Contents

Group for administrative organization

Final report

1. Introduction

NTNU has decided on an interim organizational structure for 2016, which, with necessary adjustments, is a continuation of the previous organizational structure of the merged partners. By the end of the year, NTNU is to have a **new** and **coherent** organization in place, including the faculty and departmental structure and the administrative organization.

A group appointed to investigate the administrative organizational structure (the Børresen committee) has been tasked with proposing a solution for the future administrative organization adapted to the needs of the new NTNU for administrative services by 2 May 2016. This includes proposals for an organization chart (structure and powers) for the central administration, the allocation of functions and tasks vertically and horizontally, and proposals for cross-cutting processes that should be simplified, standardized and digitized. It builds on the previous two reports issued by the committee.

Report 1

Report 2

2. The committee's composition and mandate

The committee for administrative organization was established by the steering group for the merger on 18 June 2015.

2.1 Composition

The committee members are:
- Dean Anne Kristine Børresen, NTNU (chair)
- Director Roar Tobro, NTNU in Ålesund
- Director Inge Øystein Moen, NTNU in Gjøvik
- Director of Academic and Student Affairs Gunnar Bendheim, NTNU, former HiST
- Acting Dean Hans Marius Eikseth, NTNU, former HiST
- Administrative Coordinator Liv Alfhild Unhjem, NTNU
- Head of Administration Hege Ertzaas Fossland, NTNU
- Employee representative Gry Alterskjær, Forskerforbundet (the Norwegian Association of Researchers), NTNU
- Employee representative Gunnhild N. Furnes, Forskerforbundet (the Norwegian Association of Researchers) at NTNU in Ålesund

- Employee representative Iver Johnsen, NTL (Norsk Tjenestemannslag – Norwegian Civil Service Union), NTNU
- Employee representative Kjerstin Tobiassen, Federation of Norwegian Professional Associations (Akademikerne), former HiST
- Student Ole-Jacob Oosterhof, NTNU in Gjøvik
- Student Marte Øien, NTNU, former HiST

The committee has had 11 meetings, including two two-day sessions.

2.2 Mandate

In line with its mandate, the committee has divided the work into three phases:

1. Deadline 1 Oct.: Discussion document to chart principles, a target profile and quality requirements for the administrative organization of NTNU

2. Deadline 1 Feb.: Proposal for alternative models for the administrative organization

3. *Deadline 1 June: Joint recommendation for the administrative organization and proposed implementation plan*

The committee has delivered two reports by the deadlines that have been set. The Rector chose to present Report 2 to the Board of NTNU at a meeting on 15.2 this year.

Through Section 2 in the original mandate, the Board's decision in Resolution 4/16 and the Rector's follow-up of his authority, the committee has received five guidelines for its work on Report 3:

1. *The committee is to provide an overall recommendation for the administrative organizational structure.*
2. *The organizational changes must lead to a savings in administrative capacity of 5 % in the short term and a further 5 % over 3 years through improvements in the efficiency of administrative processes and procedures*
3. *Efforts must be made to maintain the framework of resources for the primary activities – research, teaching, innovation and dissemination.*
4. *Overall, the Rector believes that Model 2 creates the best foundation for improving the quality of services and the efficiency of the institution's activities.*
5. *Existing administrative competence must be the point of departure for the proposals.*

The committee believes it is expected to deliver alternative proposals, even though this is not explicitly formulated in the mandate. The committee has not set priorities for the alternatives presented, and has not regarded it as its duty to recommend an alternative.

The committee has met the requirements for long-term gains in efficiency through its proposals for cross-cutting processes. The committee has also received suggestions for a number of more short-term propositions for improving efficiency. The committee has not

assessed these suggestions, but it assumes they will be included in the Rector's further work with the administrative organization.

2.3 Co-determination and involvement

On 1 October 2015, the committee delivered its first report (referred to as Input to the Discussion) about principles, target scenarios and quality requirements. In total, the secretariat received suggestions and comments from 84 entities.

On 20 October 2015, the committee for administrative organization held a 3-hour workshop with 270 participants, who presented 16 issues related to Report 1. In January, the committee arranged five consultation meetings – three in Trondheim and one at each of the campuses in Gjøvik and Ålesund – with just over 200 participants in total. The subject for the consultation meetings was Report 2.

Administrative working groups for reliable and secure operations have answered questions related to the division of functions, principles for the future administrative organizational structure, distinctive characteristics of tasks that should be assigned at central, faculty and departmental level and to the Gjøvik and Ålesund campuses, and processes that are suitable for standardization and digitization.

As a basis for Report 3, the faculties, NTNU in Gjøvik, NTNU in Ålesund and the central university administration were asked to investigate alternative solutions for the future administrative organizational structure.

3. Basis for Report 3

3.1 Requirements for administrative services

With Section 2.7 of the merger platform – NTNU's goals, trends and expectations – as its point of departure, the committee has identified four requirements against which administrative tasks and services must be assessed and, where goals are in conflict, must be weighed up.

Efficiency

The authorities' instructions and users' expectations demand efficient administrative solutions. Many administrative tasks require processing at more than one level. However, it is not rational to have administrations that overlap and cover the same functions at several levels. To achieve effective solutions, functions and tasks in a process should be handled on as few levels as possible. The positioning of functions, tasks and powers may be at levels 1 and 2, or levels 2 and 3. Depending on the functional area and task, it may be possible to establish a direct connection between levels 1 and 3.

Based on effectiveness and quality considerations, one should allow for different organizational solutions, including asymmetrical solutions.

Quality

The administrative services must pay close attention to students' needs and must smooth the path toward education, teaching and learning so that students achieve the defined learning outcomes. Similarly, academic staff members must have access to administrative services so that they can carry out research, artistic activities and dissemination of high quality. The management support represented by the administration is expected to improve quality in strategic decision-making processes. Emphasis on the user perspective will strengthen service quality. In this connection, one must define the levels of service that users can expect.

Closeness to academic activities

To strengthen the quality of the core activities, there is a clear expectation of closer interaction between academic and administrative activities. The requirement for closeness to academic activities applies to both students and academic staff. The consequence is services that are close to the academic disciplines in teaching, research and artistic activities.

The goal of keeping administrative services close to research, education and dissemination at all levels demands proximity and presence, regardless of the organizational and authority structure. In general, this means making decisions at the lowest possible level, but reconciled with the need for skills and for effective solutions.

In most cases, closeness to academic activities suggests decentralization of administrative services as well as good availability and accessibility. Availability and accessibility involve the positioning of services in the organizational structure, response time and physical location. Some of the services that are close to the academic activities can also be provided digitally and thus they do not always require physical proximity.

Modernization

NTNU must introduce new systems and tools to support cross-cutting enterprise processes that support the workflow, are coordinated, streamline operations and remove duplication of effort. Standardizing, digitizing and automating work processes would enable substantial productivity gains. This applies especially to processes that cut across the organization, in which several levels and units perform tasks, as well as to frequently occurring and routine tasks. To ensure coherent and consistent support processes and to realize administrative synergies, the administration at different levels must work together in close coordination. Another important action will be to introduce the role of process owner with a clear mandate.

3.2 The committee's proposed models in Report 2

In Report 2, the committee has presented two models with a variant of Model 2 in which service agreements are introduced as a tool. The models are regarded as of equal quality in terms of the requirements set for a good administrative organization. Based on the Rector's assessment that Model 2 as a whole creates the best foundation for improving both the quality of services and the effectiveness of the university's activities, the committee has concentrated on this model. However, the committee will provide a brief presentation of all the models.

Model 1

In this model, only changes resulting from the merger are made. The more extensive organizational changes are made from 2017 onwards. In practice, this means that the current allocation of functions and tasks as well as delegation would largely be continued. Goal-oriented measures will be implemented over time. This could be achieved by changing the structure, through stronger process control, standardization, digitization and improved work methods. Because Model 1 does not immediately take advantage of the potential in a structural reorganization, the need for standardization and possible digitization of processes as well as internal information will become correspondingly stronger.

Although the model represents continuity, it still has significant consequences in that four former institutions must have the same formal regulations as well as the same practice of the regulations, the same foundation of Basis IT systems, and the same fundamental standards of quality. Integration of the administrations at the former HiG and HiÅ will mean significant adjustments due to the merger for reasons that include the geographical distances. To resolve these challenges, they would keep their administrative units for the moment.

Model 2

The model represents a comprehensive analysis of the way we work administratively in order to ensure a genuine merger for all parties. It creates greater potential for renewal through a different placement of authority, functions and tasks than at present.

Loosening up existing structures will create opportunities for organizing work processes in new ways.

The changes represent a shift towards a more process-based organization. The central level is given greater responsibility for simplifying, standardizing and digitizing work processes, and distribution of tasks between the levels in different functional areas can be standardized to a greater extent. The central level is also responsible for implementing organizational changes throughout NTNU. Relative to Model 1, it will build on best practices rather than adopting organizational processes from the former NTNU.

The requirement for closeness to academic activities will be a key criterion for the solutions chosen. On the one hand, greater emphasis will be placed on decentralized administrative services close to users, while one should consider whether administrative tasks could be resolved at fewer levels, and whether transfers of tasks could reduce the extent of tasks that are currently performed centrally.

On the other hand, it is possible to gather/centralize the provision of services in selected areas. This is especially relevant for transaction-intensive rule-based functions and for functions that demand specialized skills, for example EU consulting, legal services and administrative support for innovation. Organizationally, this can be achieved through common units, expert teams and centres with specialized skills. NTNU in Gjøvik and NTNU in Ålesund could be a separate administrative unit or departmental/sectional administrations linked with the corresponding faculty/department in Trondheim.

A local organizational structure that is purely line-based could easily lead to fragmentation and impede effective use of the administrative resources. Introduction of service agreements could reduce fragmentation and maintain the principle of unitary management. Service agreements will also contribute to developing common quality metrics related to user experience and service levels for administrative services.

This way of organizing administrative services is especially relevant at NTNU in Gjøvik and NTNU in Ålesund. In practice, this means that these campuses are assigned an overall duty to organize and provide administrative services to the local operations. The resource framework is determined by the budget allocation, for example, while the operative provision of services takes place through departments requesting services from the local administrative infrastructure.

In summary, the models can be characterized as follows:

Main features of the models

	Model 1	**Model 2**
Common requirements	**Quality, efficiency gains, modernization, closeness to academic activities**	
Scope and complexity	Step-by-step and incremental	Extensive and radical
Distribution of functions and tasks between the levels	Changes resulting from the merger in the first stage	Repositioned based on new assessments
Organizational structure	Changes resulting from the merger	Will be changed in the light of new assessments
Processes throughout the organization	Processes will be improved step by step from 2017 onwards	Extensive and cross-cutting
Level of ambition for change	Stability and gradual change Lower risk	Destabilization and room for manoeuvre. Greater risk
Potential for efficiency gains	Will be realized over time	Will be realized faster

4. Trends in the proposals from the units

The committee has asked for alternative proposals from the faculties, NTNU in Gjøvik, NTNU in Ålesund and the central university administration. In the request, the units were asked to investigate alternative proposals for future organization, including suggestions for tasks that should be strengthened or downsized, processes that should be standardized and preferably

digitized, as well as the allocation of work between 1 and 2. A [summary of the highlights](#) is presented below.

4.1 The faculties

The faculties appear to believe that there is scope for stronger integration at NTNU; at the same time, there is a need for clearer allocation of work between levels 1 and 2. Level 1 should be responsible for developing common strategies and policies, should have system responsibility, should offer specialized services such as legal services, and should coordinate these. Several faculties believe it would be advantageous for Level 1 to manage shared services/service tasks. The introduction of common tools, processes and standards related to transactional tasks could help to increase efficiency. However, there may be disagreement about the services and tasks to which this applies.

The faculties have clear expectations that Level 1 will take responsibility for conducting process analyses as well as for simplifying, standardizing and – over time – digitizing cross-cutting processes. This also applies to processes where tasks are performed at Level 2/3 or at NTNU Gjøvik/Ålesund and where standardization meets many of the requirements that the committee has set for the future administrative organization (see Chapter 3). Similarly, at some faculties, there are expectations that Level 1 will initiate measures to consolidate the work consisting of transactional tasks. This will enable the administrations at levels 2/3 to shift their attention from administrative and operational tasks to the support of users and managers close to academic activities.

A range of administrative functions will require such in-depth understanding of activities as well as such proximity to the core operations and line management that the functional infrastructure should be organized locally at levels 2 and 3 as far as possible. This applies to support functions with responsibility for strategic and operative support to faculty and departmental management, faculty-specific specialist tasks and management of faculties' activities. There will also be a need for capacity and skills at Level 2 with responsibility for tasks within most functional areas.

Variations in size and academic profile between the faculties dictate adequate autonomy in their own use of resources in relation to the core activities. The central framework set for the administrative organization must therefore provide the necessary scope for the faculties to maintain their academic distinctiveness in the future, but not in such a way that duplicate administrative functions are established.

4.2 NTNU in Gjøvik and NTNU in Ålesund

NTNU in Gjøvik and Ålesund primarily want close cooperation with function owners and process owners in the central university administration. The central university administration will take over a variety of tasks that are currently performed in the former university college administration, and will ease the burden on them. Examples include secretariat functions for various committees in academic and student affairs, salary negotiations, claims for reimbursement from the Norwegian Labour and Welfare

Administration (NAV), the employee handbook, entry into framework agreements, process and system ownership, IT operations, as well as regulation and management of finances. It is pointed out that some tasks are suitable for digitization and are therefore independent of location.

NTNU in Gjøvik and Ålesund have the skills to provide shared functions, which couldreduce the load on the central university administration. Examples include the area of studies (admission), in-house training using digital media, test environments for new processes and system solutions and information security.

The merger implies that a number of local administrative functions and tasks must be strengthened in order to meet the requirements that have been set for improved quality and efficiency as well as for the principle of equal treatment of students and staff. In many cases, preparatory administrative procedures must be performed locally. There will be a need for first-line services, superusers, as well as services that perform relational tasks and that provide points of contact with the central university administration. The campuses must continue to perform tasks with associated services that require in-depth insight into the local activities as well as regional business and industry. Follow-up of NTNU's strategic initiatives will have implications for capacity and skills in the local administration.

Both NTNU in Gjøvik and NTNU in Ålesund point out that the position of Vice-Rector has a key role in maintaining a unified campus. The Vice-Rector must be the point of contact, must represent and position NTNU with respect to the job market, business and industry as well as societal stakeholders in the region, must coordinate the academic activities and must develop interdisciplinary cooperation. Vice-Rectors should have a dedicated staff and budget in order to fulfil their responsibilities, and must be able to use other local administrative resources as well.

4.3 Central university administration

Several proposals have been submitted concerning which cross-cutting administrative processes are most relevant for standardization and improving productivity. This applies mainly to the areas of education, human resources, finance, property and ICT. In education, the process of examinations and assessment is highlighted. The latter must be seen in connection with digitizing the processes of planning teaching and follow-up of teaching from teaching staff and from students. In human resources, the most relevant areas may be recruitment, conflict resolution, and processes related to inward and outward travel for academic staff. The payroll function, for both fixed and variable pay, is a clear candidate with processes that have great potential for efficiency gains. The area of finance also includes aspects such as reimbursement of travel expenses, purchase orders, and management support within financial management. Processes within use of premises and inventory purchases are also highlighted.

Within the ICT area, a number of initiatives have been proposed with the aim of changing the distribution of responsibilities and tasks between the levels. It is assumed that a central IT division would take on responsibility for a number of cross-cutting processes. These

proposals are regarded as necessary for developing the quality of the IT services and generally improving the efficiency of the administrative activities.

Several functions have been discussed from the perspective of whether they can be placed at Level 2/3 or should be kept at Level 1. In the area of education, the main points refer to which areas should be at the central level, based on both quality and efficiency considerations. These include the administration of continuing and further education, career services, outward travel by students, examinations and the National Student Database (Felles studentsystem, FS). In the area of research and innovation, there are no proposals for changes in responsibility between the levels. However, it is pointed out that the need for improved quality in support functions, especially within EU-related tasks, suggests the need for stronger central responsibility for making better use of the university's combined skills.

In the area of human resources, increased centralization of transactional services is proposed. Examples include administration of holiday leave, settlement of travel expenses, settlement for sabbaticals and work contracts. We see corresponding proposals within communication. No proposals have been submitted for distributing tasks away from central to decentralized levels.

5. Prerequisites for the committee's proposals

The committee has based its proposals on a number of criteria:

- The committee's assessments build on the requirements for quality, closeness to academic activities, modernization and productivity
- In accordance with the Rector's guidelines, the committee's point of departure has been Model 2 for administrative organization as described in the memorandum to Board Item 4/16 and Report 2
- In Board Item 5/16, the Board decided on the organization of NTNU's management. The composition of NTNU's central management determines the division into functions at the top level
- The main principle for the future organization of NTNU is line organization and unitary management
- Emphasis has been placed on proposing alternatives that enable matters to be dealt with at the fewest possible number of levels, and asymmetrical solutions where these may be appropriate
- In line with the adjusted mandate, the committee has concentrated especially on the divisional structure in the central university administration, the distribution of responsibility between Level 1 and Level 2/3, as well as joint initiatives and cross-cutting administrative processes
- The committee has emphasized finding alternative solutions that are consistent

5.1 Management and forms of organization

NTNU is in a restructuring phase and has several instruments for changing and renewing the organization at its disposal. Cross-cutting processes can be standardized, digitized and simplified, or the institution can introduce new ones. NTNU can transfer tasks between levels (vertically) and internally in the central university administration (horizontally), and it can supplement the line organization and line management with other forms of organization and management roles. A prerequisite for a well-functioning and flexible organization is that these measures pull in the same direction. Below, the committee will describe some organizational solutions with associated management roles that, without challenging the line principle too much, may help to resolve administrative tasks and processes across the organization.

5.2 Line management and organizational structure

Line management with responsibility for permanent administrative units is established as a principle at NTNU.

According to the principle of line organization and unitary management, most managers at NTNU will be line managers. Decision-making powers and lines of responsibility are clear and consistent. There is a match between personnel responsibility and authority to allocate tasks, to set priorities for tasks and to specify quality requirements. They are responsible for financial management and follow-up of the goals that have been set for the institution.

The strengths of the line organization are clear lines of governance and reporting with unambiguous employer responsibility. The weakness is that it does not handle administrative tasks that require skills and efforts from several units both vertically and horizontally. In popular terms, it often results in a "silo mentality" where needs for cooperation and coordination are not adequately met.

NTNU has already supplemented the line organization with other organizational measures that demand other management roles. The merger with the university colleges in Gjøvik and Ålesund triggered the need to introduce a further role: "local leader" (vice-rector).

5.3 Processes and process owners

The committee has been especially concerned about cross-cutting processes.

Cross-cutting processes are recurrent, cut across several levels, and have a defined start and end. They include several roles that perform various tasks. Standardization of processes is important to create an effective flow. Visualization of the flow creates a basis for implementing continuous improvement. A condition is that each component/activity in the process adds value.

Many processes are completed at Level 2, for example staff appointments and the processing of explanations and appeals concerning examinations. It may be just as reasonable to have a process approach where this is standardized for the whole of NTNU,

and for this responsibility to be at Level 1. The justification for this would be to avoid creating different processes and tools at Level 2, with sub-optimization for the institution as a result. It is also easier to digitize standardized processes. A further argument is that the academic environments at NTNU in Gjøvik and NTNU in Ålesund will be linked with several faculties. Common and standardized solutions will simplify collaboration between levels 1, 2 and 3.

Where entire processes operate within the same organizational unit, the line manager is also the process owner. The Board has decided that the current institutional management is to be retained, which in practice means that the responsibility for the functions has been established.

The committee will recommend that the institution should introduce a clear role as process owner for important cross-cutting administrative processes and that one of the members of the top management should be given this role. In most contexts, this role will have responsibility for several processes. Placement in top management will ensure both the necessary authority and the possibility to see processes in context. The process owner is responsible for developing, describing and monitoring the process, for taking the initiative to make larger or smaller changes in the process when this is necessary, and for organizing user support and initiating development of ICT support and other support systems. This must take place in accordance with the process standard that NTNU chooses to use.

5.4 Matrices and matrix managers

NTNU has used various forms of matrices as organizational tools for a long time. These exist in most of the functional areas, sometimes within subfunctions. The matrices are used for discussion, exchange of experience, coordination and collaboration, often with the aim of developing better solutions. However, they have no decision-making powers or resources. Any proposals must be approved by the line management.

They typically consist of people who work with the same functional area centrally and at the faculties, and are headed by a manager in the central university administration. The matrices have arisen because of a need, but have had a somewhat uncertain status, which has given matrix managers weak legitimacy and unclear authority. The committee believes greater formalization of some of the matrices should be considered, as well as giving the matrices and matrix managers a clearer mandate.

In some areas, "strengthened matrices" may be a good tool as a work form. This will be a selective measure with stronger formalization than other matrices. The purpose is to support academic staff with administrative capacity where broad and in-depth expertise is necessary. Such matrices have a strong foundation in a function owner in top management. The matrix consists of administrative staff from units both horizontally and vertically. The formalization is achieved through individuals at the faculties and departments participating in the matrix for a specified percentage of their working hours. This may be governed through agreements or formal descriptions of positions.

The manager of a strengthened matrix acts under the authority of the function owner and has the use of staff resources in terms of agreements concluded or descriptions of positions that have been confirmed with faculty and departments. A matrix manager may also be a process owner where the functional area is suitable for standardized processes. For example, this measure is well suited for EU projects in both the application and the implementation phase as well as in budgeting and reporting.

5.5 Projects and project management

Projects are limited in time, have a clearly defined mission and corresponding subgoals, outcome goals and result-oriented goals. They prepare proposals for solutions, but do not usually have the authority to implement them. This responsibility is assigned to the line management. The project consists of people with sufficient capacity and skills. The inputs are agreed with the project owner and line managers. The project manager has essentially the same role as the manager of a strengthened matrix. The management team has a particular responsibility to ensure that the transition from project to operation runs smoothly.

5.6 Groups and group leaders

A characteristic of functions and subfunctions is that they are headed by line managers, which implies that they represent defined organizational units. Functions and subfunctions will consist of processes and tasks. To avoid many levels of management – which increases costs and bureaucracy – the committee would like to point out the potential for designating an employee as a group leader. This person does not have personnel responsibility, but coordinates and distributes tasks within the committee as delegated by the line manager. The group structure need not be a permanent organizational unit and may be changed based on experience or changed needs. Today, we find examples of groups and group leaders in the Communication Division and the Human Resources Division, among others.

5.7 Local management

In its report from October 2015, the committee pointed out that organization of the administrative activities must take into account the geographical distance between the institutions, the strengths of the institutions and their need for autonomy adequate to fulfil their particular mission to their regions. In their proposals for the future organizational structure, both NTNU in Gjøvik and NTNU in Ålesund emphasize that they must have a profile as "living campuses" in the interests of both students and the business community in the region.

The committee believes there should usually be a correlation between personnel responsibility and management of work, and it has pointed out the drawbacks of "remote management". This raises the question of local administrative managers. This role will be

responsible for coordinating administrative work and will be the first-line contact for administrative staff at the two campuses. The committee recommends that this role be investigated further.

5.8 Service centre

The central university administration, the faculties, NTNU in Gjøvik and NTNU in Ålesund have all proposed gathering transactional tasks as shared services that could cover NTNU's entire organization. This might also apply to services that demand specialized skills. This could take some of the load off faculties/departments and other units, so that they do not need to develop the same skills under their own management.

An important choice related to setting up potential service centres is whether there should be one for each functional area or whether several service centres should be established across the boundaries of many functional areas. The alternatives have both strengths and weaknesses. One centre for each functional area would probably make it easier and faster for employees to get information, but would have a narrower scope of work and skill. It would thus offer a less adequate solution to the vertical "silo structure" with its challenges in coordination and cooperation. One consolidated centre would have greater potential for fulfilling the many and complex information needs of the staff and/or the students. One common service centre for the whole of NTNU could easily become so large that it would need to be divided into sections, which might make it difficult to navigate. As an intermediate solution, a geographical distribution could be envisaged, with shared service centres for the individual campuses (Gløshaugen, Dragvoll, Kalvskinnet, Gjøvik, Ålesund, etc.)

In the committee's opinion, this is an organizational approach that needs further investigation.

5.9 Requirements for leadership during restructuring

Regardless of which alternatives are chosen for the administrative organization, a critical success factor will be clear and good leadership. A reorganization of the entire administrative operation places great demands on managers' presence, implementation capacity, skills in tackling change, and not least the ability to motivate and take care of staff throughout the process.

6. Cross-cutting administrative processes

In its two previous reports, the committee has placed great emphasis on the potential benefits inherent in simplifying, standardizing and digitizing NTNU's work processes. This is an essential element in both Model 1 and Model 2, which was presented in the committee's Report 2.

Process organization is especially suitable as an approach for tasks that are performed frequently and that can be described in terms of procedures, standardized and (partly) digitized; that is, they can described as transactional services. For cross-cutting processes, see Section 5.3.

Transactional services are services that are repeated often and have high volumes. For example, this may apply to the handling of applications for admission, accounting vouchers, travel expense reports, payroll runs and capture of information in various systems

The proposals from the units show strong support for using this approach as a basis for organizational change.

The units have identified a number of cross-cutting processes within several functional areas that could be standardized.

Functional area	Level 1
Strategic management support	• Planning, Budget and Follow-up process (PBO)
Support for teaching and education	• Development of curricula - courses and programmes of study • Examinations – assessment – explanation of grades – appeal • Quality of education: Work on quality report and measures • Admission • Planning of timetables
Research and innovation support	• Grant- and contract-funded processes ("BOA") / support for financial functions • Project implementation • Implementation of organized research training
HR functions	• Recruitment and appointment process • Onboarding process for new employees, especially international staff • Sabbatical – outward travel by researchers
Records and information management	• Document management • Document capture • Support for administrative procedures • Archives
Financial services	• General streamlining: Standardization and digitization • Order-to-payment cycle • Planning, Budget and Follow-up process (PBO)
Payroll function	• Variable pay • Travel expense reports • Holiday leave planning

The committee has assigned priorities to these processes based on the following set of criteria:

- The process supports the core activities and the most important users
- As far as possible, it must meet the requirements that the committee believes should be set for a good administration: Effective solutions – Quality – Closeness to academic activities – Modernization; see Chapter 3.1
- The process must be cross-cutting, that is, it must span several levels in the organization
- It is suitable for standardization and digitization
- It applies to many people
- It has significant potential benefits

Based on these criteria, the committee proposes concentrating on reviewing the following processes initially:

Examinations including assessment, explanation of grades and appeal: Processes related to examinations and assessment have long been highlighted as ripe for standardization and digitization. These apply to all students and a high proportion of the academic staff. NTNU is in the process of digitizing the entire examination process. This is a major boost, and merely providing a basis for levels 2/3 to register assessment digitally and for introducing a standardized digital process for providing explanations of grades and for appeals would be experienced as clear and noticeable progress.

Planning programmes of study: There is a need for further standardization of the process up to the approval and implementation of new courses and programmes of study. This is an extensive and long-term process involving many entities at several levels. It covers the entire path from the course descriptions provided by teaching staff, via the programme council, head of department, faculty and – as far as areas of study are concerned – to the central university administration and the Board. Today, the process is largely manual and analogue.

Quality of education: The Norwegian Agency for Quality Assurance in Education (NOKUT) has approved NTNU's quality system. A key component of the system is the reporting from teaching staff, reference groups (students), the programme council and heads of departments. Ultimately, the reports provide the basis for the Rector's report to the Board. Locally, course coordinators and programme coordinators use the reports as a basis for their improvement efforts. Although this process has already been well described, further digitization would provide efficiency gains.

Project implementation: NTNU aims to increase its share of research funding announced in calls for proposals. EU programmes are a priority area, where exacting requirements are imposed both for the award of grants and for reporting. The process involves several roles. The administrative aspects of a research project – from gathering of information, writing applications, reporting to publishing – are generic, and the committee believes these are well suited for development of a standardized and digitized process.

Recruitment and induction of employees: The committee believes that the recruitment process should be given priority. Level 1 should have responsibility for standardizing and digitizing the process from the work on staffing plans and advertisement of vacancies until

induction so that the person appointed quickly starts doing work that creates value. A digitized process includes templates and tools. The process is generic and, with some additional tasks, it will also be applicable to recruitment and reception of international applicants.

Processes concerning variable pay and travel expense reports: These processes affect many people. There is a need for a better user interface and simpler processes that reduce the number of control points and variance that delay the process. This is a relatively simple and vertical work process, but an improvement of this will make users more satisfied than they are today

The planning, budgeting and follow-up process (PBO) is a cross-cutting process that covers all areas of activity and all levels. The main outputs from the process are annual plans with budgets as well as operational reports issued every four months to address implementation of activities and finances. The current process is perceived as static and resource-intensive with a great deal of manual work and many sources of errors. The link between activity and finances is too weak.

Order-to-payment cycle: This process is already largely digitized, seen from the perspective of staff responsible for procurement and accounting. However, users have been critical, partly because the current system does not provide adequate differentiation between small, large and very large procurements. The user interface is also regarded as cumbersome and complicated.

Assessment
Most of the high-priority processes can be described as transactional. All the processes meet the requirement for modernization and productivity. An improvement of these processes should also result in increased quality and more consistent treatment. With standardization, processes may become less flexible, and it may become more difficult to deal with matters that require adaptation, adjustments and contact between the user and the service provider. In this sense, the services may be more remote from the academic activities.

In several contexts, NTNU has worked on standardizing and digitizing transactional processes. Success depends on clarifying who is responsible for the process, providing clear mandates and setting expectations for the process owner. This requires management strength, follow-up, and strong involvement of users.

7. Functions and distribution of work between levels 1 and 2/3

 A "function" is a combination of tasks and authority. The committee defines a "function" as a set of tasks that can be linked to / solved at one level on behalf of the whole or parts of the organization, or that is solved in coordination between several levels. Functions are relevant to the distribution of work between Level 1 and Level 2/3, and for cross-cutting processes, and they form the basis for the organizational structure; see Chapter 8.

To some extent, the administrative functions are generic and applicable to any large organization. NTNU will additionally have specific administrative functions that reflect the core activities of the university. The committee has kept to an overarching level, and has divided the administrative activities into the following functional areas: Strategic management support; education and teaching support; research support; support for innovation; HR; communication; information technology; records and information management; development and adaptation of property, buildings and infrastructure; campus service – operational services; and finance.

A clear positioning of functions and tasks in the organizational structure, both between the levels (vertically) and within the central university administration (horizontally), is a prerequisite for a well-functioning administration. This chapter addresses the vertical axis, while Chapter 8 deals with the horizontal axis, that is, internally in the central university administration.

The committee assumes that the function ownership at the overarching level is established through Board Resolution 5/16. This means that the three pro-rectors and the two directors are jointly responsible for the 10 functional areas.

The committee notes that the proposals drawn up by the units suggest that the current distribution of work is largely regarded as sensible. At the same time, the committee sees both willingness and interest with regard to making adjustments, either by transferring function components to another level or by strengthening function components. In the table below, the committee has summarized the proposals for function components where transfer to a different level should be considered.

Function	
Strategic management support	Strategic management support must exist at three levels in the organization
Support for teaching and education	Electronic examinations • All student guidance • Diplomas In the area of internationalization • Arrangements for students travelling outward • Student guidance
Research and innovation support	• Responsibility for EU programmes/projects • Coordination of research initiatives • Operative tasks in connection with research projects
HR functions	• Specialized skills such as legal advice • Human resources development • Management development • Conflict resolution • Advisory and administrative procedures related to outward and inward mobility of staff • Follow-up of sickness absence • Tasks related to appointment and induction of new employees

Function	
Records and information management	• Positioning of responsibility for document management
Communication services	• Strategic and operative communications support • Dissemination of research
ICT:	• Fundamental IT • Special academic needs linked to research and learning
Financial services	• Controller function • Variable pay and travel expense reports • Enterprise management, analysis and long-term planning

This list is so extensive that the committee believes setting of priorities is needed in relation to the summary above.

The committee outlines two alternatives in six functional areas. In the other areas, no changes are proposed. One of the alternatives is a cautious adjustment of the current positioning of tasks; the other is more radical, and entails a larger reorganization. The proposals for transfer of tasks are largely based on a distinction between transactional and relational services.

For transactional services, the tendency is towards implementation by Level 1 or at a shared service centre. This is strengthened by the merger with the university colleges in Gjøvik and Ålesund. The academic environments in Gjøvik and Ålesund will be associated with several faculties. They should therefore encounter an organization that has shared and standardized processes.

Relational services demand close contact between individuals/groups who need administrative assistance and depend on good insight into the activities of the unit. Examples include the development of digital teaching programmes, student guidance, conflict resolution, application interviews and assessment of applicants. For this type of service, the tendency is that several services and tasks should be placed in or close to the academic community.

In both alternatives, Level 1 is responsible for strategies, policies and cross-cutting processes[1].

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[1] When the committee uses the phrase "as at present" in the table, this primarily applies to the situation at the former NTNU.

Distribution of functions and tasks

Function/task	Alt. 1	Alt. 2
Teaching and education support	Levels 1 and 2/3 as at present	More tasks allocated to level 2/3 Examples: • Implementation of exams that do not require central planning and coordination • Transcripts of diplomas • Arrangements for students' outward travel
HR	Levels 1 and 2/3 as at present	More tasks allocated to level 2/3 Examples: • Management and personnel development • Handling of conflict
IT	IT function/unit at level 1 and 2/3	One IT division with distributed services
Finance	Levels 1 and 2/3	Strengthening of controller tasks level 2/3
Communication	One division as now – some extension of tasks	Strengthening of level 2/3 Examples: • Research dissemination • Management support
Documentation (archive)	Documentation function/unit at level 1 and 2/3	Consolidated in one unit

Some considerations

Alternative 1 is largely a continuation of the current administrative organizational structure. Alternative 2 represents a larger reorganization in that a single documentation unit is established and that Basis IT (the foundation of general IT services that most users need) is consolidated in one IT division. There is reason to believe that consolidation will result in efficiency gains. The level of skill will be higher and the number of employees will be larger, which should result in stable services of high quality. The consolidation of Basis IT will additionally make the services available for more hours of the day. The campuses in Gjøvik and Ålesund will gain services of equal quality regardless of the faculty with which the academic community is linked. On the other hand, this type of organizational structure may become more complicated in the context of problems that demand flexibility and personal contact.

The committee assumes that when tasks are transferred up or down in the organization, they will be accompanied by resources. Certain proposals in Alternative 2 in the table above are regarded as a development project.

Looking at the proposals to simplify, standardize and digitize cross-cutting processes in the context of the proposals for changed positioning of administrative functions and tasks, the committee believes they will entail considerable restructuring and improvement in of administrative services at the new NTNU.

8. Organization of the central university administration

8.1 Division into functions

The committee's proposed organization chart for Level 1 is based on a division into main administrative functions and subfunctions. Responsibility for the main functions has already been assigned through Board Resolution 5/16 on central management at NTNU. The division into subfunctions does not cover all tasks, but it is intended as a rough description of the content of a main function.

Strategic management support

- *Strategic plans*
- *Analysis services*
- *Coordination - process management*
- *External contact*
- *Quality assurance*

Support for teaching and education

- *Student services*
- *Admission*
- *Examination*s
- *Planning of timetables*
- *Student recruitment*
- *Quality system for education*
- *Academic portfolio*
- *System administration*
- *Continuing and further education*
- *Learning support*

Research/ innovation support

- *Project support/coordination*
- *EU consulting*
- *Research training*
- *Scientific equipment*

HR functions

- *Personnel function*

- *Organizational development*
- *Health, Safety and the Environment (HSE) tasks*
- *Safety, security, emergency response and preparedness*
- *Equal opportunity*
- *Work environment development*

Records and information management

- *Archival and record management service / administrative procedures function*
- *System administration*

Communication services

- *Branding / institutional identity*
- *Marketing*
- *Public relations*
- *Alumni*
- *Dissemination and outreach*
- *Dissemination of research*
- *Internal communication*

IT:

- *Operations and user support Basis IT*
- *Joint management and operation of IT services and specialized systems*
- *Joint control and development of the IT systems/IT architecture*
- *IT security*

Property

- *Ownership functions/maintenance*
- *Letting/renting of premises*

Operations services

- *Operations and service*
- *Performance of maintenance*

Financial services

- *Accounting*
- *Payroll*
- *Procurement/orders*
- *Financial management / controller function*
- *System administration*

For each of these functions, it is important to establish a clear and consistent organizational framework for the responsibility, tasks, authority and budget that will form the basis for organizing the institution's activities. This applies to Level 1, the faculties and NTNU in Gjøvik and NTNU in Ålesund.

Here, the committee presents alternative proposals for the organization of the administration at Level 1 based on the function descriptions above. The committee presents alternative solutions.

In a separate chapter, the committee presents alternative proposals for the administrative organization at NTNU in Gjøvik and NTNU in Ålesund. The alternatives have less impact on the central university administration, and the committee cannot see that the alternatives will have implications for the divisional structure at Level 1. For this reason, the administrative organization in Gjøvik and Ålesund can be considered independently of this to some extent. The committee recommends introducing the same organizational structure in the two cities.

Organizational models are described as divisions, with proposals for the positioning of function components/tasks. A chapter on the organization of strategic management support has also been included. More detailed descriptions of the proposed models are generally provided in sub-reports for each functional area.

8.1 Strategic management support

The current model

Today, strategic management support is provided both in divisions and in staff functions. Matrices have been established across various parts of the staff functions and various divisions, which provide strategic management support to some extent. One example is the planning, budget and follow-up process (PBO).

There are great variations between the areas of activity in terms of how they are organized under each pro-rector/director. Within education, organization, and finances and property, many tasks are defined as common, and are therefore located at Level 1 in the organization. This is not the case for innovation and research, which have far fewer common tasks at Level 1. Education, organization, finances and property are organized in divisions with many people. This does not apply to research and innovation.

The Rector's staff is not a common unit under joint management, but is divided into sections led by each pro-rector/director. The various parts of the Rector's staff have different types of tasks and different rationales and history. Today, the Rector's staff has a strategic function, but also has a considerable element of operational tasks.

Alternative models

The proposal for organization of strategic management support is based on addressing the following functions:
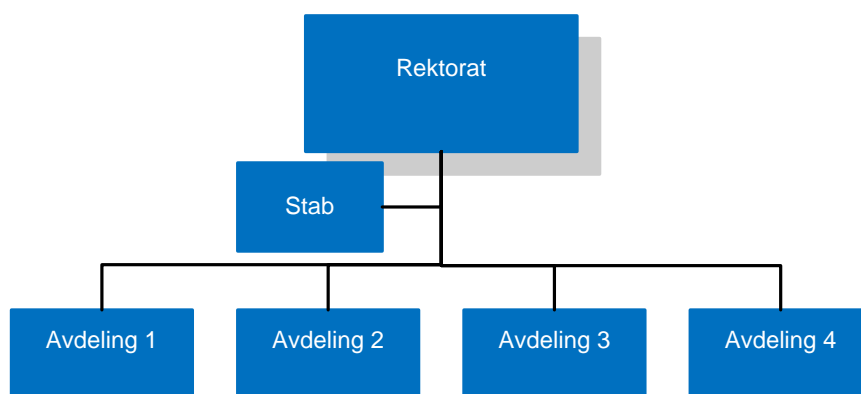
Analysis – strategic plans – action plans – goals: The strategic management support function must prepare the supporting input for NTNU's development of strategy, decision-making processes, goals and design of instruments. This management support must be able to act on orders for services placed by the Board, the Rectorate and the Council of Deans, but it must also make proposals on its own initiative.

Coordination – process management: Rectors and directors have an important role in coordinating and operating process across boundaries and out into the organization. The need for process management and coordination is greatest in connection with interdisciplinary and inter-faculty activities and with laying the foundation for collaborative projects between the faculties. Many such processes can be categorized as administration or operations, but such cross-cutting processes may also involve strategic development. Strategic management support often has an important role in assisting in such processes. The cross-cutting processes may be internal, but are also aimed at cooperation with external partners.

External contact: Representing NTNU with respect to the outside world takes a large proportion of the rectors' and directors' time. This applies to contact with political authorities, partners in the world of work, collaborating educational and research institutions, policy and funding agencies such as the Research Council of Norway and the European Commission, etc. Strategic management support has an important role both in contributing to structured planning of which agencies it is important to meet, and in preparation of management for meetings, travel, conferences, participation in committees, etc.

Quality assurance: In several contexts, an independent task for the Rector involves taking care of necessary quality assurance projects, reporting to the Board and external authorities. Internal audits are a key element; another element is quality assurance of education in relation to the Norwegian Agency for Quality Assurance in Education (NOKUT). In this connection, administrative tasks must be assigned to the Rector's staff to some extent, because of the need for independence from the faculties with administrative responsibility.

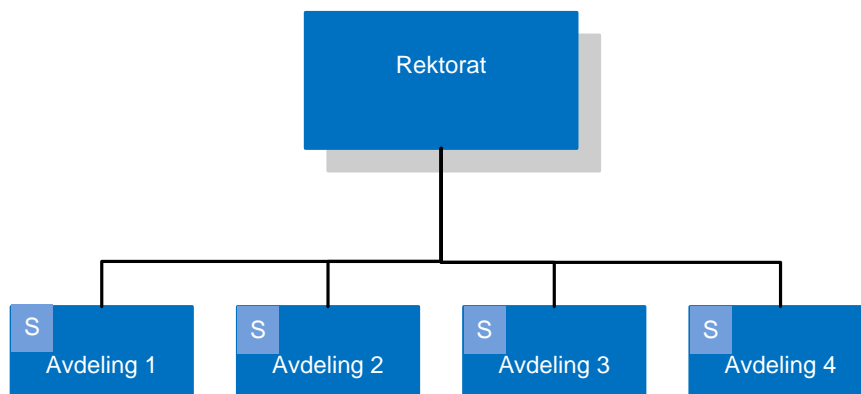*Figure 1: Proposed alternative Model 1.*

Rektorat - Rectorate
Stab - Staff
Avdeling - Division

Model 1 with centralized, strategic management support implies that a significant proportion of the tasks are gathered in a staff unit.

Some strategic management support will also be needed in the divisions, but these will mainly be associated with the division's functional area. Some matrix organizational structures must also be used.

Figure 2: Proposed alternative Model 2.

Rektorat - Rectorate
Avdeling - Division

Model 2 implies that all strategic management support is organized in the divisions, and that all interdisciplinary work is accomplished through formalized matrices of a permanent or temporary nature tailored to the task.

The models are "pure-bred", in the sense that good hybrid solutions between the two alternatives could be envisaged. One could imagine processes operating above the divisional level that would be most suitable for staff units, such as the work involved in the quality assurance report for education. The academic portfolio process can largely be solved within a division with both strategic and operative expertise. There are many other examples of such possible hybrid solutions.

Some considerations

Both the proposed models reflect clear ambitions for high-quality analysis processes and decision support for the Rector. They therefore meet the requirement for quality in the administrative services. Segregation of a separate staff unit from the various divisions for resolving strategic tasks (Model 1) would reinforce this. In the second model, the high-

priority strategic tasks will compete to a greater extent with ongoing operational tasks. This will probably result in lower quality of the strategic management support, but would be a more resource-efficient solution.

8.2 Education

The current model

The area is headed by the Pro-Rector for Education, and consists of three units: Rector's staff – education, the Student and Academic Division and the university library. The staff is headed by the Pro-Rector and has an inner informal team organization for major processes. The university library is headed by the library director and is divided into sections. The organization of the library function at NTNU has not been discussed specifically and is therefore not included as a topic here.

The Student and Academic Division is headed by the director of the division, and is divided into 5 sections led by heads of sections. In 2016, the Section for Academic Affairs and Library from the former HiST has been included in the line for the Pro-Rector for Education. In its day-to-day work, the activities are largely coordinated.

The Director of the Student and Academic Division is the deputy for the Pro-Rector and coordinates some of the staff tasks. The Director of the Student and Academic Division is also responsible for Experts in Teamwork and **Universell** [inclusive learning environment and universal design], while the Director of Academic and Student Affairs from HiST is responsible for the "Studier med støtte" programme for students with special needs.
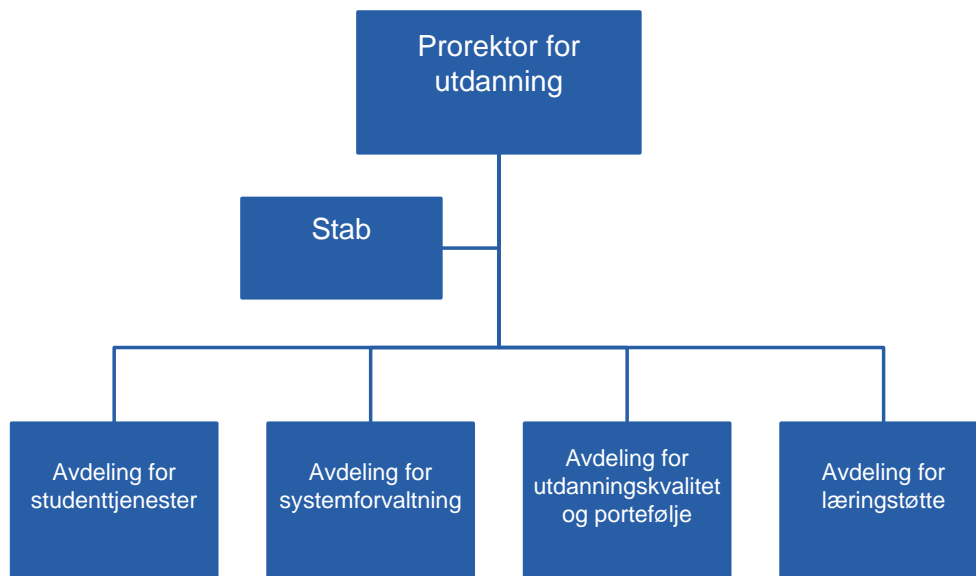
Alternative models

In the work on alternative models, attention has been focused on the following questions of principle in particular:

- Should the current Student and Academic Division be divided into several divisions?
- Should a model with a Director of the Student and Academic Division be continued?
- To what extent are the tasks assigned to the staff function of such a nature that they can/should be organized within the framework of a division?

The principle that forms the basis for the proposal for models is largely based on grouping activities in terms of the user perspective and needs. The division names are only working titles, but reflect the collection of functions related to respective users, such as services related to student needs, administration needs, managers' needs and teacher needs.

Figure 3: Proposed alternative Model 1. Model with staff and the Student and Academic areas in 4 divisions

Prorektor for utdanning - Pro-Rector for Education
Stab - Staff
Avdeling for studenttjenester - Student services division
Avdeling for systemforvaltning - System administration division
Avdeling for utdanningskvalitet og portefølje - Division for education quality and portfolio:
Avdeling for læringsstøtte - Learning support division

Figure 4: Proposed alternative Model 2. Model with staff and the student and academic areas in 3 divisions.

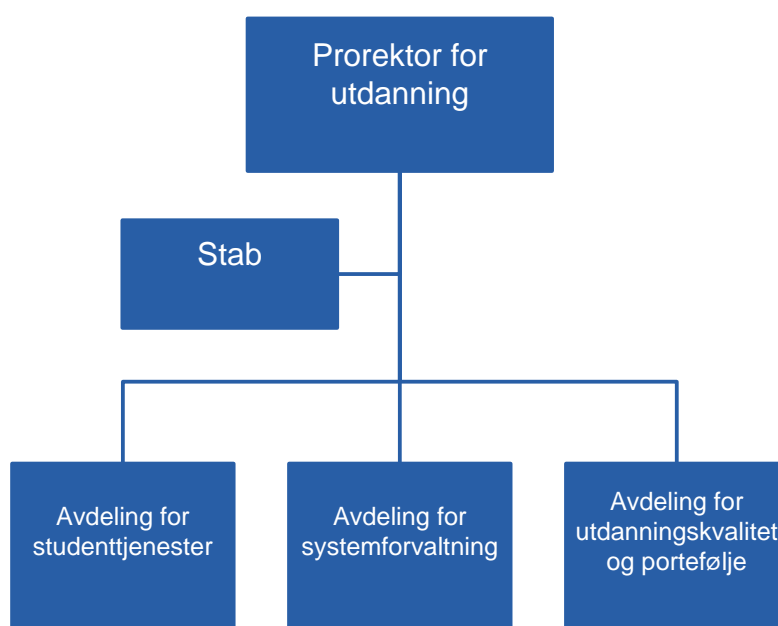Prorektor for utdanning - Pro-Rector for Education
Stab - Staff
Avdeling for studenttjenester - Student services dvision
Avdeling for systemforvaltning - System administration division
Avdeling for utdanningskvalitet og portefølje - Division for education quality and portfolio:

A rough overview of the function components to be performed in the divisions is provided here. Also see the overview of functions provided earlier in this report.

Student services dvision: Specialized guidance for individual students, reception of international students, first-line reception of students.

System administration division: Common Student System (Felles studentsystem - FS), planning of timetables and administration of rooms, examination planning, systems integration, admission of students

Division for education quality and portfolio: Development and administration of quality system, academic portfolio, student recruitment

Learning support division: Pedagogical support for learning and teaching, Multimedia Centre and AV, e-learning system, continuing and further education.

The proposed division for learning support in Model 1 is included in one of the three proposed divisions in Model 2. One area that needs to be mentioned specifically here is continuing and further education, which is currently organized as a separate section in the Student and Academic Division. The committee assumes that proposals for specific solutions will emerge in the upcoming hearing process.

Some considerations

It will be difficult to differentiate the two model proposals in relation to the requirements set for their quality of administrative services. The establishment of a separate unit for learning support might prove to be the best way to meet the need for solutions close to the academic activities and to support modernization and renewal of teaching methods. However, the requirement for efficiency will be more demanding: the more divisions into which the present Student and Academic Division is divided, the more the use of resources for coordination may increase. At the same time, the proposed models both meet potential future needs for modernization, in that a separate division is created with special responsibility for system development, standardization and digitization of services as a major component of its mission.

8.3 Research and innovation

The current model

Today, there are 6 senior advisers in the strategic staff of the Pro-Rector for Research. One of the six has a coordination function and takes some of the administrative load off the Pro-Rector; another is NTNU's international coordinator. Broadly speaking, one can say that the staff has two full-time equivalents for internationally related tasks and four full-time equivalents related to tasks of a more national nature.

At NTNU in Ålesund and Gjøvik, few resources are allocated to responsibilities associated with research administration, and the resources are not organized in their own unit.
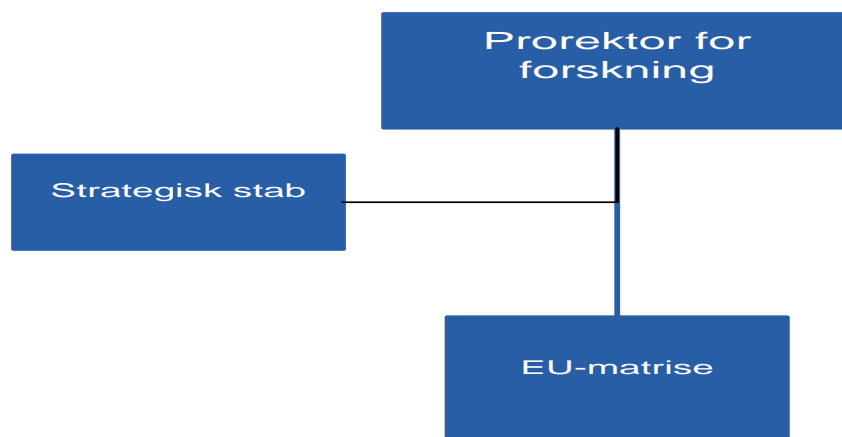
The Pro-Rector for Research from the former HiST has a staff of 4 people who provide the central support function within research and innovation. Administrative support functions in the area are very limited at Level 2 and 3 at the former HiST.

Alternative models

It is not practical to have tasks related to shared strategy and management support at all three levels in the organization within the research and innovation areas. Examples of such tasks include input to policy development at national and international level, initiation of strategic processes and development of a basis for decisions before strategic decision points. Such resources must be placed at Level 1 as a prerequisite for the Pro-Rector's work, but resources must also be available at Level 2 as they are today.

There are two proposals for administrative organization within the functional area of research.

Figure 5: Research administration as at present with a strong matrix in EU research

Prorektor for forskning - Pro-Rector for Research
Strategisk stab - Strategic staff
EU-matrise - EU matrix

This model includes a strategic staff with the functions described previously: *Project support/coordination, EU consulting, Researcher training and Scientific equipment.*

Work within EU issues is becoming increasingly complex and demands specialized skills. For this reason, there is a need to develop stronger leading-edge expertise as well as good models for cooperation and coordination across faculty boundaries and between levels 1 and 2. This could be achieved by establishing a Local Contact Point (LCP) function with a clear mandate to follow up the various programmes in Horizon 2020. Such a function must be shared by the whole of NTNU through binding agreements. An LCP with an employment relationship at one faculty would thus advise and support research groups at all faculties

within its area of responsibility. In other respects, the EU support infrastructure could be continued in a decentralized model with EU advisers employed at the faculties. The model requires stronger coordination and greater cooperation across the organization, and it could result in significantly greater efficiency and quality in the support services.

An alternative is to create a central division for research administration. This model is more traditional, in that one can gather functions that are relevant to the administrative research function and that are currently placed in other divisions. In other words, the proposal is that several administrative functions are included under the management of the Pro-Rector for Research. This model could highlight the Pro-Rector's overall responsibility for dissemination of research.

A research division could also cover the innovation function. The management of an integrated division of this nature would need to be clarified in further detail.

Figure 6: Model with common research and innovation division

Prorektor for forskning - Pro-Rector for Research
Prorektor for nyskaping - Pro-Rector for Innovation
Forsknings og innovasjonsavdeling - Research and innovation division
EU-rådgivning - EU consulting
BOA-rådgivning - Grant and contract funding consulting
Juridisk rådgivning - Legal advice
Innovasjonskontor - Innovation office
Strategisk lederstøtte - Strategic management support
Forskningsformidling - Research dissemination

In alternative 2, a separate unit is established for innovation and contact with the working world. The unit takes on development and user support responsibilities that are currently assigned to the field of research and education, such as:

- The field of practice
- Collaboration on education

- Contract management and follow-up of external partners
- Operation and administration of innovation services (management of funds, incubation, student innovation, collaboration with TTO, etc.)

Some considerations

The proposed models for organizational structure both involve establishing a strategic staff. The committee regards this as necessary to ensure sufficiently high administrative attention and quality in the field of research. This is reinforced through a separate proposal for a so-called strengthened matrix for EU work; see Chapter 5.4. Here, we have an administrative area in which a high level of administrative skill and quality is essential for NTNU in a strategic context. The proposal for a separate strengthened matrix also provides good proximity to the academic activities.

In the committee's opinion, the field of innovation should be integrated better with functions in research administration. In both models, it is assumed that this will be taking care of, either through a shared strategic staff or in a separate division. This type of solution is expected to provide greater quality in the administrative infrastructure supporting innovation activities at NTNU.

8.4 Organization

The current model

In reality, the Director of Organization's area of responsibility is a totality of several administrative main functions that are organized in separate divisions: Human resources; Health, Safety and the Environment (HSE); ICT; communication and records management (currently assigned to the administrative division). The departments vary greatly in size and mainly perform operative tasks. In addition, some tasks are performed in a separate (Rector's) staff function for organization.

8.4.1 The HR function

Several alternative proposals are presented here for changes in the divisional structure under the Director of Organization's area: one of them is a consolidated human resources (HR) division that includes the current Human Resources Division and the HSE Division. The tasks of this division will be human resources management and development; management and organization development; safety, security, emergency response and preparedness; equal opportunity; and health, safety, and the environment.

The proposal means that the current HSE Division would be included in a broader HR division, which can be justified through functional components shared between HSE and the HR area:

- Work environment survey
- *Work environment development* within the psychosocial area
- Handling of conflict
- Follow-up of staff on sick leave and Inclusive Workplace (IA)
- Substance or alcohol abuse: prevention and follow-up through individual agreements

A consequence of the proposal is that the Occupational Health Service will be organized as a separate unit within the department; see the section below
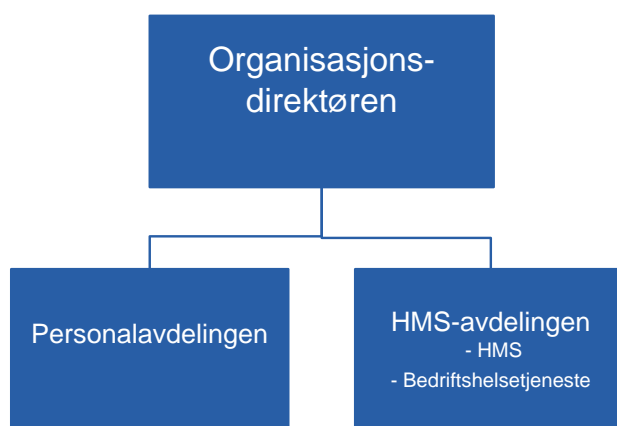
Figure 7: Consolidated HR division

Organisasjonsdirektør - Director of Organization
HR-avdeling - Human Resources Division
Personal - Personnel
HMS - HSE
Bedriftshelsetjeneste - Occupational Health Service

There are tasks within the HSE function that could also be conditional on a separate HSE division. A justification for this is the portfolio of tasks within the field, which would be difficult to integrate in a consolidated HR division. One of the functional components comprises safety, security, emergency response and preparedness. The proposal here is that the area of safety, security, emergency response and preparedness would continue as part of an HSE division, which could be organized as a separate specialist group.

The other functional area is the occupational health service (BHT). The occupational health service would become a part of the HSE Division and it would be established as a separate independent specialist group. This would enable close collaboration and exchange of experience and skills between the HSE system and the occupational health service.

The occupational health service could also be established as an independent unit with its own manager, in close proximity to NTNU's leadership. This would highlight the free and independent position of the occupational health service; cf. Section 3-3 third subsection of the Working Environment Act (arbeidsmiljøloven). Alternatively, the occupational health service function could be fulfilled by an external health service provider. This would ensure independence, but could mean less local knowledge and proximity to academic activities. The proposal is not discussed in further detail here.

Figure 8. Model with both human resources division and HSE division

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│ Personalavdelingen│  │      - HMS            │
│                   │  │  - Bedriftshelsetjeneste│
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Organisasjonsdirektør - Director of Organization
Personalavdeling - Personnel Division
HMS-avdeling - HSE Division
Bedriftshelsetjeneste - Occupational Health Service

Some considerations

The committee does not propose placing the payroll sub-function in a separate HR division. At present, this is part of the Financial Division. During the assessment stage, some suggestions were received regarding changes in divisional affiliation. The committee assumes that this will be explored in more detail in the upcoming hearing process.

The two proposed models would meet the administrative requirements that have been imposed in different ways. A split into two divisions might entail a greater need for coordination, and from this perspective would probably imply lower resource efficiency than a shared organizational solution. It would also be a poorer solution in relation to faculties and departments (requirement for academic proximity), which all have unified administration throughout the entire HR area. On the other hand, service quality might improve in a two-division solution.

8.4.2 Communication

The current model

Today, we have a central Communication Division with primary responsibility for the communication function for all of NTNU. At the same time, the faculties and many departments are appointing communication staff members in their administrations to an increasing extent. Similarly, there is a communication unit from the former HiST.

Alternative models

Two models are proposed for the organizational structure, within the framework of a central communication division. One of the alternatives is a division with tasks as at present, as well as new tasks such as NTNU's Graphic Centre (at present in the Technical Division), the Multimedia Centre and parts of the subfunction for recruitment of students (which is

currently placed in the Student and Academic Division), as well as the Rector's secretarial service (the current Administrative Services).

The tasks of the NTNU Graphic Centre and the Communication Division are partially overlapping and partially interfacing. Organizing them in the same unit would enable improved use and coordination of shared resources. The NTNU Graphic Centre, including production of signage, could therefore be moved from the Technical Division to the Communication Division.

Provided that the Multimedia Centre can cover future needs for streaming of meetings and events, this service could be included in the Communication Division instead of its current positioning in the Student and Academic Division. Regardless of the organizational solution, the increased need for multimedia production requires us to take better advantage of the combined resources and skills of the Communication Division and the Multimedia Centre.

Prospective students are NTNU's largest target group. The Communication Division, which has the overall responsibility for marketing, promotion and institutional identity with respect to all other target groups at NTNU, could be given primary responsibility with regard to this target group as well within these tasks. Assigning marketing, promotional and institutional identity efforts to the Communication Division would enable NTNU to achieve more integrated and coordinated communication work in connection with the recruitment of new students. A prerequisite would be that this work takes place in close cooperation with those responsible for recruitment working for the Pro-Rector for Education.

The other proposal for the organization of a central communication division is to continue as at present, but to include the Rector's secretarial service, and to move the switchboard to a shared service centre. The last part of the proposal must be considered under the assumption that such a service is organized.

Some considerations

The alternative proposals do not change the organization chart. However, they assume horizontal transfers of responsibility for functional areas within the central university administration. This may result in qualitative improvements through coordination of resources and skills. Work on institutional identity and marketing is the key issue here. From the perspective of efficiency, establishment of a shared service centre may result in a good organizational solution for the switchboard service.

8.4.3 Records and information management

The current model

NTNU currently has a decentralized service, where resource assessments and organization of records and information management primarily take place at Level 2. At Level 1, the main archive is responsible for NTNU's central archives and records management.

Alternative models

Today, records management is characterized by disparities in terms of quality and professional management of records and information. A decentralized model means that the functional area is characterized by small and vulnerable resources; it is difficult to establish an environment that is forward looking and skills driven, with professionally attractive jobs. A possible solution is continuing the organizational structure based on the present decentralized model. The committee regards such a solution as unsuitable in the light of future requirements for the area. Key issues here are enterprise management and information security. In a digitized administration, records and information management must have high priority, which in the committee's opinion requires a centralization of the service at the first level.

An alternative proposal entails a transfer of archive staff from faculty level to a central records service. Such a model might lead to poorer follow-up of the support function locally, such as faculties and departments. However, there is also experience to indicate that the opposite will happen: Users will get faster follow-up via screen help (first line) and rapid forwarding to the system supervisor/IT (second-line). Physical presence will be part of the service offered, but will be in the form of regular times and orders placed by faculties/departments. In addition, at Level 2, superuser functions would be created for the archival system.

A department for records and information management at the central level could report directly to the Director of Organization with a matrix in which staff at the faculties and NTNU in Gjøvik and Ålesund are included. The organizational placement could also be in the Communication Division, the HR Department or the library; these are solutions we know from other organizations.

Some considerations

In the committee's opinion, records management at NTNU must find a more unified organizational solution. The most effective measure would be a central unit in which all employees are included. Based on modernization principles, with requirements for standardization and digitization, such an organizational model would be optimal. This would also meet the requirement for efficiency best. Qualitatively, there are unlikely to be considerations that indicate more decentralized solutions, as records management is organized at present.

8.4.4 The IT function

The current model

In general terms, the current model for organization of the combined IT function at NTNU is divided into two: a central IT division that is responsible for a variety of shared tasks and has the use of about half of the resources. The other half is employed at faculties and departments, and it operates more local solutions as well as IT support close to academic activities.

Alternative models

Two alternatives are proposed for the organization of IT at NTNU. The prerequisite is that a central IT division must have responsibility for virtually all IT activities at NTNU, that is, more than those that are currently placed under the IT division. In both alternatives, one common IT division is proposed, centrally funded for the whole of NTNU, and with the following functions:

Functional area: Operations and user support Basis IT

This functional area encompasses operation of all Basis IT, including standard infrastructure and applications, first- and second-line user support for all standard services, as well as training. The term "operations" also includes ensuring that NTNU has robust and reliable foundation services, maintenance and development of the Basis IT platform and performance of standardization in terms of the approved architecture.

Functional area: Administration of Basis IT and specialized systems for the whole of NTNU

Administration entails further development of specialized systems (Paga, the FS common student system, accounts, eLS, etc.). It takes place both within the specialist area and within the IT area. A common administration will provide a better user experience in that a common user perspective is established for all shared systems at NTNU. Common administration provides greater potential for planning upgrades and distributing large investments and thus costs over time within a fixed budget framework. This means that users avoid having to deal with many changes in a short time.

Functional area: Control of the IT systems

The IT area at NTNU amounts to approximately NOK 400 million per year, of which about half is salary expenses. To achieve strategic control, optimize the use of resources, avoid parallel services and realize savings, NTNU must have a sharper focus on standardization, portfolio management and management of IT in general.

The IT resources must be more closely linked to management's priorities and commitments, and must be an active participant in digitization of services and processes. Another axis relates to students and academic staff. Here, both direct dialogue with users and closer links with leaders of activities at the faculties are needed.

In addition, we have defined IT security above as a functional area that should possibly have its own organizational structure. It might be relevant to place the "enterprise function" for this at NTNU in Gjøvik, which has a high level of specialized expertise in the area.

A separate alternative would be to organize a new division for a "Shared Services Centre" (FTS), centrally funded for the whole of NTNU, as well as an IT division. Alternative 2 entails the following change:
The Shared Services Centre would be created as a separate division, and takes the coordination of first-line user support a step further than the IT division does in Alternative 1. The division must be able to meet the varying needs of staff and students in a professional manner.

In alternative 2, the underlying principle is that the first line is collected in one common point of contact for Basis IT, AV, shared services from the Technical Division and others, also

including student services. Physical service desks would be established. It is suggested that these could be located together with the library.
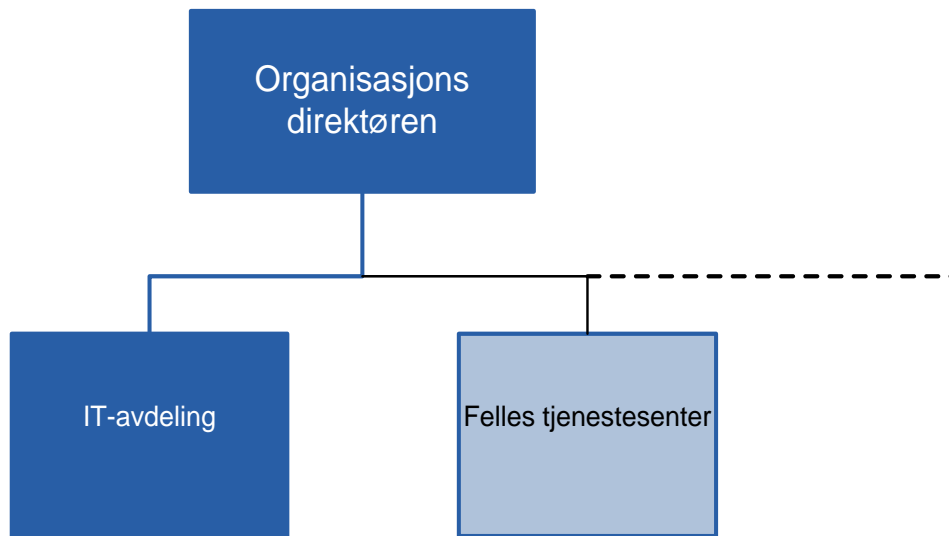
Establishing a Shared Services Centre would mean that the IT division would no longer have first-line user support.

Figure 9. Model with consolidated IT division

Organisasjonsdirektør - Director of Organization
IT-avdeling - IT Division

Figure 10. Model with IT division and shared service units

Organisasjonsdirektør - Director of Organization
IT-avdeling - IT Division
Felles tjenestesenter - Shared service centre

8.4.5 Integrated organization chart within the main function of organization
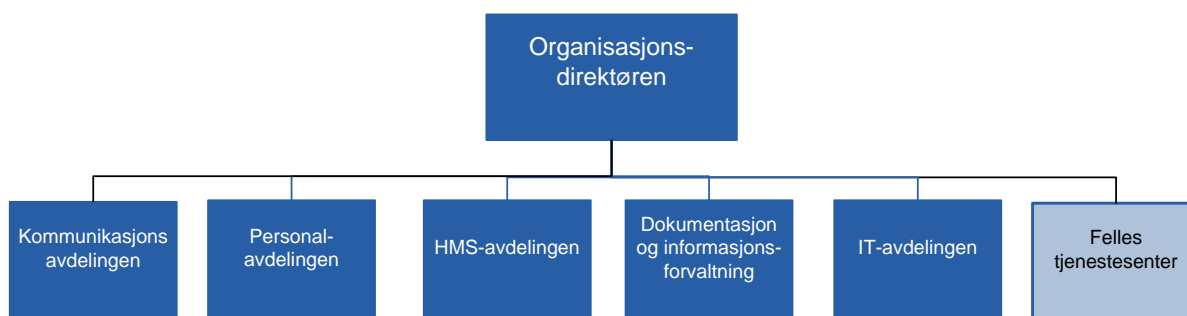
Based on the descriptions of alternative organizational models in the sections above, a summary overview is presented in the figures below.

Figure 11. Overall divisional structure Organization – alternative 1

Organisasjonsdirektør - Director of Organization
Kommunikasjonsavdelingen - Communication Division
HR-avdeling - HR Division
Dokumentasjons- og informasjonsforvaltning - Records and information management
IT-avdeling - IT Division

Figure 12. Overall divisional structure Organization – alternative 2

Organisasjonsdirektør - Director of Organization
Kommunikasjonsavdelingen - Communication Division
Personal-avdeling - Personnel Division
HMS-avdeling - HSE Division
Dokumentasjons- og informasjonsforvaltning - Records and information management
IT-avdeling - IT Division
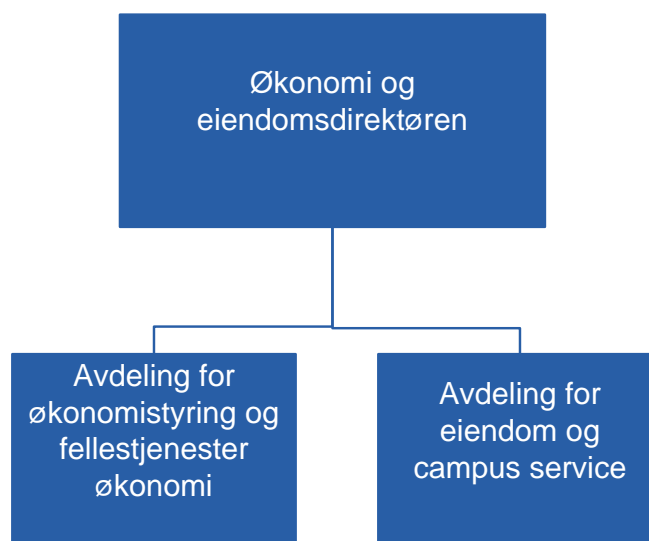Felles tjenestesenter - Shared service centre

8.5 Finances and property

Both of these functional areas report to the Director of Finance and Property. There are several variations and differences in the organization of the two functions, explained by their distinctive features. For example, financial management and property management will each require different approaches in terms of organization. This mainly applies to the subdivision level, and it is therefore not specifically discussed here.

Alternative models

Proposals are presented for two relevant main structures for the areas of finance and property. All the models require a separate small staff linked directly to the director with a focus on strategic management support.

Figure 13. Overall divisional structure Finance and property – alternative 1

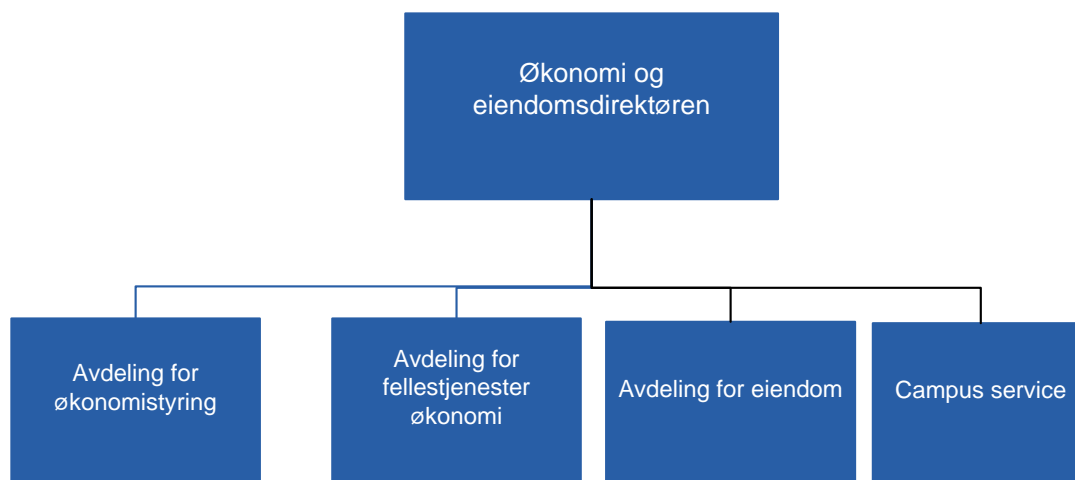Økonomi- og eiendomsdirektøren - Director of Finance and Property
Avdeling for økonomistyring og fellestjenester økonomi - Division of financial management and shared services for finance
Avdeling for eiendom og campus service- Division of property and campus service

The functional area of finance includes financial management (controller function), and shared services for finance: payroll, accounts, procurement/orders. The property function comprises ownership and executive functions, maintenance and development, service functions and letting/renting of premises.

In an alternative model, both the finance and the property function could be divided into two divisions each. One division (property) would be assigned responsibility for the ownership functions within maintenance, development, administration, and letting/rental. Another division (campus service) would be assigned responsibility for operations, service and maintenance. The finance function would be divided into two: one (financial management) would be assigned responsibility for analysis services as well as service and consulting within the area of responsibility. The other division (shared services finance) would be assigned responsibility for operative functions such as payroll, accounting, ordering, and other financial services.

Figure 14. Overall divisional structure Finance and property – alternative 2

Økonomi- og eiendomsdirektøren - Director of Finance and Property
Avdeling for økonomistyring - Division of financial management
Avdeling for fellestjenester økonomi - Division of shared services for finance
Avdeling for eiendom - Property division
Avdeling for campus service- Campus service division

Some considerations

The two alternative organizational models could also be the basis for hybrid solutions. The finance function and not the property function could be divided into two, and vice versa.

All the possible alternatives are regarded as reasonably similar in terms of the requirements set for efficiency and quality, as well as other requirements for organizational solutions. A role-based division would make it easier to deal with the role conflicts between the requirements for quality in financial administration and the need for support for the financial functions that is close to the academic activities. The basis for decision will be specific to the academic field; it is assumed that views on this aspect will emerge in the hearing process.

9. Local administration NTNU in Gjøvik and NTNU in Ålesund

Below, we present proposals and explanations for alternative solutions that apply to both Gjøvik and Ålesund. The assumption is that in both places, the academic activities will be organized in local departments/sections with academic and organizational affiliation to 4-5 faculties. An important premise both for the academic activities and for the administrative services is the close collaboration between the Gjøvik/Ålesund campuses and with the region, which has strong links with the academic activities.

9.1 The current model

At present, the administrative services at both NTNU in Gjøvik and NTNU in Ålesund are organized as institutional administrations. The unit is divided into functional areas such as education (which reports to the Vice-Rector), finance, human resources, etc, and is headed by a director. There are relatively few administrative resources at departmental level (departments/sections).

At today's NTNU, the distribution of tasks and authority varies between levels 1 and 2 within the administrative functional areas. Similarly, the division of functions between levels 2 and 3 differs between different faculties. Differences in size between faculties and between departments help to reinforce this. In other words, there is a conglomerate of administrative systems at the current NTNU, which makes it demanding to find an integrated administrative solution for the whole of NTNU. This applies especially to administrative solutions for Gjøvik and Ålesund.

To serve as a functional, integrated campus in its day-to-day activities, the local administration in Gjøvik and Ålesund must perform administrative functions at Level 1, Level 2 and Level 3 at the current NTNU. Administrative functions and tasks aimed at supporting day-to-day education and research activities must be placed where the students, the academic staff and the academic communities are – that is, they must be available on campus. The same applies to important administrative support functions in finance, human resources, communications, etc. Campus development, development of learning environments and learning support, technical and academic infrastructure are other areas of development that must be taken care of locally. Local capability to take action is important, and a well organized administration will always need to work in close integration both with the academic activities on campus and with the process owners for the various administrative services at Level 1 (the central level in Trondheim).

This requires either that the distribution of tasks and authority between the central university administration and NTNU in Gjøvik and Ålesund is determined in detail and specifically for different administrative functional areas or that other mechanisms are developed to ensure provision of the necessary administrative services on the campuses. It would be appropriate to develop matrix-based forms of work that ensure effective teamwork between units in the central university administration in Trondheim, the faculty administrations and local administration in Gjøvik and Ålesund. This measure could ensure that key administrative functions are available and function on the campuses. This applies regardless of how the local administration is organized and how tasks are distributed between local departments and the central level.

9.2 Alternative organizational models

Two possible key initiatives have been identified:

Each local department must have its own administrative resources that can provide management support to the Head of Department, help to develop strategic plans for the department and coordinate the activities between departments, faculties and the central university administration. In addition, the department must have access to project support

close to the academic field and the users, support for continuing and further education, student guidance focused on the academic field, HR/HSE and support for financial functions. This will require increased administrative resources at the departments. The increase could be achieved by transferring administrative employees from the current central university administration, or by provision of the services from the faculty administration.

It would be most effective to gather the more specialized administrative support services that are not a natural part of the day-to-day operation of the departments in one or more service centres. Development of matrix-based approaches to work, where the service centre works in partnership with the central university administration and the faculty administration in Trondheim, would result in more consistent service quality, complementarity and robustness, and thus more effective use of the resources than if these services were to be allocated to each department.

The service centres could be organized as one or more units linked with the central university administration. The library stands out as particularly relevant as a separate unit. The greater the number of such units, the greater the need for local coordination between different administrative functional areas will be.
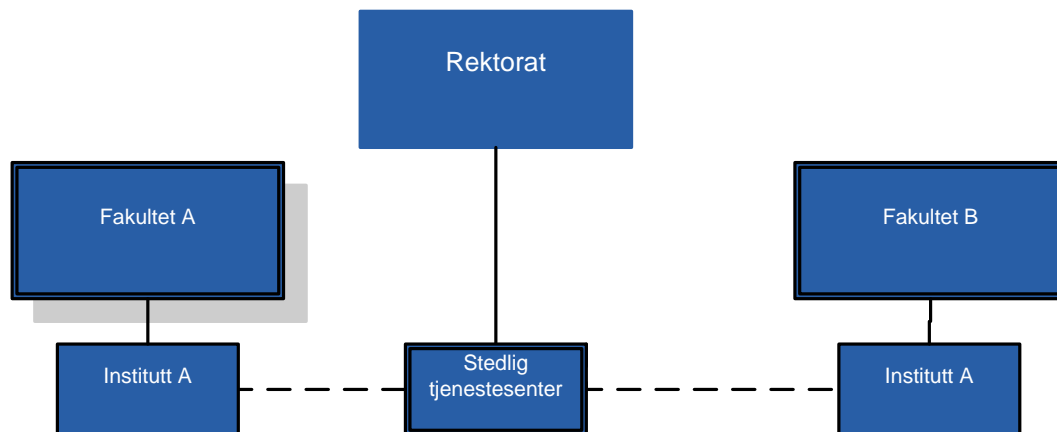
Possible distribution mechanisms for the administrative budgets can be described through three models:

- In Model 1, administrative employees are distributed among the departments in Gjøvik/Ålesund. The basis for allocation could be the number of students, the number of employees, the scope of research activities, or a combination of these. No local administrative employees report to Level 1 in this model. A variant of the model is that many or all administrative employees, but not the administrative budgets, are moved organizationally to only one department (and one faculty), which then delivers administrative services to the other local departments according to a system based on service agreements. This model corresponds to the key initiative 1 described above.

- In Model 2, none of the administrative resources (the budget or the employees) that currently make up the local administration is transferred to the departments. They are all organized as campus administrative resources at Level 1. This corresponds to key initiative 2 above.

- In Model 3, the administrative budgets are "owned" by the departments in Gjøvik and Ålesund as in Model 1, while the employees who perform administrative tasks are organized on more or less the same lines as the current institutional administration in Gjøvik/Ålesund, and provide services to the local departments. The quality and scope of services are defined through a system of service agreements. This model describes a method of financing that in organizational terms would dictate a solution as in key initiative 2.

Proposal for alternative models

Four models are presented. These are described in the text below. The main structure shown in the figure illustrates the organizational framework that provides the basis for the specific models.

Figure 15: Principles of the main structure for NTNU in Gjøvik and Ålesund

Rektorat - Rectorate
Fakultet - Faculty
Institutt - Department
Stedlig tjenestesenter - Local service centre

Model 1A: Full administrative functions assigned to each local department

In this model, all administrative functions, as previously defined, are assigned to the individual department/section. This takes care of the principle of unitary management as well as the requirement for proximity to academic activities and users; it means that the department has full control, responsibility and governance of all administrative functions at its own unit. At the same time, it means that small departments/sections must also develop administrative capacity and skills to handle the entire range of tasks. An implication of this model is a strong increase in the staffing of each department to make it possible to handle the tasks with satisfactory quality and efficiency.

This is the usual form of organization for universities nationally, and largely internationally as well.

Model 1B: Full administrative functions organized through service agreements between local departments

In this alternative, too, all administrative functions are in principle assigned to the departments / sections. A function-based allocation of tasks is established between the local departments in which they provide different administrative services to each other organized through long-term service agreements. The service agreements are concluded between the departments / sections with the approval of the faculties.

A condition for such an organization of the administrative functions is that all departments/sections are ensured services of equal quality regardless of which unit is

responsible for the function. Theoretically, all the administrative functions could be assigned to the largest department / section.

Model 2A: Local shared administrative service centre

A shared service centre is established to provide all shared services and administrative functions to the local departments. The deliveries of services are based on long-term service agreements with relevant faculties. In pure-bred form, this model means that the departments have exclusively academic staff, and that the administrative services provided to the departments are organized through service agreements. This way of organizing administration is used for some individual services at universities, and more widely in many other public- and private-sector organizations.

The signals from the current divisions indicate that the model would not be implemented in its pure form, but would ensure each department / section a minimum of its own administrative resources in proportion to the department's size and needs. Examples include management support for the Head of Department, charting and communicating the needs of the department and employees, as well as taking care of coordination between the faculty and the service centre. In addition, there is the need for administrative functions close to academic activities, which should be available at the departments. Areas that could be relevant here include project support, support for student guidance, HSE follow-up, etc.

Establishing a service centre will involve roles and approaches to work that are completely different to those that characterize the current institutional administration, with a variety of control functions and a role in providing directions on behalf of top management. The service centre would have a proactive and executive role based on the departments' needs, and would function as a service unit that provides management support and user support to the academic activities. To ensure effective services of consistent quality to all academic units, robust teams with the necessary specialized skills should be established within various functional areas. To ensure proximity to academic activities and users, dedicated contact persons ("customer account managers") would be designated for each department.

It will be important to organize the service centre in a way that avoids role conflicts between service provision, management and control functions. This implies that those responsible for the provision of services cannot perform governance and control functions at the same time. Organizationally, the service centre should be linked to the Rector through the Director of Organization and should have a local administrative manager. Local employees who perform tasks within the different functional areas should simultaneously participate in cooperative matrices with corresponding professional environments at Level 1 and 2 to ensure cross-cutting development and coordination in specialized administrative areas.

Model 2B: Local service centre for functional areas.

A variant of Model 2 could be envisaged in which separate administrative service centres are established in different functional areas organized in a direct line up to the respective units in the central university administration for NTNU. Each of these would be headed by

its own team manager for each functional area. The classification of functional areas would depend on how the central administration chooses to organize itself. Here, several models are relevant in areas including student and academic administration, finance/property, HR/HSE. In this model too, service agreements are used for the respective functional areas.

This model is based on the establishment of strong process ownership at Level 1 and the organization of the administrative support services in various functional areas in service centres that also serve units at Level 2 and 3.

The models are described in more detail in assessment reports from NTNU in Gjøvik and NTNU in Ålesund. Here, the advantages and disadvantages of the various models are also discussed in more detail.

See the links:

[Innspill fra arbeidsgruppe NTNU i Gjøvik (Comments and suggestions from the working group NTNU in Gjøvik)](#)

[Innspill fra arbeidsgruppe NTNU i Ålesund (Comments and suggestions from the working group NTNU in Ålesund)](#)