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Assessing Performance within Higher Education in Norway

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Abstract.

Management by objectives has been the main principle for the governance of the public sector in Norway since the 1980ies. Substantial changes have taken place within tertiary education in Norway since the mid-90ies, mainly aimed at encouraging institutions to be more responsive to the needs of society and the economy. As a result of the Norwegian Quality Reform (2002-2006), all higher education institutions were given significantly greater autonomy in managing and organising their activities. The increased institutional autonomy and accountability has initiated radical changes in methods and tools both for the HE-institutions and the authorities. One important step towards greater accountability and improved performance has been the introduction of performance-based criteria to shape higher education budgets and the allocation of public funding,

The transaction from ministerial micromanagement to increased institutional accountability has made appropriate usage of quality indicators and benchmarks an important instrument in order to assess to what extent our goals have been reached. Our paper will give an overview of how the Ministry uses indicators and benchmarks in for instance preparing the state budget and in the annual consultative meetings between the Ministry of Education and Research and the individual higher education institutions.

The changes in the management of higher education, exemplify the continual and rapid changes in public administration and service provision in Norway. This has led to a stronger emphasis on risk assessment in addition to the more traditional instruments as audit of accounts and productions of services and goal achievements. This poses new challenges for the development of statistical data and indicators. The Ministry's participation in the development of StatRes is one way to meet this challenge.

Context

Norway is one of the wealthiest countries in the OECD. This does to a large degree rely on revenues from its oil- and gas industry, but also much to sound economic management of its oil- and gas wealth. In addition the unemployment rate is low, and the female labour force participation rate is one of the highest in the OECD. Norway's population (4.6 million) is quite small, and is spread over a relatively large geographical area.

The Norwegian higher education system can historically be characterized as belonging to the continental (German) university tradition. In the Norwegian version, this has implied rather tight state-control over the inputs of the system (institutions, curricula, resources, students, staff), while at the same time emphasising the *Lehr- und Lehrenfreiheit* related to the Humboldt tradition (Stensaker, 2004).

When measured by the proportion of the population participating, Norway's tertiary education system is a relatively large one with close to 224 000 students, and about 27 000 staff members. The public higher education sector in Norway now (2006) encompasses six universities, in which around 30% of all students are found, five specialised university level institutions, with approximately 4% of all students, and finally 25 university colleges, with around 47% of all students. In addition, there are about 30 private higher education institutions in Norway with the right to award exams, which account for 15% of all students. The remaining handful of students is located in specialised academies and colleges for fields of study such as arts and the police. Most of the private institutions are small and specialised, offering courses in fields such as theology, nursing and teaching (Norwegian Database for Higher Education 2006).

Background – Result oriented planning (ROP) – Management by objectives

Since the 1980s it has been an increased focus on quality, efficiency and effectiveness in the public sector in general due to problems in financing the public services (Lane 1997). During the late 1980s and 1990s, all Ministries in Norway were mandated to implement reform measures resembling those that often come under the "new public management umbrella" (Pollit 1990). Internationally, various measures have been identified as belonging under this umbrella (Lane 1997):

- Decentralisation of tasks from the central level and increased institutional autonomy
- Increased emphasis on results and output, introduction of systematic evaluation activities
- More power to consumers of public goods
- A clearer divide between service funding and service production
- Increased competition, often by allowing private actors to compete in the public service production
- Privatisation of public service production

Due to a considerable income from the oil-sector, the problems related to the funding of public service-activities in Norway in the late 1980s and early 1990s can be described as rather marginal compared to many other countries, for example Finland.

However, powerful actors in the public sector in Norway, most noticeable the Ministry of Finance, worked strongly to limit public expenditure and modernise the public sector in this period. Various Governments declared throughout the whole decade that an increased decentralisation of authority, increased institutional autonomy and a stronger focus on the outcome of public spending was needed to prepare the country for a tougher international competitive climate (see for example St.prp.nr.1 1995-96:9). The most visible measures coming out of such arguments was the introduction of result-oriented planning (ROP), a new accounting system for the public sector and systematic use of evaluations in all public sectors (Stensaker 2004).

In higher education, result-oriented planning caused the greatest upheaval of these measures. Even if a key element of ROP was to include potential stakeholders and “market/user needs” in defining objectives, it was still heavily criticized for being an administrative tool of little applicability for higher education (Stensaker 2004).

However, what we would like to call “Management by objectives” - has been the main principle for the governance of higher education institutions (HEIs) in Norway since the 1990es. As a result of the Norwegian Quality Reform (2002-2006), all higher education institutions were given significantly greater autonomy in managing and organising their activities. Universities and university colleges have increased institutional autonomy in terms of introduction and repeal of courses and study programmes. The universities can decide which disciplines, subjects and subject combinations they wish to offer, which will form the basis for the various degrees. The specialised university institutions, the university colleges and the colleges of art can decide which disciplines, subjects and subject combinations they wish to offer, which will form the basis for lower degrees, and in some instances also higher degrees. In subject areas in which they can award doctorates, they can also decide which disciplines, subjects and subject combinations they wish to offer, which will form the basis for other degrees. The Quality Reform also gave the individual higher education institution freedom to decide their organisational structure. Traditionally the management of tertiary institutions in Norway has been divided between a rector elected for a four-year term who is responsible for academic matters, and a general director, appointed by the board of the institution who heads the administration. The new law on higher education passed by the parliament in spring 2005 contained provisions allowing for a choice between the traditional model and a model in which the board is chaired by an external member, with the rector appointed by the board and responsible for both academic and administrative matters. Each institution is therefore able to adapt its structure to form its own distinctive character as well as to meet its particular tasks and challenges (Norwegian Ministry of Education and Research, 2005).

One of the newer catchwords in public management is risk assessment/risk management. As defined, at least in the Norwegian context, it is part and parcel of the Result-oriented Planning (management by objectives). In principle it is not more complicated than identifying a goal, identifying how to achieve it within available resources, monitoring the result and applying correcting measures if there is a gap between defined goals and actual performance. Of course, this should be done in a cost-efficient manner under full accountability both in terms of input and output.

The purpose of risk management is to try to identify critical paths and risks in advance, and not go headlong into a situation. In many cases it is quite easy to identify critical factors and risks if the goal is well identified. In other cases neither goals, critical paths and, consequently, risks, are identified. The potential consequence of the risk identified is also an important factor, since high risk not necessarily means that it will have any substantial consequence.

Risk management is, in many respects, a top down approach. You need to establish a strategy and processes to identify and handle the risks. The next question is: When you have identified the risk, who owns it? It is not always easy to strike a balance between system construction, monitoring of performances and corrective measures that is not a direct interference in the institutional “autonomy”. In our opinion, one of the best ways to manage this on a system level, is to find good indicators that both show the performance of the individual institution and system as such, that acts as a mirror for the institutions, and can act as a foundation for the dialogue between the Ministry and the institutions.

Management by objectives within higher education in Norway

The Ministry operates with both main objectives and sub objectives. The objectives are broad and inclusive, and the HEIs are therefore expected to determine result objectives on the basis of the objectives set by the Ministry.

We have four main objectives:

1. Universities and university colleges should offer education of high international quality
2. Universities and university colleges should obtain results of high international quality in research and development work
3. Universities and university colleges should be educational institutions and research institutions with integrity and ability to meet the needs of the society
4. Management of employees and economy at the universities and university colleges should secure efficient exploitation of resources

There are four to six sub objectives below each main objective, which concretize the main objectives and express political priorities. For example, two of the sub objectives below the first main objective are:

- Universities and universities colleges should make sure that students complete their studies according to scheduled time
- Universities and university colleges should have international educational cooperation

Indicators in use by the Ministry of Education and Research

The implementation of the quality reform and the introduction of management of objectives and risk management as the new ways of governing the public sector, has made the previous micromanagement of the higher education institutions outdated. It has therefore been necessary to develop new ways of governing the HEIs, which gives the institutions necessary autonomy and the Ministry useful tools for making sure that the institutions follow up the objectives. The Ministry of Education and Research has consequently developed two main approaches to governing the HEIs and measuring goal achievement.

First, objectives are essential when funds are distributed between the institutions in the budget process. In 2002, a performance based financing system was introduced in Norway, and around 40 percent of the funding are now distributed on the basis of achievement on different indicators. Second, the annual consultative meetings with the HEIs are essential for discussing the institutions' goal achievement. In order to assess in which degree the objectives set by the Ministry are reached by the institution, quantitative indicators are used in addition to subjective judgements.

The first main objective on which the institutions are measured states that HEIs should offer education of high international quality. This objective creates a measurement problem: How do we measure degree of international quality? In the financing system, around 25 percent of the grant to the institutions are distributed on the basis of the number of ECTS-credits obtained by the students at each institution and the number of incoming and outgoing exchange students. These measures are, however, only indirect measures of quality. Also in the consultative meeting, we rely on indirect indicators in addition to qualitative judgements when assessing the quality of education offered. Among the indirect indicators we use are number of applicants and registered students, number of candidates, ECTS-credits per student, marking distribution, percentage of failure and completion rates of students.

In accordance with the second main objective, HEIs should aim at presenting research results of high international quality. We have far better indicators for measuring this objective than we have for the first one. Around 15 percent of the grants to the institutions are research funds. A large part of this is distributed on the basis of performance, but in opposition to the educational financing, the research fund is a fixed amount which can only be redistributed each year. Four indicators determine the redistribution: Number of PhD-candidates, research grants from EU, research grants from the Research Council of Norway, and scientific publishing. In order to create the latter indicator, the Norwegian Association of Higher Education Institutions is responsible for creating and updating a list with national and international scientific journals of high quality in which publishing should be rewarded (the journals are divided into two groups on the basis of quality where publishing in the first one is most rewarding). In the annual consultative meetings, others indicators are assessed in addition to the above: Among others the completion rate of PhD-students and the number of scientific employees.

The third objective focuses on the HEIs' ability to cooperate with external institutions and meet the needs of the society. The financing system does not yet include this goal. However work has been undertaken by the Norwegian Association of Higher Education Institutions in order to create indicators that measure communication of Research and Development (R&D) results. The plan is that activities such as writing newspapers articles which communicate R&D results, should be rewarded in the financing system. Ability to meet society's need is also an important part of the discussion in the consultative meetings, but feed-back is mostly based on qualitative judgments since we have few indicators to measure degree of goal achievement: Students registered in further education courses and ECTS-credits taken in further education courses are the only indicators presently in use.

Neither the fourth main objective, efficient management of employees and economy, is included in the financing system. However, we have developed useful indicators

measuring goal achievement, which are actively used in the consultative meetings. Among others, we have indicators for measuring in which degree the budgets are implemented and the size of external financing. We have also developed indicators that makes us able to perform analyses of effectiveness and benchmarking of the HEIs.

Challenges

Without precise and trustworthy indicators it is difficult to assess in which degree HEIs fulfil the objectives set by the Ministry. Collecting data and developing statistics of high quality have therefore been central concerns in the Ministry in recent years. We have now access to comprehensive data sets on higher education, but the challenge is to transform the data into consistent and useful indicators. We have still a long way to go, as the presentation above shows. This is why we participate in the StatRes pilot project, which aims at creating benchmarks and indicators for the public sector¹. Participation in StatRes does not imply increased data reporting, rather that we are going to employ available data more efficiently.

With regard to measuring research activity, the development of indicators has come relatively far in Norway. The indicator for scientific reporting is for instance a good measure of quality since only articles published in journals of high quality are rewarded in the financing system.

As seen above, measuring quality in education is more problematic. Educational quality is a subjective concept which cannot be measured directly, and as a result we must rely on indirect indicators. The challenge is to create better indirect indicators on the basis of the statistics already available. The StatRes project can help us systemize the data and connect input and output variables. We will for instance be able to see the connection between resources, e.g. economic resources, competence of employees and infrastructural resources, and results, e.g. completion rates of students, marking distribution, number of candidates and percentage of failure. Another possibility can be to develop indicators on the basis of the graduate survey, which tells us whether the graduates get relevant jobs and what they earn. This indicator is, however, in a large degree affected by economic conjuncture and is most useful for making comparisons between similar institutions.

Regarding the third goal about HEIs' role in the society, there is also great potential for improvement. Implementation of the new component in the financing system for communication of R&D work, will require increased reporting of data on communication related work, and we will thus have a better statistical basis for creating indicators. Until then, the challenge is better exploitation of present statistics in the StatRes.

¹ For more information, see M. Stromgren: StatRes, a Norwegian project for measuring and displaying public sector performance

The implementation of accrual accounting and net budgeting at all HEIs, has opened for more consistent and accurate use of indicators with regards to the forth main objective. Accrual accounting makes it possible to do more in-depth efficiency studies, since it provides a more precise value of the expenses accrued for the various cost elements involved. The challenge is to ensure sufficient data quality since it takes time for these new principles to settle, and also to find the appropriate indicators not only focusing on the economic aspect but also taking other the other objectives into regard.

Conclusion

If management by objectives should be an effective tool in our governance of the Norwegian Higher Education sector, we need precise and correct instruments that give us the demanded information. In other words and translated into the statistical language – we need both good benchmarks and indicators to secure a high quality governance of our HE-sector.

Literature

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Annex: List of indicators

	First objective: <i>Universities and university colleges should offer education of high international quality</i>	Second objective: <i>Universities and university colleges should obtain results of high international quality in research and development work</i>	Third objective: <i>Universities and university colleges should be educational institutions and research institutions with integrity and ability to meet the needs of the society</i>	Fourth objective: <i>Management of employees and economy at the universities and university colleges should secure efficient exploitation of resources</i>
Indicators in the financing system	Number of ECTS-credits (138 689) Number of exchange students - incoming (3 963) - outgoing (4 213)	Number of PhD-candidates (855) Research grants from EU (NOK 159 209 000) Research grants from the Research council of Norway (NOK 1 778 640 000) Scientific publishing	Indicators are under development	
Indicators used in consultative meetings	Number of applicants (19 540) Registered students (195 027) Number of candidates (32 160) ECTS-credits per student (mean 42) Marking distribution Percentage of failure (mean 8%) ECTS-credits produced / planned ECTS-credits (mean 79%) Drop-out rates of students Number of applicants (607 450) Number of exchange students ECTS-label and DS-label	Completion rate of PhD-students Number of scientific employees (15 512) Number of scientific employees in exchange programs (3 186)	Student registered in further education courses (14 566) Number of ECTS-credits taken in further education courses (8 059)	Degree of budget implementation Size of external funding (NOK 3 740 414), and various sources of funding The liquidity position Accounts accepted by the Office of the Auditor General of Norway
Indicators under development / possible new indicators	Number of graduates getting relevant jobs Income two/five years after graduation		Communication of R&D results (e.g. newspaper articles) Student projects in cooperation with business community	Costs per student / ECTS-credits Other effectiveness indicators

Note: Data in brackets are for all institutions in 2005