Introduction

What happens to libraries when a large and research-intensive university decides to go through a far-reaching restructuring? There is no single answer to that question, but an example can be seen at Aarhus University, Denmark, where nine faculties and schools have merged into four main academic areas, 55 departments have been reduced to 26 and a new strong commitment to interdisciplinary work is the main agenda for the years to come.1 As part of this process, more than twenty libraries in Aarhus University is reorganised into one single unit (Aarhus University Library) and enter into a new partnership with the State and University Library. The goal is fewer units, fewer internal barriers, and more interdisciplinary initiatives. In two words: greater coherence. For the libraries in this process the guidelines were to deliver relevant, uniform and cost-effective services to the users.

We start by giving a brief overview of the Higher Education Sector in Denmark whereupon we turn to the restructuring at Aarhus University (labelled the ‘Academic Development Process’). Finally, we describe the consequences for the libraries, both for the libraries owned by the university and for the new cooperation between the university and the State and University Library.

2 Higher Education Institutions in Denmark

As the knowledge society has developed in the industrialised part of the world, the awareness of the role of the universities for the economy has increased. Universities are perceived as vital engines for development, wealth and growth, and especially in countries like Denmark with tax-financed universities, shifting governments has been keen on securing value for money in the higher education sector. In Denmark this has led to several reforms in the recent years:
- A management reform
- An educational reform
- A financial reform
- Mergers between universities and national research institutes.2


2 http://dkuni.dk/English/%7E/media/845710866496440B9D9FB5B754112DA5.ashx.
The management reform implies a professional management with appointed rectors, deans and heads of departments, which has replaced the former staff democracy. The educational reform has resulted in a system with even more regulation by the ministry. The financial reform has placed more funds into competition, where universities and researchers only get the projects financed after giving in successful applications. Luckily, at the same time the overall public funding of research and higher education has increased in the period since 2006, although this growth in funding does not seem to continue in the next years.

Finally, the mergers between universities and national research institutes introduced a radical reform of the university landscape. The 12 universities and 13 national research institutes merged in 2007 into 8 universities and 3 national research institutes. For the government the aim of this wide-ranging change was an effort to bring the universities in line with the challenges and expectations of the 21st century.

The mergers at Aarhus University were extensive. Aarhus School of Business, the Danish Institute of Agricultural Sciences, the National Environmental Research Institute and the Danish University of Education (mainly situated in Copenhagen) all at once became part of one single institution named Aarhus University. Compared with the former Aarhus University the size from one day to another was raised by 40% and the activities of the institution were spread out on more than twenty locations all over the country.

The idea behind the mergers was not quite new, although it was not clearly articulated by the politicians who wanted it to happen. On a general level, the aim was to establish a firm bridge between the many researchers at the national research institutes and their colleagues at the traditional universities. In this way, it was thought; the quality of teaching for postgraduate students and PhD students at the universities could be strengthened. Furthermore, the application-oriented approach of the national research institutes was considered to be an inspiration for the traditional universities. The result would be a win-win situation where researchers from both sectors would improve their possibilities for development by being consolidated in the same institution.

Fewer, bigger and stronger institutions as a result of the mergers are supposed to be in a better position for solving the problems of our time, like climate, energy, security, health and economy. These problems are often called the ‘Grand Challenges’ of our time and they have in common that they can only be solved if multiple disciplines and subject areas are involved. The idea is that this will only happen if a framework is established for, a combination of strong professional competence with interdisciplinary collaboration and at the same time closer interaction with the world around the university.

### Aarhus University: key figures
- Number of students: Exceeds 32,000
- PhD students: 1,800
- Postdocs: More than 500 postdocs
- Academics: Approx. 1.500 (FTE)
- Total staff number: More than 7,000 (FTE)
- Turnover (2010): 756 million Euro

### 3 The Academic Development Process

As a follow-up on the mergers a new strategic plan for Aarhus University was drawn up in 2008 covering the time to the end of 2012. The plan named *Quality and Diversity* defined a framework for the university’s four core activities: research, talent development, knowledge exchange, and education. The strategic plan did not explicitly mention academic reorganisation, but the mergers had created the conditions for realising a range of valuable synergies within all four core activities and significant potential for increased interdisciplinary collaboration.

To realise these synergies, an Academic Development Process was initiated in 2010 under the headline: ‘Deeper connections, greater coherence’. These key concepts point to a double course: the high standard of excellence in the traditional disciplines must be maintained and developed. At the same time, it is seen as important to seek out new possibilities and connections across disciplinary boundaries and in close collaboration with the world around the university. After a process with many meetings, consultations and discussions, far-reaching decisions were taken in March 2011 on the basis of a report on academic development prepared by the university’s senior management group (see note 1). An important part of the basis for the decisions was an analysis of the challenges for the university’s four core activities:

- **Research**
  More and more, research funding is subject to national and international competition, often within the framework of major strategic research programmes that cut across disciplines and research areas. There is a need to develop more interdisciplinary research projects and centres which combine expertise from different fields in order to address a specific social need or research question which cannot be illuminated from the perspective of a single discipline.

- **Talent development**
  Competition among universities to attract the most talented students and the best researchers is global. Aarhus University wants to offer talented young researchers the best possible conditions for interdisciplinary research and collaboration with leading researchers in relevant fields. The result will be a new generation of researchers born into an interdisciplinary philosophy and practice of research – and whose contributions spring from their own deep expertise in a particular field of knowledge.

- **Knowledge exchange**
  When society increases research funding, it increases its demands on the university. This means that universities will be required to provide society with even more knowledge in the future; to contribute to solving problems which require an interdisciplinary approach; and to contribute actively to ensuring a high level of education in the population and creating economic growth and increased prosperity.

- **Education**
  Universities must ensure that the educational level of society’s citizens continues to increase, contribute to
lifelong learning, attract an increasingly mobile student population, and educate graduates who meet the requirements of the labour market of the present and the future. The goal is to create a more flexible inner education market: it will be easier to develop degree programmes, exchange courses and teaching resources across the university and the disciplines. Ultimately, graduates will enter society with the ability to think and act across disciplines and boundaries.

So far, the Academic Development Process had analysed the role of the university in society and how to fulfil the expectations of the future. On the basis of this analysis, the senior management took a range of decisions of more organisational character:

- **New academic organisation**
  Reduction of the number of faculties from nine to four: Arts; Business and Social Sciences; Health; Science and Technology. The number of departments was reduced from 55 to 26. The aim of this concentration of related activities is to create a foundation both for the realisation of potential synergies and for increased academic specialisation in order to strengthen the university’s research communities and activities in general. Before this decision individual research and teaching communities were geographically divided, but as far as possible the new departments will be geographically unified and related departments will be located close to each other.

- **New managerial structure**
  One unified executive management group with responsibility for the entire university. The group is made up of: rector, pro-rector, university director and the four deans. Each dean is responsible for the academic and financial management of one faculty. But as something new a dean in addition has responsibility for cross-disciplinary activities related to one of the university’s four core activities: research, talent development, knowledge exchange and education.

- **New interdisciplinary centres**
  Support the creation of new ground-breaking research across disciplines and methods. The decision was taken on the background of recommendations from the university’s researchers. Six new interdisciplinary centres will be established: Centre for Food, Nutrition and Health; Centre for Global Change and Development; Centre for iSequencing; Neurocampus; Centre for Integrated Register-based Research and Centre for Arctic Research. In addition ‘AU Ideas’ will be established to help develop visionary project ideas and, lastly, Aarhus Institute of Advanced Studies will open in 2012 in order to provide improved support for talented young researchers, for example in the form of better opportunities to do research in an international, interdisciplinary environment.

- **New administrative structure**
  One unified administration. The previous administrations at the central level and in faculties and departments have been consolidated into one unified administration, with the aim of creating a more uniform and efficient administration. All support services for the university’s activities are to be centralized in the sense that funding, policy and strategy are managed by the unified administration, whereas delivery of services will continue to be decentralized.

### 4 Consequences for Libraries

The establishment of new and larger faculties and departments affected the libraries and so did the principles behind the new administrative structure. Consequently, the University’s senior management group decided that the organisation of library services must be changed as part of the Academic Development Process. The decision was made on the basis of a report prepared in short time by the then dean of the Theological Faculty and chairman of the university’s library committee, Carsten Riis – one of the authors of this article – and a new organisation was born: ‘Aarhus University Library’. All faculty and departmental libraries must be integrated into this organisation and the new library organisation was allocated to the administrative area for knowledge exchange.

So far library services to Aarhus University have been supplied by faculty and departmental libraries and by the State and University Library. This set-up with a central main library and decentralised faculty and departmental libraries funded by their respective academic areas is quite common. What is unusual is that the main library is not part of the university or funded by the university. The State and University Library is an institution of the Danish Ministry of Culture, and as the name indicates the library has other tasks in addition to the university library task: it is a national library and is centre for shared services for the public libraries. This set-up had decisive impact on possible designs for a new library organisation at Aarhus University and had to be taken into account.

The report by Carsten Riis focused on how libraries could provide relevant, uniform and cost-effective services to the new Aarhus University. It made it clear that the more than 20 libraries had different tasks and conditions. Almost the only common thing was the electronic resources, which are provided to all students and staff by means of an agreement between the State and University Library and the university. Apart from this electronic backbone the library service of the many local libraries varied to a great extent. Some were large, well-staffed and highly integrated in teaching and research, solving all kind of professional library services. Others were small libraries with limited staff and accordingly only few possibilities to render extensive service. This situation was clearly illustrated by the fact that funding for libraries varied among faculties from less than 1 percent of the annual turnover to more than 8 percent.

The report identified a set of problems which had to be addressed in order to get full value of the approximately 28 mill. Euro spend on the libraries by Aarhus University (included the resources at the State and University Library dedicated to university library tasks). These problems included among other things:
The many independent libraries did not in a sufficient way underpin the vision of a coherent, interdisciplinary and flexible university.

The arrangements and contracts between the university and the State and University Library needed a check in order to set a new agenda for cooperation.

The ability to act in a proactive and strategic way was limited.

A tendency by some libraries to act on day-to-day operations at the expense of development based on a vision and a strategy.

The variation in library services made it unnecessarily difficult for students to switch from subject to subject. These problems called for a change. The report summed up the guidelines for change under the headings:

- No constraints on library material (i.e. full digitisation)
- One-stop shops
- Supporting teaching and learning
- Research services
- New partnerships
- User-driven

The mandate to Carsten Riis also included a request from the senior management of the university for proposals for reorganisation of the libraries in order to support the general aims of the academic development process. This ended up in four possible organisational models:

- **The departmental model.** The advantage of this model is the close connection between subject and library, but against it speaks the number and size of libraries and, maybe even more important, that digital resources are not confined to a department. Furthermore, the aim to support more interdisciplinary teaching and research speak against organising libraries according to the departmental structure.

- **The faculty model.** This model was already in place in some of the faculties and with proven success. It secures a connection between resource allocations at the level of devolved budgeting in the university. The weakness of this model is that it has a tendency to support the building of silos which could be a barrier for a stronger cooperation with the State and University Library.

- **Aarhus University Library model.** According to this model all library resources and services should be gathered in a new organisation as part of the university’s central administration. It is to be anticipated that the number of libraries will be reduced. The level of service to students and researchers could be regulated in service level agreements between the new library organisation and faculties/departments. The most obvious weakness in this model is that the vital library service could end up in the distant central administration which is often far away from the actual business of students and researchers, at least in a large university.

- **Outsourcing.** All library service could be outsourced by the university to the State and University Library. The Medical School has had this model for more than a decade. But this model can only function at a very high level of mutual agreement and trust, because contracts and service level statements are difficult to set up for a many-faceted area such as library service in a large university. In the long run though, further and deeper cooperation between the university and the State and University Library could result in outsourcing.

The recommendation by Carsten Riis was to choose model 3: Aarhus University Library. This advice was followed and was made part of the Academic Development Process. Accordingly, it was included in the university management’s final decision in March 2011 on the future of Aarhus University:

“The university’s library resources will be merged into a single organisation under the name Aarhus University Library. The new library organisation will operate service centres and study centres for Aarhus University locations all over the country. The goal is a coherent, cost efficient and strong library service.”

## 5 Aarhus University Library

Shortly after the overarching decision to change the library organisation a follow-up process was put on track. A more elaborate basis was needed for decisions on kinds of services to be delivered, on funding and on organisation. A small task group, primarily made up of faculty members and headed by a dean, was formed. The group finished its work in January 2012 with a report with detailed recommendations for the new library organisation. The report stated the mission of the new library organisation in this way: Aarhus University Library (a) facilitates research and teaching, using efficient professional competencies, systems and processes, and adds value to the production of the university; (b) contributes to the university’s knowledge exchange in all library areas of activity. The report addresses three main topics: services to be delivered; localisation and collections; organisation.

### Services

The report divides services into three main categories: (a) services for students, (b) services for faculty members and (c) services to the general public.

Services for students are traditional services such as access to information and reference service. But the report stresses the need to focus on educational it, information literacy and the physical library as a learning common. As for services to faculty members, it includes more than delivery of information. There is a need for services based on an understanding of the entire research process from the birth of an idea through funding and approval, and further through experimentation to dissemination of results. Services include bibliometric services, handling of research data and advice on how and where to publish. Typically the library develops and delivers such services in cooperation with other units in the university. At Aarhus University some academics have these services today, and there is a need to make them available to all on an equal

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3 This part of the report is inspired by the Research Information Network (RIN) report *The value of libraries for research and researchers*, 2011.
basis. Library services to the general public include traditional interlending, but also alumni services and operation of journal publishing system for journals connected to the university.

**Localisation and collections**
The report recommends a reduction of the number of library units. The localisation of library units must be determined by geography, not subject. A limited number of library units should provide services to students regardless of their study subject. This means that the traditional connection between disciplines and library is severed. The library units are primarily learning centres and are also access point for other services to students. Regarding collections access to digital resources is crucial. Access to printed material will be less important and it is suggested to set up a central archive for such material leaving only heavily used material in the decentralised library units. Space used for shelving should be reduced, primarily in order to use available space for more seats and desks for students. The recommendation is to have six to seven library units (“learning commons”), one in Aarhus University’s Copenhagen campus and the rest in Aarhus.

**Organisation**
The detailed report on Aarhus University Library recommends a matrix organisation with function or services as the underlying principle. There will be six “service clusters”, and staff will be divided among these clusters across geographical localisation. The six service clusters are:

- **Process and archiving**
  - Acquisitions and interlending
  - Storage and logistics
  - Library system
  - Website
- **Learning Commons**
  - Design and furnishing
  - Integration of services from Information Technology and Studies Administration
  - Remote services to university localities without library unit
- **Research support services**
  - Management of research data
  - Bibliometrics
  - Publishing
- **Information literacy**
  - Courses in information literacy
  - Courses in bibliographic management
- **Educational IT support**
  - Delivery of digital material for e-learning
  - Management of learning objects
- **Scholarly publications**
  - Research Information System
  - Journal management system

Each locality will have a middle manager who is responsible for personnel management of the staff allocated to the locality. Each service cluster will have a person who is in charge of operation and of development of the service across localities. This role as responsible for one (or more) service clusters is performed by the middle managers of the library units (the six to seven localities). The matrix organisation is shown in Fig 1.

![Matrix Organisation](image)

**Fig. 1: Matrix Organisation**

This is the basic design for the reorganisation of Aarhus University’s departmental and faculty libraries. The result will be Aarhus University Library. But it should be noted that there is a terminological difficulty in describing Aarhus University’s library organisation: the name ‘Aarhus University Library’ is the name of the university’s merged faculty and departmental libraries. But it is also the name of the partnership between these libraries and the university library units of the State & University Library. So the matrix shown above must be expanded as shown in Fig. 2.

This figure shows how services are to be delivered across localities by a library organisation consisting of the former departmental and faculty libraries and the university library division of the State and University Library. This model is a “partnership model”, with a management team of two: one person from Aarhus University and one person from the State and University Library. This management team will be responsible for university library strategy and budget. It is a complication that the two parts of Aarhus University Library belong to and are funded by two different ministries. But the senior management of both Aarhus University and of the State and University Library considered the partnership model to be the best way of dealing with this complication. The partnership model, based on ‘Will and Trust’, is considered the best framework for optimal use of resources across organisational divisions and
the best guarantee for coordinated development of new library services.

![Partnership Model](image)

**Fig. 2: Partnership Model**

In January 2012 the university senior management group at Aarhus University took the final decision based on the principles laid down in the report by Carsten Riis and elaborated in the detailed library report. Into Aarhus University Library will merge all departmental and faculty libraries in order to be organised in a matrix with the six service clusters as mentioned above. The new organisation will enter into a close partnership with the State and University Library creating a new library organisation for Aarhus University as from 2013.

6 Perspectives

University libraries are not cultural reserves. They must adapt to development in media and information technology and must change with the universities they serve. To stay in business libraries must develop new services to meet users’ needs, and this often creates a need for organizational change. The restructuring of Aarhus University’s library organization is an example of that. Fundamentally the restructuring has been driven by an academic development process, and not by library internal considerations. One result is the that traditional connection between subject (department and/or faculty) and library is interrupted: library services will be funded and operated by a central administrative unit and not by the academic units as has been the case so far. This may seem paradoxical in view of the fact that the overall aim of all the entire academic development process is to strengthen the academic core tasks. But on reflection it is no paradox. The aim of Aarhus University is to realise the significant potential for increased interdisciplinary collaboration and the new library organisations is considered to be the best way of supporting this aim and the best way of securing efficient and future-proof library services.

In his paper on the future of the research library former university president James Duderstadt asks what the university library is in the digital age. "Is it built around stacks or Starbucks? Is it a repository of knowledge or a "student union" for learning"? The restructuring of university library organization at Aarhus University has been based on an understanding that a library is not a kind of container but a learning common and a flexible organization capable of delivering new services. You can find universities where the libraries are instructed to stick to the traditional library role of giving access to information. The change described in this paper was initiated by senior management and based on the view that libraries are an asset for universities – if they change.