many comments offered at international conferences.

I am grateful to my research team in Institutional Management at the Turku University of Applied Sciences including Mr Jouni Hautala, Dr Ursula Hyrkkänen, Mr Ismo Kantola, Mr Mauri Kantola, Ms Riikka Kulmala and Mr Ari Putkonen. All kept me active in writing international articles to submit to journals and books.

Without the enthusiastic work of my colleagues at higher education institutions and in the City of Turku and also the representatives of my work life this study would not have been possible. I am grateful to many people who assisted me in the planning and development activities and provided amendable environments for this institutional research.

Turku, August 2009

Juha Kettunen

List of original publications

The doctoral thesis consists of the summary and the following refereed articles:

- I Kettunen J (2008) A conceptual framework to help evaluate the quality of institutional performance, *Quality Assurance in Education*, 16(4), 322-332.
- II Kettunen J (2004) Bridge building to the future of the Finnish polytechnics, *Journal of Higher Education Outreach and Engagement*, 9(2), 43-57.
- III Kettunen J (2007) The strategic evaluation of academic libraries, *Library Hi Tech*, 25(3), 409-421.
- IV Kettunen J (2006) Strategic planning of regional development in higher education, *Baltic Journal of Management*, 1(3), 259-269.
- V Kettunen J (2009) The collective process and memory of strategic management. In: Girard JP (ed) *Building Organizational Memories: Will You Know What You Knew?* Hershey, PA: IGI Global, 148-163.
- VI Kettunen J (2002) Competitive strategies in higher education, *Journal of Institutional Research*, 11(2), 38-47.
- VII Kettunen J (2005) Implementation of strategies in continuing education, *The International Journal of Educational Management*, 19(3), 207-217.
- VIII Kettunen J (2003) The length of study of MBA students, *International Journal of Lifelong Education*, 22(2), 159-171.

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1 Summary

1.1 Introduction

Strategic management and quality assurance emphasise different aspects of management and improve the performance of the organisation. Strategic planning seeks to develop the performance of an organisation to achieve strategic objectives along the route to a vision for the future. These strategic choices may lead to a fundamental breakthrough in core institutional functions and processes. Quality assurance is another approach for organisational development that provides philosophy and tools to improve the processes continuously based on planning, implementation and systematic evaluation.

The outcome of the strategy process is a strategic plan. Strategies exist at many levels and forms. National or regional networks may have either general or functional strategies. An organisation may have an overall strategy and its support services may have functional strategies. Even individuals may say they have a strategy for their careers. This study presents the strategic plans that may take different forms at various planning levels.

Quality assurance typically takes constantly smaller steps to develop processes. In many cases the quality cycle of continuous improvement is used to plan, implement, evaluate and improve such processes. Strategic planning produces strategic objectives for a better future, while the purpose of a quality assurance system is to safeguard that these objectives can be achieved. This interpretation thus integrates strategic planning into quality assurance in internal processes and information systems.

Figure 1 describes the theoretical context of the dissertation, including the strategy process and the implementation of the strategic plan. The strategy process takes into account the environment of the institution including the education policy, regional strategies and demand for skilled labour. It also considers the strengths and weaknesses of the institution. Typically, institutions strengthen their focus areas and take into account other higher education institutions. This creates the basis for work sharing and collaboration among institutions. The strategy process produces the strategic plan, which is implemented in annual action plans. Action and results can be expected if the implementation is efficient. The efficient implementation of the strategic plan integrates the plans with the quality assurance. Management information systems help management communicate and implement the plans throughout the organisation.

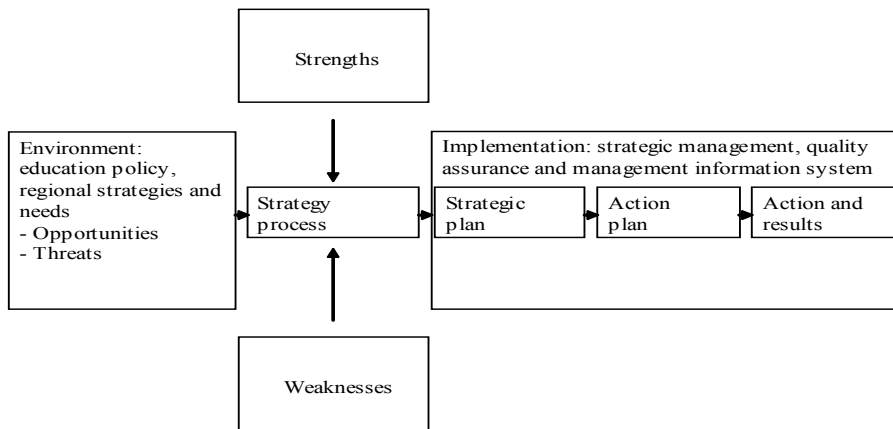


Fig. 1. The strategy process and the implementation of the strategic plan.

The studies of opinion leaders such as OECD (2008) discuss trends and prospects among students, academic teaching staff and graduates. The OECD study examines the link between the development of the environment and higher education policy. These exploratory studies discuss trends from both a quantitative and qualitative standpoint following the grounded theory approach developed by Barney Glaser and Anselm Strauss (Strauss 2007, Thomas & James 2006). Data collection from several countries and regions is the first step. Key issues are extracted from the text and data. These issues are grouped to larger concepts and categories to create themes for the education policy and to make recommendations.

A disadvantage of the explanatory methods such as grounded theory is that it leads easily to a long list of policy recommendations. Most of them are not relevant to the strategic plan of a single higher education institution. An implication of the considerable number of recommendations is that the annual action plans of the institutions may be too ambitious and the outcomes might not be verifiable at the end of the year. The top management is pleased if only a few of the intentions are satisfactorily implemented. Many of the small changes can be implemented in a short time, but it may take 4-6 years before a new classroom practice is utilised widely enough to benefit most students, as argued by Dalin et al. (1993).

The higher education institutions can and should be managed to attain a better future and ensure high quality, but the management of higher education institutions

need a framework. The objective of this study is to provide a common framework of strategic planning and quality assurance for higher education institutions. The framework does not only help management communicate and implement the strategies, but also to plan strategies in the strategy process, evaluate the performance and achievement of desired objectives and provide a structure for quality assurance and management information system. A common framework is necessary, because otherwise the evaluation of strategic management and quality assurance may be incompatible and thus compromise the success of the institution.

The common framework is based on the articles reprinted in this dissertation. The framework is also rigorously tested in practice. The separate sections of this summary describe the published articles. Each section presents the main features of the strategic planning and quality assurance discussed in the articles. The reprinted articles provide empirical evidence for the successful implementation of the theoretical framework. The findings of this study will be useful to the administrators of educational institutions who hope to improve strategic management and quality assurance.

This thesis for the degree of Doctor of Science (Technology) contains eight selected articles on strategic management and quality assurance. The articles are, however, samples of a larger research programme which includes many other articles in this same interest area: Kettunen (1996, 1999, 2000a,b, 2002a,b, 2003a-c, 2004a-c, 2005a-c, 2006 a,b, 2007b-d, 2008a-e, 2009b,c); Kettunen and Kantola (2006a,b, 2008a,b, 2009a) and Hautala, Kantola and Kettunen (2009). The area of interest is supported by articles on knowledge management (Kettunen 2009a, Kettunen, Kantola & Hautala 2008 and Kettunen & Kulmala 2008) and learning organisation (Kettunen 2007a).

The various management theories discussed are related to the interest area of information and communication technology and included the following articles: Kettunen and Kantola, I (2005, 2007, 2008); Hyrkkänen, Kettunen and Putkonen (2008); Hyrkkänen, Putkonen and Kettunen (2009); Kantola, Hautala and Kettunen (2008); Kantola and Kettunen (2008); Kettunen, Hautala and Kantola (2008 a,b); Kettunen, Kantola and Hautala (2007a,b); Kettunen and Kantola (2006 a, 2007a,b) and Kettunen and Luoto (2008). These articles discuss how information systems are used to implement strategic plans and support quality assurance.

1.2 A conceptual framework – Quality assurance and strategic planning

The realisation of a coherent and cohesive European Higher Education Area by 2010 was agreed in the Bologna Process by the European Ministers who are responsible for higher education (Berlin Communiqué 2003). The Ministers agreed that the national quality assurance systems of higher education should be developed and include external evaluation. The national quality assurance agencies assume responsibility for quality evaluation (Stensaker & Harvey 2006, Filippakou & Tapper 2007).

The Finnish Higher Education Evaluation Council and the Ministry of Education evaluate the higher education institutions. The notion of quality and quality assurance systems are not constant in the long term. There is not any well-defined framework where the targets of quality audit have been derived. The Ministry of Education has various objectives and interests derived from the education policy. These interests are highly variable based on education policy. Based on these starting points, there is clearly a need for a common and rational framework that can be used to evaluate quality and also institutional performance.

Quality assurance is a holistic approach to the development of higher education institutions. The purpose of a quality assurance system is to ensure that the strategic objectives of an institution can be achieved. That interpretation is also provided by the Finnish Higher Education Evaluation Council (2008). Quality assurance refers to the procedures, processes or systems used by an institution to safeguard and improve the quality of its education and other activities. Quality assurance is compulsory for Finnish higher education institutions. Therefore it must be taken into account in any general conceptual framework used to evaluate institutional performance.

The quality assurance system is described by using the concept of the quality map derived in this study and based on the concept of a strategy map. The quality map is a visual description for how the environment is taken into account in strategic planning (cf. OECD 2007). It is necessary also to provide an insight into the strategic planning, management and internal processes. A great advantage of the quality map is the big picture of the quality assurance system that the map gives at first glance. Like a road map, it provides the main elements of quality assurance and helps external evaluators position minor details in a larger system.

The quality map for the Turku University of Applied Sciences includes elements of environment, strategic management and quality assurance. The

environment includes global, national and regional levels. The strategic planning aspect produces a strategic plan implemented by the management process, which includes the sequence of strategic management and objectives, the planning of operations and resources, operations and steering, and finally the reporting of results. The management process is supported by the management information system tailored for each institution (Kettunen & Kantola 2005). These internal processes are constantly monitored and improved to achieve the strategic objectives.

Strategic management is widely used in highly education institutions and cannot be avoided as these institutions are developed for a better future. Strategic management is not any management fad that fades away when new management approaches emerge. The principles of strategic management written by Sun Tzu have survived 2500 years (Sun Tzu 2005). The Balanced Scorecard developed in the 1990s is a relatively new approach to communicate and implement the strategic plan, but the non-pecuniary indicators of the approach have been used for a very long time (Kaplan & Norton 1992, 1993, 1996). Strategic management and the Balanced Scorecard approach are strong candidates for any general framework used to evaluate institutional performance.

The Balanced Scorecard approach divides the written strategic plan into four different perspectives: Customer, financial, internal processes and learning. Generally, these perspectives have been found to be necessary, sufficient and robust across a wide variety of organisations (Kaplan & Norton 1996, 2001, 2004). The Balanced Scorecards of public sector organisations look remarkably similar to those developed for profit-seeking corporations. Public sector organisations place the customer at the top of the hierarchy, while private corporations emphasise the financial perspective more.

The empirical evidence supports the argument that measurement-managed organisations have better teamwork at the top, better communication throughout the organisation and better self-management at the bottom level (Lingle & Shieman 1996). The evidence also supports that those organisations that use the Balanced Scorecard have been significantly more effective in comparison with other systems (Frigio & Krumwiede 1999).

Customer perspective typically includes lagging indicators, which report on outcomes in the public sector based on activities within the internal processes perspective. In some cases, it is natural to divide the customer perspective to include both the outreach and engagement outcomes of the institution and customer satisfaction. In the case of higher education institutions, it is natural to

emphasise the importance of regional development and, on the other hand, the satisfaction of students and employers.

The financial perspective is aligned with the internal processes perspective in the budgeting, and it includes the strategic objectives that must be achieved to enable the internal processes. Funding is a prerequisite for internal processes, but on the other hand, the funding perspective can emphasise the cost efficient internal processes needed to enable the sufficient funding.

The internal processes perspective describes the activities and structures of the organisation or network for which the strategy has been planned. The perspective describes the mission of the organisation along with the critical processes where the organisation must excel to finally achieve the desired outcomes in the customer perspective. Typically, the internal processes are described as a value chain, which is a sequential process moving from left to right on the strategy map.

The learning perspective describes the competence required to facilitate the internal processes and deliver future performance. These capabilities and intangible assets are drivers that may be much more important than financial accounting indicators in many information age organisations. The learning and financial perspectives indicate the resources of higher education institutions and the future events within the internal processes. Investment in the capabilities of personnel can have long-term effects on sustaining future development.

The Balanced Scorecard approach provides a general framework for understanding the causal chains between the strategic objectives placed in the perspectives. The defined causal chains between these strategic objectives can be based on either research, experience or hypotheses. The financial and learning perspectives include the drivers, while the customer perspective includes the outcomes. The strategy map presented in this study extends the conceptual framework presented by Goddard and Chatterton (2003) and the OECD (2007).

The general strategy map presented in this study is flexible enough to allow individual higher education institutions to build their own strategy maps. The desired outcomes from the region and customer perspective include strategic objectives “skills”, “culture community and sustainability” and “innovation”. These objectives are achieved through the internal processes, which include the objectives “R&D”, “service to community” and “education”. The objectives in the financial perspective are “funding from a central government”, “external funding” and “cost efficiency”. These objectives must be aligned with the internal processes in the budgeting. The learning perspective has drivers for the internal processes.

The strategic objectives for the learning perspective are “R&D capabilities” and “teacher capabilities”.

As a result of a conceptual framework for quality assurance, this study presents the auditing targets for Finland, taking into account the existing auditing targets for the Finnish Higher Education Evaluation Council. These suggestions may be valuable when the new auditing manual is planned. Another useful result of this study is that it describes the general structure of the performance indicators for Finnish universities of applied sciences. These can be used as a model when higher education institutions plan their own strategic plans, objectives and indicators or when the performance of an institution is evaluated.

1.3 National networked strategy – Strategies for higher education institutions

The Balanced Scorecard approach was planned for communication and implementation of the strategic plan. This study argues that the approach can also be used in strategic planning. The Balanced Scorecard approach helps management see in the planning stage what elements the strategic plan should have and what kind of structure the strategic plan should take to favour both efficient communication and implementation of the strategic plan.

There are 20 traditional science universities and 26 universities of applied sciences in Finland at the moment. The science universities have a research orientation and the universities of applied sciences have a professional orientation. Until the end of 2005, the universities of applied sciences were known as polytechnics. The strategic plan of this study was prepared for the polytechnics at the general meetings of the Rector’s Conference of Finnish Polytechnics in 2003.

A strategic plan of this kind helps the Rector’s Conference to influence education policy, one purpose of the Conference. The networked strategic plan also helps the institutions, which can use the plan as a basis to develop their own institutional strategic plans, action plans and scorecards that describe how they can deliver output to implement the national networked strategic plan.

When the networked strategy for the Finnish polytechnics was planned, each autonomous institution was able to align its own strategy with the national strategy. Each institution could define its own strategic themes and objectives in its own strategic plan. This process is necessary because each institution has its own environment, structure and organisational culture. Many of the Finnish

polytechnics have adopted the Balanced Scorecard approach, as it helps them communicate and implement the strategic plan.

Strategic themes are important elements of the networked strategy because they can easily be used to influence national education policy. Strategic themes reflect what the rectors and the owners of the institutions believe must be done to achieve the strategic objectives. Also, the vision is an important element of the plan, because strategy is a matter of mapping the route for the better future defined by the vision (Wheale 1991, West-Burnham 1994). During the process, it was considered that the mission statement and values are not needed, because they are useful concepts primarily at the institutional level.

The strategy process refers to the manner and style in which the actions for a better future are planned. The sufficient interaction and communication in the strategy process strengthen the commitment to a common strategy and both aspects may be more important than the written plan itself. Altogether, 53 rectors and representatives of the owners actively participated in the strategy process to achieve a mutual understanding based on the dialogue between the planning teams selected, according to the perspectives of the Balanced Scorecard.

The Balanced Scorecard approach is a safeguard wherein the strategic objectives and causal linkages between the objectives can be described and implemented in a balanced manner, and all the necessary objectives are included in the plan. For example, the increase in the external effects and the satisfaction of students and employers are results from applied research, development and education. These achievements require a correct allocation of funding and capabilities to perform the necessary activities.

The strategic plan was presented in May 2003 to a broad audience at the General Meeting of Finnish Polytechnics, where representatives from the most important stakeholders offered valuable and positive comments. The strategic plan was published in *Korkeakoulutieto Magazine* of the Finnish Ministry of Education (Kettunen 2004a). The results of the strategy process were also communicated to an international audience (Kettunen 2004b).

An ex-post examination of the strategy process provides evidence that the strategic plan has actually driven change. The strategy process influenced the definition of the applied research and development in the new Act of Finnish Polytechnics in 2003. The strategic plan also clearly supported the establishment of second cycle degrees in 2005. In addition, the rectors of the polytechnics used the networked strategy as a basis to formulate their own institutional strategic plans.

1.4 Functional national strategies – Strategies of libraries

The consortium of libraries for the Finnish universities of applied sciences provides an example of the functional networked strategic plans, which supports the cooperation of otherwise independent organisational units. It is reasonable to plan strategies for the network because no single organisational unit has complete control of these libraries. This study argues that the Balanced Scorecard approach can be used to evaluate strategic plans and performance from different perspectives.

The establishment of professional-oriented Finnish universities of applied sciences at the beginning of the 1990s led to a rapid development of the libraries. There are about 500 people working in these libraries, which are located in 80 towns and at 200 locations. These facts clearly indicate the need for networked and cost efficient cooperation. The consortium of libraries (Amkit Consortium) was founded in 2001 to coordinate the full cooperation of libraries.

The consortium of libraries is a network used to gain commitment to the joint strategy as well as exchange information and cooperate. Much of the success of the libraries lies outside the given library that resides in the networked cooperation and its host institution. The informal communities of practice of the national networks and institutional teams have an essential role to play in the exchange of information and knowledge (Kettunen 2004b, Kettunen & Kantola 2006a).

The networked libraries prepared 2006 strategic plans for the consortium of libraries and Web service. The strategic plans are examples of fruitful cooperation of functional organisational units. The strategic plans aim to increase synergies between libraries and achieve cost efficiency. The example of libraries presented in this study can also be applied to other functions of the various support services at higher education institutions.

The libraries seek efficient ways to produce high quality output, given their shoestring financial resources. Cost efficiency is a natural choice for strategy in the public sector where taxpayers provide the financial resources for limited annual budgets. Cost efficiency can be achieved through cooperation between the libraries and taking advantage of economy of scale across both the physical and intellectual assets of the libraries.

National development teams were nominated for the main development areas. Then each library defined its own strategic themes and objectives. The libraries were able to align their budgets and human resources with the processes of the libraries to achieve their strategic objectives. The action plan of each library

described how development work and processes deliver output to implement the networked strategy. Encouragement and additional funding of the Ministry of Education maintained sufficient coherence and ensured that the objectives of the consortium were achieved.

The consortium has many cooperative projects in its action plan and the action plans of the institutions. The projects include the acquisition and implementation of the Endeavor's Voyager library system (Guy 2000, Pace 2004, Breeding 2006), the development of the library portal, the consortium licences of electronic acquisitions, quality management, public relations and communications and information skills studies and virtual learning environments. The consortium includes development teams for pedagogical development, e-material and facilities.

The experiences of the individual libraries support the argument that networked cooperation has been successful and provided value added for the libraries that would not have been possible by just using the resources of single libraries. The proper strategy process across the libraries, financial resources and knowledge about the development of libraries is essential for a successful networked strategy.

The strategic planning and management of networks are typically less developed than the planning of organisations and organisational units because the organisations prepare detailed budgets and human resource plans. In addition, organisations typically define indicators and set target values for the planning period. The management of the network is much more challenging than the management of the organisation because in a proper organisation, the organisational culture is much stronger, and management has the authority to make decisions.

The results of this study support the argument that the Balanced Scorecard approach provides a useful tool for evaluating strategic plans. Even though the strategic plan was not in the first place been planned using the Balanced Scorecard approach, the plan can be described using the strategy map to describe the strategic objectives and their causal relationships clearly. In addition, the strategic plan can be evaluated using the perspectives of the Balanced Scorecard. The approach is a safeguard that allows the strategic plan to be implemented in a balanced manner.

1.5 Regional networked strategy – Regional development of higher education institutions

According to a request by the Finnish Ministry of Education, the higher education institutions planned regional strategies in their regions. The initiative by the Ministry brought together seven higher education institutions in Southwest Finland. The initiative can be seen as a systematic approach to the utilisation of scarce resources. The institutions planned their network strategies with representatives from the City of Turku, The Regional Council of Southwest Finland and various other regional organisations. The strategic plans were approved in 2002 and 2005.

The concept of clusters introduced by Michael Porter (1990, 1996, 1998) provides a suitable basis for the network strategies of regional development because clusters are geographic concentrations of interconnected organisations in particular fields that cooperate, but may also compete. The most prominent clusters in Southwest Finland vary over economic fluctuations and planning periods, but biotechnology, information and communication technology, metal and maritime industry have held onto their strong positions during this decade.

The higher education institutions are committed to promoting the knowledge and high technology in the main clusters of the region where increased economic growth and welfare are expected. The Balanced Scorecard approach is clearly suitable for planning regional strategies because the customer perspective can be developed to take into account regional development. The regional development or outreach and engagement activities can technically be strategic objectives or alternatively the customer perspective can be divided into regional development and customer satisfaction, including student and employer satisfaction. This study argues that the Balanced Scorecard approach is ideal to describe the strategic plan even though the approach has not been used in the planning of the strategy.

Many objectives are likely to be achievable by combining the resources of the various institutions, but are unlikely if each institution operates independently. The value added gain of regional cooperation for students is to provide them a broader supply of courses and promote their employment opportunities. Typically, teachers tailor their courses to meet the needs of the region and are able to fill study groups with students from the neighbouring institution. It is likely that the cooperation of institutions does produce a better labour force for employers if the students are able to choose courses that are useful for them.

The study supports the argument that any cooperation of higher education institutions in a geographic area should be based on the strengths of institutions. Another argument is that such cooperation should be based on sharing of work and avoiding overlapping activities. The regional cooperation helps the institutions achieve cost efficiency as an outgrowth of large-scale operation, which releases resources to strengthen the strengths of institutions and increase their quality level. Cost reductions can result from working in larger study groups, especially in basic lecture-based courses.

Research and development is another field of cooperation, where partners in projects benefit from networks and collaboration. Customer-oriented research and development projects are typically multi-disciplinary and favour cross-institutional projects. Research staff typically work together on these teams to benefit from each other's knowledge and create innovations for the working life. Most of the funding bodies favour cross-institutional and demand-oriented research and development projects.

Typically, the strategy takes into account the opportunities and threats of the environment and is planned to take into account the strengths and weaknesses of the organisation to meet these external needs. The regional strategies of higher education institutions represent a class of strategies, where the strategy does not correspond to the organisational structure. A general pattern used to align the strategies of otherwise independent organisations is to define general strategic themes, objectives and development projects. Then each organisation or organisational unit can set their own strategic themes, objectives and development projects. Funding and the capabilities for regional development can secure the maintenance of sufficient coherence between operating units.

1.6 Institutional strategy – Strategic planning at the Turku University of Applied Sciences

This section of the summary describes the case where strategy is planned for a relatively autonomous organisation, taking into account the owner of the higher education institution. The study also describes in detail how strategic planning using the Balanced Scorecard approach is aligned with budgeting, which is the main management system in most public sector organisations. The Balanced Scorecard approach has been widely used in municipalities in Finland and other countries (Askim 2004). This section of the study demonstrates how strategic management can be integrated with traditional budgeting in the case of the City of

Turku. A city is a conglomerate of quasi-independent entities, where the Turku University of Applied Sciences has more autonomy than the other administrative branches of the city.

The City of Turku owns the Turku University of Applied Sciences, which means that elected officials hold a strong position in the ongoing decision-making of the institution. Therefore, the strategic plan of the institution must be aligned with the owner to create synergies (cf. Collis & Montgomery 1998). The mission, vision, values and strategic themes of the institution should support upper level organisation. Another important aspect of this kind of close cooperation is that the budgeting for the City of Turku is also applied to the Turku University of Applied Sciences.

The strategic architecture of the City of Turku consists of an overall strategic plan and strategic plans of four shared support units, 22 operating units and 8 municipal companies. These units defined their Balanced Scorecards and included the main indicators in their budgets. The purpose of the strategic architecture is to have the activities of the administrative branches aligned and linked together to support the overall strategy and enable the city to implement its own strategy. The budgets with selected measures are annually approved by the City Council. In this way, employees and units are more able to see how they can contribute to the strategic objectives and the overall strategic plan for the city.

Budgeting is operational management that helps managers with tactical matters. Managers review operating performance against budgets and constantly take corrective actions. Budgets emphasise the control of costs and short-term operational details. It can be seen that another purpose of budgets is to allocate resources to strategic initiatives and achieve strategic objectives in the long run. Hence, these two lines of budgeting typically emphasise the cost efficiency and focus strategies in the public sector. Budgeting sets financial targets, but the Balanced Scorecard expands traditional budgeting to other perspectives.

The managers who are responsible must drill the strategic plan down into action plans, which describe the human resources, tasks and timetables of the organisational units. The managers have the duty of monitoring and supervision, which are essential elements of the periodic review process. The achievement of strategic objectives and performance targets is reported three times a year in the case of the Turku University of Applied Sciences.

It became evident at the Turku University of Applied Sciences that it is important to develop a management information system that supports the management process in an organisation with several organisational levels

(Kettunen & Kantola 2005). The data warehouse collects information from various data sources and provides information to the users of the management portal. The management information system is also a platform that includes budgets and human resource plans and builds an organisational memory (Nonaka & Takeuchi 1995, Takeuchi & Nonaka 2004).

The management information system supports the implementation of the strategic plan and the management process. It is also part of the quality assurance system of an institution. Operational management evaluates achievement of the strategic objectives and target measures using the information system. Based on the evaluation of the organisational units managers are expected to identify the goals of development and set timetables and allocate resources. Achievement of the goals described in the action plan is discussed and agreed during internal target discussions. The management information system provides evidence to external auditors on institutional quality assurance.

1.7 Competitive strategies – Cost leadership, differentiation and focus

The heads of departments in higher education institutions are in a key position to plan the future direction of their sub-units. They can also contribute to the overall strategy of the institution. A higher education institution typically has many sub-units, which do not necessarily follow the same competitive strategy. This study shows that the strategies of cost leadership, differentiation and focus, which were developed for business companies by Porter (1990), can successfully be applied in the public sector. The overall strategic plan can be translated into more diversified strategies of sub-units. This procedure is especially appropriate for market-led continuing education, which operates in a competitive market and is also different from degree programmes.

Cost efficiency is based on internal processes that rely on scale economies in facility management, the sizes of study groups, support services and functional policies. This strategy requires the pursuit of cost reductions in areas not in the primary focus field of the organisation. A low-cost position requires product development and a great deal of managerial attention to keep costs low. Cost efficiency is necessary in the highly competitive markets of continuing education where the price level is low.

Labour market training is a typical example where cost leadership strategy is relevant because competition between the education institutions arranged by the

funding body forces the winner of such competition to bid the lowest price. Another example is the Open University, which operates in a cost efficient manner. The courses can be easily planned, because the Open University is able to teach paying customers the same courses as the faculty teaches degree students. Another method of cost efficiency is to arrange joint courses with faculties. An advantage of both these examples is that the continuing education centre and the Open University have favourable access to faculty teachers. The cost leadership strategy does not mean that the courses are significantly better than others, but that they have sufficient quality level.

A differentiation strategy can be applied if the organisational unit wants to differentiate itself from others by using various dimensions. A strong brand image, advanced technology, excellent customer service or other dimensions can be used to make the unit different in the eyes of customers. The primary target of the unit is to create an image that is unique in educational markets. This strategy is typically mixed with the focus strategy, but that choice does not mean that costs are completely ignored.

The Executive Master of Business Administration (MBA) programme is a typical example of educational programmes that follow the differentiation strategy. The educational programme has a strong brand known all over the world. The successful managers of the Executive MBA programmes select students carefully, accepting only those who create added value for peer learning. The Executive MBA programmes typically have the best lectures in the country, intensive courses abroad and take good care of customers, all of which are crucial in attracting high-income business managers to this expensive education and maintaining a perception of exclusivity (Kettunen 1999, 2000a,b). There are many other degrees which also have strong educational brands.

The focus strategy has a primary target, where it selects a particular customer segment from the market. The segment may be a geographic market, occupation group or organisational level. The service or product is tailored to meet the needs of the customer segment. The purpose is to serve the particular customer very well. The focus strategy rests on the assumption that it is more profitable to serve a narrow customer segment well than operate in broad markets. As a result of the focus strategy, the organisation will also become different from others or achieve lower costs. The focus strategy has a trade-off between profitability and sales volume, which is the strategic choice of top management.

The Finnish universities of applied sciences typically focus on profession-oriented education, whereas traditional science universities focus on

subject-oriented education. Therefore, the focus strategy is a natural choice for profession-oriented education. The focus strategy may, however, mean reducing the number of customers. This strategy can lead to a close customer relationship where the service provider has only one customer. For example, Jollas Instituutti and K-insituutti serve only certain large retail companies in Finland.

Three generic competitive strategies are alternative strategic choices. Any organisation failing to develop its strategy, in at least one of these directions, is probably guaranteed to be unsuccessful. An organisation stuck in the middle of these strategies will be unable to make clear choices and define its strategic objectives. The effective implementation of the strategic plan requires a clear strategic choice and supporting arrangements. If the sub-units of the large organisation are clearly different from each other, each can pursue different competitive strategies. This choice is especially relevant in the case of continuing education.

1.8 Functional strategy at a higher education institution – Continuing education

Finnish higher education institutions have continuing education centres or special units of faculties. This section of the summary describes the functional strategy of the continuing education centre of the Turku University of Applied Sciences, which was known as Turku Polytechnic until the end of 2005. During the study Turku Polytechnic had nine education departments (faculties), support services and a continuing education centre. The role of the continuing education centre was to manage continuing education while the faculties provided most of the teachers for continuing education.

The strategy of the continuing education centre represents the functional strategy of the entire organisation. The basic strategic alternatives for the centre are cost leadership, differentiation and focus where the centre provides a unique mix of service for its customers (cf. Treacy & Wiersema 1995). Turku University of Applied Sciences chose the focus strategy combined with the strategy of cost leadership as its general overall strategy.

The continuing education centre developed and refined the chosen overall strategy. The centre is operating in a competitive market where it has a trade-off between profitability and sales volume. The strictly selected market segments, according to the focus strategy, emphasise profitability, but on the other hand, the larger market segments emphasise growth. The continuing education centre aims

to keep the financial result positive in its budget. Therefore, the centre redefined its strategy by aiming for profitable growth.

The selected strategy allows for a customer-intimate education, providing an excellent combination of costs and quality in education. The geographic area of Southwest Finland and its main clusters are the broad focus areas. The other focus is a profession-oriented education, which is typical of Finnish universities of applied sciences. An obvious reason for choosing the cost efficiency strategy is the fact that each educational programme has unit-priced funding stipulated by the central government or the price of education as defined in the competitive markets.

The strategic plan is written in a concise form, using a small number of strategic themes. Often the strategic plans are long written documents where essential elements are difficult to identify without basic strategic themes. They reflect what management believes must be done to achieve the vision and its more detailed strategic objectives. Strategic themes are linked with the strategic objectives and create dynamic tension between them. Each organisation has a unique set of strategic themes that remain typically unchanged during the planning period.

The strategic plan is presented in a graphical form, using the strategy map, which is developed for the case of continuing education. The objectives presented on the strategy map are balanced into perspectives and transformed into strategic objectives. The strategy map helps management understand the causal linkages between the objectives and implement the plan effectively. The strategy map helps staff understand precisely why specific targets have been set for the planning period.

The desired strategic objectives are “regional development” and “customer satisfaction”. These objectives can be achieved by the sequential process of a value chain that included the objectives of “research and development”, “support services” and “education”. The prerequisites for these objectives are “external funding” and “funding from the central government” in the financial perspective and “the capability for R&D”, “environmental scanning and customer knowledge” and “quality and assessment capabilities, and in-house training” in the learning and growth perspective.

The numerical Balanced Scorecard was developed to help management communicate important measures to staff and external stakeholders and effectively implement the strategic plan. The Balanced Scorecard translates objectives in the perspectives into tangible measurements. The measurement system should indicate the causal relationships between performance drivers and outcome measures,

customised to the strategic themes. The target values of indicators are agreed upon the planning period during the internal target negotiations between top management and departments and then annually checked for whether the action plan contains sufficient elements to achieve the target values.

The indicators of the Balanced Scorecard should describe the achievement of strategic objectives. Therefore, only a relatively small number of indicators are needed. The indicators have to be simple and understandable for both management and staff. They should not place any extra burdens on the people responsible for data collection. The Finnish AMKOTA files of the Finnish universities of applied sciences provide a good basis for these indicators, because the data are collected on a regular basis and support clear comparisons to other higher education institutions.

The strategy of cost leadership has been successful. The statistics produced by The Finnish National Board of Education indicate that the administrative costs of the Turku University of Applied Sciences are the lowest in the country. In addition, the average costs of support services are about 20 per cent higher in other institutions (<http://vos.uta.fi/rap/kust/v07/k04z6la.html>). Effective administration and support services leave more resources available for education and applied research and development, which are of course the main activities of the institution.

1.9 Process control to assure quality – The length of study

Quality cannot be assured without evidence obtained from the grass-root level. The increased pass rate is one of the most important objectives of quality improvement at Finnish higher education institutions. The reasons suggest that most of the funding is used in education and the central government wants to increase the efficiency of these institutions. The pass rate is analysed using data on Master of Business Administration (MBA) students at the University of Jyväskylä. An important feature of the MBA programme is that personal study plans are agreed upon each student. There are also cases where the whole programme is customised to meet the needs of companies rather than students.

The longitudinal data of this study were collected from the MBA programme targeted to the adult students. An important feature of quality control is that the identification of customer needs is the first step to high quality education. The educational programme is flexible, having plenty of electives. The students can easily reconcile their studies to their other duties. There is no prescribed length of study for MBA students. Therefore it is reasonable to estimate the importance of

many empirical factors that affect the pass rate using the individual data on MBA students. This analysis helps management of the programme improve the quality of education continuously.

Higher education institutions have taken the approach of entrance and exit control for quality assurance. The entrance control has become less effective because of the massification of higher education (Griffits & Williams 1995). Ashford and Harvey (1994) point out that selection should be based on previous study success. The exit control does not necessarily ensure quality control either because it does not pay much attention to the students' own initiatives or their incentives to learn for their working lives. Process control is an alternative approach that can be applied in higher education if there is clear information about the factors that affect the quality of education.

The aim of Finnish education policy is to reduce the number of dropouts and shorten the completion times of study. The effective use of resources takes many forms in the strategic plans of Finnish higher education institutions. An effective education process can be measured by many indicators, and indeed many steps have been taken toward increased efficiency. However, the empirical question is whether there is a link between performance indicators and quality, which is represented among other things by the pass rate.

The process control approach is used in this study as a framework to study the quality of education. Statistical quality control provides information for better planning of education. This study provides empirical evidence on the factors that can affect the completion times for graduation. The results of this study raise both awareness and the motivation for quality improvement and will help the education managers plan viable proactive measures to control the quality of education.

It turns out in this study that many characteristics of students, their employers and the actual structure of education have statistically significant effects on the pass rate. The characteristics of previous success in studies and working life are positively related to graduation rate. Programmes that are customised to large companies have higher pass rates than do programmes where individual students apply and study for their own purposes. That emphasises the importance of customer-orientation when education is planned to meet the needs of companies. Another strong argument for quality control is that the characteristics of education have more importance for graduation than the characteristics of students and employers. This study and its results emphasise the importance of personal study plans and careful planning of education.

2 Conclusions

The case studies described by articles show that the Balanced Scorecard approach can be used for strategies of various kinds at different levels of planning. At the national level, the study presents a network strategy of the universities of applied sciences and the functional strategic plans of their libraries. At the regional level, the study presents a network strategy of higher education institutions and the strategy of the Turku University of Applied Sciences as part of the strategy of the City of Turku. At the institutional level, the study presents competitive strategies, which are applied in continuing education. Finally, the study analysed the importance of various measures in process control to improve the quality of education.

In the context of the strategy process, the management must have proper tools to prepare the strategic plan. This study argues that the Balanced Scorecard is not only a tool for communicating and implementing the strategic plan, but also an approach to plan strategies in a way that takes all perspectives into account, defines clear strategic objectives, assumes causal relationships among the objectives, and defines strategic themes describing what management believes must be done in order to achieve the desired outcomes.

In relation to quality assurance, the study argues that the Balanced Scorecard can be used to evaluate the performance of an institution and the achievement of its strategic objectives. Evaluation of higher education institutions and their activities is easily random, inaccurate and uncertain if there is no common framework to evaluate the institutions. A common framework helps evaluators avoid misinterpretations and erroneous conceptions. An accurate evaluation helps the institution in enhancement-led evaluations to select the right remedies and continuously improve.

The role of the top management is to lead the strategy process. Often the strategy process produces a plan which is not easy to interpret. The strategic plan must be understandable to the managers and staff before it can be implemented. The top management must also provide their managers and members of the staff with tools for communicating and implementing the strategic plan. The strategic plan must be described by strategic themes and divided into different perspectives and strategic objectives before it can be implemented. There must be sufficient funding and knowledge for the efficient internal processes, which provide the external effects and produce satisfied customers.

The Balanced Scorecard is useful in the planning of the management information system. The structure of the management information system was planned at the Turku University of Applied Sciences to support the management process, which is based on strategic management and the Balanced Scorecard approach. The action plan of the management information system integrates the quality assurance and the implementation of the strategic plan. The system was tailored to the institution, because the organisation is different from the other institutions. The experiences of the system confirm that the Balanced Scorecard approach is capable of translating the strategic plan into objectives and tangible measures for the planning period.

The Balanced Scorecard approach has been applied and tested in several settings. An advantage of the approach is that all the strategic objectives can be aligned in budgeting with the financial objectives. In this respect, the approach extends the traditional pecuniary measures to real economy. The budget and human resources and action plans constitute an ensemble of documents, which reflect the implementation of the strategic plan. The Balanced Scorecard approach is flexible, because it can be used to apply various kinds of competitive strategies.

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